



757

Quick Reference Handbook

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Intentionally
Blank



Normal Checklists

Chapter NC

PREFLIGHT

Oxygen..... Tested, 100%
Flight instruments Heading____, Altimeter____
Parking brake Set
Fuel control switches..... CUTOFF

BEFORE START

Flight deck door Closed and locked
Passenger signs ____
Windows Locked
MCP V2____, HDG____, ALT____
Takeoff speeds V1____, VR____, V2____
CDU preflight. Completed
Trim ____ Units, 0, 0
Taxi and takeoff briefing Completed
Red anti collision light ON

BEFORE TAXI

Anti-ice..... ____
Isolation switch.....Off
Recall.....Checked
Autobrake RTO
Flight controls.....Checked
Ground equipment Clear

Flaps

AFTER TAKEOFF

Landing gear..... UP and OFF

Flaps UP

DESCENT

Pressurization.....LDG ALT

Recall.....**Checked**

Autobrake

Landing data VREF __, Minimums __

Approach briefing..... Completed

APPROACH

Altimeters

LANDING

Speedbrake **ARMED**

Landing gear.....Down

Flaps



757 Flight Crew Operations Manual

SHUTDOWN

Hydraulic panel Set
Fuel pumps Off
Flaps UP
Parking brake
Fuel control switches CUTOFF
Weather radar Off

SECURE

IRSs OFF
Emergency lights OFF
Window heat Off
Packs OFF



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Non-Normal Checklists

Chapter NNC

Miscellaneous

Section 0

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Ditching Preparation	0.1
Tail Strike	▶▶ 15.4



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Ditching Preparation

Condition: Airplane ditching and evacuation are needed.

- 1 Transmit a distress signal.
- 2 Advise the cabin to prepare for ditching.
- 3 Do **not** use the autobrake.
- 4 Do **not** arm speedbrake lever.
- 5 Use flaps 30 and VREF 30 for landing.
- 6 **Checklist Complete Except Deferred Items**

Deferred Items

Descent Checklist

Pressurization LDG ALT ____
Recall Checked
Autobrake **OFF**
Landing data **VREF 30** ____, Minimums ____
Approach briefing Completed

Approach Checklist

Altimeters ____

▼ Continued on next page ▼

▼ Ditching Preparation continued ▼

When below 5,000 feet

- | **VQ-BBU, VQ-BJK, VQ-BKM**
GND PROX/CONFIG GEAR OVRD switch OVRD
- | **VQ-BHR, VQ-BTO**
GND PROX GEAR OVRD switch OVRD
- | **VQ-BHR, VQ-BTO**
GND PROX TERR OVRD switch OVRD
- ⋮ **VQ-BKM**
GND PROX TERR OVRD switch OVRD
- ⋮
PACK control selectors (both) OFF
- Cabin altitude MODE SELECT MAN
- CABIN ALTITUDE
MANUAL control Hold in DESCEND until
the outflow valve indication
shows fully closed
- PASS SIGNS selectors ON
- Do **not** accomplish the following checklists:
 - PACK OFF
 - CABIN AUTOMATIC INOPERATIVE

When on final approach

- Advise crew of imminent touchdown.
- Passenger cabin **Secure**

▼ Continued on next page ▼

▼ Ditching Preparation continued ▼

Maintain airspeed at VREF 30 to touchdown. Flare airplane to achieve minimum rate of descent at touchdown.

Landing Checklist

Speedbrake **DOWN**
Landing gear **UP**
Flaps **30**



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Non-Normal Checklists

Chapter NNC

Airplane Gen., Emer. Equip., Doors, Windows

Section 1

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**ACCESS
DOORS**
ACCESS DOOR(S)

Messages: ACCESS DOORS
E/E ACCESS DOOR FWD ACCESS DOOR

Condition: One or more access doors are not closed and secure.

1 Choose one:

◆ Pressurization is **normal**:

The door is in a safe configuration.
Continue normal operation.


◆ Pressurization is **not normal**:

►► **Go to step 2**

2 PASS SIGNS selectors ON

3 LDG ALT selector Set 9,500 feet

4 Choose one:

◆ Occurrence is on **takeoff or initial climb**:

Do **not** exceed 10,000 feet.


◆ Occurrence is in **climb, cruise, or descent**:

Descend to lowest safe altitude **or** 14,000 feet, whichever is higher.



**AUTO
UNLK**

AUTOMATIC UNLOCK

VQ-BKM

Condition: The correct emergency access code is entered.

Objective: To deny unauthorized access to the flight deck before the door automatically unlocks.

- 1 FLT DK DOOR lock selector Rotate to DENY and hold for 1 second



**CARGO
DOORS**

CARGO DOOR(S)

Messages: CARGO DOORS
FWD CARGO DOOR AFT CARGO DOOR

Condition: One or more cargo doors are not closed and secure.

- 1 Choose one:

◆ Pressurization is **normal**:

The door is in a safe configuration.
Continue normal operation.



◆ Pressurization is **not normal**:

▶▶ **Go to step 2**

- 2 PASS SIGNS selectors ON

- 3 LDG ALT selector Set 9,500 feet

▼ Continued on next page ▼

▼ **CARGO DOOR(S)** continued ▼

4 Choose one:

◆ Occurrence is on **takeoff or initial climb**:

Do **not** exceed 10,000 feet.



◆ Occurrence is in **climb, cruise, or descent**:

Descend to lowest safe altitude **or** 14,000 feet, whichever is higher.



Message: ELT ON

Condition: The emergency locator transmitter is on.



**EMER
DOORS**

EMERGENCY DOOR(S)

VQ-BBU through VQ-BJK, VQ-BTO

Messages: EMER DOORS

L EMER DOOR

R EMER DOOR

Condition: One or more emergency doors are not closed and secure.

1 Choose one:

◆ Pressurization is **normal**:

The door is in a safe configuration.
Continue normal operation.



◆ Pressurization is **not normal**:

►► **Go to step 2**

2 PASS SIGNS selectors ON

3 LDG ALT selector Set 9,500 feet

4 Choose one:

◆ Occurrence is on **takeoff or initial climb**:

Do not exceed 10,000 feet.



◆ Occurrence is in **climb, cruise, or descent**:

Descend to lowest safe altitude or 14,000 feet, whichever is higher.





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**EMER
DOORS**

EMERGENCY DOOR(S)

VQ-BKM

Messages: EMER DOORS

L AFT EMER DOOR	R AFT EMER DOOR
L FWD EMER DOOR	R FWD EMER DOOR

Condition: One or more emergency doors are not closed and secure.

1 Choose one:

◆ Pressurization is **normal**:

The door is in a safe configuration.
Continue normal operation.

■ ■ ■ ■

◆ Pressurization is **not normal**:

►► **Go to step 2**

- 2 PASS SIGNS selectors ON
- 3 LDG ALT selector Set 9,500 feet

▼ Continued on next page ▼

▼ **EMERGENCY DOOR(S) continued ▼**

4 Choose one:

◆ Occurrence is on **takeoff or initial climb**:

Do not exceed 10,000 feet.

▶▶ **Go to step 5**

◆ Occurrence is in **climb, cruise, or descent**:

Descend to lowest safe altitude or 14,000 feet, whichever is higher.

▶▶ **Go to step 5**

5 **If a wing slide deployment is suspected:**

▶▶ **Go to the WING SLIDE checklist on page 1.13**


UNARMED
EMERGENCY LIGHTS

Message: EMER LIGHTS

Condition: The emergency lights switch is not ARMED.





ENTRY DOORS

ENTRY DOOR(S)

Messages: L ENTRY DOORS R ENTRY DOORS
 L AFT ENT DOOR R AFT ENT DOOR
 L CTR ENT DOOR R CTR ENT DOOR
 L FWD ENT DOOR R FWD ENT DOOR

Condition: One or more entry doors are not closed and secure.

1 Choose one:

◆ Pressurization is **normal**:

The door is in a safe configuration.
Continue normal operation.



◆ Pressurization is **not normal**:

▶▶ **Go to step 2**

2 PASS SIGNS selectors ON

3 LDG ALT selector Set 9,500 feet

4 Choose one:

◆ Occurrence is on **takeoff or initial climb**:

Do not exceed 10,000 feet.



◆ Occurrence is in **climb, cruise, or descent**:

Descend to lowest safe altitude or 14,000 feet, whichever is higher.



**LOCK
FAIL**

LOCK FAIL

VQ-BKM

Condition: One or more of these occur:

- The flight deck access system switch is off
- The lock is failed

Objective: To remove power from the lock to prevent a possible overheat.

1 **If** conditions allow:

FLIGHT DECK ACCESS SYSTEM

switch. OFF

Note: The door can be locked with the deadbolt.


ON

PASSENGER OXYGEN ON

Message: PASS OXYGEN ON

Condition: The passenger oxygen system is on.



Window Damage

Condition: A flight deck window has one or more of these:

- An electrical arc
- A delamination
- A crack
- Is shattered

1 Choose one:

- ◆Window is **arcing, shattered, or cracked**:

WINDOW HEAT switch
(affected window) Off

Do **not** accomplish the following checklist:

WINDOW (HEAT)

▶▶ **Go to step 2**
- ◆Window is **not** arcing, shattered, or cracked:

▶▶ **Go to step 2**

2 Choose one:

- ◆Damaged window is **deformed or** an air leak is **observed**:

▶▶ **Go to step 3**
- ◆Damaged window is **not** deformed and an air leak is **not** observed:



3 Plan to land at the nearest suitable airport.

▼ Window Damage continued ▼

4 Choose one:

◆ Airplane altitude is **above** 10,000 feet:

Descend to lowest safe altitude or 10,000 feet, whichever is higher. This minimizes forces on the window.

▶▶ **Go to step 5**

◆ Airplane altitude is **at or below** 10,000 feet:

▶▶ **Go to step 5**

5 Sustained flight below 10,000 feet is not recommended due to greater risk of bird strike.



Window Open

Condition: A side window opens during takeoff or in flight.

- 1 Maintain the maneuvering speed for existing flap setting until the window is closed.
- 2 The force needed to close the window increases with airspeed. It may **not** be possible to close the window at speeds above 250 knots.
- 3 Close and lock the window.
- 4 Choose one:

◆ Window **locks** and pressurization is **normal**:

Continue normal operation.



◆ Window does **not lock** or pressurization is **not normal**:

Level off at the lowest safe altitude.

The airplane can fly unpressurized and land safely with the window open.



**EMER
DOORS**
WING SLIDE
VQ-BKM

Messages: EMER DOORS

L WING SLIDE

R WING SLIDE

Condition: One or both wing slide doors are not closed and secure.

1 Choose one:

◆ Visual or aural observation does **not confirm** that the overwing ramp slide is deployed and is still attached to the airplane:



◆ Visual or aural observation **confirms** that the overwing ramp slide is deployed and is still attached to the airplane:

►► **Go to step 2**

2 Minor damage to the trailing edge flap, aft fuselage, and empennage may occur.

3 **If** needed to minimize slide oscillations and subsequent airplane damage:

Operate at a reduced airspeed.

4 If performance allows, use Flaps 20 and VREF 20 for landing.

▼ **Continued on next page** ▼



▼WING SLIDE continued▼

5 Choose one:

- ◆ Flaps 20 and VREF 20 **can** be used for landing:
GND PROX FLAP OVRD switch OVRD
▶▶ **Go to step 6**
- ◆ Flaps 20 and VREF 20 **cannot** be used for landing:
Use normal flaps and speeds for landing.
■ ■ ■ ■

6 Checklist Complete Except Deferred Items

Deferred Items

Descent Checklist

- Pressurization LDG ALT ____
- Recall Checked
- Autobrake ____
- Landing data **VREF 20**____, Minimums ____
- Approach briefing Completed

Approach Checklist

- Altimeters ____

Landing Checklist

- Speedbrake ARMED

▼ Continued on next page ▼

▼WING SLIDE continued ▼

Landing gear Down

Flaps **20**

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APU BLEED VALVE 2.2

BLEED DUCT LEAK 2.3

BLEED ISOLATION VALVE.....2.4

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**CABIN
ALT**

CABIN ALTITUDE or Rapid Depressurization

**CABIN
ALTITUDE**

Message: CABIN ALTITUDE

Condition: A cabin altitude exceedance occurs.

- 1 Don the oxygen masks.
- 2 Establish crew communications.
- 3 Check the cabin altitude and rate.
- 4 **If** the cabin altitude is uncontrollable:

PASS OXY switch Push and hold
for 1 second

Without delay, descend to the lowest safe altitude or 10,000 feet, whichever is higher.

To descend:

Move the thrust levers to idle

Extend the speedbrakes

If structural integrity is in doubt, limit
airspeed and avoid high maneuvering
loads.

Descend at VMO/MMO

▼ Continued on next page ▼

▼ CABIN ALTITUDE or Rapid Depressurization continued ▼**VQ-BHR, VQ-BKM**

Caution! Speedbrakes will autostow to the 50 % flight detent if airspeed exceeds 330 knots. Do not override autostow function unless airspeed is less than 325 knots.

**V
A
L
V
E****APU BLEED VALVE**

Message: APU BLEED VAL

Condition: The APU bleed valve is not in the commanded position.



**DUCT
LEAK**
BLEED DUCT LEAK

Messages: L BLD DUCT LEAK R BLD DUCT LEAK

Condition: A bleed air leak occurs in the wing area.

1 Determine the affected side:

If either duct pressure is abnormally low and/or corresponding pack has tripped, the low pressure indication determines the affected side.

If duct pressure and pack operation are normal on both sides, use the duct leak message to determine the affected side.

2 ENG BLEED AIR switch (affected side) Off

3 PACK control selector (affected side) Off

4 ISOLATION switch Off

5 **If** the left side is the affected side:

APU BLEED AIR switch Off

6 WING ANTI-ICE switch Off

This prevents possible asymmetrical ice buildup on the wings.

7 Avoid icing conditions.

8 Engine anti-ice on effected side is not available.

9 Do **not** accomplish the following checklist:

ENGINE BLEED OFF



VALVE**BLEED ISOLATION VALVE**

Message: BLEED ISLN VAL

Condition: The isolation valve is not in the commanded position.





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AUTO INOP

CABIN AUTOMATIC
INOPERATIVE

Messages: CABIN AUTO INOP

Condition: One of these occurs:

- The automatic pressurization control is failed
- The cabin altitude mode selector is in manual

- 1 Cabin altitude MODE SELECT MAN
- 2 CABIN ALTITUDE
MANUAL control Move to CLIMB or DESCEND
as needed to control
cabin rate and altitude

Note: Recommended cabin rate is approximately 500 FPM for climbs and descents.

Recommended cabin altitude in cruise is:

FLIGHT LEVEL	CABIN ALTITUDE
Up to 230	Landing Field Elevation
260	2000
300	4000
350	6000
400 and above	8000

3 Checklist Complete Except Deferred Items

▼ Continued on next page ▼

▼ CABIN AUTOMATIC INOPERATIVE continued ▼

Deferred Items

Descent Checklist

Pressurization LDG ALT ____
Recall Checked
Autobrake ____
Landing data VREF____, Minimums____
Approach briefing Completed

Approach Checklist

Altimeters _____

When at pattern altitude

CABIN ALTITUDE
MANUAL control Hold in CLIMB until the
outflow valve indication
shows fully open to
depressurize the airplane

Landing Checklist

Speedbrake ARMED
Landing gear Down
Flaps ____





INOP

CABIN TEMPERATURE

Messages: AFT CABIN TEMP FWD CABIN TEMP

Condition: One or more of these occur:

- A fault in the zone temperature controller
- The compartment temperature control is off
- The trim air switch is off

- 1 COMPT TEMP control
(affected compartment) OFF
- 2 **If** affected compartment temperature continues to
be too warm or too cold:

TRIM AIR switch Off

This schedules the operating pack(s) to a
programmed temperature.

Do **not** accomplish the following checklist:

TRIM AIR

■ ■ ■ ■

OFF

ENGINE BLEED OFF

Messages: L ENG BLEED OFF R ENG BLEED OFF

Condition: The engine bleed valve closed because of a system fault.

- 1 ENG BLEED AIR switch (affected side) Off
- 2 PACK control selector (affected side) OFF
- 3 **If** engine and wing anti-ice needed:
 ISOLATION switch On
 When engine and wing anti-ice no longer needed:
 ISOLATION switch Off
- 4 Do **not** accomplish the following checklist:
 PACK OFF



BLEED**ENGINE BLEED VALVE**

Messages: L ENG BLEED VAL R ENG BLEED VAL

Condition: An engine bleed air overheat occurs.

1 ENG BLEED AIR switch
(affected side) Off, then On

2 Choose one:

◆ ENG BLEED VAL message is **blank**:



◆ ENG BLEED VAL message is **shown**:

►► **Go to step 3**

3 ENG BLEED AIR switch (affected side). Off

4 PACK control selector (affected side) Off

5 **If** engine or wing anti-ice needed:

ISOLATION switch On

When engine and wing anti-ice no longer
needed:

ISOLATION switch Off

6 Do **not** accomplish the following checklists:

ENGINE BLEED OFF

PACK OFF



HI STAGE
ENGINE HIGH STAGE

Messages: L ENG HI STAGE R ENG HI STAGE

Condition: Excessive engine bleed air pressure occurs.

- 1 ENG BLEED AIR switch (affected side) Off
- 2 PACK control selector (affected side) Off
- 3 **If** engine and wing anti-ice needed:
 - ISOLATION switch On
 - When** engine and wing anti-ice no longer needed:
 - ISOLATION switch Off
- 4 Do **not** accomplish the following checklists:
 - ENGINE BLEED OFF
 - PACK OFF



OVHT

EQUIPMENT OVERHEAT

Message: EQPT OVHT

Condition: The forward equipment cooling system is inoperative.

Note: If accompanied by a FWD EQPT SMOKE message, delay action until the smoke message disappears.

1 EQUIP COOLING switch ALTN

2 Choose one:

◆OVHT light **extinguishes:**

■ ■ ■ ■

◆OVHT light **stays illuminated:**

Non-essential avionics and electrical equipment are subject to imminent failure

Cooling is being provided as required to essential avionics and electrical equipment

■ ■ ■ ■

INOP**FLIGHT DECK TEMPERATURE**

Message: FLT DECK TEMP

Condition: One or more of these occur:

- A fault in the zone temperature controller
- The trim air switch is off

- 1 FLT DK COMPT TEMP control OFF
- 2 **If** affected compartment temperature continues to be too warm or too cold:

TRIM AIR switch. Off

This schedules the operating pack(s) to a programmed temperature.

Do **not** accomplish the following checklist:

TRIM AIR



**PACK
OFF****PACK OFF**

Messages: L PACK OFF

R PACK OFF

Condition: A pack shutdown occurs.

1 Choose one:

◆ **A single PACK OFF light is illuminated:**

Continue normal operation.

◆ **Both PACK OFF lights are illuminated:**▶▶ **Go to step 2**2 **Without delay**, descend to the lowest safe altitude or 10,000 feet, whichever is higher

3 To descend:

Move the thrust levers to idle.

Extend the speedbrakes.

Descend at VMO/MMO.

VQ-BHR, VQ-BKM

Caution! Speedbrakes will autostow to the 50 % flight detent if airspeed exceeds 330 knots. Do not override autostow function unless airspeed is less than 325 knots.

▼ Continued on next page ▼

▼ **PACK OFF continued** ▼

4 Consider an alternate engine bleed air source, or if below 17,000 feet the APU bleed air source, if dual PACK OFF condition is a result of engine bleed air loss not caused by a duct leak or engine start valve failure.

5 Choose one:

◆ **Either or both** PACK OFF lights **extinguish**:



◆ **Both** PACK OFF lights **stay illuminated**:

►► **Go to step 6**

6 **When** at level off, maintain airspeed at or greater than 290 knots to ensure fresh air circulation.

7 Choose one:

◆ Airplane altitude is at or below 10,000 feet:

►► **Go to step 8**

◆ Airplane altitude is above 10,000 feet:

Don the oxygen masks.

Establish crew communications.

►► **Go to step 8**

8 Cabin altitude MODE SELECT MAN

9 CABIN ALTITUDE

MANUAL control Hold in CLIMB until the
outflow valve indication
shows fully open

▼ **Continued on next page** ▼



▼ **PACK OFF continued** ▼

- 10 UTILITY BUS switches (Both) Off
 - 11 SHOULDER HEATERS and
 FOOT HEATERS switches (all) OFF
 - 12 Minimize flight deck lighting intensity.
 - 13 Open the flight deck door.
 - 14 Install flight deck sunvisors during daylight
 operations.
 - 15 Instruct flight attendants to:
 - Reduce cabin lighting to minimum needed.
 - Close cabin window shades during daylight
 operations.
 - 16 Plan to land at nearest suitable airport.
 - 17 Do **not** accomplish the following checklists:
 - CABIN AUTOMATIC INOPERATIVE
 - RECIRCULATION FAN
 - UTILITY BUS OFF
- 



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INOP**PACK TEMPERATURE**

Messages: L PACK TEMP R PACK TEMP

Condition: One or more of these occur:

- A pack controller fault
- A pack overheat

1 PACK control selector (affected side). STBY N

2 Choose one:

◆ INOP light **extinguishes**:▶▶ **Go to step 3**◆ INOP light **stays illuminated**:**Wait** 5 minutes.

PACK RESET switch Push

▶▶ **Go to step 3**3 **If** the compartment temperature becomes unacceptably warm or cool with STBY N selected:

PACK control selector

(affected side) STBY C or STBY W,
as needed

▼ Continued on next page ▼

▼ **PACK TEMPERATURE** continued ▼

4 Choose one:

◆ INOP light **stays extinguished:**



◆ INOP light **stays illuminated or illuminates again:**

PACK control selector (affected side) . OFF

Do **not** accomplish the following checklist:

PACK OFF


INOP
RECIRCULATION FAN

Messages: L RECIR FAN

R RECIR FAN

Condition: The recirculation fan is inoperative.


OFF
TRIM AIR

Message: TRIM AIR

Condition: The trim air switch is OFF.



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Non-Normal Checklists

Chapter NNC

Anti-Ice, Rain

Section 3

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AOA PROBE**L AOA** **R AOA**

Messages: L AOA PROBE

R AOA PROBE

Condition: The AOA probe heat is failed.

- 1 Flight in icing conditions may result in some erroneous flight instrument indications.

**AUXILIARY PITOT****L AUX
PITOT** **R AUX
PITOT**

Messages: L AUX PITOT

R AUX PITOT

Condition: The auxiliary pitot probe heat is failed.

- 1 Flight in icing conditions may result in some erroneous flight instrument indications.

**CAPT
PITOT****CAPTAIN PITOT**

Message: CAPT PITOT

Condition: The captain's pitot probe heat is failed.

- 1 Flight in icing conditions may result in some erroneous flight instrument indications.



VALVE**ENGINE ANTI-ICE****VQ-BBU, VQ-BJK through VQ-BTO**

Messages: L ENG ANTI-ICE

R ENG ANTI-ICE

Condition: The engine anti-ice valve is not in the commanded position.

1 Choose one:

◆ ENGINE ANTI-ICE switch is **ON**:

Avoid icing conditions.

Leave the ENGINE ANTI-ICE switch ON.

◆ ENGINE ANTI-ICE switch is **off**:▶▶ **Go to step 2**

2 ENGINE ANTI-ICE switch (affected engine) . . . ON

3 **If** total air temperature (TAT) is above 10 degrees C:

Avoid high thrust settings.



VALVE
ENGINE ANTI-ICE
VQ-BHR

Messages: L ENG ANTI-ICE

R ENG ANTI-ICE

Condition: The engine anti-ice valve is not in the commanded position.

1 Choose one:

◆ ENG ANTI-ICE switch is **ON**:

Avoid icing conditions.

Leave the ENG ANTI-ICE switch ON.


◆ ENG ANTI-ICE switch is **off**:

▶▶ **Go to step 2**

2 ENG ANTI-ICE switch (affected engine) ON

3 **If** total air temperature (TAT) is above 10 degrees C:

Avoid high thrust settings.


**F O
PITOT**
FIRST/OFFICER PITOT

Message: F/O PITOT

Condition: The first officer's pitot probe heat is failed.

1 Flight in icing conditions may result in some erroneous flight instrument indications.



Ice Crystal Icing

Condition: Engine ice crystal icing is suspected. The following are possible indications:

- In visible moisture with amber or red weather radar returns below the airplane
- Appearance of liquid water on the windshield at temperatures too cold for rain (the sound is different than rain)

(Additional items that can indicate ice crystal icing are listed in the Additional Information section.)

Objective: To exit the ice crystal icing conditions and reduce the operational effects of the icing.

Note: Ice crystal icing may cause one or more of the following non-normal engine indications:

- Maximum EPR line (amber) decreases while flying at constant altitude and airspeed
- EPR indications are not aligned
- Unable to achieve maximum continuous thrust or maximum climb thrust

Caution! Do not use engine anti-ice when TAT is above 10°C.

- 1 ENGINE ANTI-ICE switches (both) ON
This increases engine stall margins.

▼ Continued on next page ▼

▼ Ice Crystal Icing continued ▼

- 2 Minimize time above amber and red weather radar returns. If conditions allow, exit the ice crystal icing conditions.
- 3 When in ice crystal icing conditions, the maximum EPR line (amber) may be unreliable.
- 4 **When** ice crystal icing conditions are no longer present, use engine anti-ice normally.



Additional Information

One or more of the following can indicate ice crystal icing:

- Light to moderate turbulence
- Static discharge around the windshield (St. Elmo's fire)
- Smell of sulfur
- Smell of ozone
- Humidity increase

ICE DETECTOR OFF

VQ-BHR

Message: ICE DET OFF

Condition: Ice is not detected.



ICING**ICE DETECTOR ON****VQ-BHR**

Message: ICE DET ON

Condition: Ice is detected.

**PROBE HEAT**

Message: PROBE HEAT

Condition: Two or more probe heats are failed.

- 1 Flight in icing conditions may result in some erroneous flight instrument indications.

**TAT****TAT PROBE**

Message: TAT PROBE

Condition: The TAT probe heat is failed.

- 1 Flight in icing conditions may result in some erroneous flight instrument indications.



INOP
WINDOW (HEAT)

Messages: L FWD WINDOW R FWD WINDOW
 L SIDE WINDOW R SIDE WINDOW
 WINDOW HEAT

Condition: One or more window heats are off.

Objective: To attempt to reset the system.

1 WINDOW HEAT switch. Off 10 seconds,
 then ON

2 Choose one:

◆ INOP light **extinguishes**:



◆ INOP light **stays illuminated**:

WINDOW HEAT switch Off



VALVE**WING ANTI-ICE**

Messages: L WING ANTI-ICE R WING ANTI-ICE

Condition: The wing anti-ice valve is not in the commanded position.

1 Choose one:

◆ WING ANTI-ICE switch is **ON**:

WING ANTI-ICE switch Off

Avoid icing conditions.

Do not use wing anti-ice

◆ WING ANTI-ICE switch is **Off**:▶▶ **Go to step 2**2 **If** left valve failed open:

APU BLEED AIR switch Off

3 **Checklist Complete Except Deferred Items**

Deferred Items

Descent Checklist

Pressurization LDG ALT ____

Recall Checked

Autobrake ____

Landing data VREF____, Minimums____

Approach briefing Completed

▼ **Continued on next page** ▼

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▼ WING ANTI-ICE continued ▼

Approach Checklist

Altimeters _____

Landing Checklist

Speedbrake Armed

Landing gear Down

Flaps ____

After landing

ENG BLEED AIR switch (affected side) Off

ISOLATION switch Off

This prevents possible structural damage due to
overheat.



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Non-Normal Checklists

Chapter NNC

Automatic Flight

Section 4

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**AUTO
PILOT**

AUTOPILOT

Message: AUTOPILOT

Condition: One or more of these occur:

- The autopilot operates in a degraded mode other than the selected mode
- The engaged roll mode fails
- The engaged pitch mode fails

1 Autopilot disengage switch Push


**A/P
DISC**

AUTOPILOT DISCONNECT

Message: AUTOPILOT DISC

Condition: All autopilots are disconnected.


**A/T
DISC**

AUTOTHROTTLE DISCONNECT

Message: AUTOTHROT DISC

Condition: The autothrottle is disconnected.



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**Non-Normal Checklists
Communications**

**Chapter NNC
Section 5**

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DATALINK LOST**VQ-BBU through VQ-BJK, VQ-BTO**

Message: DATALINK LOST

Condition: The datalink is temporarily lost.

**DATALINK SYSTEM****VQ-BBU through VQ-BJK, VQ-BTO**

Message: DATALINK SYS

Condition: The datalink system is failed.

**HF DATALINK****VQ-BHR**

Message: HF DATALINK

Condition: The HF datalink is failed.



**Radio Transmit Continuous
(Stuck Microphone Switch)**

Condition: A radio transmits continuously without crew input.

Objective: To identify and isolate the stuck microphone.

- 1 INT microphone selector switches (all) On
This deselects radios and stops radio transmissions.
- 2 The microphone/interphone with the stuck switch continuously transmits on interphone.
- 3 The associated audio control panel should remain on interphone. All other audio control panels may be used normally.





Non-Normal Checklists
Electrical

Chapter NNC
Section 6

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AC BUS OFF

**BUS
OFF**

**BUS
OFF**

Messages: L AC BUS OFF

R AC BUS OFF

Condition: The AC bus is not powered.

Objective: To attempt to restore electrical power.

- Attempt only one reset per flight

1  GEN CONT switch
(affected side) Off, then ON

2 Choose one:

 - ◆ APU is **available**:
 - ▶▶ **Go to step 3**
 - ◆ APU is **not** available:
 - ▶▶ **Go to step 5**
- 3 APU selector START, then ON
- 4 **When** the APU is running:

- Attempt only one reset per flight

 L BUS TIE switch Off, then AUTO
- Attempt only one reset per flight

 R BUS TIE switch Off, then AUTO

▼ Continued on next page ▼

▼ AC BUS OFF continued ▼

- 5 **If** both AC BUS OFF lights were illuminated **and** AC power is restored:

Activate the FMC route, if needed.

Enter the FMC performance data, if needed.

If an IRS ALIGN light is illuminated:

Action is **not** reversible. Do this step only for the affected IRS(s)



IRS MODE selector ATT

Enter heading on IRS control panel or POS INIT page of FMC.

- 6 Choose one:

◆ **Both** BUS OFF lights are **extinguished**:



◆ **Both** BUS OFF lights **stay illuminated**:

▶▶ **Go to step 9**

◆ **Right** BUS OFF light **stays illuminated**:

▶▶ **Go to step 8**

◆ **Left** BUS OFF light **stays illuminated**:

▶▶ **Go to step 7**

▼ Continued on next page ▼

▼ AC BUS OFF continued ▼

7 Plan to land at the nearest suitable airport.

Left AC Bus Off

Inoperative Items

Some pitot heat probes inop

Flight in icing conditions may result in some erroneous flight instrument indications.

Left and Center flight directors inop

Flap indicator inop

Left and Center autopilot inop



8 Plan to land at the nearest suitable airport.

Right AC Bus Off

Inoperative Items

Some pitot heat probes inop

Flight in icing conditions may result in some erroneous flight instrument indications.

Right flight director inop

Right autopilot inop



9 Plan to land at the nearest suitable airport.

10 RAM AIR TURB switch Push
Observe PRESS light illuminated

11 EQUIP COOLING switch ALTN

▼ Continued on next page ▼



▼ AC BUS OFF continued ▼

12 TRIM AIR switch OFF

Both AC Buses Off

Inoperative Items

- Some pitot heat probes inop**
Flight in icing conditions may result in some erroneous flight instrument indications.
- All flight directors inop**
- All autopilots inop**
- Automatic speedbrake system inop**
Manual speedbrake extension after landing is needed.
- Anti-skid for outboard wheels inop**
- Master caution system inop**

13 Do not use the autobrake.

14 Do not arm the speedbrake for landing.

15 Do **not** accomplish the following checklists:

- RAM AIR TURBINE UNLOCKED
- TRIM AIR

16 Checklist Complete Except Deferred Items

Deferred Items

Descent Checklist

- Pressurization LDG ALT___
- Recall Checked
- Autobrake **OFF**

▼ Continued on next page ▼

▼ AC BUS OFF continued ▼

Landing data VREF____, Minimums____

Approach briefing Completed

Approach Checklist

Altimeters ____

Landing Checklist

Speedbrake **DOWN**

Landing gear Down

Flaps ____



OFF

APU GENERATOR OFF

Message: APU GEN OFF

Condition: The generator control breaker is open.

- 1  Attempt only one reset per flight APU GEN switch Off, then ON



OFF**BATTERY OFF**

Message: BATTERY OFF

Condition: The battery switch is OFF.

**ISLN****BUS ISOLATED**

Messages: L BUS ISOLATED R BUS ISOLATED

Condition: The bus tie breaker is open.



DRIVE
GENERATOR DRIVE

Messages: L GEN DRIVE

R GEN DRIVE

Condition: A generator drive malfunction occurs.

Action is **not** reversible.

1  GEN DRIVE DISC switch
(affected side). Confirm . . . Push

2 Choose one:

◆ APU is **available**:

APU selector START, then ON

▶▶ **Go to step 3**

◆ APU is **not available**:

Plan to land at the nearest suitable airport.

▶▶ **Go to step 3**

3 Do **not** accomplish the following checklist:

GENERATOR OFF



OFF

GENERATOR OFF

Messages: L GEN OFF

R GEN OFF

Condition: The generator control breaker is open.

Attempt only one reset per flight

1  GEN CONT switch (affected side) . . Off, then ON

2 Choose one:

◆ GEN CONT OFF light **extinguishes**:

Continue normal operation.

◆ GEN CONT OFF light **stays illuminated**:▶▶ **Go to step 3**

3 Choose one:

◆ APU is **available**:

APU selector START, then ON

◆ APU is **not available**:

Plan to land at the nearest suitable airport.



**D
I
S
C
H****MAIN BATTERY DISCHARGE**

Message: MAIN BAT DISCH

Condition: A main battery discharge occurs.

- 1 The main battery can provide power to the standby bus for a minimum of 30 minutes.



STANDBY BUS OFF

Message: STANDBY BUS OFF

Condition: One or more of these buses are not energized:

- AC standby bus
- DC standby bus
- Battery bus

1 STBY POWER selector BAT

2 Choose one:

◆ Standby power bus OFF light is **illuminated**:

STBY POWER selector AUTO

▶▶▶ Go to step 3

◆ Standby power bus OFF light is **not illuminated**:

STBY POWER selector AUTO

▶▶▶ Go to step 9

3 Autopilot disengage switch Push

4 Choose one:

◆ Electric stabilizer trim is **not operative**:

▶▶▶ Go to step 5

◆ Electric stabilizer trim is **operative**:

Use electric stabilizer trim.

▶▶▶ Go to step 15

▼ Continued on next page ▼

▼ **STANDBY BUS OFF** continued ▼

5 Choose one:

◆ Alternate stabilizer trim is **not operative**:

▶▶ **Go to step 6**

◆ Alternate stabilizer trim is **operative**:

Use alternate stabilizer trim.

▶▶ **Go to step 15**

6 Engage left or right autopilot and allow autopilot to remain engaged until landing configuration is established.

Automatic stabilizer trim is available with autopilot engaged.

7 Avoid icing conditions.

Inoperative Items

Wing and engine anti-ice inop

Passenger address, flight, and cabin interphone systems inop

Forward and aft fuel crossfeed valves inop

Vary engine thrust as needed to maintain fuel balance as conditions allow.

Left VHF communication system inop

Rudder trim inop

8 Do the checklist for each consequential EICAS alert message as soon as practical.



9 Autopilot disengage switch Push

▼ **Continued on next page** ▼

▼ **STANDBY BUS OFF** continued ▼

10 Choose one:

◆ Electric stabilizer trim is **not operative**:

▶▶ **Go to step 11**

◆ Electric stabilizer trim is **operative**:

Use electric stabilizer trim.

▶▶ **Go to step 22**

11 Choose one:

◆ Alternate stabilizer trim is **not operative**:

▶▶ **Go to step 12**

◆ Alternate stabilizer trim is **operative**:

Use alternate stabilizer trim.

▶▶ **Go to step 22**

12 Plan to land with the standby buses powered normally.

13 Engage left or right autopilot and allow autopilot to remain engaged until landing configuration is established.

Automatic stabilizer trim is available with autopilot engaged.

14 Avoid icing conditions.

Inoperative Items

Wing and engine anti-ice inop

▼ **Continued on next page** ▼

▼ **STANDBY BUS OFF continued** ▼

Passenger address, flight, and cabin interphone systems inop

Forward and aft fuel crossfeed valves inop

Vary engine thrust as needed to maintain fuel balance as conditions allow.

Left VHF communication system inop

Rudder trim inop

►► **Go to step 28**

15 Passenger address, flight, and cabin interphone systems may be inoperative.

16 Wing and engine anti-ice may be inoperative.

17 Cabin altitude and differential pressure indicators may be inoperative.

Cabin altitude control AUTO 1 or AUTO 2 mode operates normally.

18 Left thrust reverser may be inoperative.

19 Left VHF communication system may be inoperative.

20 Rudder trim may be inoperative.

21 Do the checklist for each consequential EICAS alert message as soon as practical.



22 Plan to land with the standby buses powered normally.

23 Passenger address, flight, and cabin interphone systems may be inoperative.

▼ **Continued on next page** ▼

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▼ **STANDBY BUS OFF** continued ▼

24 Wing and engine anti-ice may be inoperative.

25 Cabin altitude and differential pressure indicators may be inoperative.

Cabin altitude control AUTO 1 or AUTO 2 mode operates normally.

26 Left VHF communication system may be inoperative.

27 Rudder trim may be inoperative.

28 **When** within approximately 30 minutes of landing:

STBY POWER selector BAT

▶▶ **Go to step 29**

29 Choose one:

◆ Standby power bus OFF light is **illuminated**:

Left thrust reverser may be inoperative.

Do the checklist for each consequential EICAS alert message prior to landing.



◆ Standby power bus OFF light is **not illuminated**:

Power to all equipment on the standby buses is available.

Continue normal operation.



OFF
UTILITY BUS OFF

Messages: L UTIL BUS OFF R UTIL BUS OFF

Condition: The galley and utility buses are not energized.

1 Choose one:

◆ Two generator sources are **available**:

UTILITY BUS switch Off, then ON


◆ Two generator sources are **not available**:


Intentionally
Blank

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Aborted Engine Start

Condition: During a ground start, an abort start condition occurs.

- 1 FUEL CONTROL switch
(affected side) CUTOFF

- 2 Choose one:

◆ ENG START selector in **GND**:

Motor the engine for 30 seconds.

ENG START selector
(affected side) AUTO



◆ ENG START selector in **AUTO**:

▶▶ **Go to step 3**

- 3 **When** N2 decreases below 20%:

ENG START selector (affected side) GND

Motor the engine for 30 seconds.

ENG START selector (affected side) AUTO



Dual Engine Failure

Condition: One of these occurs on both engines:

- Engine flameout
- No response to thrust lever movement

- 1 ENG START selectors (both) FLT
- 2 Thrust levers (both) Idle
- 3 FUEL CONTROL
switches (both) CUTOFF, then RUN
- 4 **If** engine appears stalled **or** EGT approaches the
Standby Engine Indicator placard limit:

Repeat above step as needed.

Note: SEI maximum EGT limit is inflight start EGT limit.

- 5 RAM AIR TURB switch Push
- 6 Maintain airspeed as indicated below:

Above 35,000 feet use 240 knots.

35,000 feet or below use 250 knots minimum.

VQ-BHR, VQ-BKM

Caution! Speedbrakes will autostow to the 50 % flight detent if airspeed exceeds 330 knots. Do not override autostow function unless airspeed is less than 325 knots.

▼ Continued on next page ▼

▼ Dual Engine Failure continued ▼

Note: OVSPD light and associated aural warning will indicate Vmo/Mmo exceedances.

Note: Cabin altitude warning may occur during descent.

7 Choose one:

◆ APU is **not available**:

▶▶ **Go to step 9**

◆ APU is **available**:

▶▶ **Go to step 8**

Do **not** wait for successful engine start(s) prior to starting the APU

8  APU selector START, then ON

9 Choose one:

◆ **Either or both engines started**:

▶▶ **Go to step 13**

◆ **Both engines remain failed**:

▶▶ **Go to step 10**

10 Thrust levers (both) Idle

▼ Continued on next page ▼

▼ Dual Engine Failure continued ▼

- 11 Engines may accelerate to idle very slowly, especially at high altitude. Slow acceleration may be incorrectly interpreted as a hung start or an engine malfunction. If N2 is steadily increasing, and EGT remains within limits, the start is progressing normally.
- 12 FUEL CONTROL
switches (both) CUTOFF for approximately
30 seconds, then RUN for
approximately 30 seconds.
Repeat until engine start is achieved
- 13 Activate the FMC route.
- 14 Enter the FMC performance data.
- 15 Choose one:
- ◆ **All** ALIGN lights are **not** illuminated:

▶▶ **Go to step 18**
 - ◆ **Any** ALIGN light is **illuminated**:

▶▶ **Go to step 16**
- Action is **not** reversible. Do this step only for the affected IRS(s)
- 16  IRS MODE selector (affected IRS) ATT
- 17 Enter heading on IRS control panel or POS INIT page of FMC.

Note: Cabin altitude warning may occur during descent.

▼ Continued on next page ▼

▼ Dual Engine Failure continued ▼

18 Choose one:

◆ **Both engines are started:**



◆ **An engine stays failed:**

▶▶ **Go to the Engine Failure or
Shutdown checklist on page 7.11**



Engine Limit or Surge or Stall

Condition: One or more of these occur:

- Engine indications are abnormal
- Engine indications are rapidly approaching or exceeding limits
- Abnormal engine noises are heard, possibly with airframe vibration
- There is no response to thrust lever movement or the response is abnormal
- Flames in the engine inlet or exhaust are reported

- 1 A/T ARM switch OFF
- 2 Thrust lever (affected side) Confirm . . Retard until
engine indications
stay within limits or
the thrust lever is at Idle

▼ Continued on next page ▼

▼ Engine Limit or Surge or Stall continued ▼

3 Choose one:

◆ Engine indications are **stabilized and** EGT is **stabilized or decreasing**:

▶▶ **Go to step 4**

◆ Engine indications are **abnormal or** EGT continues to **increase**:

After shutdown, a restart may be attempted if there is N1 rotation and no abnormal airframe vibration.

▶▶ **Go to the Engine Failure or Shutdown checklist on page 7.11**


Check that RPM and EGT follow thrust lever movement.

4  Thrust lever (affected side) . . . Advance slowly

5 Choose one:

◆ Engine acceleration is **normal**:

Run the engine normally or at a reduced thrust setting that is surge and stall free.


◆ Engine acceleration is **not** normal:

▶▶ **Go to step 6**

▼ Continued on next page ▼

▼ Engine Limit or Surge or Stall continued ▼

6 Choose one:

◆ EGT is **normal**:▶▶ **Go to step 7**◆ EGT is **not** normal:

After shutdown, a restart may be attempted if there is N1 rotation and no abnormal airframe vibration.

▶▶ **Go to the Engine Failure or Shutdown checklist on page 7.11**



7 ENG BLEED AIR switch (affected side) Off

8 Choose one:

◆ Engine **responds**:▶▶ **Go to step 9**◆ Engine does **not** respond:

Continue engine operation at Idle.

▶▶ **Go to step 9**

9 ENG BLEED AIR switch (affected side) On



FAULT
APU FAULT

Message: APU FAULT

Condition: An APU automatic shutdown occurs.

1 APU selector OFF, then ON

2 Choose one:

◆ FAULT light **stays illuminated**:



◆ FAULT light **extinguishes**:

▶▶ **Go to step 3**

3 APU selector START, then ON


FAULT
APU FUEL VALVE

Message: APU FUEL VAL

Condition: The APU fuel valve is not in the commanded position.

1 APU selector OFF

2 Do **not** start the APU.


ENGINE CONTROLS

Message: ENGINE CONTROLS

Condition: An EEC system fault occurs.



**ENGINE EEC POWER****VQ-BKM**

Messages: L ENG EEC POWER R ENG EEC POWER

Condition: EEC maintenance power switch is in the
ALTN position



Engine Failure or Shutdown

Condition: One of these occurs:

- An engine failure
- An engine flameout
- Another checklist directs an engine shutdown

- 1 A/T ARM switch OFF
- 2 Thrust lever (affected side) . Confirm Idle
- 3 **If** engine conditions allow, operate at idle for two minutes to allow engine to cool and stabilize.
- 4 FUEL CONTROL switch
(affected side) Confirm . . . CUTOFF
- 5 Choose one:
 - ◆APU is **available**:
 - ▶▶ **Go to step 6**
 - ◆APU is **not** available:
 - VQ-BHR
 - ▶▶ **Go to step 7**
 - VQ-BBU, VQ-BJK through VQ-BTO
 - ▶▶ **Go to step 8**
- 6 APU selector START, then ON
VQ-BHR
- 7 Transponder mode selector TA
VQ-BBU, VQ-BJK through VQ-BTO
- 8 Transponder mode selector TA ONLY

▼ Continued on next page ▼

▼ Engine Failure or Shutdown continued ▼

9 Plan to land at the nearest suitable airport.

10 **If** wing anti-ice required:

PACK control selector (affected side) OFF

ISOLATION switch On

When wing anti-ice no longer required:

ISOLATION switch Off

11 GND PROX FLAP OVRD switch OVRD

12 Use flaps 20 and VREF 20 for landing.

13 Use flaps 5 for go-around.

14 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.

15 Do **not** accomplish the following checklists:

ENGINE SHUTDOWN

PACK OFF

16 Checklist Complete Except Deferred Items

Deferred Items

Descent Checklist

Pressurization LDG ALT ____

Recall Checked

Autobrake ____

Landing data **VREF 20** __, Minimums ____

▼ Continued on next page ▼

▼Engine Failure or Shutdown continued▼

Approach briefing Completed

Approach Checklist

Altimeters ____

Landing Checklist

Speedbrake ARMED

Landing gear Down

Flaps. **20**

ENGINE FUEL FILTER

Messages: L ENG FUEL FILT R ENG FUEL FILT

Condition: Fuel contamination can cause fuel to bypass the engine fuel filter.

1 Choose one:

- ◆ Only **one** ENG FUEL FILTER message, left or right, has shown during the flight:

Note: Erratic engine operation and flameout may occur on the affected engine due to fuel contamination



- ◆ ENG FUEL FILTER messages for **both** engines show or have shown at any time during the flight (either separately or at the same time):

►► **Go to step 2**

2 Plan to land at the nearest suitable airport.

Note: Erratic engine operation and flameout may occur on either or both engines due to fuel contamination.



**ENG
VALVE**
ENGINE FUEL VALVE

Messages: L ENG FUEL VAL R ENG FUEL VAL

Condition: The engine fuel valve is not in the commanded position.

1 Choose one:

◆ FUEL CONTROL switch is **not** in CUTOFF:



◆ FUEL CONTROL switch is in **CUTOFF**:

The engine may continue to run for approximately 1 minute.

▶▶ **Go to step 2**

2 Choose one:

◆ In **flight**:



◆ On the **ground**:

Do **not** attempt engine start.



Engine In-flight Start

Condition: An engine start is needed and all of the following are true:

- There was **no** engine fire
- There is N1 rotation
- There is **no** abnormal airframe vibration

- 1 Check altitude and airspeed. Starts are not assured outside the EICAS envelope.
- 2 Engine may accelerate to idle very slowly, especially at high altitude. Slow acceleration may be incorrectly interpreted as a hung start or an engine malfunction. If N2 is steadily increasing, and EGT remains within limits, the start is progressing normally.
- 3 Choose one:
 - ◆ X-BLD is **shown**:
 - ▶▶ **Go to step 7**
 - ◆ X-BLD is **not shown**:
 - ▶▶ **Go to step 4**
- 4 ENG START selector (affected side). FLT
- 5 FUEL CONTROL switch. RUN

▼ Continued on next page ▼

▼ Engine In-flight Start continued ▼

6 Choose one:

◆ EGT does **not increase** in 30 seconds **or** another abort start condition as listed in normal procedures **occurs**:

FUEL CONTROL switch
(affected side). Confirm. . CUTOFF

►► **Go to step 19**

◆ EGT **increases** in 30 seconds **and** another abort start condition as listed in normal procedures does **not occur**:

►► **Go to step 11**

7 PACK control selector (affected side) OFF

8 ISOLATION switch On

9 Ignition selector BOTH

10 ENG START selector (affected side) GND

▼ Continued on next page ▼

▼ Engine In-flight Start continued ▼

When N2 exceeds minimum fuel on command bug:

FUEL CONTROL switch RUN

Choose one:

- ◆ EGT does **not increase** in 30 seconds **or** another abort start condition as listed in normal procedures **occurs**:

FUEL CONTROL switch
(affected side) . Confirm . . CUTOFF

ENG START selector
(affected side) AUTO

▶▶ **Go to step 19**

- ◆ EGT **increases** in 30 seconds **and** another abort start condition as listed in normal procedures does **not occur**:

▶▶ **Go to step 11**

11 Choose one:

- ◆ Engine **starts** and runs normally:

▶▶ **Go to step 12**

- ◆ Engine **fails** to start:

▶▶ **Go to step 17**

12 ENG START selector (affected side). AUTO

13 PACK control selectors (both). AUTO

▼ Continued on next page ▼

▼ Engine In-flight Start continued ▼

14 ISOLATION switch Off

15 Transponder mode selector TA/RA

16 GND PROX FLAP OVRD switch Off


17 FUEL CONTROL switch
(affected side) Confirm CUTOFF

18 ENG START selector
(affected side) AUTO

19 Plan to land at the nearest suitable airport.

20 **If** wing anti-ice required:

PACK control selector (affected side) OFF

ISOLATION switch On

When wing anti-ice no longer required:

ISOLATION switch Off

21 Use flaps 20 and VREF 20 for landing.

22 Use flaps 5 for go-around.

23 Check the Non-Normal Configuration Landing
Distance tables in the Performance Inflight-QRH
chapter.

24 Do **not** accomplish the following checklists:

ENGINE SHUTDOWN

PACK OFF

25 **Checklist Complete Except Deferred Items**

▼ Continued on next page ▼



▼ Engine In-flight Start continued ▼

Deferred Items

Descent Checklist

- Pressurization LDG ALT ____
- Recall Checked
- Autobrake ____
- Landing data **VREF 20** __, Minimums __
- Approach briefing Completed

Approach Checklist

- Altimeters ____

Landing Checklist

- Speedbrake ARMED
- Landing gear Down
- Flaps **20**



**ENG LIM
PROT****ENGINE LIMIT PROTECTION**

Messages: L ENG LIM PROT R ENG LIM PROT

Condition: The EEC is operating in N2 mode.

- 1 Observe thrust limits
- 2 Engine response may not be synchronized with rapid thrust lever movement
- 3 Anticipate increased thrust lever stagger at high power at low altitude
- 4 Autothrottle is inoperative



ENGINE OIL PRESSURE**L ENG
OIL PRESS****R ENG
OIL PRESS**

Messages: L ENG OIL PRESS R ENG OIL PRESS

Condition: The oil pressure is low.

1 Choose one:

◆ Oil pressure indication **normal**:

Operate engine normally.

◆ Oil pressure indication in **amber band**:

Autothrottle disconnect switch. . . . Push

Reduce thrust to minimum required.

◆ Oil pressure indication **at or below red line limit**:**▶▶ Go to the Engine Failure or Shutdown checklist on page 7.11**

Engine Oil Temperature

Condition: The oil temperature is high.

- 1 A/T ARM switch OFF
- 2 Thrust lever
(affected side) Confirm. . . Retard slowly
until the
temperature decreases
- 3 **If** temperature is in the amber band 20 minutes **or**
above upper red line limit:

**►► Go to the Engine Failure or Shutdown
checklist on page 7.11**



ENGINE SHUTDOWN

Messages: L ENG SHUTDOWN R ENG SHUTDOWN

Condition: The engine was shutdown by the fuel control
switch or the engine fire switch.



VALVE**ENGINE STARTER**

Messages: L ENG STARTER R ENG STARTER

Condition: The start valve is not open.

- 1 ENG START selector (affected side). AUTO

This prevents bleed air from entering starter if valve subsequently opens.

- 2 Choose one:

◆ On the **ground**:



◆ In **flight**:

Increase airspeed until X-BLD no longer displayed.



ENGINE STATOR

Messages: L ENG STATOR

R ENG STATOR

Condition: The EEC is not capable of controlling the stator vane actuator

- 1 A/T ARM Switch OFF
- 2 Changing the position of any of the following for the affected side may cause engine flameout:
 - Thrust lever
 - Engine anti-ice switch
 - Wing anti-ice switch
 - Pack control selector
 - Recirculation fan switch
- 3 Choose one:
 - ◆APU is **not available**:
 - ▶▶Go to step 5
 - ◆APU is **available**:
 - ▶▶Go to step 4
- 4 APU selector START, then ON
- 5 **If engine fails or flames out:**
 - Do **not** attempt an engine in-flight start.
 - ▶▶**Go to the Engine Failure or Shutdown checklist on page 7.11**
 - ■ ■ ■

**SPAR
VALVE****FUEL SPAR VALVE**

Messages: L FUEL SPAR VAL R FUEL SPAR VAL

Condition: The spar fuel valve is not in the commanded position.

1 Choose one:

◆ In **flight**:◆ On the **ground**:Do **not** attempt engine start.



Intentionally
Blank

OIL FILTER

Messages: L OIL FILTER

R OIL FILTER

Condition: Oil filter contamination can cause oil to bypass the oil filter.

1 Choose one:

◆ On the **ground**:

Allow oil temp. to increase above 35° C

If Oil Filter message stays shown:

FUEL CONTROL switch

(affected side) Confirm . . CUTOFF

◆ In **flight**:

►► **Go to step 2**

2 A/T ARM switch OFF

3 Thrust lever
(affected side) Confirm . Retard slowly until
the message blanks
or the thrust lever is at idle

▼ Continued on next page ▼

▼ OIL FILTER continued ▼

4 Choose one:

◆ OIL FILTER message **not displayed**:

Continue operating at reduced thrust.



◆ OIL FILTER message **remains displayed**:

►► **Go to the Engine Failure or Shutdown checklist on page 7.11**



REVERSER ISOLATION VALVE

Messages: L REV ISLN VAL

R REV ISLN VAL

Condition: A fault occurs in the thrust reverser system.

- 1 Additional system failures may cause inflight deployment.
- 2 Expect normal reverser operation after landing.



REVERSER UNLOCKED

Condition: The REV indication shows with reverse thrust not intentionally commanded.

- 1 Reverse thrust lever Verify in the full down position

 - 2 Choose one:
 - ◆ With **no yaw, loss of airspeed, or buffet**:
 Operate engine normally.

■ ■ ■ ■
 - ◆ With **yaw, loss of airspeed, or buffet**:

▶▶ Go to step 3

 - 3 A/T ARM switch OFF
 - 4 Thrust lever (affected side) .Confirm Idle
 - 5 FUEL CONTROL switch
 (affected side) Confirm . . . CUTOFF
 - 6 Choose one:
 - ◆ APU is **not available**:

▶▶ Go to step 8
 - ◆ APU is **available**:

▶▶ Go to step 7

 - 7 APU selector START, then ON
 - 8 GND PROX FLAP OVRD switch OVRD
- VQ-BHR**
- 9 Transponder mode selector TA

▼ Continued on next page ▼

▼ REVERSER UNLOCKED continued ▼

VQ-BBU, VQ-BJK through VQ-BTO

10 Transponder mode selector TA ONLY

11 Plan to land at the nearest suitable airport.

12 **If** wing anti-ice needed:

PACK control selector (affected side) OFF

ISOLATION switch On

When wing anti-ice no longer needed:

ISOLATION switch Off

13 Use flaps 20 and VREF 30 + 30 for landing.

14 Use flaps 5 for go-around.

15 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.

16 Do **not** accomplish the following checklists:

ENGINE SHUTDOWN

PACK OFF

17 Checklist Complete Except Deferred Items

▼ Continued on next page ▼



▼ REVERSER UNLOCKED continued ▼

Deferred Items

Descent Checklist

- Pressurization LDG ALT ____
- Recall Checked
- Autobrake ____
- Landing data **VREF 30 + 30** __, Minimums __
- Approach briefing Completed

Approach Checklist

- Altimeters ____

Landing Checklist

- Speedbrake ARMED
- Landing gear Down
- Flaps **20**





Intentionally
Blank

VALVE**STARTER CUTOUT**

Messages: L STARTER CUTOUT R STARTER CUTOUT

Condition: The start valve is not closed.

1 ENG START selector (affected side). AUTO

2 Choose one:

◆ VALVE light **extinguishes**:◆ VALVE light **stays illuminated**:▶▶ **Go to step 3**

3 ENG BLEED AIR switch (affected side). Off

4 ISOLATION switch Off

5 APU BLEED AIR Switch Off

6 Choose one:

◆ Ground air source **not** in use:▶▶ **Go to step 8**◆ Ground air source **in use**:▶▶ **Go to step 7**

7 Disconnect the ground air source.

8 WING ANTI-ICE switch Off

This prevents possible asymmetrical ice buildup
on the wings.

▼ Continued on next page ▼

▼ STARTER CUTOUT continued ▼

9 Avoid icing conditions.

10 PW Engines:

Engine and wing anti-ice on affected side is not available

11 Do **not** accomplish the following checklists:

ENGINE BLEED OFF

PACK OFF





Volcanic Ash

Condition: Volcanic ash is suspected when one or more of these occur:

- A static discharge around the windshield
- A bright glow in the engine inlets
- Smoke or dust on the flight deck
- An acrid odor

Objective: To exit the ash cloud and restart engines if needed.

Caution! Exit the volcanic ash as quickly as possible. Consider a 180 degree turn. Consider a descending turn.

- 1 Don oxygen masks, as needed.
- VQ-BBU, VQ-BJK through VQ-BTO**
- 2 Don smoke goggles, as needed.
- 3 Establish crew communications (if needed).
- 4 A/T ARM switch OFF

If conditions allow, run the engines at idle

- 5  Thrust levers (both) Idle
This reduces possible engine damage or flameout, or both, by decreasing EGT.
- 6 ENG START selectors (both) FLT
- 7 RECIRC FAN switches (both) Off
- 8 ENGINE ANTI-ICE switches (both) ON
- 9 WING ANTI-ICE switch ON

▼ Continued on next page ▼

▼ Volcanic Ash continued ▼

10 Choose one:

◆ APU is **not available**:

▶▶ **Go to step 12**

◆ APU is **available**:

▶▶ **Go to step 11**

11 APU selector START, then ON

12 Engines may accelerate to idle very slowly, especially at high altitude.

Note: Volcanic ash can cause non-normal system reactions such as:

- engine malfunctions, increasing EGT, engine stall or flameout
- decrease or loss of airspeed indications
- equipment overheat or smoke indications
- cargo fire indications

13 Slow acceleration may be incorrectly interpreted as a hung start or an engine malfunction. If N2 is steadily increasing, and EGT remains within limits, the start is progressing normally.

▼ Continued on next page ▼

▼ Volcanic Ash continued ▼

14 Choose one:

◆ Engines **not** flamed out or stalled **and** EGT **stabilized or decreasing**:

▶▶ Go to step 15

◆ Engines **flamed out or stalled, or** EGT **rapidly approaching or exceeding limit**:

▶▶ Go to the Dual Engine Failure checklist on page 7.2



15 Plan to land at the nearest suitable airport.

16 Do **not** accomplish the following checklist:

RECIRCULATION FAN





Non-Normal Checklists

Chapter NNC

Fire Protection

Section 8

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Intentionally
Blank

APU FIRE

Message: APU FIRE

Condition: Fire is detected in the APU.

- 1 APU fire switch Confirm Pull, rotate to the stop, and hold for 1 second
- 2 Choose one:
 - ◆ APU fire warning light **stays illuminated**:
Plan to land at the nearest suitable airport.
▶▶ **Go to step 3**
 - ◆ APU fire warning light **extinguishes**:
▶▶ **Go to step 3**
- 3 Do **not** accomplish the following checklists:
APU BOTTLE
APU FAULT



**ENGINE FIRE
or
Engine Severe Damage or
Separation**

Messages: L ENGINE FIRE

R ENGINE FIRE

Condition: One or more of these occur:

- Engine fire warning
- Airframe vibrations with abnormal engine indications
- Engine separation

- 1 A/T ARM switch OFF
- 2 Thrust lever
(affected side) Confirm Idle
- 3 FUEL CONTROL switch
(affected side) Confirm . . . CUTOFF
- 4 Engine fire switch
(affected side) Confirm Pull
- 5 **If** the engine fire warning light is illuminated:
Engine fire switch Rotate to the stop and
hold for 1 second
If after 30 seconds the engine fire warning light
stays illuminated:
Engine fire switch Rotate to
the other stop and
hold for 1 second

▼ Continued on next page ▼

▼ **ENGINE FIRE or Engine Severe Damage or Separation continued ▼**

- 6 **If** high airframe vibration occurs and continues after engine shutdown:

Without delay, reduce airspeed and descend to a safe altitude which results in an acceptable vibration level.

If high airframe vibration returns and further airspeed reduction and descent are not practical, increasing the airspeed may reduce the vibration.

- 7 Choose one:

◆ APU is **available**:

▶▶ **Go to step 8**

◆ APU is **not** available:

VQ-BHR

▶▶ **Go to step 9**

VQ-BBU, VQ-BJK through VQ-BTO

▶▶ **Go to step 10**

- 8 APU selector START, then ON
VQ-BHR
- 9 Transponder mode selector TA
VQ-BBU, VQ-BJK through VQ-BTO
- 10 Transponder mode selector TA ONLY
- 11 Plan to land at the nearest suitable airport.

▼ **Continued on next page ▼**

▼ ENGINE FIRE or Engine Severe Damage or Separation continued ▼

12 **If** wing anti-ice required:

PACK control selector (affected side) OFF

ISOLATION switch On

When wing anti-ice no longer required:

ISOLATION switch Off

13 GND PROX FLAP OVRD switch OVRD

14 Use flaps 20 and VREF 20 for landing.

15 Use flaps 5 for go-around.

16 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.

17 Do **not** accomplish the following checklists:

ENGINE BOTTLE

ENGINE SHUTDOWN

PACK OFF

18 **Checklist Complete Except Deferred Items**

Deferred Items

Descent Checklist

Pressurization LDG ALT ____

Recall Checked

Autobrake ____

Landing data **VREF 20** __, Minimums ____

▼ Continued on next page ▼

▼ ENGINE FIRE or Engine Severe Damage or Separation continued ▼

Approach briefing Completed

Approach Checklist

Altimeters _____

Landing Checklist

Speedbrake ARMED

Landing gear Down

Flaps. **20**

Engine Tailpipe Fire

Condition: An engine tailpipe fire occurs on the ground with no engine fire warning.

- 1 FUEL CONTROL switch
(affected side) CUTOFF
- 2 Advise the cabin.
- 3 Choose one:
 - ◆ Bleed air is **available**:

▶▶ **Go to step 4**
 - ◆ Bleed air is **not** available:

Advise the tower.

■ ■ ■ ■
- 4 PACK control selectors (both) OFF
- 5 ISOLATION switch On
- 6 Choose one:
 - ◆ Affected ENG START selector is in **GND**:

▶▶ **Go to step 9**
 - ◆ Affected ENG START selector is **not** in GND:

▶▶ **Go to step 7**
- 7 **Wait** for N2 to decrease to 30%.
- 8 ENG START selector (affected side) GND
- 9 Advise the tower.

▼ Continued on next page ▼

▼Engine Tailpipe Fire continued▼

10 **When** the tailpipe fire is extinguished:

ENG START selector
(affected side) AUTO



Smoke, Fire or Fumes

Condition: Smoke, fire or fumes occur.

1 Diversion may be needed.

2 Don oxygen masks, as needed.

VQ-BBU, VQ-BJK through VQ-BTO

3 Don smoke goggles, as needed.

4 Establish crew and cabin communications.

VQ-BKM

(SB Deletes VQ-BTO when flight deck main IFE power switch installed.)

5 Advise the cabin crew to turn off main IFE power switches.

6 Advise cabin crew that main cabin lighting will be turned off.

7 UTILITY BUS switches (both) Off

8 L RECIRC FAN Off

9 APU BLEED AIR switch Off

10 **Anytime** the smoke or fumes become the greatest threat:

**►► Go to the Smoke or Fumes Removal
checklist on page 8.18**

▼ Continued on next page ▼

▼ Smoke, Fire or Fumes continued ▼

11 Choose one:

- ◆ Source of the smoke, fire or fumes is both **obvious and** can be **extinguished quickly**:

Isolate and extinguish the source.

If possible remove power from the affected equipment by switch or circuit breaker in the flight deck or cabin.

▶▶ **Go to step 12**

- ◆ Source of the smoke, fire or fumes is **not obvious or cannot be extinguished quickly**:

▶▶ **Go to step 13**

12 Choose one:

- ◆ Source is visually **confirmed** to be extinguished **and** smoke or fumes are **decreasing**:

Continue flight at the Captain's discretion.

Restore unpowered items at the Captain's discretion.

▶▶ **Go to the Smoke or Fumes Removal checklist on page 8.18, if needed**



- ◆ Source is visually **not confirmed** to be extinguished **or** smoke or fumes are **not decreasing**:

▶▶ **Go to step 13**

13 EQUIP COOLING switch ALTN

▼ Continued on next page ▼

▼ Smoke, Fire or Fumes continued ▼

- 14 Initiate a diversion to the nearest suitable airport while continuing the checklist.
- 15 Consider an immediate landing if the smoke, fire or fumes situation becomes uncontrollable.
- 16 Do **not** delay landing in an attempt to complete all of the following steps.
- 17 ISOLATION switch Off
- 18 R PACK control selector OFF
- 19 **Wait** 2 minutes unless the smoke or fumes are increasing. This allows time for the smoke or fumes to clear.
- 20 Choose one:
- ◆ Smoke or fumes do **not continue** or are **not increasing**:
 - ▶▶ **Go to step 27**
 - ◆ Smoke or fumes **continue** or are **increasing**:
 - ▶▶ **Go to step 21**
- 21 R PACK control selector AUTO
- 22 L PACK control selector OFF
- 23 **Wait** 2 minutes unless the smoke or fumes are increasing. This allows time for the smoke or fumes to clear.

▼ Continued on next page ▼

▼ Smoke, Fire or Fumes continued ▼

24 Choose one:

◆ Smoke or fumes do **not continue** or are **not increasing**:

▶▶ **Go to step 27**

◆ Smoke or fumes **continue** or are **increasing**:

▶▶ **Go to step 25**

25 L PACK control selector AUTO

26 Consider an immediate landing.

27 Do **not** accomplish the following checklists:

UTILITY BUS OFF

PACK OFF

RECIRCULATION FAN

▶▶ **Go to the Smoke or Fumes Removal checklist on page 8.18, if needed**



**APU BTL
DISCH**

APU BOTTLE

Message: APU BTL

Condition: The fire bottle pressure is low.



DISCH**CARGO BOTTLE**

Messages: CARGO BTL 1 CARGO BTL 2

Condition: A fire bottle pressure is low.



CARGO FIRE

FWD
AFT

Messages: FWD CARGO FIRE AFT CARGO FIRE

Condition: Smoke is detected in the cargo compartment.

- 1 CARGO FIRE ARM switch
(FWD or AFT) Confirm ARMED
- 2 CARGO FIRE BTL 1 DISCH switch Push and
hold for 1 second

Note: DISCH light may require approximately 30 seconds to illuminate.

- 3 Choose one:

◆ On the **ground**:

**Warning! Inform ground personnel
NOT to open any cargo door
until all passengers and crew
have exited the airplane and
fire fighting equipment is
nearby.**



◆ In flight

▶▶ Go to step 4

- 4 PACK control selector (either) Off

▼ Continued on next page ▼



▼ CARGO FIRE continued ▼

- 5 Plan to land at the nearest suitable airport.
- 6 Do **not** accomplish the following checklists:
 - CARGO BOTTLE
 - PACK OFF
 - RECIRCULATION FAN
- 7 **Wait** 80 minutes or during approach, whichever occurs first:
 - CARGO FIRE BTL 2 DISCH switch . . . Push and hold for 1 second

8 Checklist Complete Except Deferred Items

Deferred Items

Descent Checklist

- Pressurization LDG ALT ____
- Recall Checked
- Autobrake ____
- Landing data VREF____, Minimums____
- Approach briefing Completed

Approach Checklist

- Altimeters ____

▼ Continued on next page ▼

▼ CARGO FIRE continued ▼

During approach

If second fire bottle has not been discharged:

CARGO FIRE BTL 2 DISCH switch . . . Push and
hold for
1 second

Warning! Inform ground personnel NOT to open any cargo door after landing until all passengers and crew have exited the airplane and fire fighting equipment is nearby.

Landing Checklist

Speedbrake ARMED

Landing gear Down

Flaps ____



ENGINE BOTTLE

ENG BTL 1 DISCH **ENG BTL 2 DISCH**

Messages: ENG BTL 1 ENG BTL 2

Condition: The fire bottle pressure is low.



ENGINE OVERHEAT

**L ENG
OVHT**
**R ENG
OVHT**

Messages: L ENG OVHT R ENG OVHT

Condition: An engine overheat is detected.

- 1 ENG BLEED AIR switch (affected side). Off
- 2 ISOLATION switch Off
- 3 **If** the L ENG OVHT light is illuminated:
 - APU BLEED AIR switch Off
- 4 WING ANTI-ICE switch Off
- 5 Avoid icing conditions. Engine and wing anti-ice on the affected side are not available.
- 6 Choose one:
 - ◆ ENG OVHT light **extinguishes**:
 - ▶▶ **Go to step 7**
 - ◆ ENG OVHT light **stays illuminated**:
 - ▶▶ **Go to the Engine Failure or Shutdown checklist on page 7.11**



- 7 Do **not** accomplish the following checklists:
 - ENGINE BLEED OFF
 - PACK OFF



SMOKE**EQUIPMENT SMOKE**

Messages: FWD EQPT SMOKE

Condition: Smoke is sensed in the equipment cooling system.

**FAIL
P-RESET****FIRE/OVERHEAT SYSTEM**

Message: FIRE/OVHT SYS

Condition: One or more of these occur:

- Engine fire and overheat detection is inoperative
- APU fire detection is inoperative
- Cargo fire detection is inoperative

1 FIRE/OVHT TEST SYS FAIL switch. Push



Smoke or Fumes Removal

Condition: Smoke or fumes removal is needed.

- 1 Do this checklist **only** when directed by the Smoke, Fire or Fumes checklist.
- 2 Do not delay landing in an attempt to complete the following steps.

**Warning! Do not turn an operating pack OFF.
Selecting PACKS OFF will result in
increased smoke concentrations.**

- 3 Close the flight deck door.
- 4 LDG ALT selector Set 9,500 feet
- 5 CABIN ALTITUDE AUTO RATE control. MAX
- 6 Choose one:

◆ Smoke or fumes are **not persistent**:

▶▶ **Go to the Smoke, Fire or Fumes
checklist on page 8.8 and do the
remaining steps**

◆ Smoke or fumes **continue** or are **increasing**:

▶▶ **Go to step 7**

- 7 Descend to 9,500 feet or below as soon as conditions permit.
- 8 **When** at 9,500 feet:

Cabin Altitude MODE SELECT MAN

▼ Continued on next page ▼

▼ Smoke or Fumes Removal continued ▼**CABIN ALTITUDE**

MANUAL control Hold in CLIMB until
the outflow valve indication
shows fully open

Do **not** accomplish the following checklist:

CABIN AUTOMATIC INOPERATIVE

►► **Go to the Smoke, Fire or Fumes checklist on
page 8.8 and do the remaining steps**



**WHL WELL
FIRE****WHEEL WELL FIRE**

Message: WHEEL WELL FIRE

Condition: Fire is detected in a main wheel well.

Maximum 270K/.82M

- 1  Landing gear lever DN

This attempts to extinguish the fire.

- 2 Plan to land at the nearest suitable airport.

Note: Do not use FMC fuel predictions with gear extended.

- 3 Flight with gear down increases fuel consumption and decreases climb performance. Refer to Gear Down performance tables in Performance Inflight chapter for flight planning.
- 4 Choose one:

◆ Landing gear retraction is **not needed** for airplane performance:



◆ Landing gear retraction is **needed** for airplane performance:

►► **Go to step 5**

- 5 **When** WHL WELL FIRE light extinguishes:

Wait 20 minutes. This attempts to ensure the fire remains extinguished.

Landing gear lever UP, then OFF



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Intentionally
Blank

All Flaps and Slats Up Landing

Condition: The leading edge slats and trailing edge flaps fail to extend.

- 1 Accomplish this checklist **only** when directed by the LEADING EDGE SLAT ASYMMETRY checklist or the TRAILING EDGE FLAP ASYMMETRY checklist
- 2 Do **not** slow below VREF 30 + 80 until established on final approach.
- 3 Limit bank angle to 15 degrees below VREF 30 + 80.

Note: Tail clearance is reduced on landing.

- 4 ENG START selectors (both). CONT
- 5 Use VREF 30 + 50 for landing.
- 6 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.
- 7 **Checklist Complete Except Deferred Items**

▼ Continued on next page ▼



▼ All Flaps and Slats Up Landing continued ▼

Deferred Items

Descent Checklist

- Pressurization LDG ALT ____
- Recall Checked
- Autobrake ____
- Landing Data **VREF 30 + 50**____,
Minimums____
- Approach Briefing Completed

Approach Checklist

- Altimeters ____

Landing Checklist

- Speedbrake ARMED
- Landing gear Down
- Flaps **As Indicated**



**AUTO
SPDBRK**

AUTO SPEEDBRAKE

VQ-BBU, VQ-BJK, VQ-BTO

Message: AUTO SPEEDBRAKE

Condition: An automatic speedbrake fault occurs.

- 1 Do **not** arm the speedbrake lever.
- 2 Manually extend speedbrakes after landing.
- 3 **Checklist Complete Except Deferred Items**

Deferred Items

Descent Checklist

Pressurization LDG ALT ____
 Recall Checked
 Autobrake ____
 Landing data VREF____, Minimums____
 Approach briefing Completed

Approach Checklist

Altimeters ____

Landing Checklist

Speedbrake **DOWN**
 Landing gear Down
 Flaps ____





AUTO
SPDBRK

AUTO SPEEDBRAKE

VQ-BHR, VQ-BKM

Message: AUTO SPEEDBRAKE

Condition: An automatic speedbrake or load alleviation system fault occurs.

Note: Limit airspeed to 330 KIAS. Speedbrakes may be used in flight.

- 1 Do **not** arm the speedbrake lever.
- 2 Manually extend speedbrakes after landing.
Increased force may be required to deploy speedbrakes to full UP

3 Checklist Complete Except Deferred Items

Deferred Items

Descent Checklist

Pressurization LDG ALT ____

Recall Checked

Autobrake ____

Landing data VREF____, Minimums____

Approach briefing Completed

Approach Checklist

Altimeters ____

▼ Continued on next page ▼

▼ **AUTO SPEEDBRAKE** continued ▼

Landing Checklist

Speedbrake **DOWN**

Landing gear Down

Flaps ____


**TRAILING
EDGE**

FLAP LOAD RELIEF

Message: FLAP LD RELIEF

Condition: The flap load relief system is failed.

- 1 Check flap position and maintain the appropriate speed.


OFF

FLIGHT CONTROL HYDRAULIC

Messages: C FLT CONT HYD L FLT CONT HYD
R FLT CONT HYD

Condition: A flight control valve is closed.

- 1 All switches must be ON for flight.



OFF**FLIGHT CONTROL VALVES****OFF**

Message: FLT CONT VALS

Condition: Two or more flight control shutoff valves are closed.

- 1 L, C, and R FLT CONTROL SHUTOFF switches must be ON for flight.


**Jammed or Restricted
Flight Controls**

Condition: A flight control is jammed or restricted in roll, pitch, or yaw.

- 1 Overpower the jammed or restricted system. Use maximum force, including a combined effort of both pilots, if needed.
- 2 **If** the failure could be due to freezing water and conditions allow, consider descent to a warmer temperature and attempt to overpower the jammed or restricted system again.
- 3 Choose one:

◆ Faulty system can be **overpowered**:

Continue to overpower the jammed or restricted system as needed.



◆ Faulty system **cannot** be overpowered:

Use operative flight controls, trim, and thrust as needed for airplane control.



Intentionally
Blank

**LEADING
EDGE****LEADING EDGE SLAT ASYMMETRY**

Message: LE SLAT ASYM

Condition: The leading edge slats are not symmetrically extended.

Caution! Limit airspeed to 240 knots maximum

Note: Do **not** use FMC fuel predictions with flaps extended.

1 GND PROX FLAP OVRD switch OVRD

2 Choose one:

◆ Indicated flap position is **greater than 20**:

Use current flaps and VREF 20 for landing.

▶▶ **Go to step 10**

◆ Indicated flap position is **20 or less**:

▶▶ **Go to step 3**

3 Use trailing edge flaps 20 and VREF 30 + 30 for landing.

4 ENG START selectors (both) CONT

5 ALTN FLAPS selector Position to agree with FLAP lever

Do **not** arm the **LE** ALTN FLAPS arm switch

6  TE ALTN FLAPS arm switch ALTN

▼ Continued on next page ▼

▼ LEADING EDGE SLAT ASYMMETRY continued ▼

- 7 ALTN FLAPS selector . . . Extend or retract trailing edge flaps as needed

Note: Flap indicator may not move until flaps 5 or greater is selected.

- 8 Choose one:

◆ TE FLAP DISAGREE message is **not** shown:

▶▶ **Go to step 10**

◆ TE FLAP DISAGREE message is **shown**:

▶▶ **Go to step 9**

▼ Continued on next page ▼

▼ LEADING EDGE SLAT ASYMMETRY continued ▼

9 Choose one:

◆ Indicated flap position is **less than 5**:

Do **not** accomplish the following checklist:

TRAILING EDGE FLAP ASYMMETRY

TRAILING EDGE FLAP DISAGREE

▶▶ **Go to the All Flaps and Slats Up
Landing checklist on page 9.1**



◆ Indicated flap position is **at or greater than 5
and less than 20**:

Use current flaps and VREF 30 + 40 for
landing.

▶▶ **Go to step 10**

◆ Indicated flap position is **20**:

Use current flaps and VREF 30 + 30 for
landing.

▶▶ **Go to step 10**

10 Check the Non-Normal Configuration Landing
Distance tables in the Performance Inflight-QRH
chapter.

11 Checklist Complete Except Deferred Items

▼ Continued on next page ▼

▼ LEADING EDGE SLAT ASYMMETRY continued ▼

Deferred Items

Descent Checklist

Pressurization LDG ALT ____

Recall Checked

Autobrake _____

Landing data **VREF 20** ____,
or VREF 30+30 ____,
or VREF 30+40 ____,
Minimums ____

Approach briefing Completed

Approach Checklist

Altimeters _____

Landing Checklist

Speedbrake ARMED

Landing gear Down

Flaps.....**As directed**



**LEADING
EDGE****LEADING EDGE SLAT DISAGREE**

Message: LE SLAT DISAGREE

Condition: The leading edge slats are not in the commanded position.

Caution! Limit airspeed to 240 knots maximum.

1 GND PROX FLAP OVRD switch OVRD

2 Choose one:

◆ Indicated flap position **greater than 20**:

Use current flaps and VREF 20 for landing.

▶▶ **Go to step 10**

◆ Indicated flap position **20 or less**:

▶▶ **Go to step 3**

3 Use flaps 20 and VREF 20 for landing.

4 Choose one:

◆ FLAP lever position **greater than 20**:

ALTN FLAPS selector. 20

▶▶ **Go to step 6**

◆ FLAP lever position **20 or less**:

▶▶ **Go to step 5**

5 ALTN FLAPS selector Position to agree
with FLAP lever

▼ **Continued on next page** ▼

▼ **LEADING EDGE SLAT DISAGREE** continued ▼

6 LE ALTN FLAPS arm switch ALTN

7 TE ALTN FLAPS arm switch ALTN

8 Choose one:

◆ **LEADING EDGE light is illuminated:**

LE ALTN FLAPS arm switch Off

▶▶ **Go to the LEADING EDGE SLAT
ASYMMETRY checklist on page 9.8**

◆ **LEADING EDGE light extinguishes:**

▶▶ **Go to step 9**

9 ALTN FLAPS selector . . . Extend or retract leading
edge slats and trailing
edge flaps as needed

10 Check the Non-Normal Configuration Landing
Distance tables in the Performance Inflight-QRH
chapter.

11 **Checklist Complete Except Deferred Items**

▼ **Continued on next page** ▼



▼ LEADING EDGE SLAT DISAGREE continued ▼

Deferred Items

Descent Checklist

- Pressurization LDG ALT ____
- Recall Checked
- Autobrake ____
- Landing data **VREF 20**____, Minimums____
- Approach briefing Completed

Approach Checklist

- Altimeters ____

Landing Checklist

- Speedbrake ARMED
- Landing gear Down
- Flaps **As directed**



MACH SPD TRIM

MACH / SPEED TRIM

Message: MACH/SPEED TRIM

Condition: The Mach/speed system is failed.



**RUDDER
RATIO**
RUDDER RATIO

Message: RUDDER RATIO

Condition: The rudder ratio system is failed.

- 1 Above 160 knots, avoid large or abrupt rudder inputs.
- 2 Choose one:
 - ◆ Left hydraulic system pressure is **not normal**:

■ ■ ■ ■
 - ◆ Left hydraulic system pressure is **normal**:

▶▶ Go to step 3
- 3 Crosswind limit is 15 knots.
- 4 Do **not** autoland.


**SPEED
BRAKES**
SPEEDBRAKES EXTENDED

Message: SPEEDBRAKES EXT

Condition: The speedbrakes are extended and one or more of these occur:

- The radio altitude is between 15 and 800 feet
- The flap lever is in a landing setting
VQ-BHR
- a thrust lever is not closed



SPOILERS
SPOILERS
[Advisory]

Message: SPOILERS

Condition: One or more spoiler pairs are failed.

- 1 Roll rate may be reduced inflight.
- 2 Speedbrake effectiveness may be reduced in flight and during landing.

**STAB TRIM**
STABILIZER TRIM

Message: STAB TRIM

Condition: The stabilizer trim operates at a decreased rate.

- 1 **If** a normal stabilizer trim rate is desired:

ALTN STAB TRIM

switches (both) Push and hold
when trim is desired



**TRAILING
EDGE**
TRAILING EDGE FLAP ASYMMETRY

Message: TE FLAP ASYM

Condition: The trailing edge flaps are not symmetrically extended.

Caution! Do not arm the TRAILING EDGE (TE) ALTERNATE FLAPS arm switch.

Note: Do not use FMC fuel predictions with flaps extended.

1 GND PROX FLAP OVRD switch OVRD

2 Choose one:

- ◆ Indicated flap position **at or greater than 20**:
Use current flaps and VREF 20 for landing.
▶▶ **Go to step 7**
- ◆ Indicated flap position **between 5 and 20**:
Use current flaps and VREF 30 + 30 for landing.
▶▶ **Go to step 7**
- ◆ Indicated flap position at or between **1 and 5**:
▶▶ **Go to step 5**
- ◆ Indicated flap position **less than 1**:
▶▶ **Go to step 3**

3 ALTN FLAPS selector 1

▼ Continued on next page ▼



▼ TRAILING EDGE FLAP ASYMMETRY continued ▼

4 LE ALTN FLAPS arm switch. ALTN

Note: Flap indicator may remain less than 1.

5 Use VREF 30 + 40 for landing.

6 Choose one:

◆ LE SLAT ASYM or LE SLAT DISAGREE message **is shown:**

▶▶ **Go to the All Flaps and Slats Up Landing checklist on page 9.1**



◆ LE SLAT ASYM and LE SLAT DISAGREE messages are **not** shown:

Note: Tail clearance is reduced on landing.

▶▶ **Go to step 7**

7 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.

8 Checklist Complete Except Deferred Items

Deferred Items

Descent Checklist

Pressurization LDG ALT ____
Recall Checked
Autobrake ____

▼ Continued on next page ▼

▼TRAILING EDGE FLAP ASYMMETRY continued▼

Landing data **VREF 20__**,
or VREF 30 + 30__,
or VREF 30 + 40__, as directed
Minimums

Approach briefing Completed

Approach Checklist

Altimeters

Landing Checklist

Speedbrake ARMED

Landing gear Down

Flaps.....**As directed**



**TRAILING
EDGE****TRAILING EDGE FLAP DISAGREE**

Message: TE FLAP DISAGREE

Condition: The trailing edge flaps are not in the commanded position.

1 GND PROX FLAP OVRD switch OVRD

2 Choose one:

◆ Indicated flap position **greater than 20**:

Use current flaps and VREF 20 for landing.

▶▶ **Go to step 8**

◆ Indicated flap position **20 or less**:

Use flaps 20 and VREF 20 for landing.

▶▶ **Go to step 3**

3 Choose one:

◆ FLAP lever position **greater than 20**:

ALTN FLAPS selector. 20

▶▶ **Go to step 4**

◆ FLAP lever position **20 or less**:

ALTN FLAPS selector. . . . Position to agree
with FLAP lever

▶▶ **Go to step 4**

4 LE ALTN FLAPS arm switch. ALTN

5 TE ALTN FLAPS arm switch ALTN

▼ **Continued on next page** ▼

▼ **TRAILING EDGE FLAP DISAGREE** continued ▼

6 Choose one:

◆ **TRAILING EDGE light is illuminated:**

TE ALTN FLAPS arm switch Off

▶▶ **Go to the TRAILING EDGE FLAP
ASYMMETRY checklist on page 9.17**

◆ **TRAILING EDGE light extinguishes:**

▶▶ **Go to step 7**

7 ALTN FLAPS selector Extend or retract
flaps as needed

8 Check the Non-Normal Configuration Landing
Distance tables in the Performance Inflight-QRH
chapter.

9 **Checklist Complete Except Deferred Items**

▼ **Continued on next page** ▼

▼TRAILING EDGE FLAP DISAGREE continued▼

Deferred Items

Descent Checklist

Pressurization LDG ALT _____

Recall Checked

Autobrake

Landing data **VREF 20__**,
Minimums

Approach briefing Completed

Approach Checklist

Altimeters

Landing Checklist

Speedbrake ARMED

Landing gear Down

Flaps.....**As directed**





Intentionally
Blank

**UNSCHD
STAB TRIM**

UNSCHEDULED STABILIZER TRIM

Message: UNSCHD STAB TRIM

Condition: One of the following occurs:

- Stabilizer movement occurs without a signal to trim
- The alternate stabilizer trim switches are used with an autopilot engaged

- 1 STAB TRIM CUT OUT switches
(both) CUT OUT
- 2 Higher than normal control column force may be needed to prevent unwanted pitch change.
- 3 Autopilot disengage switch Push

Immediately move the switch back to CUTOUT if unscheduled movement occurs

- 4  C STAB TRIM CUT OUT switch NORM
- 5 Choose one:

◆ Stabilizer movement is **normal**:

Continue normal operation.
Stabilizer trim moves at half rate.
Center and left autopilots are available.

▶▶ **Go to step 8**

◆ **Unscheduled stabilizer** movement occurs:

C STAB TRIM CUT OUT switch . . CUT OUT

▶▶ **Go to step 6**

▼ Continued on next page ▼

▼ **UNSCHEDULED STABILIZER TRIM** continued ▼

Immediately move the switch back to CUTOUT if unscheduled movement occurs

6  R STAB TRIM CUT OUT switch NORM

7 Choose one:

◆ Stabilizer movement is **normal**:

Continue normal operation.

Stabilizer trim moves at half rate.

Center and right autopilots are available.

▶▶ **Go to step 8**

◆ **Unscheduled stabilizer** movement occurs:

R STAB TRIM CUT OUT switch . . . CUT OUT

▶▶ **Go to step 8**

8 Do **not** accomplish the following checklist:

STABILIZER TRIM


INOP
YAW DAMPER

Messages: L YAW DAMPER

R YAW DAMPER

Condition: A yaw damper is inoperative because one of these occurs:

- A yaw damper system is failed
- None of the IRS are aligned

1 YAW DAMPER switch Off



Intentionally
Blank



Non-Normal Checklists

Chapter NNC

Flight Instruments, Displays

Section 10

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Airspeed Unreliable..... 10.1

Airspeed Unreliable..... 10.1

ALTITUDE DISAGREE..... 10.4

ATTITUDE DISAGREE..... 10.4

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INSTRUMENT SWITCH 10.5

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Blank

Airspeed Unreliable

Condition: The airspeed or Mach indications are suspected to be unreliable. (Items which may indicate Airspeed Unreliable are listed in the Additional Information section.)

Objective: Maintain control using manual pitch and thrust.

- 1 Check the pitch attitude and thrust.
- 2 **If** pitch attitude or thrust is **not** normal for phase of flight:

Autopilot disengage switch Push

Autothrottle disconnect switch Push

F/D switches (both) OFF

Establish normal pitch attitude and thrust setting for phase of flight.

Note: Normal pitch attitude and thrust settings are available in the FLIGHT WITH UNRELIABLE AIRSPEED table in the Performance Inflight-QRH chapter.

- 3 Altitude information, vertical speed information, limit EPR, Reference EPR, and EPR bug may be unreliable.

▼ Continued on next page ▼

▼ Airspeed Unreliable continued ▼

- 4 Cross check captain and first officer airspeed indications and standby airspeed indicator. An airspeed display differing by more than 15 knots from the standby indicator should be considered unreliable.
- 5 Choose one:
 - ◆ Reliable airspeed data source **can** be determined:

AIR DATA switch (unreliable side) . . . ALTN

Invalid overspeed warning and invalid input to AFDS and autothrottle may occur or continue.

■ ■ ■ ■
 - ◆ Reliable airspeed data source can **not** be determined:

▶▶ **Go to step 6**
- 6 Maintain normal pitch attitude and thrust setting for phase of flight. Refer to the FLIGHT WITH UNRELIABLE AIRSPEED table in the Performance Inflight chapter.
- 7 Maintain visual conditions if possible.
- 8 **Checklist Complete Except Deferred Items**

Deferred Items

Review before descent:

Establish landing configuration early.

Use electronic and visual glideslope indicators, where available, for approach and landing.

▼ Continued on next page ▼

▼ Airspeed Unreliable continued ▼

Refer to IRS ground speed on the CDU POS REF page and reported wind on approach.



Additional Information

One or more of the following may be evidence of unreliable airspeed/Mach indication:

- speed/altitude information not consistent with pitch attitude and thrust setting
- speed/airspeed/Mach failure flags
- blank or fluctuating airspeed displays
- variation between captain and first officer airspeed displays
- amber line through one or more ADI flight mode annunciations
- overspeed indications
- radome damage or loss
- simultaneous overspeed and stall warnings

Display of one or more of the following EICAS messages may be evidence of unreliable airspeed/Mach indication:

- ALT DISAGREE
- CAPT PITOT
- F/O PITOT
- IAS DISAGREE
- L AUX PITOT
- MACH/SPEED TRIM
- OVERSPEED
- PROBE HEAT
- R AUX PITOT
- RUDDER RATIO

ALTITUDE DISAGREE

Message: ALT DISAGREE

Condition: The captain's and the first officer's altitude indications disagree by more than 200 feet.

- 1 Airplane does not meet RVSM airspace requirements.
- 2 Transponder altitude received by ATC may be unreliable.
- 3 Maintain visual conditions if possible.
- 4 **Checklist Complete Except Deferred Items**

Deferred Items

Review before descent:

Establish landing configuration early.

Radio altitude reference is available below 2500 feet.

Use electronic and visual glideslope indicators, where available, for approach and landing.

**ATTITUDE DISAGREE**

VQ-BBU through VQ-BJK, VQ-BTO

Message: ATT DISAGREE

Condition: The captain's and the first officer's attitude indications disagree.



IAS DISAGREE

Message: IAS DISAGREE

Condition: The captain's and the first officer's airspeed indications disagree.

►► **Go to the Airspeed Unreliable checklist on page 10.1**



INSTRUMENT SWITCH

Message: INSTR SWITCH

Condition: Both pilots' ADI and HSI use the same symbol generator source.

- 1 Both ADIs and HSIs are displaying information from the center symbol generator.



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Non-Normal Checklists

Chapter NNC

Flight Management, Navigation

Section 11

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Intentionally
Blank

ATC FAULT

Messages: ATC FAULT

Condition: A transponder fault occurs.

- 1 Transponder selector Select opposite transponder



FMC FAIL

Messages: L FMC FAIL

R FMC FAIL

Condition: An FMC is failed.

1 Choose one:

◆ **A single** FMC is failed:▶▶ **Go to step 2**◆ **Both** FMCs are failed:▶▶▶ **Go to step 5**

2 NAV SOURCE selector FMC-L or FMC-R
Select the operative FMC.

VQ-BBU, VQ-BJK

3 Set both HSI range selectors to the same position.

4 During VOR approaches, one pilot must have raw data from the VOR associated with the approach displayed on the RDMI (RMI) or HSI in a VOR mode, no later than the final approach fix.



5 Select autopilot roll and pitch modes appropriate for the desired flight path. LNAV and VNAV are not available.

6 Captain's NAV SOURCE selector CDU-L

7 First Officer's NAV SOURCE selector CDU-R

▼ Continued on next page ▼

▼ FMC FAIL continued ▼

- 8 Route modifications must be entered into both CDUs. Enter any new waypoints by latitude and longitude.
- 9 Manually tune navigation radios.
- 10 Refer to Performance Inflight chapter for VREF speed and other applicable performance information.


FMC
FMC MESSAGE

Messages: FMC MESSAGE

Condition: An alert message is in the FMC scratchpad.

- 1 Choose one:

◆ CDU message **is** FUEL QTY ERROR–PROG 2, FUEL DISAGREE–PROG 2, or INSUFFICIENT FUEL

►► **Go to the Fuel Leak Engine checklist on page 12.4**



◆ CDU message **is not** FUEL QTY ERROR–PROG 2, FUEL DISAGREE–PROG 2, or INSUFFICIENT FUEL:

Take action as needed per the message.



GPS

VQ-BHR, VQ-BTO

Messages: L GPS

R GPS

GPS

Condition: One or both GPS receivers are failed.

1 Choose one:

◆ **L GPS** or **R GPS** message is shown:

The indicated GPS has failed.



◆ **GPS** message is shown:

Both GPSs have failed.



DC FAIL

IRS DC FAIL

Messages: L IRS DC FAIL

R IRS DC FAIL

C IRS DC FAIL

Condition: IRS backup DC power is failed.



FAULT

IRS FAULT

Messages: L IRS FAULT

R IRS FAULT

C IRS FAULT

Condition: An IRS fault occurs.

▼ Continued on next page ▼

▼ IRS FAULT continued ▼

1 Choose one:

◆ **Left** IRS FAULT light is **illuminated**:

Captain's IRS switch ALTN



◆ **Right** IRS FAULT light is **illuminated**:

First Officer's IRS switch. ALTN



◆ **Center** IRS FAULT light is **illuminated**:



ON DC

IRS ON DC

Messages: L IRS ON DC
C IRS ON DC

R IRS ON DC

Condition: IRS AC power is failed.



UNABLE RNP**VQ-BHR, VQ-BTO**

Messages: UNABLE RNP

Condition: The actual navigation performance is not sufficient.

1 Choose one:

◆ On the **ground**:

Message may show with GPS disabled.

◆ In **flight**:▶▶ **Go to step 2**

2 Choose one:

◆ On a procedure or airway **with** an RNP alerting requirement:Select an alternate procedure or airway.
During an approach, start a go-around unless suitable visual references can be established and maintained.◆ On a procedure or airway **without** an RNP alerting requirement:

Verify position.





Non-Normal Checklists

Chapter NNC

Fuel

Section 12

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Intentionally
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**FUEL
CONFIG****FUEL CONFIGURATION**

Messages: FUEL CONFIG

Condition: One or more of these occur:

- Both center pump switches are off with fuel in the center tank
- A fuel imbalance between main tanks
- The fuel quantity is low in a main tank

- 1 If an engine has low fuel flow and unusual engine indications, a fuel imbalance may show due to engine damage instead of a fuel leak.
- 2 The FUEL CONFIG message may be caused by an engine fuel leak, center pump switches off incorrectly, an imbalance, or low fuel.

▼ Continued on next page ▼

▼ FUEL CONFIGURATION continued ▼

- 3 A fuel leak should be suspected if one or more of the following are true:

The total fuel quantity remaining is less than planned fuel remaining.

An engine has excessive fuel flow.

One main tank is abnormally low compared to the other main tank and to the expected fuel remaining in the tanks.

On PROGRESS page 2, the totalizer is less than the calculated fuel.

The TOTALIZER fuel is the sum of the individual tank quantities.

The CALCULATED fuel is the totalizer value at engine start minus fuel used.

Fuel used is calculated using the engine fuel flow sensors.

- 4 Choose one:

◆ Engine fuel leak **indicated**:

▶▶ **Go to the Fuel Leak Engine checklist on page 12.4**



◆ Engine fuel leak **not indicated**:

FWD and AFT FUEL XFEED switches . . On

▶▶ **Go to step 5**

▼ Continued on next page ▼

▼ **FUEL CONFIGURATION** continued ▼

- 5 FWD and AFT PUMP switches (low tank) Off

This ensures fuel from the high tank feeds both engines.

- 6 **When** fuel balancing complete:

All FWD and AFT PUMP switches. ON

FWD and AFT FUEL XFEED switches Off

- 7 Choose one:

◆ Fuel quantity is **low** in either main tank:

▶▶ **Go to the LOW FUEL checklist on page 12.16**



◆ Fuel quantity is **not low** in either main tank:


VALVE
FUEL CROSSFEED

Messages: AFT FUEL X-FEED

FWD FUEL X-FEED

Condition: The fuel crossfeed valve is not in the commanded position.

- 1 **If** both crossfeed switches are ON and one valve is open, fuel will crossfeed.





Fuel Leak Engine

Condition: An in flight engine fuel leak is suspected or confirmed.(Items which may indicate an engine fuel leak are listed in the Additional Information section at the end of this procedure.)

- 1 C L and C R PUMP switches Off
- 2 Do **not** accomplish the following checklist:
FUEL CONFIGURATION

- 3 FWD and AFT FUEL XFEED switches Off
- 4 Identify an engine fuel leak by observing a left or right main tank fuel quantity decreasing faster than the other.

VQ-BTO

- 5 An increase in fuel imbalance of approximately 1000 pounds or more in 30 minutes should be considered an engine fuel leak.

VQ-BBU through VQ-BKM

- 6 An increase in fuel imbalance of approximately 500 kilograms or more in 30 minutes should be considered an engine fuel leak.
- 7 **If** conditions allow:
Visually check for engine fuel leak.

▼ Continued on next page ▼

▼ Fuel Leak Engine continued ▼

8 Choose one:

◆ Engine fuel leak **confirmed**:

▶▶ **Go to step 18**

◆ Left and right main tank quantities **decrease at the same rate**:

▶▶ **Go to step 9**

9 Resume normal fuel management procedures.

10 Choose one:

◆ FUEL DISAGREE-PROG 2 **and** FUEL QTY ERROR-PROG 2 messages are **not** shown on the CDU scratchpad:

▶▶ **Go to step 13**

◆ FUEL DISAGREE-PROG 2 **or** FUEL QTY ERROR-PROG 2 message is **shown** on the CDU scratchpad:

▶▶ **Go to step 11**

11 PROGRESS PAGE 2 SELECT

12 TOTALIZER or
CALCULATED Select USE for the
most accurate indication



▼ Continued on next page ▼

▼ Fuel Leak Engine continued ▼

13 Choose one:

◆ LOW FUEL message **not** shown:



◆ LOW FUEL message is **shown**:

FWD and AFT FUEL XFEED switches . . . On

This ensures all fuel is available if the low tank empties.

| ▶▶ **Go to step 14**

14 PUMP switches (all) ON

This ensures all fuel is available.

15 Plan to land at nearest suitable airport.

16 Avoid high nose up attitude and excessive acceleration and deceleration.

17 Do **not** accomplish the following checklist:

LOW FUEL



18 A/T ARM switch OFF

19 Thrust lever
(affected side) Confirm Idle

20 FUEL CONTROL switch
(affected side) Confirm . . . CUTOFF

▼ Continued on next page ▼

▼ Fuel Leak Engine continued ▼

21 Choose one:

◆ APU is **available**:

▶▶ Go to step 22

◆ APU is **not** available:

VQ-BHR

▶▶ Go to step 23

VQ-BBU, VQ-BJK through VQ-BTO

▶▶ Go to step 24

22 APU selector START, then ON

VQ-BHR

23 Transponder mode selector TA

VQ-BBU, VQ-BJK through VQ-BTO

24 Transponder mode selector TA ONLY

25 Plan to land at the nearest suitable airport.

26 **If** wing anti-ice needed:

PACK control selector (affected side) OFF

ISOLATION switch On

When wing anti-ice no longer needed:

ISOLATION switch Off

▼ Continued on next page ▼

▼ Fuel Leak Engine continued ▼

27 Choose one:

◆ FUEL DISAGREE-PROG 2 **and** FUEL QTY
ERROR-PROG 2 messages are **not** shown on the
CDU scratchpad:

►► **Go to step 30**

◆ FUEL DISAGREE-PROG 2 **or** FUEL QTY
ERROR-PROG 2 message is **shown** on the CDU
scratchpad:

►► **Go to step 28**

28 PROGRESS PAGE 2 SELECT

29 TOTALIZER Select USE for TOTALIZER
to determine fuel remaining

30 **After** engine shutdown, all remaining fuel can be
used for the operating engine. Resume normal fuel
management procedures.

31 GND PROX FLAP OVRD switch OVRD

32 Use flaps 20 and VREF 20 for landing

33 Use flaps 5 for go-around

34 Check the Non-Normal Configuration Landing
Distance tables in the Performance Inflight-QRH
chapter.

35 Do **not** accomplish the following checklists:

ENGINE SHUTDOWN

PACK OFF

▼ Continued on next page ▼

▼ Fuel Leak Engine continued ▼

36 Choose one:

◆ LOW FUEL message **not** shown:

▶▶ **Go to step 41**

◆ LOW FUEL message is **shown**:

FWD and AFT FUEL XFEED switches . . . On

This ensures all fuel is available if the low tank empties.

▶▶ **Go to step 37**

37 PUMP switches (all) ON

This ensures all fuel is available.

38 Plan to land at nearest suitable airport.

39 Avoid high nose up attitude and excessive acceleration and deceleration.

40 Do **not** accomplish the following checklist:

LOW FUEL

41 Checklist Complete Except Deferred Items

▼ Continued on next page ▼



▼Fuel Leak Engine continued▼

Deferred Items

Descent Checklist

- Pressurization LDG ALT ____
- Recall Checked
- Autobrake ____
- Landing data **VREF 20**__, Minimums__
- Approach briefing Completed

Approach Checklist

- Altimeters ____

Landing Checklist

- Speedbrake ARMED
- Landing gear Down
- Flaps **20**



▼ Continued on next page ▼

▼ Fuel Leak Engine continued ▼**Additional Information**

One or more of the following may be evidence of an engine fuel leak:

- Visual observation of fuel spray from strut or engine
- Excessive engine fuel flow
- Total fuel quantity decreasing at an abnormal rate
- FUEL CONFIG message on EICAS.
- LOW FUEL message on EICAS
- FUEL DISAGREE–PROG 2 or FUEL QTY ERROR–PROG 2 message on the CDU scratchpad
- INSUFFICIENT FUEL message on the CDU scratchpad

PRESS

FUEL PUMP

Messages: CTR L FUEL PUMP
L AFT FUEL PUMP
L FWD FUEL PUMP

CTR R FUEL PUMP
R AFT FUEL PUMP
R FWD FUEL PUMP

Condition: The pump pressure is low.

- 1 Verify fuel quantity in each tank.
Low fuel pump pressure may be an indication of low fuel quantity.
- 2 Verify fuel pumps are on for any tank that contains usable fuel.
- 3 Do not reset any tripped fuel pump circuit breaker.
- 4 Choose one:
 - ◆ Left **or** right pump PRESS light is illuminated:
PUMP switch (affected pump) Off

■ ■ ■ ■
 - ◆ Center left **or** center right pump PRESS light is illuminated:
▶▶ **Go to step 5**
 - ◆ Center left **and** center right pump PRESS lights are illuminated:
C L and C R PUMP switches. Off
FWD and AFT FUEL
XFEED switches Off
▶▶ **Go to step 8**

▼ Continued on next page ▼

▼ **FUEL PUMP** continued ▼

- 5 PUMP switch (affected pump). Off
- 6 FWD and AFT FUEL XFEED switches On
- 7 **When** center tank fuel depleted:
FWD and AFT FUEL XFEED switches Off

■ ■ ■ ■
- 8 Check available left and right main tank quantity is sufficient for the planned flight. Center tank fuel is not available.

■ ■ ■ ■

PRESS

FUEL SYSTEM PRESSURE

Messages: L FUEL SYS PRESS R FUEL SYS PRESS

Condition: The engine is on suction feed.

Note: At high altitude, thrust deterioration or engine flameout may occur.

- 1 Choose one:
- ◆ **Able** to maintain needed thrust on affected engine:

◆ **Unable** to maintain needed thrust on affected engine:
- ■ ■ ■

FWD and AFT FUEL XFEED switches . . On

Note: Continued operation with the crossfeed valve open will result in a progressive fuel imbalance when both engines are feeding from the same main tank.

- 2 Do **not** balance fuel.
- 3 Do **not** accomplish the following checklist:
- FUEL CONFIGURATION
- 4 **When** the FUEL CONFIG light illuminates due to main tank imbalance:
- FWD and AFT FUEL XFEED switches Off

▼ Continued on next page ▼

▼ FUEL SYSTEM PRESSURE continued ▼

Continue suction feed operation. Sufficient roll control is available to compensate for any main tank fuel imbalance.

If unable to maintain needed thrust on affected engine:

Operate at a lower altitude.



**FUEL
CONFIG****LOW FUEL**

Messages: LOW FUEL

Condition: The fuel quantity is low in a main tank.

- 1 Avoid high nose up attitude. Make thrust changes slowly and smoothly. This reduces the possibility of uncovering fuel pumps.
- 2 The LOW FUEL message may be caused by an engine fuel leak or low fuel.
- 3 A fuel leak should be suspected if one or more of the following are true:

The total fuel quantity remaining is less than planned fuel remaining.

An engine has excessive fuel flow.

One main tank is abnormally low compared to the other main tank and to the expected fuel remaining in the tanks.

On PROGRESS page 2, the totalizer is less than the calculated fuel.

The TOTALIZER fuel is the sum of the individual tank quantities.

The CALCULATED fuel is the totalizer value at engine start minus fuel used.

Fuel used is calculated using the engine fuel flow sensors.

▼ Continued on next page ▼

▼ **LOW FUEL** continued ▼

4 Choose one:

◆ **Indication** of engine fuel leak:

▶▶ **Go to the Fuel Leak Engine
checklist on page 12.4**



◆ **No indication** of engine fuel leak:

FWD and AFT FUEL XFEED switches . . . On

This ensures fuel is available to both
engines if the low tank empties.

▶▶ **Go to step 5**

5 PUMP switches (all) ON

This ensures all fuel is available.

6 Plan to land at nearest suitable airport.

7 Avoid high nose up attitude and excessive
acceleration and deceleration.



Low Fuel Temperature

Condition: Fuel temperature is near the minimum.

- 1 **When** fuel temperature is approaching fuel temperature limit (3°C above the fuel freeze point):

Increase speed, change altitude, and or deviate to a warmer air mass to achieve a TAT equal to or higher than the fuel temperature limit.

TAT will increase approximately 0.5 to 0.7 °C for each .01 Mach increase in speed.

In extreme conditions it may be necessary to descend as low as FL250.





Non-Normal Checklists

Chapter NNC

Hydraulics

Section 13

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OVHT
ELECTRIC HYDRAULIC OVERHEAT

Messages: L ELEC HYD OVHT R ELEC HYD OVHT

Condition: The pump temperature is high.

- 1 ELEC HYD PUMP switch Off
- 2 Do **not** accomplish the following checklist:

HYDRAULIC ELECTRIC PUMP


OVHT
ENGINE HYDRAULIC OVERHEAT

Messages: L ENG HYD OVHT R ENG HYD OVHT

Condition: The pump temperature is high.

- 1 ENG HYD PUMP switch Off
- 2 Do **not** accomplish the following checklist:

HYDRAULIC ENGINE PUMP


OVHT
HYDRAULIC (1 or 2) OVERHEAT

Messages: C HYD 1 OVHT C HYD 2 OVHT

Condition: The pump temperature is high.

- 1 ELEC HYD PUMP switch Off
- 2 Do **not** accomplish the following checklist:

HYDRAULIC ELECTRIC (1 or 2)





PRESS

HYDRAULIC ELECTRIC (1 or 2)

Messages: C HYD ELEC 1 C HYD ELEC 2

Condition: The pump pressure is low.

1 ELEC HYD PUMP switch Off

■ ■ ■ ■

PRESS

HYDRAULIC ELECTRIC PUMP

Messages: L HYD ELEC PUMP R HYD ELEC PUMP

Condition: The pump pressure is low.

1 ELEC HYD PUMP switch Off

■ ■ ■ ■

PRESS

HYDRAULIC ENGINE PUMP

Messages: L HYD ENG PUMP R HYD ENG PUMP

Condition: The pump pressure is low.

1 ENG HYD PUMP switch Off

■ ■ ■ ■

RSVR

HYDRAULIC QUANTITY

Messages: C HYD QTY R HYD QTY
 L HYD QTY

Condition: The hydraulic quantity is low.

■ ■ ■ ■

RSVR**HYDRAULIC RESERVOIR
PRESSURE**

Messages: C HYD RSVR PRESS R HYD RSVR PRESS
 L HYD RSVR PRESS

Condition: The hydraulic reservoir air pressure is low.



**SYS
PRESS**
**HYDRAULIC SYSTEM PRESSURE
(C only)**

Messages: C HYD SYS PRESS

Condition: The hydraulic system pressure is low.

Objective: To attempt to avoid further damage.

- 1 C1 AND C2 ELEC HYD PUMP switches (both) . . Off
- 2 Do **not** autoland.

Inoperative Items

Center autopilot inop

Left autopilot stabilizer trim inop

Right Autopilot is available.

One spoiler panel on each wing inop

Roll rate may be reduced in flight. Speedbrake effectiveness may be reduced in flight and during landing.

Center system hydraulic power to stabilizer trim inop

Right system powers the trim at half rate.

- 3 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.
- 4 Do **not** accomplish the following checklists:
 - HYDRAULIC ELECTRIC (1 or 2)
 - STABILIZER TRIM
 - SPOILERS
 - YAW DAMPER





Intentionally
Blank



SYS
PRESS

**HYDRAULIC SYSTEM PRESSURE
(L only)**

Messages: L HYD SYS PRESS

Condition: The hydraulic system pressure is low.

Objective: To avoid further system damage, and
configure for landing using alternate
systems, if needed.

- 1 L ENG HYD PUMP switch Off
- 2 L ELEC HYD PUMP switch Off
- 3 Above 160 knots, avoid large or abrupt rudder inputs.
- 4 Do **not** autoland.
- 5 Do **not** use the autobrake.
- 6 Plan additional time for flap and gear extension. If left hydraulic system fluid is lost or if PTU is inoperative, all of the following will be needed:
 - alternate flap extension
 - alternate gear extension
 - manual speedbrake extension after landing

▼ Continued on next page ▼

▼ **HYDRAULIC SYSTEM PRESSURE (L only) continued ▼**
Inoperative Items
Left autopilot inop

Right and Center autopilots are available.

Some spoiler panels on each wing inop

Roll rate may be reduced in flight. Speedbrake effectiveness may be reduced in flight and during landing.

Rudder ratio inop
Left thrust reverser inop

- 7 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.
- 8 Do **not** accomplish the following checklists:
 - HYDRAULIC ELECTRIC PUMP
 - HYDRAULIC ENGINE PUMP
 - SPOILERS
 - RUDDER RATIO
 - YAW DAMPER

9 Checklist Complete Except Deferred Items
Deferred Items
Descent Checklist

Pressurization. LDG ALT ____
Recall Checked
Autobrake **OFF**
Landing data VREF____, Minimums____

▼ **Continued on next page ▼**



▼ HYDRAULIC SYSTEM PRESSURE (L only) continued ▼

Approach briefing Completed

Approach Checklist

Altimeters ____

Alternate Flap Extension (if needed)

If TE FLAP DISAGREE is shown during normal flap extension:

- Use flaps 20 and VREF 20 for landing
- GND PROX FLAP OVRD switch OVRD
- ALTN FLAPS selector Position to agree with FLAP lever
- LE ALTN FLAPS arm switch ALTN
- TE ALTN FLAPS arm switch ALTN
- ALTN FLAPS selector Extend or retract flaps, as needed

Do not accomplish the following checklist:

TRAILING EDGE FLAP DISAGREE

▼ Continued on next page ▼

▼ **HYDRAULIC SYSTEM PRESSURE (L only) continued** ▼

Alternate Gear Extension (if needed)

If GEAR DISAGREE is **shown** during normal gear extension:

Landing gear lever OFF



Action is **not** reversible
Maximum 250K/.75M

ALTN GEAR EXTEND switch DN

After gear down lights illuminate:

Landing gear lever DN

Nose wheel steering is inoperative. Differential braking is available.

Do **not** arm speedbrakes. Automatic speedbrake is inoperative.

Ensure speedbrakes are extended before using right thrust reverser.

Do **not** accomplish the following checklist:

GEAR DOORS

Landing Checklist

Speedbrake **DOWN**

Landing gear Down

Flaps. ____





**SYS
PRESS**

**HYDRAULIC SYSTEM PRESSURE
(R only)**

Messages: R HYD SYS PRESS

Condition: The hydraulic system pressure is low.

Objective: To avoid further system damage.

- 1 R ENG HYD PUMP switch Off
- 2 R ELEC HYD PUMP switch. Off
- 3 Do **not** autoland.

Inoperative Items

Right autopilot inop

Left and Center autopilots are available.

Right stabilizer trim inop.

Center system powers the trim at half rate.

Autobrake inop

Some spoiler panels on each wing inop

Roll rate may be reduced in flight. Speedbrake effectiveness may be reduced in flight and during landing.

Right thrust reverser inop

- 4 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.
- 5 Do **not** accomplish the following checklists:
 - HYDRAULIC ELECTRIC PUMP
 - HYDRAULIC ENGINE PUMP
 - SPOILERS

▼ Continued on next page ▼

▼ **HYDRAULIC SYSTEM PRESSURE (R only) continued** ▼

STABILIZER TRIM
6 Checklist Complete Except Deferred Items

Deferred Items

Descent Checklist

Pressurization LDG ALT ____
 Recall Checked
 Autobrake **OFF**
 Landing data VREF ____, Minimums ____
 Approach briefing Completed

Approach Checklist

Altimeters ____

Landing Checklist

Speedbrake ARMED
 Landing gear Down
 Flaps ____





**HYDRAULIC SYSTEM PRESSURE
(L and C)**

**SYS
PRESS**

**SYS
PRESS**

Messages: L HYD SYS PRESS C HYD SYS PRESS

Condition: Two hydraulic system pressures are low.

Objective: To avoid further system damage, and
 configure for landing using alternate
 systems, if needed.

- 1 L ENG HYD PUMP switch Off
- 2 L ELEC HYD PUMP switch Off
- 3 C1 and C2 ELEC HYD PUMP switches (both) . . . Off
- 4 Above 160 knots, avoid large or abrupt rudder
 inputs.
- 5 Plan to land at the nearest suitable airport.
- 6 Crosswind limit is 20 knots.
- 7 Plan additional time for flap and gear extension.
- 8 SPEEDBRAKE lever DOWN
 Do **not** arm SPEEDBRAKE lever.
- 9 Manually extend speedbrakes after landing.
- 10 Use flaps 20 and VREF 30 + 20 for landing.
- 11 Do **not** autoland.
- 12 Do **not** use auto brakes.
- 13 GND PROX FLAP OVRD switch OVRD

▼ Continued on next page ▼

▼ **HYDRAULIC SYSTEM PRESSURE (L and C) continued ▼**
Inoperative Items
Left and Center autopilots inop

Right autopilot is available.

Left thrust reverser inop
Some spoiler panels on each wing inop

Roll rate may be reduced in flight. Speedbrake effectiveness may be reduced in flight and during landing.

Center stabilizer trim inop

Right system powers the trim at half rate.

Rudder ratio system inop

14 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.

15 Do **not** accomplish the following checklists:

HYDRAULIC ELECTRIC PUMP

HYDRAULIC ENGINE PUMP

HYDRAULIC ELECTRIC (1 or 2)

RUDDER RATIO

SPOILERS

STABILIZER TRIM

YAW DAMPER

16 Checklist Complete Except Deferred Items
Deferred Items
Descent Checklist

Pressurization. LDG ALT ____

▼ **Continued on next page ▼**

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▼HYDRAULIC SYSTEM PRESSURE (L and C) continued▼

Recall Checked
Autobrake **OFF**
Landing data **VREF 30 + 20**____,
Minimums____
Approach briefing Completed

Approach Checklist

Altimeters

Alternate Flap Extension (if needed)

If TE FLAP DISAGREE is shown during normal flap extension:

ALTN FLAPS selector	Position to agree with FLAP lever
LE ALTN FLAPS arm switch	ALTN
TE ALTN FLAPS arm switch	ALTN
ALTN FLAPS selector	Extend or retract flaps as needed

Do **not** accomplish the following checklist:

TRAILING EDGE FLAP DISAGREE

▼ Continued on next page ▼

▼ **HYDRAULIC SYSTEM PRESSURE (L and C) continued ▼**

Alternate Gear Extension (if needed)

If GEAR DISAGREE is **shown** during normal gear extension:

Landing gear lever OFF



Action is **not** reversible
Maximum 250K/.75M

ALTN GEAR EXTEND switch DN

After gear down lights illuminate:

Landing gear lever DN

Nose wheel steering is inoperative. Differential braking is available.

Do **not** arm speedbrakes. Automatic speedbrake is inoperative.

Ensure speedbrakes are extended before using right thrust reverser.

Do **not** accomplish the following checklist:

GEAR DOORS

Landing Checklist

Speedbrake **Down**

Landing gear Down

Flaps. **20**





**HYDRAULIC SYSTEM PRESSURE
(L and R)**

**SYS
PRESS**

**SYS
PRESS**

Messages: L HYD SYS PRESS R HYD SYS PRESS

Condition: Two hydraulic system pressures are low.

Objective: To avoid further system damage, and
 configure for landing using alternate
 systems.

- 1 L and R ENG HYD PUMP switches Off
- 2 L and R ELEC HYD PUMP switches. Off
- 3 Above 160 knots, avoid large or abrupt rudder inputs.
- 4 Plan to land at the nearest suitable airport.
- 5 Crosswind limit is 20 knots.
- 6 Plan additional time for flap and gear extension.
- 7 SPEEDBRAKE lever DOWN
 Do **not** arm SPEEDBRAKE lever.
- 8 Manually extend speedbrakes after landing.
- 9 Use flaps 20 and VREF 30 + 20 for landing.
- 10 Do **not** autoland.
- 11 GND PROX FLAP OVRD switch OVRD

▼ Continued on next page ▼

▼ **HYDRAULIC SYSTEM PRESSURE (L and R) continued ▼**
Inoperative Items
Left and Right autopilots inop

Center autopilot is available.

Left and Right thrust reversers inop
Nose wheel steering inop
Normal brakes, alternate brakes, and autobrake inop
Some spoiler panels on each wing inop

Roll rate may be reduced in flight. Speedbrake effectiveness may be reduced in flight and during landing.

Right system hydraulic power to stabilizer trim inop

Center system powers the trim at half rate.

Rudder ratio system inop
Normal flap operation inop

Alternate flap operation is needed. Allow 3 minutes for flap extension during approach.

Normal landing gear extension and retraction inop

Alternate gear extension is needed.

- 12 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.

▼ **Continued on next page ▼**



▼HYDRAULIC SYSTEM PRESSURE (L and R) continued▼

13 Do **not** accomplish the following checklists:

- AUTOBRAKES
- BRAKE SOURCE
- GEAR DOORS
- HYDRAULIC ELECTRIC PUMP
- HYDRAULIC ENGINE PUMP
- RUDDER RATIO
- SPOILERS
- STABILIZER TRIM
- YAW DAMPER

14 Checklist Complete Except Deferred Items

Deferred Items

Descent Checklist

- Pressurization LDG ALT ____
- Recall Checked
- Autobrake **OFF**
- Landing data **VREF 30 + 20**____,
Minimums____
- Approach briefing Completed

Approach Checklist

- Altimeters ____

▼ Continued on next page ▼

▼ HYDRAULIC SYSTEM PRESSURE (L and R) continued ▼

Alternate Flap Extension

ALTN FLAPS selector Position to agree
with FLAP lever

LE ALTN FLAPS arm switch ALTN

TE ALTN FLAPS arm switch ALTN

ALTN FLAPS selector Extend or retract
flaps, as needed

Alternate Gear Extension

Landing gear lever OFF

Action is **not** reversible
Maximum 250K/.75M



ALTN GEAR EXTEND switch DN

After gear down lights illuminate:

Landing gear lever DN

RESERVE BRAKES switch **ON**

▼ Continued on next page ▼



▼HYDRAULIC SYSTEM PRESSURE (L and R) continued▼

Choose one:

◆ R ELEC HYD PUMP PRESS light is **illuminated**:

Only accumulator pressure is available for brakes.

Apply steady, increasing brake pressure and hold to a full stop.

Do not taxi.

▶▶ **Go to Landing Checklist**

◆ R ELEC HYD PUMP PRESS light is **not** illuminated:

▶▶ **Go to Landing Checklist**

Landing Checklist

Speedbrake **Down**
Landing gear **Down**
Flaps **.20**



HYDRAULIC SYSTEM PRESSURE (R and C)

**SYS
PRESS**

**SYS
PRESS**

Messages: R HYD SYS PRESS C HYD SYS PRESS

Condition: Two hydraulic system pressures are low.

Objective: To avoid further system damage.

- 1 R ENG HYD PUMP switch Off
- 2 R ELEC HYD PUMP switch Off
- 3 C1 and C2 ELEC HYD PUMP switches. Off
- 4 Do **not** autoland.
- 5 Plan to land at the nearest suitable airport.
- 6 Crosswind limit is 20 knots.
- 7 Use flaps 20 and VREF 30 + 20 for landing
- 8 GND PROX FLAP OVRD switch OVRD

▼ Continued on next page ▼



▼ HYDRAULIC SYSTEM PRESSURE (R and C) continued ▼

Inoperative Items

All autopilots inop

All stabilizer trim inop

Elevator feel inop
Column forces may be significantly higher than normal, particularly during landing flare.

Autobrake inop

Right thrust reverser inop

Some spoiler panels on each wing inop
Roll rate may be reduced in flight. Speedbrake effectiveness may be reduced in flight and during landing.

9 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.

10 Do **not** accomplish the following checklists:

- HYDRAULIC ELECTRIC PUMP
- HYDRAULIC ENGINE PUMP
- HYDRAULIC ELECTRIC (1 or 2)
- SPOILERS
- STABILIZER TRIM
- YAW DAMPER

11 Checklist Complete Except Deferred Items

Deferred Items

Descent Checklist

Pressurization LDG ALT ____

▼ Continued on next page ▼

▼ HYDRAULIC SYSTEM PRESSURE (R and C) continued ▼

Recall Checked

Autobrake **OFF**

Landing data **VREF 30 + 20__**,
Minimums

Approach briefing Completed

Approach Checklist

Altimeters

Landing Checklist

Speedbrake ARMED

Landing gear Down

Flaps.....20



UNLKD

RAT UNLOCKED

Messages: RAT UNLOCKED

Condition: The ram air turbine is not stowed and locked.



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Non-Normal Checklists

Chapter NNC

Landing Gear

Section 14

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AIR / GROUND SYSTEM

Messages: AIR/GND SYS

Condition: The air/ground system is failed in the air mode.

Inoperative Items

One or both thrust reversers inop

Automatic speedbrake inop

Manual speedbrake extension after landing is needed.

Autobrake inop

Manual braking is needed.

- 1 When deployed manually, spoiler capability is reduced.
- 2 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.
- 3 **Checklist Complete Except Deferred Items**

▼ Continued on next page ▼



▼ AIR/GROUND SYSTEM continued ▼

Deferred Items

Descent Checklist

- Pressurization LDG ALT ____
- Recall Checked
- Autobrake **OFF**
- Landing data VREF____, Minimums____
- Approach briefing Completed

Approach Checklist

- Altimeters ____

Landing Checklist

- Speedbrake **DOWN**
- Landing gear Down
- Flaps ____





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Blank

ANTISKID

ANTISKID

Messages: ANTISKID

Condition: An antiskid system fault occurs.

- 1 Braking effectiveness may be reduced.
- 2 AUTO BRAKES selector OFF
The autobrake system is inoperative.
- 3 Check the Non-Normal Configuration Landing Distance tables in the Performance Inflight-QRH chapter.
- 4 **Checklist Complete Except Deferred Items**

▼ Continued on next page ▼

▼ ANTISKID continued ▼

Deferred Items

Landing Procedure Review

Use minimum braking consistent with runway length and conditions to reduce the possibility of a tire blowout.

Do **not** apply the brakes until the nose wheel is on the ground and speedbrakes have extended.

Brake initially using light steady pedal pressure. Increase pressure as ground speed decreases. Do **not** pump the brakes.

Descent Checklist

Pressurization LDG ALT ____
Recall Checked
Autobrake **OFF**
Landing data VREF____, Minimums____
Approach briefing Completed

Approach Checklist

Altimeters ____

Landing Checklist

Speedbrake ARMED
Landing gear Down
Flaps ____





**AUTO
BRAKES**

AUTOBRAKES

Messages: AUTOBRAKES

Condition: One of these occurs:

- The autobrake system is disarmed
- The autobrake system is failed

- 1 AUTO BRAKES selector Reselect
- 2 Choose one:
- ◆AUTO BRAKES light **extinguishes**:
- ■ ■ ■
- ◆AUTO BRAKES light **stays illuminated**:
- AUTO BRAKES selector OFF
- ▶▶ **Go to step 3**

3 Checklist Complete Except Deferred Items

Deferred Items

Descent Checklist

- Pressurization LDG ALT ____
- Recall Checked
- Autobrake **OFF**
- Landing data VREF____, Minimums____
- Approach briefing Completed

▼ Continued on next page ▼

▼ AUTOBRAKES continued ▼

Approach Checklist

Altimeters ____

Landing Checklist

Speedbrake ARMED

Landing gear Down

Flaps ____





BRAKE
SOURCE

BRAKE SOURCE

Messages: BRAKE SOURCE

Condition: Normal and alternate brake system pressures are low.

- 1 RESERVE BRAKES switch. ON
- 2 Choose one:

◆BRAKE SOURCE light **extinguishes**:

■ ■ ■ ■

◆BRAKE SOURCE light **stays illuminated**:

▶▶Go to step 3
- 3 Only accumulator pressure is available for braking. During landing rollout, apply steady, increasing brake pressure and hold to a full stop.
- 4 **Checklist Complete Except Deferred Items**

Deferred Items

Descent Checklist

- Pressurization. LDG ALT ___
- Recall Checked
- Autobrake**OFF**
- Landing data VREF___, Minimums___
- Approach briefing Completed

▼ Continued on next page ▼

▼ BRAKE SOURCE continued ▼

Approach Checklist

Altimeters _____

Landing Checklist

Speedbrake ARMED

Landing gear Down

Flaps _____

After Landing

Do **not** taxi.



GEAR DISAGREE

Messages: GEAR DISAGREE

Condition: The landing gear position disagrees with the landing gear lever position.

Note: Do not use FMC fuel predictions with gear extended.

▼ Continued on next page ▼

▼ **GEAR DISAGREE** continued ▼

1 Choose one:

◆ Landing gear lever **UP**:

Observe the gear extend or extended limit speed of 270 knots and .82 Mach.

Flight with gear down increases fuel consumption and decreases climb performance. Refer to the Gear Down performance tables in Performance Inflight chapter for flight planning.


◆ Landing gear lever is **OFF**:

▶▶ **Go to step 2**

◆ Landing gear lever **DN and any** gear down (green) lights **not** illuminated:

▶▶ **Go to step 5**

◆ Landing gear lever **DN and all** gear down (green) lights **illuminated**:

VQ-BBU, VQ-BJK, VQ-BKM

GND PROX/CONFIG

GEAR OVRD switch OVRD

VQ-BHR, VQ-BTO

GND PROX GEAR OVRD switch OVRD

Accomplish normal landing.


▼ **Continued on next page** ▼



▼ GEAR DISAGREE continued ▼

2 Choose one:

◆ Landing gear lever **moved** to the UP position after takeoff:

▶▶ **Go to step 3**

◆ Landing gear lever did **not** move to the UP position after takeoff:

▶▶ **Go to the Gear Lever Will Not Move Up checklist on page 14.16**



3 Landing gear lever UP

4 Choose one:

◆ GEAR DISAGREE message **blanks**:

The landing gear lever should be kept in the UP position to keep the landing gear retracted.



◆ GEAR DISAGREE message **stays shown**:

Observe the gear extend or extended limit speed of 270 knots and .82 Mach.

Flight with gear down increases fuel consumption and decreases climb performance. Refer to the Gear Down performance tables in Performance Inflight chapter for flight planning.



▼ Continued on next page ▼

▼ **GEAR DISAGREE** continued ▼

5 Landing gear lever OFF

6  Maximum 250K/.75M
ALTN GEAR EXTEND switch DN

7 Choose one:

◆ **All** gear down (green) lights **illuminated**:

Landing gear lever DN



◆ **Any** gear down (green) light **not** illuminated:

▶▶ **Go to step 8**

8 Plan to land on available gear.

9 Landing gear lever DN

VQ-BBU, VQ-BJK, VQ-BKM

10 GND PROX/CONFIG GEAR OVRD switch . . . OVRD

VQ-BHR, VQ-BTO

11 GND PROX GEAR OVRD switch OVRD

12 Use flaps 30 for landing.

This ensures slowest landing speed.

13 Do **not** arm speedbrake lever.

▼ **Continued on next page** ▼

▼ GEAR DISAGREE continued ▼

14 Choose one:

- ```

graph TD
 A{Stopping distance is not critical:} --> B[Do not use thrust reversers.
▶▶ Go to step 17]
 C{Stopping distance is critical:} --> D[▶▶ Go to step 15]

```

15 Extend the speedbrakes after all gear, or the nose or engine nacelle have contacted the runway.

16 Do **not** use the thrust reversers unless stopping distance is critical.

## 17 Checklist Complete Except Deferred Items

## Deferred Items

## Descent Checklist

Pressurization . . . . . LDG ALT \_\_\_\_

Recall . . . . . Checked

Autobrake . . . . . \_\_\_\_

Landing data . . . . . **VREF 30** \_\_\_\_,  
Minimums \_\_\_\_

Approach briefing . . . . . Completed

## Approach Checklist

Altimeters . . . . .

▼ Continued on next page ▼

---

**▼ GEAR DISAGREE continued ▼**

---

**When at pattern altitude**

PACK control selectors (both) . . . . . OFF

Fuel PUMP switches (all) . . . . . Off

Do **not** accomplish the following checklists:

FUEL SYSTEM PRESSURE

PACK OFF

---

**Landing Checklist**Speedbrake . . . . . **DOWN**

Landing gear . . . . . Down

Flaps. . . . . **30**

DOORS

GEAR DOORS

Messages: GEAR DOORS

Condition: One or more landing gear doors are not closed.

**Note:** Do not use FMC fuel predictions with gear extended.

- 1 Choose one:
- ◆ Landing gear lever **UP or DN**:

Observe the gear extend or extended limit speed of 270 knots and .82 Mach.

■ ■ ■ ■
- ◆ Landing gear lever **OFF**:

Landing gear lever . . . . . UP

■ ■ ■ ■

Gear Lever Will Not Move Up

Condition: The landing gear lever cannot move to UP.

- 1 Landing gear lever  
LOCK OVRD switch . . . . . Push and hold
- 2 Landing gear lever . . . . . UP, then OFF
- ■ ■ ■



**NOSE AIR/GROUND SYSTEM**

Messages: NOSE A/G SYS

Condition: The nose air/ground system is failed in the air mode.

- 1 Takeoff configuration warning system inoperative.

**PARK  
BRAKE****PARKING BRAKE  
[ADVISORY]**

Messages: PARKING BRAKE

Condition: The parking brake is set.

- 1 Antiskid is inoperative.



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## Non-Normal Checklists

## Chapter NNC

### Warning Systems

### Section 15

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**ALT  
ALERT**

## ALTITUDE ALERT

Message: ALTITUDE ALERT

Condition: A deviation from the MCP set altitude occurs.



## ALTITUDE CALLOUTS

Message: ALT CALLOUTS

Condition: Altitude voice annunciations during approach are not supplied.


**CONFIG**

## CONFIG FLAPS

Message: FLAPS

Condition: The flaps are not in a takeoff position during takeoff.


**CONFIG**

## CONFIG GEAR NOT DOWN

Message: GEAR NOT DOWN

Condition: A landing gear is not down and locked and one of these occurs:

- Below 800 feet radio altitude and a thrust lever is near idle
- The flaps are in a landing position



**CONFIG****CONFIG PARKING BRAKE**

Message: PARKING BRAKE

Condition: The parking brake is set during takeoff.

**CONFIG****CONFIG SPOILERS**

Message: SPOILERS

Condition: The speedbrake lever is not DOWN during takeoff.

**CONFIG****CONFIG STABILIZER**

Message: STABILIZER

Condition: The stabilizer is not in the green band during takeoff.

**EICAS CONTROL PANEL**

Message: EICAS CONT PNL

Condition: The EICAS control panel is failed.



**EICAS DISPLAY**

Message: EICAS DISPLAY

Condition: One EICAS display is failed.

**GROUND PROXIMITY SYSTEM**

VQ-BHR, VQ-BTO

Message: GND PROX SYS

Condition: A ground proximity warning system fault occurs.

- 1 Some or all ground proximity alerts are not available.
- 2 Ground proximity alerts that occur are valid.

**OVSPD****OVERSPEED**

Message: OVERSPEED

Condition: Airspeed is more than Vmo/Mmo.





PILOT RESPONSE

VQ-BHR, VQ-BKM, VQ-BTO

Message: PILOT RESPONSE

Condition: Pilot action is not detected during a specified time.



Tail Strike

Condition: The tail hits the runway.

**Caution! Do not pressurize the airplane due to possible structural damage.**

- 1 Cabin altitude MODE SELECT . . . . .MAN
- 2 CABIN ALTITUDE  
MANUAL control . . . . . Hold in CLIMB until  
the outflow valve indication  
shows fully open to  
depressurize the airplane
- 3 Level off at the lowest safe altitude.
- 4 Plan to land at the nearest suitable airport.
- 5 Do **not** accomplish the following checklist:  
CABIN AUTOMATIC INOPERATIVE





**TCAS****VQ-BKM**

Message: TCAS

Condition: TCAS system is failed.

**TCAS OFF****VQ-BKM**

Message: TCAS OFF

Condition: TCAS modes TA or TA/RA are not selected.

**TERRAIN OVERRIDE****VQ-BHR, VQ-BTO**

Message: TERR OVRD

Condition: The ground proximity terrain override switch is in override.

- 1 Look-ahead terrain alerts and the terrain display are not provided.



**TERRAIN POSITION****VQ-BHR, VQ-BTO**

Message: TERR POS

Condition: Terrain position data is lost.

- 1 Position data for the terrain map and look-ahead terrain alerts are lost. Ground proximity alerts that occur are valid.

**WINDSHEAR SYSTEM**

Message: WINDSHEAR SYS

Condition: A windshear system fault occurs.

- 1 Some or all windshear alerts are not available.
- 2 Windshear alerts that occur are still valid.





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Operational Information

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## 757 Flight Crew Operations Manual

# Operational Information

## Ops Info

# Chapter OI

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### Introduction

**Note:** This Section Reserved For Operator-Developed Information.



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## 757 Flight Crew Operations Manual

### Performance Inflight - QRH

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## 757 Flight Crew Operations Manual

# Performance Inflight - QRH

## General

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## Section 10

**Flight With Unreliable Airspeed / Turbulent Air Penetration**

Altitude and/or vertical speed indications may also be unreliable.

**Climb (290/.78)****Flaps Up, Set Max Climb Thrust**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 LB) |             |            |            |
|---------------------------|------------------|------------------|-------------|------------|------------|
|                           |                  | 140              | 180         | 220        | 260        |
| 40000                     | <b>PITCH ATT</b> | <b>4.5</b>       | <b>4.0</b>  |            |            |
|                           | V/S (FT/MIN)     | 1600             | 700         |            |            |
| 30000                     | <b>PITCH ATT</b> | <b>4.0</b>       | <b>4.0</b>  | <b>3.5</b> | <b>4.0</b> |
|                           | V/S (FT/MIN)     | 2200             | 1600        | 1100       | 700        |
| 20000                     | <b>PITCH ATT</b> | <b>6.5</b>       | <b>6.0</b>  | <b>5.5</b> | <b>5.5</b> |
|                           | V/S (FT/MIN)     | 3500             | 2600        | 1900       | 1400       |
| 10000                     | <b>PITCH ATT</b> | <b>9.5</b>       | <b>8.0</b>  | <b>7.5</b> | <b>7.0</b> |
|                           | V/S (FT/MIN)     | 4600             | 3500        | 2700       | 2100       |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>12.5</b>      | <b>10.5</b> | <b>9.5</b> | <b>8.5</b> |
|                           | V/S (FT/MIN)     | 5600             | 4200        | 3300       | 2600       |

**Cruise (.78/290)****Flaps Up, EPR for Level Flight**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 LB) |            |            |            |
|---------------------------|------------------|------------------|------------|------------|------------|
|                           |                  | 140              | 180        | 220        | 260        |
| 40000                     | <b>PITCH ATT</b> | <b>2.5</b>       | <b>3.0</b> |            |            |
|                           | EPR              | 1.14             | 1.26       |            |            |
|                           | (Alt Mode %N1)   | (77.1)           | (81.3)     |            |            |
| 35000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.5</b> | <b>3.0</b> | <b>3.5</b> |
|                           | EPR              | 1.08             | 1.13       | 1.23       | 1.38       |
|                           | (Alt Mode %N1)   | (74.6)           | (77.1)     | (80.4)     | (85.7)     |
| 30000                     | <b>PITCH ATT</b> | <b>1.0</b>       | <b>2.0</b> | <b>2.5</b> | <b>3.0</b> |
|                           | EPR              | 1.03             | 1.07       | 1.11       | 1.18       |
|                           | (Alt Mode %N1)   | (73.8)           | (75.4)     | (77.5)     | (80.2)     |
| 25000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.0</b> | <b>2.5</b> | <b>3.5</b> |
|                           | EPR              | 0.99             | 1.02       | 1.05       | 1.10       |
|                           | (Alt Mode %N1)   | (70.3)           | (71.9)     | (73.8)     | (76.3)     |
| 20000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.0</b> | <b>2.5</b> | <b>3.5</b> |
|                           | EPR              | 0.98             | 1.00       | 1.02       | 1.05       |
|                           | (Alt Mode %N1)   | (67.2)           | (68.5)     | (70.5)     | (72.8)     |
| 15000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.0</b> | <b>3.0</b> | <b>3.5</b> |
|                           | EPR              | 0.97             | 0.98       | 1.00       | 1.03       |
|                           | (Alt Mode %N1)   | (64.0)           | (65.3)     | (67.2)     | (69.5)     |

## 757 Flight Crew Operations Manual

### Flight With Unreliable Airspeed / Turbulent Air Penetration

Altitude and/or vertical speed indications may also be unreliable.

Descent (.78/290)

Flaps Up, Set Idle Thrust

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 LB) |             |             |            |
|---------------------------|------------------|------------------|-------------|-------------|------------|
|                           |                  | 140              | 180         | 220         | 260        |
| 40000                     | <b>PITCH ATT</b> | <b>-0.5</b>      | <b>0.5</b>  |             |            |
|                           | V/S (FT/MIN)     | -2300            | -2300       |             |            |
| 30000                     | <b>PITCH ATT</b> | <b>-2.0</b>      | <b>-1.0</b> | <b>0.0</b>  | <b>0.5</b> |
|                           | V/S (FT/MIN)     | -2700            | -2300       | -2100       | -2000      |
| 20000                     | <b>PITCH ATT</b> | <b>-2.0</b>      | <b>-1.0</b> | <b>0.0</b>  | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -2500            | -2100       | -1900       | -1800      |
| 10000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.5</b> | <b>-0.5</b> | <b>0.5</b> |
|                           | V/S (FT/MIN)     | -2400            | -2000       | -1800       | -1700      |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>-3.0</b>      | <b>-1.5</b> | <b>-0.5</b> | <b>0.5</b> |
|                           | V/S (FT/MIN)     | -2200            | -1800       | -1600       | -1500      |

### Holding

Flaps Up, EPR for Level Flight

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 LB) |            |            |            |
|---------------------------|------------------|------------------|------------|------------|------------|
|                           |                  | 140              | 180        | 220        | 260        |
| 10000                     | <b>PITCH ATT</b> | <b>5.5</b>       | <b>5.5</b> | <b>6.0</b> | <b>6.0</b> |
|                           | EPR              | 1.01             | 1.02       | 1.03       | 1.04       |
|                           | (Alt Mode %N1)   | (50.9)           | (56.4)     | (61.0)     | (64.9)     |
|                           | KIAS             | 188              | 205        | 222        | 242        |
| 5000                      | <b>PITCH ATT</b> | <b>5.5</b>       | <b>6.0</b> | <b>6.0</b> | <b>6.0</b> |
|                           | EPR              | 1.01             | 1.01       | 1.02       | 1.03       |
|                           | (Alt Mode %N1)   | (47.6)           | (52.9)     | (57.5)     | (61.4)     |
|                           | KIAS             | 188              | 205        | 222        | 241        |

### Terminal Area (5000 FT)

EPR for Level Flight

| FLAP POSITION<br>(VREF + INCREMENT)      |                  | WEIGHT (1000 LB) |            |            |            |
|------------------------------------------|------------------|------------------|------------|------------|------------|
|                                          |                  | 140              | 180        | 220        | 260        |
| FLAPS UP<br>(GEAR UP)<br>(VREF30 + 80)   | <b>PITCH ATT</b> | <b>5.5</b>       | <b>6.0</b> | <b>6.5</b> | <b>6.5</b> |
|                                          | EPR              | 1.01             | 1.02       | 1.03       | 1.04       |
|                                          | KIAS             | 189              | 205        | 221        | 236        |
|                                          | (Alt Mode %N1)   | (45.9)           | (51.6)     | (56.3)     | (60.9)     |
| FLAPS 1<br>(GEAR UP)<br>(VREF30 + 60)    | <b>PITCH ATT</b> | <b>7.0</b>       | <b>7.5</b> | <b>7.5</b> | <b>8.0</b> |
|                                          | EPR              | 1.02             | 1.04       | 1.05       | 1.07       |
|                                          | KIAS             | 169              | 185        | 201        | 216        |
|                                          | (Alt Mode %N1)   | (47.2)           | (52.8)     | (58.1)     | (63.2)     |
| FLAPS 5<br>(GEAR UP)<br>(VREF30 + 40)    | <b>PITCH ATT</b> | <b>7.0</b>       | <b>7.0</b> | <b>7.5</b> | <b>7.5</b> |
|                                          | EPR              | 1.04             | 1.05       | 1.07       | 1.09       |
|                                          | KIAS             | 149              | 165        | 181        | 196        |
|                                          | (Alt Mode %N1)   | (47.2)           | (53.6)     | (59.6)     | (64.1)     |
| FLAPS 15<br>(GEAR UP)<br>(VREF30 + 20)   | <b>PITCH ATT</b> | <b>8.0</b>       | <b>8.0</b> | <b>8.0</b> | <b>8.0</b> |
|                                          | EPR              | 1.05             | 1.07       | 1.10       | 1.12       |
|                                          | KIAS             | 128              | 145        | 161        | 176        |
|                                          | (Alt Mode %N1)   | (48.9)           | (56.1)     | (62.0)     | (66.2)     |
| FLAPS 20<br>(GEAR DOWN)<br>(VREF30 + 20) | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.5</b> | <b>5.5</b> | <b>5.0</b> |
|                                          | EPR              | 1.07             | 1.12       | 1.14       | 1.18       |
|                                          | KIAS             | 128              | 145        | 161        | 176        |
|                                          | (Alt Mode %N1)   | (55.1)           | (62.2)     | (67.7)     | (72.3)     |

## 757 Flight Crew Operations Manual

**Flight With Unreliable Airspeed / Turbulent Air Penetration**

Altitude and/or vertical speed indications may also be unreliable.

**Final Approach (1500 FT)****Gear Down, EPR for 3° Glideslope**

| FLAP POSITION<br>(VREF + INCREMENT) |                  | WEIGHT (1000 LB) |            |            |            |
|-------------------------------------|------------------|------------------|------------|------------|------------|
|                                     |                  | 140              | 180        | 220        | 260        |
| FLAPS 20<br>(VREF20 + 10)           | <b>PITCH ATT</b> | <b>2.0</b>       | <b>2.0</b> | <b>2.0</b> | <b>2.0</b> |
|                                     | EPR              | 1.02             | 1.03       | 1.04       | 1.04       |
|                                     | KIAS             | 129              | 146        | 161        | 175        |
|                                     | (Alt Mode %N1)   | (39.3)           | (44.0)     | (48.4)     | (52.4)     |
| FLAPS 25<br>(VREF25 + 10)           | <b>PITCH ATT</b> | <b>2.5</b>       | <b>2.5</b> | <b>2.5</b> | <b>2.5</b> |
|                                     | EPR              | 1.03             | 1.04       | 1.06       | 1.07       |
|                                     | KIAS             | 121              | 137        | 152        | 167        |
|                                     | (Alt Mode %N1)   | (42.0)           | (47.6)     | (52.7)     | (57.6)     |
| FLAPS 30<br>(VREF30 + 10)           | <b>PITCH ATT</b> | <b>1.0</b>       | <b>1.0</b> | <b>0.5</b> | <b>0.5</b> |
|                                     | EPR              | 1.04             | 1.06       | 1.08       | 1.11       |
|                                     | KIAS             | 118              | 135        | 151        | 165        |
|                                     | (Alt Mode %N1)   | (45.4)           | (52.0)     | (58.2)     | (63.1)     |

**Go-Around (VREF 30 + 20)****Flaps 20, Gear Up, Set Go-Around Thrust (Normal Mode)**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 LB) |             |             |             |            |
|---------------------------|------------------|------------------|-------------|-------------|-------------|------------|
|                           |                  | 140              | 180         | 220         | 260         | 300        |
| 8000                      | <b>PITCH ATT</b> | <b>17.5</b>      | <b>13.0</b> | <b>10.5</b> | <b>8.5</b>  | <b>7.5</b> |
|                           | V/S (FT/MIN)     | 3800             | 2900        | 2200        | 1700        | 1300       |
|                           | KIAS             | 137              | 154         | 170         | 183         | 196        |
| 4000                      | <b>PITCH ATT</b> | <b>20.0</b>      | <b>15.0</b> | <b>12.0</b> | <b>10.0</b> | <b>8.5</b> |
|                           | V/S (FT/MIN)     | 4200             | 3200        | 2500        | 2000        | 1600       |
|                           | KIAS             | 137              | 154         | 170         | 183         | 196        |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>21.0</b>      | <b>15.5</b> | <b>12.5</b> | <b>10.5</b> | <b>9.0</b> |
|                           | V/S (FT/MIN)     | 4100             | 3200        | 2500        | 2000        | 1600       |
|                           | KIAS             | 137              | 154         | 169         | 183         | 195        |

**Go-Around (VREF 30 + 20)****Flaps 20, Gear Up, Set Go-Around Thrust (Alternate Mode)**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 LB) |             |             |            |            |
|---------------------------|------------------|------------------|-------------|-------------|------------|------------|
|                           |                  | 140              | 180         | 220         | 260        | 300        |
| 8000                      | <b>PITCH ATT</b> | <b>17.0</b>      | <b>13.0</b> | <b>10.0</b> | <b>8.5</b> | <b>7.0</b> |
|                           | V/S (FT/MIN)     | 3600             | 2700        | 2100        | 1600       | 1200       |
|                           | KIAS             | 137              | 154         | 170         | 183        | 196        |
| 4000                      | <b>PITCH ATT</b> | <b>18.5</b>      | <b>14.0</b> | <b>11.0</b> | <b>9.0</b> | <b>8.0</b> |
|                           | V/S (FT/MIN)     | 3800             | 2900        | 2300        | 1700       | 1300       |
|                           | KIAS             | 137              | 154         | 170         | 183        | 196        |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>19.0</b>      | <b>14.5</b> | <b>11.5</b> | <b>9.5</b> | <b>8.0</b> |
|                           | V/S (FT/MIN)     | 3700             | 2900        | 2200        | 1700       | 1300       |
|                           | KIAS             | 137              | 154         | 169         | 183        | 195        |

757 Flight Crew Operations Manual

Max Climb EPR

Based on engine bleed for packs on and anti-ice off

| TAT<br>(°C) | PRESSURE ALTITUDE (1000 FT)/SPEED (KIAS OR MACH) |      |      |      |      |      |      |      |      |
|-------------|--------------------------------------------------|------|------|------|------|------|------|------|------|
|             | 0                                                | 5    | 10   | 15   | 20   | 25   | 30   | 35   | 40   |
|             | 250                                              | 250  | 250  | 290  | 290  | 290  | 290  | .78  | .78  |
| 60          | 1.15                                             | 1.14 | 1.12 | 1.08 | 1.05 | 1.02 | 0.99 | 0.98 | 0.97 |
| 50          | 1.18                                             | 1.17 | 1.16 | 1.11 | 1.09 | 1.06 | 1.04 | 1.03 | 1.02 |
| 40          | 1.22                                             | 1.21 | 1.19 | 1.15 | 1.13 | 1.11 | 1.09 | 1.08 | 1.07 |
| 30          | 1.24                                             | 1.25 | 1.23 | 1.20 | 1.18 | 1.16 | 1.14 | 1.13 | 1.12 |
| 20          | 1.24                                             | 1.27 | 1.28 | 1.25 | 1.23 | 1.21 | 1.19 | 1.18 | 1.18 |
| 10          | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.29 | 1.27 | 1.26 | 1.25 | 1.24 |
| 0           | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.33 | 1.32 | 1.32 |
| -10         | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.39 | 1.41 | 1.41 |
| -20         | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.39 | 1.48 | 1.50 |

EPR Adjustments for Engine Bleeds

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (1000 FT) |       |       |       |       |       |       |       |       |  |
|---------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                           | 0                           | 5     | 10    | 15    | 20    | 25    | 30    | 35    | 40    |  |
| PACKS OFF                 | 0.01                        | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  | 0.03  | 0.04  | 0.04  |  |
| ENGINE ANTI-ICE ON        | 0.00                        | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.04 | -0.05 | -0.07 |  |
| ENGINE & WING ANTI-ICE ON | -0.02                       | -0.02 | -0.06 | -0.06 | -0.06 | -0.07 | -0.08 | -0.10 | -0.13 |  |



757 Flight Crew Operations Manual

VREF (KIAS)

| WEIGHT<br>(1000 LB) | FLAPS |     |     |
|---------------------|-------|-----|-----|
|                     | 30    | 25  | 20  |
| 260                 | 155   | 157 | 165 |
| 240                 | 148   | 150 | 158 |
| 220                 | 140   | 142 | 151 |
| 200                 | 133   | 135 | 144 |
| 180                 | 125   | 127 | 136 |
| 160                 | 117   | 119 | 128 |
| 140                 | 109   | 111 | 119 |

## 757 Flight Crew Operations Manual

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## 757 Flight Crew Operations Manual

# Performance Inflight - QRH

## Advisory Information

# Chapter PI-QRH

## Section 11

## ADVISORY INFORMATION

## Normal Configuration Landing Distance

## Flaps 30

## Dry Runway

| BRAKING<br>CONFIGURATION | LANDING DISTANCE AND ADJUSTMENTS (FT) |                                                 |                                 |                        |              |                     |            |                      |            |                                  |                          |           |
|--------------------------|---------------------------------------|-------------------------------------------------|---------------------------------|------------------------|--------------|---------------------|------------|----------------------|------------|----------------------------------|--------------------------|-----------|
|                          | REF<br>DIST                           | WT<br>ADJ                                       | ALT<br>ADJ                      | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | TEMP ADJ<br>PER 10°C |            | VREF<br>ADJ                      | REVERSE<br>THRUST<br>ADJ |           |
|                          | 190000 LB<br>LANDING<br>WEIGHT        | PER<br>10000 LB<br>ABOVE/<br>BELOW<br>190000 LB | PER<br>1000 FT<br>STD/<br>HIGH* | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | ABV<br>ISA           | BLW<br>ISA | PER<br>10 KTS<br>ABOVE<br>VREF30 | ONE<br>REV               | NO<br>REV |
| MAX MANUAL               | 2700                                  | +100/-90                                        | 60/70                           | -110                   | 380          | 40                  | -30        | 50                   | -50        | 210                              | 60                       | 130       |
| MAX AUTO                 | 4050                                  | +160/-160                                       | 90/120                          | -180                   | 570          | 50                  | -50        | 90                   | -90        | 310                              | 180                      | 360       |
| AUTOBRAKE 4              | 4380                                  | +190/-180                                       | 110/140                         | -210                   | 680          | 60                  | -60        | 110                  | -100       | 360                              | 190                      | 390       |
| AUTOBRAKE 3              | 4950                                  | +240/-240                                       | 140/180                         | -250                   | 850          | 90                  | -90        | 140                  | -130       | 410                              | 240                      | 470       |
| AUTOBRAKE 2              | 5300                                  | +290/-280                                       | 170/220                         | -290                   | 980          | 150                 | -150       | 160                  | -140       | 410                              | 540                      | 800       |
| AUTOBRAKE 1              | 5540                                  | +330/-290                                       | 190/270                         | -320                   | 1110         | 190                 | -170       | 170                  | -150       | 410                              | 960                      | 1450      |

## Good Reported Braking Action

|             |      |           |         |      |     |    |     |     |      |     |     |     |
|-------------|------|-----------|---------|------|-----|----|-----|-----|------|-----|-----|-----|
| MAX MANUAL  | 3520 | +150/-130 | 90/120  | -170 | 610 | 80 | -70 | 80  | -80  | 280 | 220 | 540 |
| MAX AUTO    | 4210 | +180/-170 | 100/140 | -200 | 690 | 90 | -80 | 100 | -90  | 310 | 360 | 910 |
| AUTOBRAKE 4 | 4430 | +190/-190 | 110/140 | -220 | 730 | 80 | -70 | 110 | -110 | 360 | 240 | 670 |
| AUTOBRAKE 3 | 4950 | +240/-240 | 140/180 | -250 | 850 | 90 | -90 | 140 | -130 | 410 | 240 | 480 |

## Medium Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 4570 | +220/-190 | 130/180 | -260 | 970  | 180 | -140 | 120 | -110 | 340 | 590 | 1640 |
| MAX AUTO    | 4820 | +240/-220 | 140/190 | -280 | 1000 | 190 | -160 | 130 | -110 | 340 | 740 | 2050 |
| AUTOBRAKE 4 | 4850 | +240/-220 | 140/190 | -280 | 1000 | 180 | -150 | 130 | -110 | 360 | 720 | 2020 |
| AUTOBRAKE 3 | 5190 | +250/-250 | 150/190 | -300 | 1060 | 160 | -150 | 140 | -130 | 410 | 460 | 1660 |

## Poor Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |      |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|------|------|
| MAX MANUAL  | 5630 | +290/-260 | 170/250 | -370 | 1470 | 390 | -260 | 150 | -130 | 380 | 1200 | 3850 |
| MAX AUTO    | 5630 | +300/-280 | 180/250 | -400 | 1480 | 390 | -280 | 160 | -130 | 370 | 1320 | 4200 |
| AUTOBRAKE 4 | 5630 | +300/-280 | 180/250 | -400 | 1480 | 390 | -280 | 160 | -130 | 380 | 1320 | 4200 |
| AUTOBRAKE 3 | 5740 | +300/-280 | 170/250 | -400 | 1490 | 370 | -270 | 160 | -140 | 410 | 1200 | 4080 |

Reference distance is for sea level, standard day, no wind or slope, VREF30 approach speed and 2 engine reverse thrust.

Max Manual braking data valid for auto speedbrakes. For manual speedbrakes, increase reference landing distance by 270 ft.

Autobrake data valid both for auto and manual speedbrakes.

Actual (unfactored) distances are shown.

Includes distance from 50 ft above threshold (1000 ft of air distance).

\*For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply the HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Normal Configuration Landing Distance

##### Flaps 25

##### Dry Runway

|                          | LANDING DISTANCE AND ADJUSTMENTS (FT) |                                                |                                 |                        |              |                     |            |                      |            |                                  |                          |           |
|--------------------------|---------------------------------------|------------------------------------------------|---------------------------------|------------------------|--------------|---------------------|------------|----------------------|------------|----------------------------------|--------------------------|-----------|
|                          | REF<br>DIST                           | WT<br>ADJ                                      | ALT<br>ADJ                      | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | TEMP ADJ<br>PER 10°C |            | VREF<br>ADJ                      | REVERSE<br>THRUST<br>ADJ |           |
| BRAKING<br>CONFIGURATION | 190000 LB<br>LANDING<br>WEIGHT        | PER<br>10000 LB<br>ABOVE/<br>BELOW<br>190000LB | PER<br>1000 FT<br>STD/<br>HIGH* | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | ABV<br>ISA           | BLW<br>ISA | PER<br>10 KTS<br>ABOVE<br>VREF25 | ONE<br>REV               | NO<br>REV |
| MAX MANUAL               | 2730                                  | +90/-90                                        | 60/80                           | -110                   | 390          | 40                  | -30        | 60                   | -50        | 210                              | 60                       | 140       |
| MAX AUTO                 | 4170                                  | +160/-160                                      | 100/130                         | -180                   | 580          | 50                  | -50        | 100                  | -90        | 320                              | 190                      | 400       |
| AUTOBRAKE 4              | 4520                                  | +190/-190                                      | 110/150                         | -210                   | 690          | 60                  | -60        | 120                  | -110       | 380                              | 210                      | 430       |
| AUTOBRAKE 3              | 5120                                  | +240/-240                                      | 140/190                         | -260                   | 860          | 90                  | -100       | 150                  | -130       | 430                              | 270                      | 530       |
| AUTOBRAKE 2              | 5480                                  | +290/-290                                      | 180/240                         | -300                   | 1000         | 160                 | -160       | 180                  | -150       | 430                              | 610                      | 900       |
| AUTOBRAKE 1              | 5720                                  | +330/-300                                      | 200/280                         | -330                   | 1120         | 200                 | -180       | 190                  | -150       | 430                              | 1070                     | 1600      |

#### Good Reported Braking Action

|             |      |           |         |      |     |    |      |     |      |     |     |     |
|-------------|------|-----------|---------|------|-----|----|------|-----|------|-----|-----|-----|
| MAX MANUAL  | 3580 | +150/-130 | 90/120  | -170 | 610 | 80 | -70  | 80  | -80  | 280 | 230 | 580 |
| MAX AUTO    | 4320 | +180/-170 | 100/140 | -210 | 690 | 90 | -80  | 100 | -100 | 320 | 380 | 990 |
| AUTOBRAKE 4 | 4570 | +190/-190 | 110/150 | -220 | 740 | 80 | -80  | 120 | -110 | 380 | 250 | 720 |
| AUTOBRAKE 3 | 5120 | +240/-240 | 140/190 | -260 | 860 | 90 | -100 | 150 | -130 | 430 | 270 | 530 |

#### Medium Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 4670 | +220/-190 | 130/190 | -260 | 980  | 180 | -150 | 120 | -110 | 350 | 640 | 1810 |
| MAX AUTO    | 4950 | +240/-220 | 140/200 | -290 | 1010 | 190 | -160 | 140 | -120 | 350 | 810 | 2270 |
| AUTOBRAKE 4 | 4990 | +230/-220 | 140/200 | -290 | 1010 | 180 | -150 | 130 | -120 | 380 | 770 | 2230 |
| AUTOBRAKE 3 | 5360 | +250/-250 | 150/200 | -310 | 1080 | 170 | -150 | 150 | -140 | 430 | 500 | 1840 |

#### Poor Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |      |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|------|------|
| MAX MANUAL  | 5780 | +290/-260 | 170/250 | -370 | 1490 | 400 | -270 | 160 | -140 | 390 | 1300 | 4320 |
| MAX AUTO    | 5780 | +300/-280 | 180/260 | -400 | 1490 | 400 | -290 | 170 | -140 | 390 | 1440 | 4730 |
| AUTOBRAKE 4 | 5780 | +300/-280 | 180/260 | -400 | 1490 | 400 | -290 | 170 | -140 | 390 | 1430 | 4720 |
| AUTOBRAKE 3 | 5920 | +300/-280 | 180/250 | -410 | 1510 | 380 | -270 | 170 | -140 | 430 | 1290 | 4590 |

Reference distance is for sea level, standard day, no wind or slope, VREF25 approach speed and 2 engine reverse thrust.

Max Manual braking data valid for auto speedbrakes. For manual speedbrakes, increase reference landing distance by 270 ft.

Autobrake data valid for both auto and manual speedbrakes.

Actual (unfactored) distances are shown.

Includes distance from 50 ft above threshold (1000 ft of air distance).

\*For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply the HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

Non-Normal Configuration Landing Distance  
Dry Runway

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                        |                                                          |                                                   |                        |              |                     |            |                                                      |
|-----------------------------------------------------------------------------|-----------|--------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>190000 LB<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>5000 LB<br>ABOVE/<br>BELOW<br>190000 LB | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                                             |           |                                                              |                                                          |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 3550                                                         | 70/-60                                                   | 85/120                                            | -150                   | 535          | 75                  | -65        | 400                                                  |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 4070                                                         | 85/-75                                                   | 95/140                                            | -195                   | 730          | 90                  | -75        | 320                                                  |
| FLAPS UP                                                                    | VREF30+50 | 3650                                                         | 160/-60                                                  | 100/160                                           | -150                   | 585          | 55                  | -50        | 285                                                  |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 2740                                                         | 55/-45                                                   | 60/80                                             | -110                   | 400          | 40                  | -35        | 235                                                  |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 3250                                                         | 65/-55                                                   | 70/100                                            | -135                   | 475          | 50                  | -45        | 310                                                  |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 3520                                                         | 65/-60                                                   | 80/110                                            | -140                   | 490          | 55                  | -50        | 310                                                  |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 3300                                                         | 70/-60                                                   | 80/120                                            | -145                   | 515          | 75                  | -65        | 355                                                  |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 3930                                                         | 75/-65                                                   | 95/130                                            | -155                   | 530          | 65                  | -60        | 360                                                  |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 4070                                                         | 80/-75                                                   | 110/155                                           | -170                   | 585          | 100                 | -85        | 425                                                  |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 5590                                                         | 105/-90                                                  | 155/245                                           | -240                   | 815          | 220                 | -175       | 755                                                  |

\* Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft above threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Dry Runway**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                        |                                                          |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|--------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>190000 LB<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>5000 LB<br>ABOVE/<br>BELOW<br>190000 LB | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                              |                                                          |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 2870                                                         | 65/-50                                                   | 60/75                                             | -115                   | 395          | 35                  | -35        | 220                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 3330                                                         | 95/-55                                                   | 80/105                                            | -125                   | 430          | 45                  | -40        | 230                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 3550                                                         | 120/-60                                                  | 85/130                                            | -130                   | 445          | 45                  | -45        | 235                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 2860                                                         | 70/-45                                                   | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 2920                                                         | 75/-50                                                   | 65/85                                             | -115                   | 450          | 40                  | -35        | 235                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 3360                                                         | 105/-55                                                  | 80/105                                            | -135                   | 505          | 50                  | -45        | 265                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 2860                                                         | 70/-45                                                   | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 3240                                                         | 115/-50                                                  | 75/100                                            | -135                   | 495          | 45                  | -40        | 245                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 3450                                                         | 135/-55                                                  | 80/125                                            | -140                   | 525          | 50                  | -45        | 255                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 2860                                                         | 70/-45                                                   | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |

\* Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft above threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Good Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                        |                                                          |                                                   |                        |              |                     |            |                                                      |
|-----------------------------------------------------------------------------|-----------|--------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>190000 LB<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>5000 LB<br>ABOVE/<br>BELOW<br>190000 LB | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                                             |           |                                                              |                                                          |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 5180                                                         | 110/-90                                                  | 150/240                                           | -270                   | 965          | 255                 | -190       | 590                                                  |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 4850                                                         | 115/-100                                                 | 130/185                                           | -265                   | 1035         | 170                 | -135       | 365                                                  |
| FLAPS UP                                                                    | VREF30+50 | 4870                                                         | 100/-90                                                  | 140/190                                           | -200                   | 720          | 100                 | -90        | 285                                                  |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 3540                                                         | 80/-70                                                   | 90/125                                            | -170                   | 630          | 85                  | -75        | 300                                                  |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 4320                                                         | 95/-85                                                   | 115/170                                           | -215                   | 775          | 135                 | -110       | 415                                                  |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 4750                                                         | 95/-90                                                   | 130/190                                           | -225                   | 810          | 145                 | -120       | 420                                                  |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 4210                                                         | 100/-85                                                  | 120/175                                           | -210                   | 770          | 150                 | -120       | 440                                                  |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 5320                                                         | 110/-100                                                 | 150/225                                           | -245                   | 865          | 175                 | -140       | 480                                                  |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 5250                                                         | 115/-105                                                 | 155/240                                           | -245                   | 865          | 195                 | -160       | 520                                                  |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 7440                                                         | 140/-115                                                 | 235/385                                           | -350                   | 1210         | 495                 | -355       | 980                                                  |

\* Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft above threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Good Reported Braking Action**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                        |                                                          |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|--------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>190000 LB<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>5000 LB<br>ABOVE/<br>BELOW<br>190000 LB | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                              |                                                          |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 3750                                                         | 80/-75                                                   | 95/135                                            | -175                   | 625          | 85                  | -75        | 290                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 4360                                                         | 90/-85                                                   | 120/170                                           | -190                   | 670          | 95                  | -85        | 300                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 4690                                                         | 95/-90                                                   | 130/185                                           | -200                   | 695          | 100                 | -90        | 305                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 3740                                                         | 75/-70                                                   | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 3970                                                         | 85/-80                                                   | 105/140                                           | -190                   | 685          | 110                 | -90        | 320                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 4580                                                         | 95/-90                                                   | 125/170                                           | -205                   | 740          | 125                 | -105       | 325                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 3740                                                         | 75/-70                                                   | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 4280                                                         | 90/-80                                                   | 115/165                                           | -185                   | 680          | 90                  | -80        | 280                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 4560                                                         | 95/-85                                                   | 125/180                                           | -190                   | 700          | 95                  | -85        | 280                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 3740                                                         | 75/-70                                                   | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |

\* Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft above threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Medium Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                     |                                                          |                                                   |                        |              |                     |            |                                                      |
|-----------------------------------------------------------------------------|-----------|-----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>190000 LB<br>LANDING WEIGHT | WT ADJ<br>PER<br>5000 LB<br>ABOVE/<br>BELOW<br>190000 LB | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                                             |           |                                                           |                                                          |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 8530                                                      | 160/-105                                                 | 315/640                                           | -545                   | 2090         | 1210                | -650       | 830                                                  |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 5860                                                      | 150/-130                                                 | 170/255                                           | -375                   | 1565         | 385                 | -255       | 410                                                  |
| FLAPS UP                                                                    | VREF30+50 | 6390                                                      | 150/-135                                                 | 205/295                                           | -300                   | 1140         | 230                 | -185       | 360                                                  |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 4550                                                      | 115/-100                                                 | 135/190                                           | -255                   | 1005         | 195                 | -150       | 360                                                  |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 5930                                                      | 140/-120                                                 | 185/305                                           | -350                   | 1360         | 380                 | -265       | 515                                                  |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 6610                                                      | 145/-135                                                 | 210/345                                           | -375                   | 1425         | 420                 | -290       | 540                                                  |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 5890                                                      | 150/-125                                                 | 195/325                                           | -355                   | 1365         | 415                 | -285       | 540                                                  |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 7360                                                      | 170/-150                                                 | 245/395                                           | -400                   | 1500         | 475                 | -335       | 595                                                  |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 7400                                                      | 180/-155                                                 | 260/420                                           | -405                   | 1515         | 525                 | -365       | 635                                                  |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 13060                                                     | 210/-105                                                 | 510/1075                                          | -730                   | 2640         | 2455                | -1215      | 1420                                                 |

\* Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft above threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Non-Normal Configuration Landing Distance

#### Medium Reported Braking Action

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                        |                                                          |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|--------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>190000 LB<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>5000 LB<br>ABOVE/<br>BELOW<br>190000 LB | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                              |                                                          |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 4880                                                         | 115/-105                                                 | 140/210                                           | -265                   | 990          | 185                 | -150       | 360                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 5640                                                         | 135/-120                                                 | 170/245                                           | -285                   | 1050         | 205                 | -170       | 360                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 6100                                                         | 145/-130                                                 | 195/280                                           | -295                   | 1085         | 215                 | -180       | 370                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 4870                                                         | 115/-105                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 5480                                                         | 130/-120                                                 | 160/230                                           | -305                   | 1155         | 285                 | -210       | 420                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 6280                                                         | 150/-135                                                 | 190/270                                           | -325                   | 1220         | 310                 | -235       | 415                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 4870                                                         | 115/-105                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 5600                                                         | 135/-120                                                 | 175/250                                           | -280                   | 1080         | 210                 | -165       | 350                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 5950                                                         | 140/-125                                                 | 185/270                                           | -290                   | 1105         | 220                 | -170       | 350                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 4870                                                         | 115/-105                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |

\* Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft above threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.



## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Poor Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                        |                                                          |                                                   |                        |              |                     |            |                             |
|-----------------------------------------------------------------------------|-----------|--------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>190000 LB<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>5000 LB<br>ABOVE/<br>BELOW<br>190000 LB | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                             |           |                                                              |                                                          |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | > 15000                                                      | -                                                        | -                                                 | -                      | -            | -                   | -          | -                           |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 7460                                                         | 205/-175                                                 | 235/335                                           | -600                   | 2865         | 2340                | -565       | 445                         |
| FLAPS UP                                                                    | VREF30+50 | 7880                                                         | 200/-180                                                 | 275/400                                           | -425                   | 1720         | 515                 | -325       | 415                         |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 5590                                                         | 155/-130                                                 | 175/265                                           | -370                   | 1545         | 445                 | -270       | 400                         |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 8060                                                         | 190/-150                                                 | 300/555                                           | -590                   | 2555         | 1645                | -615       | 590                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 9050                                                         | 205/-175                                                 | 340/630                                           | -630                   | 2670         | 1790                | -680       | 635                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 8090                                                         | 200/-155                                                 | 315/585                                           | -600                   | 2580         | 1740                | -650       | 610                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 9960                                                         | 235/-190                                                 | 380/705                                           | -665                   | 2775         | 1930                | -745       | 675                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 10100                                                        | 250/-200                                                 | 405/750                                           | -675                   | 2805         | 2055                | -800       | 715                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | > 15000                                                      | -                                                        | -                                                 | -                      | -            | -                   | -          | -                           |

\* Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft above threshold (1000 ft of air distance).

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## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Non-Normal Configuration Landing Distance

#### Poor Reported Braking Action

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                        |                                                          |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|--------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>190000 LB<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>5000 LB<br>ABOVE/<br>BELOW<br>190000 LB | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                              |                                                          |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 6020                                                         | 155/-140                                                 | 190/285                                           | -380                   | 1510         | 410                 | -275       | 405                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 6890                                                         | 180/-160                                                 | 225/340                                           | -405                   | 1580         | 435                 | -300       | 400                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 7490                                                         | 195/-175                                                 | 255/370                                           | -420                   | 1625         | 455                 | -315       | 425                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 6020                                                         | 155/-140                                                 | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 7170                                                         | 190/-175                                                 | 230/335                                           | -460                   | 1845         | 720                 | -420       | 500                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 8120                                                         | 210/-190                                                 | 270/380                                           | -485                   | 1925         | 760                 | -450       | 485                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 6020                                                         | 155/-140                                                 | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 6900                                                         | 180/-155                                                 | 230/345                                           | -400                   | 1645         | 480                 | -300       | 405                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 7310                                                         | 190/-165                                                 | 250/365                                           | -410                   | 1675         | 490                 | -305       | 400                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 6020                                                         | 155/-140                                                 | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |

\* Reference distance assumes sea level, standard day with no wind or slope.

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## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

## Recommended Brake Cooling Schedule

## Reference Brake Energy Per Brake (Millions of Foot Pounds)

|                     |             | BRAKES ON SPEED (KIAS) |      |      |           |      |      |           |      |      |           |      |      |           |      |      |           |      |      |           |   |    |           |   |    |
|---------------------|-------------|------------------------|------|------|-----------|------|------|-----------|------|------|-----------|------|------|-----------|------|------|-----------|------|------|-----------|---|----|-----------|---|----|
|                     |             | 80                     |      |      |           |      |      | 100       |      |      |           |      |      | 120       |      |      |           |      |      | 140       |   |    |           |   |    |
| WEIGHT<br>(1000 LB) | OAT<br>(°F) | PRESS ALT              |      |      | PRESS ALT |      |      | PRESS ALT |      |      | PRESS ALT |      |      | PRESS ALT |      |      | PRESS ALT |      |      | PRESS ALT |   |    | PRESS ALT |   |    |
|                     |             | 0                      | 5    | 10   | 0         | 5    | 10   | 0         | 5    | 10   | 0         | 5    | 10   | 0         | 5    | 10   | 0         | 5    | 10   | 0         | 5 | 10 | 0         | 5 | 10 |
| 260                 | 20          | 8.8                    | 10.5 | 12.2 | 13.5      | 16.2 | 18.9 | 19.0      | 22.9 | 26.8 | 25.2      | 30.4 | 35.6 | 31.8      | 38.2 |      |           |      |      | 39.0      |   |    |           |   |    |
|                     | 40          | 9.2                    | 10.9 | 12.7 | 14.0      | 16.8 | 19.6 | 19.8      | 23.8 | 27.9 | 26.2      | 31.6 | 37.0 | 33.1      | 39.7 |      |           |      |      | 40.5      |   |    |           |   |    |
|                     | 60          | 9.5                    | 11.4 | 13.2 | 14.6      | 17.5 | 20.4 | 20.6      | 24.8 | 29.0 | 27.3      | 32.9 | 38.5 | 34.4      | 41.3 |      |           |      |      | 42.1      |   |    |           |   |    |
|                     | 80          | 9.9                    | 11.7 | 13.6 | 15.1      | 18.1 | 21.1 | 21.3      | 25.7 | 30.0 | 28.2      | 34.0 | 39.8 | 35.6      | 42.7 |      |           |      |      | 43.6      |   |    |           |   |    |
|                     | 100         | 10.1                   | 12.0 | 14.0 | 15.5      | 18.6 | 21.7 | 21.9      | 26.4 | 30.9 | 29.0      | 35.0 | 41.0 | 36.6      | 44.0 |      |           |      |      | 44.9      |   |    |           |   |    |
|                     | 120         | 10.2                   | 12.2 | 14.2 | 15.8      | 18.9 | 22.1 | 22.3      | 26.9 | 31.5 | 29.6      | 35.8 | 42.0 | 37.5      | 45.0 |      |           |      |      | 45.9      |   |    |           |   |    |
| 240                 | 20          | 8.2                    | 9.8  | 11.3 | 12.6      | 15.0 | 17.5 | 17.6      | 21.2 | 24.8 | 23.3      | 28.2 | 33.0 | 29.5      | 35.5 | 41.5 | 35.9      |      |      |           |   |    |           |   |    |
|                     | 40          | 8.5                    | 10.2 | 11.8 | 13.1      | 15.6 | 18.2 | 18.3      | 22.1 | 25.8 | 24.3      | 29.3 | 34.3 | 30.7      | 36.9 | 43.1 | 37.3      |      |      |           |   |    |           |   |    |
|                     | 60          | 8.9                    | 10.6 | 12.3 | 13.6      | 16.3 | 18.9 | 19.1      | 23.0 | 26.8 | 25.2      | 30.4 | 35.6 | 31.9      | 38.3 | 44.8 | 38.8      |      |      |           |   |    |           |   |    |
|                     | 80          | 9.2                    | 10.9 | 12.7 | 14.1      | 16.8 | 19.6 | 19.7      | 23.8 | 27.8 | 26.1      | 31.5 | 36.9 | 33.0      | 39.7 | 46.3 | 40.1      |      |      |           |   |    |           |   |    |
|                     | 100         | 9.4                    | 11.2 | 13.0 | 14.4      | 17.3 | 20.1 | 20.3      | 24.4 | 28.6 | 26.9      | 32.4 | 38.0 | 34.0      | 40.8 | 47.7 | 41.3      |      |      |           |   |    |           |   |    |
|                     | 120         | 9.5                    | 11.3 | 13.2 | 14.6      | 17.6 | 20.5 | 20.6      | 24.9 | 29.2 | 27.4      | 33.1 | 38.8 | 34.7      | 41.8 | 48.9 | 42.3      |      |      |           |   |    |           |   |    |
| 220                 | 20          | 7.6                    | 9.0  | 10.5 | 11.6      | 13.9 | 16.1 | 16.2      | 19.5 | 22.8 | 21.4      | 25.9 | 30.3 | 27.1      | 32.7 | 38.2 | 33.1      | 39.6 |      |           |   |    |           |   |    |
|                     | 40          | 7.9                    | 9.4  | 10.9 | 12.1      | 14.4 | 16.8 | 16.9      | 20.3 | 23.7 | 22.3      | 26.9 | 31.5 | 28.2      | 34.0 | 39.7 | 34.4      | 41.2 |      |           |   |    |           |   |    |
|                     | 60          | 8.2                    | 9.8  | 11.3 | 12.5      | 15.0 | 17.5 | 17.6      | 21.1 | 24.7 | 23.2      | 28.0 | 32.7 | 29.3      | 35.3 | 41.3 | 35.7      | 42.8 |      |           |   |    |           |   |    |
|                     | 80          | 8.5                    | 10.1 | 11.7 | 13.0      | 15.5 | 18.1 | 18.2      | 21.9 | 25.5 | 24.0      | 29.0 | 33.9 | 30.3      | 36.5 | 42.7 | 37.0      | 44.3 |      |           |   |    |           |   |    |
|                     | 100         | 8.7                    | 10.4 | 12.0 | 13.3      | 15.9 | 18.5 | 18.7      | 22.4 | 26.2 | 24.7      | 29.8 | 34.9 | 31.2      | 37.6 | 44.0 | 38.1      | 45.6 |      |           |   |    |           |   |    |
|                     | 120         | 8.8                    | 10.5 | 12.2 | 13.5      | 16.2 | 18.9 | 19.0      | 22.9 | 26.8 | 25.1      | 30.4 | 35.6 | 31.9      | 38.5 | 45.0 | 38.9      | 46.7 |      |           |   |    |           |   |    |
| 200                 | 20          | 7.0                    | 8.3  | 9.6  | 10.6      | 12.7 | 14.8 | 14.8      | 17.8 | 20.8 | 19.5      | 23.5 | 27.6 | 24.7      | 29.8 | 34.9 | 30.1      | 36.2 | 42.3 |           |   |    |           |   |    |
|                     | 40          | 7.3                    | 8.7  | 10.0 | 11.1      | 13.2 | 15.4 | 15.4      | 18.5 | 21.6 | 20.3      | 24.5 | 28.6 | 25.6      | 30.9 | 36.2 | 31.3      | 37.6 | 44.0 |           |   |    |           |   |    |
|                     | 60          | 7.6                    | 9.0  | 10.4 | 11.5      | 13.7 | 16.0 | 16.0      | 19.3 | 22.5 | 21.1      | 25.5 | 29.8 | 26.7      | 32.2 | 37.7 | 32.6      | 39.1 | 45.7 |           |   |    |           |   |    |
|                     | 80          | 7.9                    | 9.3  | 10.8 | 11.9      | 14.2 | 16.5 | 16.6      | 19.9 | 23.3 | 21.9      | 26.4 | 30.8 | 27.6      | 33.3 | 39.0 | 33.7      | 40.5 | 47.3 |           |   |    |           |   |    |
|                     | 100         | 8.0                    | 9.5  | 11.0 | 12.2      | 14.6 | 17.0 | 17.0      | 20.5 | 23.9 | 22.5      | 27.1 | 31.7 | 28.4      | 34.3 | 40.1 | 34.7      | 41.7 | 48.7 |           |   |    |           |   |    |
|                     | 120         | 8.1                    | 9.6  | 11.2 | 12.4      | 14.8 | 17.3 | 17.3      | 20.8 | 24.4 | 22.9      | 27.6 | 32.4 | 29.0      | 35.0 | 41.0 | 35.4      | 42.7 | 49.9 |           |   |    |           |   |    |
| 180                 | 20          | 6.4                    | 7.6  | 8.8  | 9.7       | 11.5 | 13.4 | 13.4      | 16.1 | 18.7 | 17.6      | 21.2 | 24.8 | 22.2      | 26.8 | 31.4 | 27.1      | 32.6 | 38.2 |           |   |    |           |   |    |
|                     | 40          | 6.7                    | 7.9  | 9.1  | 10.1      | 12.0 | 13.9 | 14.0      | 16.7 | 19.5 | 18.3      | 22.0 | 25.8 | 23.1      | 27.8 | 32.6 | 28.1      | 33.9 | 39.7 |           |   |    |           |   |    |
|                     | 60          | 7.0                    | 8.2  | 9.5  | 10.5      | 12.5 | 14.5 | 14.5      | 17.4 | 20.3 | 19.0      | 22.9 | 26.8 | 24.0      | 28.9 | 33.9 | 29.3      | 35.2 | 41.2 |           |   |    |           |   |    |
|                     | 80          | 7.2                    | 8.5  | 9.8  | 10.8      | 12.9 | 15.0 | 15.0      | 18.0 | 21.0 | 19.7      | 23.7 | 27.7 | 24.8      | 30.0 | 35.1 | 30.3      | 36.5 | 42.7 |           |   |    |           |   |    |
|                     | 100         | 7.3                    | 8.7  | 10.1 | 11.1      | 13.2 | 15.4 | 15.4      | 18.5 | 21.6 | 20.2      | 24.4 | 28.5 | 25.5      | 30.8 | 36.1 | 31.1      | 37.5 | 43.9 |           |   |    |           |   |    |
|                     | 120         | 7.4                    | 8.8  | 10.2 | 11.2      | 13.4 | 15.6 | 15.7      | 18.8 | 22.0 | 20.6      | 24.9 | 29.1 | 26.0      | 31.5 | 36.9 | 31.8      | 38.4 | 45.0 |           |   |    |           |   |    |
| 160                 | 20          | 5.8                    | 6.9  | 8.0  | 8.7       | 10.4 | 12.0 | 12.0      | 14.4 | 16.7 | 15.7      | 18.8 | 22.0 | 19.6      | 23.7 | 27.7 | 23.9      | 28.8 | 33.8 |           |   |    |           |   |    |
|                     | 40          | 6.1                    | 7.2  | 8.3  | 9.1       | 10.8 | 12.5 | 12.5      | 14.9 | 17.4 | 16.3      | 19.6 | 22.9 | 20.4      | 24.6 | 28.8 | 24.8      | 30.0 | 35.1 |           |   |    |           |   |    |
|                     | 60          | 6.3                    | 7.5  | 8.6  | 9.4       | 11.2 | 13.0 | 13.0      | 15.5 | 18.1 | 16.9      | 20.4 | 23.8 | 21.2      | 25.6 | 30.0 | 25.8      | 31.2 | 36.5 |           |   |    |           |   |    |
|                     | 80          | 6.5                    | 7.7  | 8.9  | 9.8       | 11.6 | 13.5 | 13.5      | 16.1 | 18.7 | 17.5      | 21.1 | 24.6 | 22.0      | 26.5 | 31.0 | 26.8      | 32.3 | 37.8 |           |   |    |           |   |    |
|                     | 100         | 6.6                    | 7.9  | 9.1  | 10.0      | 11.9 | 13.8 | 13.8      | 16.5 | 19.2 | 18.0      | 21.6 | 25.3 | 22.6      | 27.3 | 31.9 | 27.5      | 33.2 | 38.9 |           |   |    |           |   |    |
|                     | 120         | 6.7                    | 7.9  | 9.2  | 10.1      | 12.0 | 14.0 | 14.0      | 16.8 | 19.6 | 18.3      | 22.1 | 25.8 | 23.0      | 27.8 | 32.6 | 28.1      | 33.9 | 39.8 |           |   |    |           |   |    |
| 140                 | 20          | 5.2                    | 6.2  | 7.1  | 7.8       | 9.2  | 10.7 | 10.6      | 12.6 | 14.7 | 13.7      | 16.4 | 19.2 | 17.0      | 20.5 | 24.0 | 20.6      | 24.9 | 29.1 |           |   |    |           |   |    |
|                     | 40          | 5.4                    | 6.4  | 7.4  | 8.1       | 9.6  | 11.1 | 11.0      | 13.2 | 15.3 | 14.3      | 17.1 | 19.9 | 17.7      | 21.3 | 24.9 | 21.4      | 25.8 | 30.3 |           |   |    |           |   |    |
|                     | 60          | 5.7                    | 6.7  | 7.7  | 8.4       | 10.0 | 11.5 | 11.5      | 13.7 | 15.9 | 14.8      | 17.8 | 20.7 | 18.4      | 22.2 | 25.9 | 22.3      | 26.9 | 31.5 |           |   |    |           |   |    |
|                     | 80          | 5.8                    | 6.9  | 8.0  | 8.7       | 10.3 | 11.9 | 11.9      | 14.2 | 16.5 | 15.4      | 18.4 | 21.5 | 19.1      | 23.0 | 26.9 | 23.1      | 27.8 | 32.6 |           |   |    |           |   |    |
|                     | 100         | 5.9                    | 7.0  | 8.1  | 8.9       | 10.5 | 12.2 | 12.1      | 14.5 | 16.9 | 15.8      | 18.9 | 22.1 | 19.6      | 23.6 | 27.6 | 23.7      | 28.6 | 33.5 |           |   |    |           |   |    |
|                     | 120         | 6.0                    | 7.1  | 8.2  | 8.9       | 10.7 | 12.4 | 12.3      | 14.7 | 17.2 | 16.0      | 19.2 | 22.5 | 20.0      | 24.1 | 28.2 | 24.2      | 29.2 | 34.3 |           |   |    |           |   |    |

To correct for wind, enter table with the brakes on speed minus one half the headwind or plus 1.5 times the tailwind.

If ground speed is used for brakes on speed, ignore wind and enter table with sea level, 60°F.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Recommended Brake Cooling Schedule

Adjusted Brake Energy Per Brake (Millions of Foot Pounds)

No Reverse Thrust

|         |             | REFERENCE BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |      |      |      |      |      |      |      |      |      |      |
|---------|-------------|------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| EVENT   |             | 10                                                         | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| LANDING | RTO MAX MAN | 10                                                         | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|         | MAX MAN     | 9.2                                                        | 11.2 | 13.1 | 15.0 | 17.0 | 18.9 | 20.9 | 22.8 | 24.7 | 26.7 | 28.6 |
|         | MAX AUTO    | 8.9                                                        | 10.8 | 12.6 | 14.4 | 16.3 | 18.1 | 19.9 | 21.7 | 23.5 | 25.3 | 27.2 |
|         | AUTOBRAKE 4 | 8.8                                                        | 10.6 | 12.3 | 14.0 | 15.7 | 17.4 | 19.1 | 20.8 | 22.5 | 24.2 | 26.0 |
|         | AUTOBRAKE 3 | 8.7                                                        | 10.4 | 12.0 | 13.7 | 15.3 | 16.9 | 18.4 | 20.0 | 21.6 | 23.2 | 24.8 |
|         | AUTOBRAKE 2 | 8.6                                                        | 10.2 | 11.7 | 13.2 | 14.7 | 16.2 | 17.7 | 19.1 | 20.6 | 22.0 | 23.5 |
|         | AUTOBRAKE 1 | 8.4                                                        | 9.8  | 11.3 | 12.6 | 14.0 | 15.3 | 16.6 | 17.8 | 19.1 | 20.4 | 21.7 |

#### Two Engine Reverse

|         |             | REFERENCE BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |     |      |      |      |      |      |      |      |      |      |
|---------|-------------|------------------------------------------------------------|-----|------|------|------|------|------|------|------|------|------|
| EVENT   |             | 10                                                         | 12  | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| LANDING | RTO MAX MAN | 10                                                         | 12  | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|         | MAX MAN     | 7.6                                                        | 9.2 | 10.8 | 12.5 | 14.2 | 15.9 | 17.6 | 19.3 | 21.0 | 22.6 | 24.2 |
|         | MAX AUTO    | 5.0                                                        | 6.3 | 7.6  | 8.9  | 10.2 | 11.5 | 12.9 | 14.2 | 15.6 | 16.9 | 18.3 |
|         | AUTOBRAKE 4 | 3.4                                                        | 4.3 | 5.3  | 6.2  | 7.2  | 8.2  | 9.2  | 10.2 | 11.3 | 12.3 | 13.5 |
|         | AUTOBRAKE 3 | 2.4                                                        | 3.0 | 3.6  | 4.2  | 4.8  | 5.5  | 6.2  | 6.9  | 7.7  | 8.4  | 9.3  |
|         | AUTOBRAKE 2 | 1.9                                                        | 2.2 | 2.5  | 2.9  | 3.2  | 3.6  | 4.0  | 4.5  | 4.9  | 5.4  | 5.9  |
|         | AUTOBRAKE 1 | 1.5                                                        | 1.7 | 1.9  | 2.1  | 2.3  | 2.5  | 2.8  | 3.0  | 3.2  | 3.5  | 3.7  |

#### Cooling Time (Minutes)

|                       |                         | ADJUSTED BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |    |    |    |    |    |    |          |                        |  |
|-----------------------|-------------------------|-----------------------------------------------------------|----|----|----|----|----|----|----------|------------------------|--|
|                       |                         | 8 & BELOW                                                 | 9  | 10 | 12 | 14 | 16 | 17 | 18 TO 27 | 28 & ABOVE             |  |
| INFLIGHT<br>GEAR DOWN | NO SPECIAL<br>PROCEDURE |                                                           | 1  | 2  | 4  | 5  | 7  | 7  | CAUTION  | FUSE PLUG<br>MELT ZONE |  |
| GROUND                | REQUIRED                |                                                           | 10 | 20 | 38 | 51 | 62 | 66 |          |                        |  |
| BTMS                  | UP TO 2                 |                                                           | 2  | 2  | 3  | 3  | 4  | 5  |          |                        |  |

Observe maximum quick turnaround limit.

Table shows energy per brake added by a single stop with all brakes operating. Energy is assumed to be equally distributed among the operating brakes. Total energy is the sum of residual energy plus energy added.

Add 0.65 million foot pounds per brake for each taxi mile.

For one brake deactivated, increase brake energy by 15 percent.

When in caution zone, wheel fuse plugs may melt. Delay takeoff and inspect after one hour. If overheat occurs after takeoff, extend gear soon for at least 8 minutes.

When in fuse plug melt zone, clear runway immediately. Unless required, do not set parking brake. Do not attempt to taxi for one hour. Tire, wheel and brake replacement may be required. If overheat occurs after takeoff, extend gear soon for at least 12 minutes.

Brake temperature monitor system (BTMS) indication on EICAS may be used to 10 to 15 minutes after airplane has come to a complete stop, or inflight with gear retracted, to determine recommended cooling schedule.



**Performance Inflight - QRH**  
**Engine Inoperative**

**Chapter PI-QRH**  
**Section 12**

**ENGINE INOP**

**Initial Max Continuous EPR**

**Based on engine bleed for one pack on**

| PRESSURE<br>ALTITUDE (FT) |               | CRUISE MACH NUMBER |           |           |
|---------------------------|---------------|--------------------|-----------|-----------|
|                           |               | .72                | .76       | .80       |
| 41000                     | EPR           | 1.56               | 1.52      | 1.48      |
|                           | MAX TAT (SAT) | -23 (-46)          | -20 (-46) | -17 (-46) |
|                           | EPR CORR      | 0.12               | 0.12      | 0.12      |
| 39000                     | EPR           | 1.56               | 1.52      | 1.48      |
|                           | MAX TAT (SAT) | -23 (-46)          | -20 (-46) | -17 (-46) |
|                           | EPR CORR      | 0.12               | 0.12      | 0.12      |
| 37000                     | EPR           | 1.57               | 1.53      | 1.49      |
|                           | MAX TAT (SAT) | -23 (-46)          | -20 (-46) | -17 (-46) |
|                           | EPR CORR      | 0.12               | 0.12      | 0.12      |
| 35000                     | EPR           | 1.54               | 1.50      | 1.46      |
|                           | MAX TAT (SAT) | -21 (-44)          | -18 (-44) | -15 (-44) |
|                           | EPR CORR      | 0.12               | 0.12      | 0.12      |
| 33000                     | EPR           | 1.49               | 1.45      | 1.42      |
|                           | MAX TAT (SAT) | -16 (-40)          | -13 (-40) | -11 (-41) |
|                           | EPR CORR      | 0.12               | 0.12      | 0.12      |
| 31000                     | EPR           | 1.44               | 1.41      | 1.38      |
|                           | MAX TAT (SAT) | -12 (-36)          | -9 (-36)  | -6 (-36)  |
|                           | EPR CORR      | 0.10               | 0.10      | 0.10      |

**Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.**

## ENGINE INOP

### Max Continuous EPR

#### 41000 FT to 22000 FT Pressure Altitudes

Based on engine bleed for one pack on and anti-ice off

| PRESSURE ALTITUDE<br>(FT) |          | KIAS |      |      |      |      | MACH NUMBER |      |      |      |      |      |
|---------------------------|----------|------|------|------|------|------|-------------|------|------|------|------|------|
|                           |          | 180  | 200  | 220  | 240  | 260  | .70         | .72  | .74  | .76  | .78  | .80  |
| 41000                     | EPR      |      | 1.57 | 1.53 | 1.47 | 1.42 | 1.57        | 1.56 | 1.54 | 1.52 | 1.50 | 1.48 |
|                           | MAX TAT  |      | -25  | -21  | -17  | -12  | -24         | -23  | -22  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 39000                     | EPR      |      | 1.57 | 1.56 | 1.51 | 1.45 | 1.57        | 1.56 | 1.54 | 1.52 | 1.50 | 1.48 |
|                           | MAX TAT  |      | -27  | -23  | -19  | -15  | -24         | -23  | -22  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 37000                     | EPR      |      | 1.57 | 1.57 | 1.54 | 1.49 | 1.57        | 1.57 | 1.55 | 1.53 | 1.51 | 1.49 |
|                           | MAX TAT  |      | -28  | -25  | -21  | -17  | -24         | -23  | -22  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 35000                     | EPR      |      | 1.57 | 1.57 | 1.54 | 1.49 | 1.56        | 1.54 | 1.52 | 1.50 | 1.48 | 1.46 |
|                           | MAX TAT  |      | -28  | -24  | -21  | -17  | -22         | -21  | -19  | -18  | -16  | -15  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 33000                     | EPR      |      | 1.57 | 1.56 | 1.52 | 1.47 | 1.51        | 1.49 | 1.47 | 1.45 | 1.44 | 1.42 |
|                           | MAX TAT  |      | -25  | -22  | -19  | -15  | -18         | -16  | -15  | -13  | -12  | -11  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 31000                     | EPR      |      | 1.56 | 1.53 | 1.49 | 1.45 | 1.46        | 1.44 | 1.43 | 1.41 | 1.40 | 1.38 |
|                           | MAX TAT  |      | -22  | -19  | -16  | -13  | -13         | -12  | -10  | -9   | -8   | -6   |
|                           | EPR CORR |      | 0.10 | 0.10 | 0.10 | 0.10 | 0.10        | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| 29000                     | EPR      |      | 1.56 | 1.52 | 1.48 | 1.45 | 1.44        | 1.42 | 1.40 | 1.39 | 1.37 | 1.35 |
|                           | MAX TAT  |      | -19  | -16  | -13  | -10  | -9          | -7   | -6   | -5   | -3   | -2   |
|                           | EPR CORR |      | 0.09 | 0.09 | 0.09 | 0.09 | 0.09        | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |
| 27000                     | EPR      | 1.57 | 1.56 | 1.53 | 1.49 | 1.46 | 1.43        | 1.41 | 1.39 | 1.37 | 1.36 | 1.34 |
|                           | MAX TAT  | -18  | -16  | -13  | -11  | -8   | -5          | -3   | -2   | 0    | 1    | 3    |
|                           | EPR CORR | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09        | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |
| 25000                     | EPR      | 1.57 | 1.56 | 1.53 | 1.50 | 1.47 | 1.41        | 1.40 | 1.38 | 1.36 | 1.35 | 1.33 |
|                           | MAX TAT  | -15  | -13  | -10  | -8   | -5   | 0           | 1    | 3    | 4    | 6    | 7    |
|                           | EPR CORR | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09        | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |
| 22000                     | EPR      | 1.57 | 1.55 | 1.53 | 1.51 | 1.48 | 1.40        | 1.38 | 1.36 | 1.35 | 1.33 |      |
|                           | MAX TAT  | -10  | -8   | -6   | -3   | -1   | 6           | 8    | 9    | 11   | 12   |      |
|                           | EPR CORR | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08        | 0.08 | 0.08 | 0.08 | 0.08 |      |

Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.

### EPR Adjustments for Engine Bleed

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (FT) |       |       |       |       |       |       |
|---------------------------|------------------------|-------|-------|-------|-------|-------|-------|
|                           | 0                      | 8000  | 8001  | 10000 | 20000 | 30000 | 40000 |
| PACKS OFF                 | 0.01                   | 0.01  | 0.01  | 0.01  | 0.02  | 0.03  | 0.04  |
| ENGINE ANTI-ICE ON        | 0.00                   | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.07 |
| ENGINE & WING ANTI-ICE ON | -0.02                  | -0.02 | -0.05 | -0.06 | -0.06 | -0.08 | -0.13 |

## 757 Flight Crew Operations Manual

**ENGINE INOP****Max Continuous EPR****20000 FT to Sea Level Pressure Altitudes****Based on engine bleed for one pack on and anti-ice off**

| PRESSURE ALTITUDE<br>(FT) |          | KIAS |      |      |      |      | MACH NUMBER |      |      |     |     |     |
|---------------------------|----------|------|------|------|------|------|-------------|------|------|-----|-----|-----|
|                           |          | 180  | 200  | 220  | 240  | 260  | .70         | .72  | .74  | .76 | .78 | .80 |
| 20000                     | EPR      | 1.57 | 1.55 | 1.53 | 1.51 | 1.48 | 1.39        | 1.37 | 1.36 |     |     |     |
|                           | MAX TAT  | -6   | -5   | -3   | 0    | 2    | 11          | 12   | 14   |     |     |     |
|                           | EPR CORR | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08        | 0.08 | 0.08 |     |     |     |
| 18000                     | EPR      | 1.55 | 1.53 | 1.51 | 1.48 | 1.46 | 1.36        | 1.34 |      |     |     |     |
|                           | MAX TAT  | -3   | -1   | 1    | 3    | 5    | 15          | 17   |      |     |     |     |
|                           | EPR CORR | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08        | 0.08 |      |     |     |     |
| 16000                     | EPR      | 1.53 | 1.51 | 1.49 | 1.46 | 1.44 | 1.33        |      |      |     |     |     |
|                           | MAX TAT  | 0    | 2    | 4    | 6    | 8    | 19          |      |      |     |     |     |
|                           | EPR CORR | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07        |      |      |     |     |     |
| 14000                     | EPR      | 1.50 | 1.49 | 1.47 | 1.44 | 1.42 |             |      |      |     |     |     |
|                           | MAX TAT  | 4    | 6    | 7    | 9    | 11   |             |      |      |     |     |     |
|                           | EPR CORR | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |             |      |      |     |     |     |
| 12000                     | EPR      | 1.48 | 1.46 | 1.45 | 1.43 | 1.40 |             |      |      |     |     |     |
|                           | MAX TAT  | 8    | 9    | 11   | 12   | 14   |             |      |      |     |     |     |
|                           | EPR CORR | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |             |      |      |     |     |     |
| 10000                     | EPR      | 1.46 | 1.44 | 1.43 | 1.41 | 1.39 |             |      |      |     |     |     |
|                           | MAX TAT  | 11   | 13   | 14   | 16   | 18   |             |      |      |     |     |     |
|                           | EPR CORR | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |             |      |      |     |     |     |
| 5000                      | EPR      | 1.40 | 1.39 | 1.33 | 1.36 | 1.35 |             |      |      |     |     |     |
|                           | MAX TAT  | 20   | 21   | 23   | 24   | 26   |             |      |      |     |     |     |
|                           | EPR CORR | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |             |      |      |     |     |     |
| 1500                      | EPR      | 1.35 | 1.34 | 1.30 | 1.31 | 1.30 |             |      |      |     |     |     |
|                           | MAX TAT  | 27   | 28   | 29   | 30   | 32   |             |      |      |     |     |     |
|                           | EPR CORR | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |             |      |      |     |     |     |
| 0                         | EPR      | 1.33 | 1.32 | 1.30 | 1.29 | 1.28 |             |      |      |     |     |     |
|                           | MAX TAT  | 29   | 30   | 32   | 33   | 34   |             |      |      |     |     |     |
|                           | EPR CORR | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |             |      |      |     |     |     |

Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.

**EPR Adjustments for Engine Bleed**

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (FT) |       |       |       |       |       |       |
|---------------------------|------------------------|-------|-------|-------|-------|-------|-------|
|                           | 0                      | 8000  | 8001  | 10000 | 20000 | 30000 | 40000 |
| PACKS OFF                 | 0.01                   | 0.01  | 0.01  | 0.01  | 0.02  | 0.03  | 0.04  |
| ENGINE ANTI-ICE ON        | 0.00                   | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.07 |
| ENGINE & WING ANTI-ICE ON | -0.02                  | -0.02 | -0.05 | -0.06 | -0.06 | -0.08 | -0.13 |



757 Flight Crew Operations Manual

ENGINE INOP

MAX CONTINUOUS THRUST

Driftdown Speed/Level Off Altitude

100 ft/min residual rate of climb

Includes APU fuel burn

| WEIGHT (1000 LB)       |              | OPTIMUM<br>DRIFTDOWN<br>SPEED<br>(KIAS) | LEVEL OFF ALTITUDE (FT) |            |            |
|------------------------|--------------|-----------------------------------------|-------------------------|------------|------------|
| START<br>DRIFT<br>DOWN | LEVEL<br>OFF |                                         | ISA + 10°C<br>& BELOW   | ISA + 15°C | ISA + 20°C |
| 260                    | 250          | 249                                     | 18900                   | 17400      | 15500      |
| 240                    | 232          | 240                                     | 21100                   | 20100      | 18600      |
| 220                    | 213          | 230                                     | 23300                   | 22300      | 21200      |
| 200                    | 193          | 219                                     | 25600                   | 24700      | 23600      |
| 180                    | 174          | 208                                     | 28000                   | 27200      | 26200      |
| 160                    | 154          | 197                                     | 30900                   | 30000      | 29000      |
| 140                    | 135          | 187                                     | 33800                   | 33400      | 32200      |



## 757 Flight Crew Operations Manual

**ENGINE INOP****MAX CONTINUOUS THRUST****Driftdown/LRC Cruise Range Capability**  
**Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 282                      | 260  | 242  | 226  | 212  | 200                        | 189                      | 179  | 170  | 162  | 155  |
| 563                      | 521  | 484  | 452  | 425  | 400                        | 378                      | 358  | 341  | 325  | 310  |
| 839                      | 777  | 724  | 677  | 636  | 600                        | 568                      | 539  | 512  | 489  | 467  |
| 1110                     | 1030 | 961  | 901  | 847  | 800                        | 758                      | 720  | 685  | 654  | 625  |
| 1379                     | 1282 | 1197 | 1124 | 1058 | 1000                       | 948                      | 901  | 858  | 820  | 784  |
| 1647                     | 1533 | 1433 | 1346 | 1269 | 1200                       | 1138                     | 1082 | 1032 | 986  | 944  |
| 1916                     | 1784 | 1670 | 1569 | 1480 | 1400                       | 1328                     | 1264 | 1205 | 1152 | 1103 |
| 2186                     | 2037 | 1907 | 1792 | 1691 | 1600                       | 1519                     | 1445 | 1378 | 1317 | 1262 |
| 2461                     | 2292 | 2146 | 2017 | 1902 | 1800                       | 1708                     | 1625 | 1550 | 1482 | 1419 |

**Driftdown/Cruise Fuel and Time**

| AIR DIST<br>(NM) | FUEL REQUIRED (1000 LB)                |      |      |      |      |      | TIME<br>(HR:MIN) |
|------------------|----------------------------------------|------|------|------|------|------|------------------|
|                  | WEIGHT AT START OF DRIFTDOWN (1000 LB) |      |      |      |      |      |                  |
|                  | 160                                    | 180  | 200  | 220  | 240  | 260  |                  |
| 200              | 2.7                                    | 3.0  | 3.3  | 3.5  | 3.8  | 4.1  | 0:35             |
| 400              | 6.1                                    | 6.7  | 7.3  | 8.0  | 8.7  | 9.3  | 1:10             |
| 600              | 9.0                                    | 10.0 | 11.0 | 12.0 | 13.0 | 14.1 | 1:42             |
| 800              | 12.0                                   | 13.3 | 14.6 | 16.0 | 17.3 | 18.7 | 2:14             |
| 1000             | 14.9                                   | 16.6 | 18.2 | 19.9 | 21.5 | 23.2 | 2:45             |
| 1200             | 17.7                                   | 19.8 | 21.7 | 23.7 | 25.7 | 27.7 | 3:15             |
| 1400             | 20.6                                   | 22.9 | 25.2 | 27.5 | 29.8 | 32.1 | 3:46             |
| 1600             | 23.3                                   | 26.0 | 28.6 | 31.2 | 33.8 | 36.5 | 4:17             |
| 1800             | 26.1                                   | 29.1 | 32.0 | 34.9 | 37.8 | 40.8 | 4:50             |

Includes APU fuel burn.

Driftdown at optimum driftdown speed and cruise at Long Range Cruise speed.

757 Flight Crew Operations Manual

ENGINE INOP

MAX CONTINUOUS THRUST

Long Range Cruise Altitude Capability

100 ft/min residual rate of climb

| WEIGHT<br>(1000 LB) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 260                 | 12200                  | 8100       | 5100       |
| 250                 | 14700                  | 10300      | 7100       |
| 240                 | 16400                  | 12700      | 9100       |
| 230                 | 18300                  | 15000      | 11200      |
| 220                 | 20000                  | 17400      | 13700      |
| 210                 | 21200                  | 19700      | 16000      |
| 200                 | 22300                  | 21100      | 18600      |
| 190                 | 23600                  | 22400      | 20700      |
| 180                 | 24900                  | 23700      | 22100      |
| 170                 | 26200                  | 25100      | 23500      |
| 160                 | 27500                  | 26500      | 25100      |
| 150                 | 29000                  | 28000      | 26600      |
| 140                 | 30800                  | 29500      | 28300      |
| 130                 | 33100                  | 31400      | 30000      |
| 120                 | 35100                  | 33900      | 32000      |

With engine anti-ice on, decrease altitude capability by 2600 ft.

With engine and wing anti-ice on, decrease altitude capability by 6600 ft.

## 757 Flight Crew Operations Manual

**ENGINE INOP****MAX CONTINUOUS THRUST****Long Range Cruise Control**

| WEIGHT<br>(1000 LB) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|------|
|                     |        | 10                          | 14   | 18   | 21   | 23   | 25   | 27   | 29   | 31   |
| 260                 | EPR    | 1.27                        | 1.34 |      |      |      |      |      |      |      |
|                     | MACH   | .598                        | .621 |      |      |      |      |      |      |      |
|                     | KIAS   | 332                         | 321  |      |      |      |      |      |      |      |
|                     | FF/ENG | 10076                       | 9797 |      |      |      |      |      |      |      |
| 240                 | EPR    | 1.24                        | 1.30 | 1.39 |      |      |      |      |      |      |
|                     | MACH   | .582                        | .611 | .633 |      |      |      |      |      |      |
|                     | KIAS   | 323                         | 316  | 303  |      |      |      |      |      |      |
|                     | FF/ENG | 9361                        | 9173 | 8859 |      |      |      |      |      |      |
| 220                 | EPR    | 1.21                        | 1.27 | 1.34 | 1.42 |      |      |      |      |      |
|                     | MACH   | .561                        | .596 | .620 | .642 |      |      |      |      |      |
|                     | KIAS   | 311                         | 308  | 297  | 290  |      |      |      |      |      |
|                     | FF/ENG | 8560                        | 8495 | 8158 | 8155 |      |      |      |      |      |
| 200                 | EPR    | 1.18                        | 1.24 | 1.30 | 1.36 | 1.42 |      |      |      |      |
|                     | MACH   | .532                        | .576 | .608 | .624 | .639 |      |      |      |      |
|                     | KIAS   | 295                         | 297  | 291  | 281  | 277  |      |      |      |      |
|                     | FF/ENG | 7706                        | 7770 | 7540 | 7365 | 7396 |      |      |      |      |
| 180                 | EPR    | 1.15                        | 1.20 | 1.26 | 1.32 | 1.36 | 1.42 |      |      |      |
|                     | MACH   | .498                        | .549 | .589 | .611 | .621 | .635 |      |      |      |
|                     | KIAS   | 276                         | 282  | 281  | 275  | 269  | 264  |      |      |      |
|                     | FF/ENG | 6813                        | 6942 | 6872 | 6746 | 6640 | 6629 |      |      |      |
| 160                 | EPR    | 1.13                        | 1.17 | 1.22 | 1.27 | 1.31 | 1.35 | 1.40 |      |      |
|                     | MACH   | .473                        | .511 | .561 | .590 | .606 | .618 | .630 |      |      |
|                     | KIAS   | 262                         | 262  | 267  | 265  | 262  | 256  | 250  |      |      |
|                     | FF/ENG | 6082                        | 6079 | 6107 | 6080 | 6015 | 5925 | 5872 |      |      |
| 140                 | EPR    | 1.11                        | 1.14 | 1.18 | 1.22 | 1.26 | 1.29 | 1.33 | 1.38 | 1.45 |
|                     | MACH   | .451                        | .477 | .520 | .559 | .580 | .598 | .612 | .623 | .639 |
|                     | KIAS   | 249                         | 245  | 247  | 251  | 250  | 247  | 243  | 237  | 233  |
|                     | FF/ENG | 5434                        | 5286 | 5265 | 5322 | 5337 | 5280 | 5225 | 5142 | 5136 |
| 120                 | EPR    | 1.09                        | 1.11 | 1.14 | 1.17 | 1.20 | 1.23 | 1.27 | 1.31 | 1.36 |
|                     | MACH   | .423                        | .451 | .479 | .511 | .538 | .564 | .584 | .602 | .616 |
|                     | KIAS   | 234                         | 231  | 227  | 228  | 231  | 233  | 232  | 229  | 224  |
|                     | FF/ENG | 4765                        | 4638 | 4460 | 4477 | 4527 | 4561 | 4555 | 4504 | 4426 |

757 Flight Crew Operations Manual

# ENGINE INOP

## MAX CONTINUOUS THRUST

### Long Range Cruise Diversion Fuel and Time

#### Ground to Air Miles Conversion

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 286                      | 264  | 244  | 227  | 213  | 200                        | 191                      | 182  | 174  | 167  | 160  |
| 571                      | 527  | 488  | 455  | 426  | 400                        | 381                      | 364  | 348  | 334  | 322  |
| 859                      | 792  | 733  | 683  | 639  | 600                        | 572                      | 547  | 524  | 502  | 483  |
| 1148                     | 1059 | 979  | 911  | 853  | 800                        | 763                      | 729  | 698  | 669  | 644  |
| 1440                     | 1326 | 1226 | 1140 | 1066 | 1000                       | 954                      | 912  | 873  | 837  | 804  |
| 1733                     | 1595 | 1473 | 1370 | 1280 | 1200                       | 1144                     | 1093 | 1046 | 1003 | 965  |
| 2029                     | 1866 | 1721 | 1599 | 1494 | 1400                       | 1335                     | 1275 | 1220 | 1170 | 1125 |
| 2325                     | 2137 | 1970 | 1830 | 1708 | 1600                       | 1526                     | 1457 | 1394 | 1336 | 1284 |
| 2623                     | 2409 | 2220 | 2061 | 1923 | 1800                       | 1716                     | 1638 | 1567 | 1502 | 1443 |

#### Reference Fuel and Time Required at Check Point

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 10                          |                  | 14                |                  | 18                |                  | 22                |                  | 28                |                  |
|                     | FUEL<br>(1000 LB)           | TIME<br>(HR:MIN) | FUEL<br>(1000 LB) | TIME<br>(HR:MIN) | FUEL<br>(1000 LB) | TIME<br>(HR:MIN) | FUEL<br>(1000 LB) | TIME<br>(HR:MIN) | FUEL<br>(1000 LB) | TIME<br>(HR:MIN) |
| 200                 | 4.3                         | 0:41             | 3.8               | 0:39             | 3.4               | 0:38             | 3.1               | 0:37             | 2.7               | 0:35             |
| 400                 | 8.9                         | 1:17             | 8.2               | 1:12             | 7.4               | 1:10             | 6.9               | 1:09             | 6.5               | 1:04             |
| 600                 | 13.5                        | 1:53             | 12.4              | 1:46             | 11.4              | 1:42             | 10.7              | 1:40             | 10.2              | 1:33             |
| 800                 | 18.0                        | 2:30             | 16.7              | 2:20             | 15.4              | 2:15             | 14.4              | 2:12             | 13.9              | 2:02             |
| 1000                | 22.4                        | 3:08             | 20.8              | 2:55             | 19.3              | 2:47             | 18.1              | 2:44             | 17.5              | 2:31             |
| 1200                | 26.8                        | 3:46             | 24.9              | 3:30             | 23.1              | 3:20             | 21.8              | 3:16             | 21.0              | 3:01             |
| 1400                | 31.2                        | 4:25             | 29.0              | 4:06             | 27.0              | 3:54             | 25.4              | 3:48             | 24.5              | 3:31             |
| 1600                | 35.5                        | 5:04             | 33.1              | 4:42             | 30.7              | 4:27             | 29.0              | 4:20             | 27.9              | 4:02             |
| 1800                | 39.7                        | 5:43             | 37.0              | 5:18             | 34.5              | 5:01             | 32.5              | 4:52             | 31.3              | 4:32             |

#### Fuel Required Adjustment (1000 LB)

| REFERENCE FUEL REQUIRED<br>(1000 LB) | WEIGHT AT CHECK POINT (1000 LB) |      |     |     |     |      |
|--------------------------------------|---------------------------------|------|-----|-----|-----|------|
|                                      | 160                             | 180  | 200 | 220 | 240 | 260  |
| 5                                    | -0.4                            | -0.2 | 0.0 | 0.4 | 0.8 | 2.0  |
| 10                                   | -0.9                            | -0.5 | 0.0 | 0.8 | 1.8 | 3.9  |
| 15                                   | -1.4                            | -0.7 | 0.0 | 1.3 | 2.7 | 5.6  |
| 20                                   | -1.9                            | -1.0 | 0.0 | 1.7 | 3.6 | 7.2  |
| 25                                   | -2.4                            | -1.2 | 0.0 | 2.2 | 4.5 | 8.5  |
| 30                                   | -2.9                            | -1.5 | 0.0 | 2.6 | 5.4 | 9.7  |
| 35                                   | -3.4                            | -1.7 | 0.0 | 3.0 | 6.2 | 10.7 |
| 40                                   | -3.9                            | -2.0 | 0.0 | 3.4 | 7.0 | 11.5 |
| 45                                   | -4.4                            | -2.2 | 0.0 | 3.8 | 7.8 | 12.0 |

Includes APU fuel burn.

## 757 Flight Crew Operations Manual

# ENGINE INOP

## MAX CONTINUOUS THRUST

### Holding Flaps Up

| WEIGHT<br>(1000 LB) |        | PRESSURE ALTITUDE (FT) |      |       |       |       |       |       |
|---------------------|--------|------------------------|------|-------|-------|-------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 | 20000 | 25000 | 30000 |
| 260                 | EPR    | 1.16                   | 1.20 | 1.26  | 1.35  |       |       |       |
|                     | KIAS   | 241                    | 241  | 242   | 243   |       |       |       |
|                     | FF/ENG | 8460                   | 8430 | 8430  | 8440  |       |       |       |
| 240                 | EPR    | 1.15                   | 1.18 | 1.23  | 1.31  | 1.43  |       |       |
|                     | KIAS   | 231                    | 232  | 233   | 234   | 235   |       |       |
|                     | FF/ENG | 7800                   | 7760 | 7730  | 7710  | 7910  |       |       |
| 220                 | EPR    | 1.13                   | 1.16 | 1.21  | 1.27  | 1.38  |       |       |
|                     | KIAS   | 221                    | 222  | 223   | 224   | 225   |       |       |
|                     | FF/ENG | 7140                   | 7100 | 7050  | 7020  | 7100  |       |       |
| 200                 | EPR    | 1.12                   | 1.14 | 1.18  | 1.24  | 1.33  | 1.47  |       |
|                     | KIAS   | 213                    | 213  | 213   | 213   | 214   | 215   |       |
|                     | FF/ENG | 6590                   | 6450 | 6390  | 6320  | 6360  | 6640  |       |
| 180                 | EPR    | 1.10                   | 1.12 | 1.15  | 1.21  | 1.28  | 1.39  |       |
|                     | KIAS   | 205                    | 205  | 205   | 205   | 205   | 205   |       |
|                     | FF/ENG | 6020                   | 5870 | 5760  | 5670  | 5690  | 5780  |       |
| 160                 | EPR    | 1.08                   | 1.10 | 1.13  | 1.17  | 1.23  | 1.32  | 1.48  |
|                     | KIAS   | 197                    | 197  | 197   | 197   | 197   | 197   | 197   |
|                     | FF/ENG | 5420                   | 5330 | 5130  | 5040  | 5020  | 5070  | 5270  |
| 140                 | EPR    | 1.07                   | 1.08 | 1.11  | 1.14  | 1.19  | 1.26  | 1.38  |
|                     | KIAS   | 188                    | 188  | 188   | 188   | 188   | 188   | 188   |
|                     | FF/ENG | 4820                   | 4740 | 4560  | 4430  | 4400  | 4420  | 4480  |
| 120                 | EPR    | 1.06                   | 1.07 | 1.09  | 1.11  | 1.15  | 1.21  | 1.30  |
|                     | KIAS   | 179                    | 179  | 179   | 179   | 179   | 179   | 179   |
|                     | FF/ENG | 4230                   | 4160 | 4000  | 3860  | 3800  | 3800  | 3870  |

**This table includes 5% additional fuel for holding in a racetrack pattern.**

## 757 Flight Crew Operations Manual

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Intentionally  
Blank



757 Flight Crew Operations Manual

Performance Inflight - QRH  
Gear Down

Chapter PI-QRH  
Section 13

**GEAR DOWN**

**210 KIAS Max Climb EPR**

Based on engine bleed for packs on and anti-ice off

| TAT<br>(°C) | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | 0                           | 5    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | 32   | 34   |
| 55          | 1.18                        | 1.17 | 1.16 | 1.16 | 1.15 | 1.14 | 1.14 | 1.13 | 1.11 | 1.10 | 1.09 | 1.07 | 1.06 | 1.04 | 1.03 |
| 50          | 1.19                        | 1.19 | 1.18 | 1.18 | 1.17 | 1.16 | 1.15 | 1.14 | 1.13 | 1.12 | 1.11 | 1.09 | 1.08 | 1.06 | 1.05 |
| 45          | 1.21                        | 1.21 | 1.20 | 1.19 | 1.19 | 1.18 | 1.17 | 1.16 | 1.15 | 1.14 | 1.12 | 1.11 | 1.10 | 1.08 | 1.07 |
| 40          | 1.23                        | 1.22 | 1.21 | 1.21 | 1.20 | 1.20 | 1.19 | 1.18 | 1.17 | 1.16 | 1.14 | 1.13 | 1.12 | 1.10 | 1.09 |
| 35          | 1.25                        | 1.24 | 1.23 | 1.23 | 1.22 | 1.22 | 1.21 | 1.20 | 1.19 | 1.18 | 1.17 | 1.15 | 1.14 | 1.12 | 1.11 |
| 30          | 1.26                        | 1.26 | 1.25 | 1.25 | 1.24 | 1.24 | 1.23 | 1.22 | 1.21 | 1.20 | 1.19 | 1.18 | 1.16 | 1.15 | 1.14 |
| 25          | 1.26                        | 1.29 | 1.28 | 1.27 | 1.27 | 1.26 | 1.25 | 1.25 | 1.24 | 1.22 | 1.21 | 1.20 | 1.19 | 1.17 | 1.16 |
| 20          | 1.26                        | 1.30 | 1.30 | 1.30 | 1.29 | 1.29 | 1.28 | 1.27 | 1.26 | 1.25 | 1.24 | 1.23 | 1.21 | 1.20 | 1.19 |
| 15          | 1.26                        | 1.30 | 1.33 | 1.33 | 1.32 | 1.31 | 1.31 | 1.30 | 1.29 | 1.28 | 1.27 | 1.25 | 1.24 | 1.23 | 1.22 |
| 10          | 1.26                        | 1.30 | 1.34 | 1.35 | 1.35 | 1.34 | 1.34 | 1.33 | 1.32 | 1.31 | 1.30 | 1.28 | 1.27 | 1.26 | 1.25 |
| 5           | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.38 | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 | 1.30 | 1.29 | 1.28 |
| 0           | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.40 | 1.39 | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 |
| -5          | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.42 | 1.41 | 1.40 | 1.39 | 1.38 | 1.37 | 1.36 |
| -10         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.49 | 1.48 | 1.47 | 1.46 |
| -15         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.49 | 1.48 | 1.47 | 1.46 |
| -20         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.54 | 1.53 |
| -25         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.56 | 1.57 |
| -30         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.56 | 1.57 |

**EPR Adjustments for Engine Bleeds**

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (1000 FT) |       |       |       |       |       |       |       |       |       |       |       |       |  |
|---------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                           | 0                           | 5     | 10    | 12    | 16    | 18    | 22    | 24    | 26    | 28    | 30    | 32    | 34    |  |
| PACKS OFF                 | 0.01                        | 0.01  | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  | 0.02  | 0.03  | 0.03  | 0.03  | 0.04  | 0.04  |  |
| ENGINE ANTI-ICE ON        | 0.00                        | 0.00  | -0.03 | -0.03 | -0.03 | -0.03 | -0.03 | -0.04 | -0.04 | -0.04 | -0.04 | -0.05 | -0.05 |  |
| ENGINE & WING ANTI-ICE ON | -0.02                       | -0.02 | -0.05 | -0.06 | -0.06 | -0.06 | -0.06 | -0.07 | -0.07 | -0.08 | -0.08 | -0.09 | -0.10 |  |

## 757 Flight Crew Operations Manual

## GEAR DOWN

## Long Range Cruise Altitude Capability

| WEIGHT<br>(1000 LB) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 260                 | 15500                  | 13600      | 10700      |
| 250                 | 17200                  | 15100      | 12800      |
| 240                 | 18900                  | 16900      | 14800      |
| 230                 | 20700                  | 18600      | 16500      |
| 220                 | 22600                  | 20300      | 18400      |
| 210                 | 24800                  | 22100      | 20200      |
| 200                 | 27000                  | 24100      | 22100      |
| 190                 | 29200                  | 26300      | 24000      |
| 180                 | 31500                  | 28700      | 26000      |
| 170                 | 33300                  | 31300      | 28300      |
| 160                 | 34600                  | 33600      | 31100      |
| 150                 | 35700                  | 35500      | 33500      |
| 140                 | 36900                  | 36900      | 35600      |
| 130                 | 38200                  | 38100      | 37000      |
| 120                 | 39500                  | 39400      | 38200      |



## 757 Flight Crew Operations Manual

**GEAR DOWN****Long Range Cruise Control**

| WEIGHT<br>(1000 LB) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|------|------|------|
|                     |        | 10                          | 14   | 18   | 21   | 23   | 25   | 27   | 29   | 31   | 33   | 35   |
| 260                 | EPR    | 1.20                        | 1.25 |      |      |      |      |      |      |      |      |      |
|                     | MACH   | .451                        | .483 |      |      |      |      |      |      |      |      |      |
|                     | KIAS   | 251                         | 250  |      |      |      |      |      |      |      |      |      |
|                     | FF/ENG | 7079                        | 7051 |      |      |      |      |      |      |      |      |      |
| 240                 | EPR    | 1.18                        | 1.22 | 1.29 |      |      |      |      |      |      |      |      |
|                     | MACH   | .434                        | .466 | .506 |      |      |      |      |      |      |      |      |
|                     | KIAS   | 242                         | 241  | 242  |      |      |      |      |      |      |      |      |
|                     | FF/ENG | 6515                        | 6477 | 6483 |      |      |      |      |      |      |      |      |
| 220                 | EPR    | 1.16                        | 1.20 | 1.25 | 1.31 |      |      |      |      |      |      |      |
|                     | MACH   | .417                        | .449 | .482 | .517 |      |      |      |      |      |      |      |
|                     | KIAS   | 232                         | 232  | 231  | 233  |      |      |      |      |      |      |      |
|                     | FF/ENG | 5955                        | 5928 | 5832 | 5934 |      |      |      |      |      |      |      |
| 200                 | EPR    | 1.14                        | 1.17 | 1.22 | 1.26 | 1.30 | 1.35 | 1.40 |      |      |      |      |
|                     | MACH   | .400                        | .430 | .462 | .489 | .514 | .536 | .553 |      |      |      |      |
|                     | KIAS   | 222                         | 222  | 221  | 221  | 223  | 223  | 221  |      |      |      |      |
|                     | FF/ENG | 5409                        | 5371 | 5282 | 5290 | 5363 | 5394 | 5396 |      |      |      |      |
| 180                 | EPR    | 1.12                        | 1.15 | 1.19 | 1.23 | 1.26 | 1.30 | 1.35 | 1.40 | 1.47 |      |      |
|                     | MACH   | .383                        | .409 | .441 | .466 | .484 | .508 | .532 | .550 | .569 |      |      |
|                     | KIAS   | 213                         | 211  | 210  | 210  | 209  | 211  | 212  | 210  | 208  |      |      |
|                     | FF/ENG | 4907                        | 4821 | 4741 | 4714 | 4722 | 4787 | 4828 | 4831 | 4854 |      |      |
| 160                 | EPR    | 1.10                        | 1.13 | 1.16 | 1.19 | 1.22 | 1.25 | 1.29 | 1.33 | 1.38 | 1.45 | 1.55 |
|                     | MACH   | .365                        | .389 | .418 | .442 | .460 | .477 | .500 | .525 | .545 | .564 | .589 |
|                     | KIAS   | 203                         | 200  | 199  | 199  | 198  | 198  | 199  | 200  | 199  | 197  | 197  |
|                     | FF/ENG | 4431                        | 4304 | 4198 | 4183 | 4176 | 4162 | 4210 | 4258 | 4246 | 4279 | 4440 |
| 140                 | EPR    | 1.08                        | 1.11 | 1.13 | 1.16 | 1.18 | 1.21 | 1.24 | 1.27 | 1.32 | 1.37 | 1.43 |
|                     | MACH   | .344                        | .369 | .396 | .420 | .437 | .456 | .475 | .495 | .517 | .539 | .563 |
|                     | KIAS   | 191                         | 190  | 188  | 188  | 188  | 188  | 188  | 188  | 188  | 188  | 188  |
|                     | FF/ENG | 3928                        | 3828 | 3705 | 3692 | 3694 | 3693 | 3696 | 3713 | 3704 | 3717 | 3780 |
| 120                 | EPR    | 1.07                        | 1.09 | 1.11 | 1.13 | 1.15 | 1.17 | 1.20 | 1.23 | 1.26 | 1.30 | 1.35 |
|                     | MACH   | .323                        | .349 | .377 | .400 | .417 | .434 | .453 | .472 | .493 | .514 | .537 |
|                     | KIAS   | 179                         | 179  | 179  | 179  | 179  | 179  | 179  | 179  | 179  | 179  | 179  |
|                     | FF/ENG | 3456                        | 3380 | 3325 | 3294 | 3291 | 3288 | 3287 | 3287 | 3267 | 3258 | 3258 |

757 Flight Crew Operations Manual

**GEAR DOWN**

**Long Range Cruise Enroute Fuel and Time  
Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 329                      | 293  | 262  | 237  | 217  | 200                        | 188                      | 178  | 168  | 160  | 153  |
| 664                      | 590  | 527  | 477  | 436  | 400                        | 377                      | 357  | 338  | 321  | 306  |
| 1002                     | 889  | 792  | 716  | 654  | 600                        | 566                      | 534  | 506  | 481  | 459  |
| 1345                     | 1192 | 1060 | 957  | 873  | 800                        | 754                      | 712  | 675  | 641  | 612  |
| 1693                     | 1497 | 1330 | 1199 | 1092 | 1000                       | 943                      | 890  | 843  | 801  | 764  |
| 2045                     | 1805 | 1601 | 1441 | 1312 | 1200                       | 1131                     | 1067 | 1010 | 960  | 915  |
| 2404                     | 2118 | 1875 | 1685 | 1532 | 1400                       | 1318                     | 1244 | 1178 | 1118 | 1066 |
| 2768                     | 2434 | 2150 | 1930 | 1753 | 1600                       | 1506                     | 1420 | 1344 | 1276 | 1216 |
| 3140                     | 2756 | 2429 | 2177 | 1975 | 1800                       | 1693                     | 1597 | 1510 | 1432 | 1365 |

**Reference Fuel and Time Required at Check Point**

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 10                          |                  | 14                |                  | 18                |                  | 22                |                  | 28                |                  |
|                     | FUEL<br>(1000 LB)           | TIME<br>(HR:MIN) | FUEL<br>(1000 LB) | TIME<br>(HR:MIN) | FUEL<br>(1000 LB) | TIME<br>(HR:MIN) | FUEL<br>(1000 LB) | TIME<br>(HR:MIN) | FUEL<br>(1000 LB) | TIME<br>(HR:MIN) |
| 200                 | 7.9                         | 0:51             | 7.2               | 0:49             | 6.5               | 0:47             | 6.0               | 0:45             | 5.3               | 0:42             |
| 400                 | 16.2                        | 1:40             | 15.0              | 1:35             | 13.7              | 1:30             | 12.8              | 1:25             | 11.6              | 1:19             |
| 600                 | 24.2                        | 2:29             | 22.5              | 2:21             | 20.7              | 2:14             | 19.4              | 2:07             | 17.7              | 1:56             |
| 800                 | 32.1                        | 3:19             | 29.9              | 3:09             | 27.6              | 2:58             | 25.9              | 2:48             | 23.7              | 2:33             |
| 1000                | 39.8                        | 4:10             | 37.1              | 3:57             | 34.3              | 3:43             | 32.2              | 3:31             | 29.6              | 3:11             |
| 1200                | 47.3                        | 5:02             | 44.1              | 4:46             | 40.9              | 4:30             | 38.4              | 4:14             | 35.4              | 3:50             |
| 1400                | 54.7                        | 5:55             | 51.0              | 5:36             | 47.3              | 5:17             | 44.5              | 4:58             | 41.0              | 4:29             |
| 1600                | 61.9                        | 6:49             | 57.8              | 6:27             | 53.6              | 6:04             | 50.4              | 5:43             | 46.5              | 5:09             |
| 1800                | 69.0                        | 7:45             | 64.4              | 7:19             | 59.7              | 6:53             | 56.2              | 6:28             | 51.9              | 5:50             |

**Fuel Required Adjustment (1000 LB)**

| REFERENCE FUEL REQUIRED<br>(1000 LB) | WEIGHT AT CHECK POINT (1000 LB) |      |     |     |     |      |
|--------------------------------------|---------------------------------|------|-----|-----|-----|------|
|                                      | 160                             | 180  | 200 | 220 | 240 | 260  |
| 10                                   | -0.9                            | -0.5 | 0.0 | 0.8 | 1.7 | 2.6  |
| 20                                   | -2.0                            | -1.0 | 0.0 | 1.6 | 3.4 | 5.3  |
| 30                                   | -3.0                            | -1.5 | 0.0 | 2.3 | 5.0 | 7.8  |
| 40                                   | -4.1                            | -2.0 | 0.0 | 3.0 | 6.5 | 10.1 |
| 50                                   | -5.1                            | -2.6 | 0.0 | 3.6 | 7.8 | 12.2 |
| 60                                   | -6.2                            | -3.1 | 0.0 | 4.2 | 8.9 | 14.1 |
| 70                                   | -7.2                            | -3.6 | 0.0 | 4.8 | 9.9 | 15.8 |



757 Flight Crew Operations Manual

GEAR DOWN

Descent at VREF30+80

|                             |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| PRESSURE ALTITUDE (1000 FT) | 5  | 10 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 |
| DISTANCE (NM)               | 12 | 22 | 31 | 35 | 39 | 42 | 46 | 50 | 54 | 58 | 62 | 66 | 70 |
| TIME (MINUTES)              | 7  | 9  | 12 | 13 | 14 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 20 |

## 757 Flight Crew Operations Manual

# GEAR DOWN

## Holding Flaps Up

| WEIGHT<br>(1000 LB) |        | PRESSURE ALTITUDE (FT) |      |       |       |       |       |       |
|---------------------|--------|------------------------|------|-------|-------|-------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 | 20000 | 25000 | 30000 |
| 260                 | EPR    | 1.12                   | 1.14 | 1.19  | 1.25  |       |       |       |
|                     | KIAS   | 235                    | 235  | 235   | 235   |       |       |       |
|                     | FF/ENG | 7030                   | 6940 | 6900  | 6850  |       |       |       |
| 240                 | EPR    | 1.11                   | 1.13 | 1.17  | 1.22  | 1.31  |       |       |
|                     | KIAS   | 228                    | 228  | 228   | 228   | 228   |       |       |
|                     | FF/ENG | 6590                   | 6430 | 6380  | 6320  | 6370  |       |       |
| 220                 | EPR    | 1.09                   | 1.11 | 1.15  | 1.20  | 1.27  |       |       |
|                     | KIAS   | 220                    | 220  | 220   | 220   | 220   |       |       |
|                     | FF/ENG | 6130                   | 5990 | 5880  | 5800  | 5830  |       |       |
| 200                 | EPR    | 1.08                   | 1.10 | 1.13  | 1.17  | 1.24  | 1.33  |       |
|                     | KIAS   | 213                    | 213  | 213   | 213   | 213   | 213   |       |
|                     | FF/ENG | 5660                   | 5570 | 5390  | 5310  | 5300  | 5360  |       |
| 180                 | EPR    | 1.07                   | 1.09 | 1.11  | 1.15  | 1.21  | 1.29  | 1.42  |
|                     | KIAS   | 205                    | 205  | 205   | 205   | 205   | 205   | 205   |
|                     | FF/ENG | 5210                   | 5110 | 4930  | 4830  | 4810  | 4850  | 4940  |
| 160                 | EPR    | 1.06                   | 1.07 | 1.10  | 1.13  | 1.18  | 1.25  | 1.35  |
|                     | KIAS   | 197                    | 197  | 197   | 197   | 197   | 197   | 197   |
|                     | FF/ENG | 4740                   | 4670 | 4490  | 4370  | 4340  | 4350  | 4370  |
| 140                 | EPR    | 1.05                   | 1.06 | 1.08  | 1.11  | 1.15  | 1.21  | 1.29  |
|                     | KIAS   | 188                    | 188  | 188   | 188   | 188   | 188   | 188   |
|                     | FF/ENG | 4290                   | 4220 | 4060  | 3930  | 3880  | 3880  | 3900  |
| 120                 | EPR    | 1.04                   | 1.05 | 1.07  | 1.09  | 1.12  | 1.17  | 1.24  |
|                     | KIAS   | 179                    | 179  | 179   | 179   | 179   | 179   | 179   |
|                     | FF/ENG | 3850                   | 3770 | 3630  | 3500  | 3460  | 3450  | 3460  |

This table includes 5% additional fuel for holding in a racetrack pattern.



Performance Inflight - QRH

Chapter PI-QRH

Gear Down, Engine Inop

Section 14

GEAR DOWN

ENGINE INOP

MAX CONTINUOUS THRUST

Driftdown Speed/Level Off Altitude

100 ft/min residual rate of climb

Includes APU fuel burn

| WEIGHT (1000 LB)   |              | OPTIMUM<br>DRIFTDOWN<br>SPEED<br>(KIAS) | LEVEL OFF ALTITUDE (FT) |            |            |
|--------------------|--------------|-----------------------------------------|-------------------------|------------|------------|
| START<br>DRIFTDOWN | LEVEL<br>OFF |                                         | ISA + 10°C<br>& BELOW   | ISA + 15°C | ISA + 20°C |
| 220                | 208          | 218                                     | 6000                    | 2700       |            |
| 200                | 190          | 210                                     | 10000                   | 7800       | 5300       |
| 180                | 172          | 203                                     | 13700                   | 11900      | 9700       |
| 160                | 153          | 195                                     | 17300                   | 15800      | 14100      |
| 140                | 134          | 187                                     | 20600                   | 19700      | 18300      |

## 757 Flight Crew Operations Manual

## GEAR DOWN

## ENGINE INOP

### MAX CONTINUOUS THRUST

## Long Range Cruise Altitude Capability

**100 ft/min residual rate of climb**

| WEIGHT<br>(1000 LB) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 200                 | 6200                   |            |            |
| 190                 | 9100                   | 5700       |            |
| 180                 | 11800                  | 9000       | 5800       |
| 170                 | 14100                  | 12000      | 8800       |
| 160                 | 16000                  | 14400      | 12200      |
| 150                 | 17900                  | 16400      | 14600      |
| 140                 | 19800                  | 18500      | 16800      |
| 130                 | 21400                  | 20500      | 19200      |
| 120                 | 22900                  | 22000      | 21000      |

**With engine bleed for packs off, increase altitude capability by 100 ft.**

With engine anti-ice on, decrease altitude capability by 5100 ft.

**With engine and wing anti-ice on, decrease altitude capability by 8900 ft.**



757 Flight Crew Operations Manual

**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Control**

| WEIGHT<br>(1000 LB) |        | PRESSURE ALTITUDE (1000 FT) |       |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|-------|------|------|------|------|------|------|
|                     |        | 6                           | 8     | 10   | 12   | 14   | 16   | 18   | 20   |
| 200                 | EPR    | 1.36                        | 1.40  |      |      |      |      |      |      |
|                     | MACH   | .368                        | .378  |      |      |      |      |      |      |
|                     | KIAS   | 220                         | 218   |      |      |      |      |      |      |
|                     | FF/ENG | 10640                       | 10565 |      |      |      |      |      |      |
| 180                 | EPR    | 1.32                        | 1.35  | 1.39 | 1.43 |      |      |      |      |
|                     | MACH   | .353                        | .364  | .374 | .385 |      |      |      |      |
|                     | KIAS   | 211                         | 210   | 208  | 206  |      |      |      |      |
|                     | FF/ENG | 9622                        | 9548  | 9443 | 9407 |      |      |      |      |
| 160                 | EPR    | 1.27                        | 1.30  | 1.33 | 1.37 | 1.41 | 1.47 |      |      |
|                     | MACH   | .334                        | .346  | .358 | .369 | .382 | .397 |      |      |
|                     | KIAS   | 200                         | 199   | 199  | 197  | 197  | 197  |      |      |
|                     | FF/ENG | 8498                        | 8488  | 8450 | 8352 | 8379 | 8418 |      |      |
| 140                 | EPR    | 1.23                        | 1.25  | 1.28 | 1.31 | 1.35 | 1.40 | 1.45 | 1.52 |
|                     | MACH   | .315                        | .327  | .339 | .352 | .366 | .380 | .396 | .412 |
|                     | KIAS   | 188                         | 188   | 188  | 188  | 188  | 188  | 188  | 188  |
|                     | FF/ENG | 7481                        | 7445  | 7432 | 7423 | 7423 | 7375 | 7448 | 7644 |
| 120                 | EPR    | 1.19                        | 1.21  | 1.24 | 1.26 | 1.30 | 1.33 | 1.37 | 1.42 |
|                     | MACH   | .300                        | .311  | .323 | .335 | .349 | .362 | .377 | .392 |
|                     | KIAS   | 179                         | 179   | 179  | 179  | 179  | 179  | 179  | 179  |
|                     | FF/ENG | 6612                        | 6590  | 6559 | 6520 | 6536 | 6457 | 6465 | 6502 |

**GEAR DOWN**

**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Diversion Fuel and Time  
Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |     |     | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |     |     |     |     |
|--------------------------|------|------|-----|-----|----------------------------|--------------------------|-----|-----|-----|-----|
| HEADWIND COMPONENT (KTS) |      |      |     |     |                            | TAILWIND COMPONENT (KTS) |     |     |     |     |
| 100                      | 80   | 60   | 40  | 20  |                            | 20                       | 40  | 60  | 80  | 100 |
| 169                      | 149  | 132  | 119 | 109 | 100                        | 93                       | 88  | 83  | 78  | 75  |
| 343                      | 302  | 267  | 240 | 219 | 200                        | 187                      | 175 | 165 | 156 | 148 |
| 518                      | 455  | 402  | 361 | 328 | 300                        | 281                      | 263 | 247 | 234 | 222 |
| 694                      | 610  | 538  | 483 | 438 | 400                        | 374                      | 350 | 329 | 311 | 295 |
| 872                      | 765  | 674  | 604 | 548 | 500                        | 467                      | 438 | 411 | 388 | 368 |
| 1051                     | 921  | 811  | 726 | 658 | 600                        | 560                      | 524 | 492 | 464 | 440 |
| 1232                     | 1078 | 948  | 848 | 769 | 700                        | 653                      | 611 | 574 | 541 | 513 |
| 1415                     | 1237 | 1087 | 971 | 879 | 800                        | 746                      | 698 | 655 | 617 | 585 |

**Reference Fuel and Time Required at Check Point**

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 6                           |                  | 10                |                  | 14                |                  | 18                |                  |
|                     | FUEL<br>(1000 LB)           | TIME<br>(HR:MIN) | FUEL<br>(1000 LB) | TIME<br>(HR:MIN) | FUEL<br>(1000 LB) | TIME<br>(HR:MIN) | FUEL<br>(1000 LB) | TIME<br>(HR:MIN) |
| 100                 | 4.3                         | 0:29             | 3.8               | 0:28             | 3.4               | 0:27             | 3.2               | 0:26             |
| 200                 | 8.8                         | 0:54             | 8.0               | 0:53             | 7.6               | 0:51             | 7.3               | 0:47             |
| 300                 | 13.2                        | 1:20             | 12.2              | 1:17             | 11.6              | 1:14             | 11.3              | 1:09             |
| 400                 | 17.6                        | 1:46             | 16.3              | 1:42             | 15.6              | 1:38             | 15.2              | 1:31             |
| 500                 | 21.9                        | 2:12             | 20.4              | 2:07             | 19.5              | 2:02             | 19.1              | 1:53             |
| 600                 | 26.1                        | 2:39             | 24.4              | 2:32             | 23.3              | 2:26             | 22.9              | 2:16             |
| 700                 | 30.4                        | 3:06             | 28.4              | 2:58             | 27.1              | 2:50             | 26.6              | 2:39             |
| 800                 | 34.5                        | 3:33             | 32.3              | 3:23             | 30.9              | 3:15             | 30.3              | 3:02             |

**Fuel Required Adjustment (1000 LB)**

| REFERENCE FUEL REQUIRED<br>(1000 LB) | WEIGHT AT CHECK POINT (1000 LB) |      |     |     |     |
|--------------------------------------|---------------------------------|------|-----|-----|-----|
|                                      | 160                             | 180  | 200 | 220 | 240 |
| 5                                    | -0.5                            | -0.2 | 0.0 | 0.4 | 1.0 |
| 10                                   | -1.1                            | -0.5 | 0.0 | 0.8 | 2.0 |
| 15                                   | -1.6                            | -0.8 | 0.0 | 1.3 | 3.0 |
| 20                                   | -2.2                            | -1.1 | 0.0 | 1.7 | 3.9 |
| 25                                   | -2.8                            | -1.4 | 0.0 | 2.2 | 4.8 |
| 30                                   | -3.3                            | -1.6 | 0.0 | 2.7 | 5.7 |
| 35                                   | -3.9                            | -1.9 | 0.0 | 3.1 | 6.5 |

Includes APU fuel burn.





757 Flight Crew Operations Manual

**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Holding  
Flaps Up**

| WEIGHT<br>(1000 LB) |        | PRESSURE ALTITUDE (FT) |       |       |       |
|---------------------|--------|------------------------|-------|-------|-------|
|                     |        | 1500                   | 5000  | 10000 | 15000 |
| 220                 | EPR    | 1.31                   | 1.37  |       |       |
|                     | KIAS   | 220                    | 220   |       |       |
|                     | FF/ENG | 11760                  | 11740 |       |       |
| 200                 | EPR    | 1.27                   | 1.33  |       |       |
|                     | KIAS   | 213                    | 213   |       |       |
|                     | FF/ENG | 10730                  | 10720 |       |       |
| 180                 | EPR    | 1.24                   | 1.29  | 1.38  |       |
|                     | KIAS   | 205                    | 205   | 205   |       |
|                     | FF/ENG | 9780                   | 9740  | 9730  |       |
| 160                 | EPR    | 1.21                   | 1.25  | 1.33  | 1.44  |
|                     | KIAS   | 197                    | 197   | 197   | 197   |
|                     | FF/ENG | 8850                   | 8780  | 8750  | 8760  |
| 140                 | EPR    | 1.18                   | 1.22  | 1.28  | 1.37  |
|                     | KIAS   | 188                    | 188   | 188   | 188   |
|                     | FF/ENG | 7910                   | 7870  | 7800  | 7730  |
| 120                 | EPR    | 1.15                   | 1.18  | 1.24  | 1.31  |
|                     | KIAS   | 179                    | 179   | 179   | 179   |
|                     | FF/ENG | 6970                   | 6950  | 6890  | 6790  |

This table includes 5% additional fuel for holding in a racetrack pattern.

**757 Flight Crew Operations Manual**

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## Performance Inflight - QRH

## Chapter PI-QRH

### Text

### Section 15

## Introduction

This chapter contains information to supplement performance data from the Flight Management Computer (FMC). In addition, sufficient inflight data is provided to complete a flight with the FMC inoperative. In the event of conflict between data presented in this chapter and that contained in the approved Airplane Flight Manual, the Flight Manual shall always take precedence.

## General

### Flight with Unreliable Airspeed / Turbulent Air Penetration

Pitch attitude and average EPR information is provided for use in all phases of flight in the event of unreliable airspeed/Mach indications resulting from blocking or freezing of the pitot system. Loss of radome or turbulent air may also cause unreliable airspeed/Mach indications. The cruise table in this section may also be used for turbulent air penetration.

Pitch attitude is shown in bold type for emphasis since altitude and/or vertical speed indications may also be unreliable.

### Max Climb EPR

This table shows Max Climb EPR for a 250/290/.78 climb speed schedule, normal engine bleed for packs on and anti-ice off. Enter the table with airport pressure altitude and TAT and read EPR. EPR adjustments are shown for packs off and anti-ice operation.

### VREF

This table contains flaps 30, 25 and 20 reference speeds for a given weight.

## Advisory Information

### Normal Configuration Landing Distance

Tables are provided as advisory information for normal configuration landing distance on dry runways and slippery runways with good, medium, and poor reported braking action. These values are actual landing distances and do not include the 1.67 regulatory factor. Therefore, they cannot be used to determine the dispatch required landing field length.

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To use these tables, determine the reference landing distance for the selected braking configuration. Then adjust the reference distance for landing weight, altitude, wind, slope, temperature, approach speed, and the number of operative thrust reversers to obtain the actual landing distance.

When landing on slippery runways or runways contaminated with ice, snow, slush, or standing water, the reported braking action must be considered. If the surface is affected by water, snow, or ice and the braking action is reported as "good", conditions should not be expected to be as good as on clean, dry runways. The value "good" is comparative and is intended to mean that airplanes should not experience braking or directional control difficulties when landing. The performance level used to calculate the "good" data is consistent with wet runway testing done on early Boeing jets. The performance level used to calculate "poor" data reflects runways covered with wet ice.

Use of the autobrake system commands the airplane to a constant deceleration rate. In some conditions, such as a runway with "poor" braking action, the airplane may not be able to achieve these deceleration rates. In these cases, runway slope and inoperative reversers influence the stopping distance. Since it cannot be determined quickly when this becomes a factor, it is conservative to add the effects of slope and inoperative reversers when using the autobrake system.

### Non-normal Configuration Landing Distance

Advisory information is provided to support non-normal configurations that affect the landing performance of the airplane. Landing distances and adjustments are provided for dry runways and runways with good, medium, and poor reported braking action.

Enter the table with the applicable non-normal configuration and read the normal approach speed. The reference landing distance is a reference distance from 50 ft above the threshold to stop based on a reference landing weight and speed at sea level, zero wind, and zero slope. Subsequent columns provide adjustments for off-reference landing weight, altitude, wind, slope, and speed conditions. Each adjustment is independently added to the reference landing distance. Landing distance includes the effects of max manual braking and reverse thrust.

### Recommended Brake Cooling Schedule

Advisory information is provided to assist in avoiding the problems associated with hot brakes. For normal operation, most landings are at weights below the AFM quick turnaround limit weight.

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Use of the recommended cooling schedule will help avoid brake overheat and fuse plug problems that could result from repeated landings at short time intervals or a rejected takeoff.

Enter the Recommended Brake Cooling Schedule table with the airplane weight and brakes on speed, adjusted for wind, at the appropriate temperature and altitude condition. Instructions for applying wind adjustments are included below the table. Linear interpolation may be used to obtain intermediate values. The resulting number is the reference brake energy per brake in millions of foot-pounds, and represents the amount of energy absorbed by each brake during a rejected takeoff

To determine the energy per brake absorbed during landing, enter the appropriate Adjusted Brake Energy Per Brake table (No Reverse Thrust or Two Engine Reverse) with the reference brake energy per brake and the type of braking used during landing (Max Manual, Max Auto, or Autobrake). The resulting number is the adjusted brake energy per brake and represents the energy absorbed in each brake during the landing.

The recommended cooling time is found in the final table by entering with the adjusted brake energy per brake or brake temperature monitor system (BTMS) indication on EICAS. Times are provided for ground cooling and inflight gear down cooling.

If brake temperature monitor indication on EICAS is available, the hottest brake indication 10 to 15 minutes after the airplane has come to a complete stop, or inflight with gear retracted, may be used to determine the recommended cooling schedule by entering at the bottom of the chart. The brake temperature light illuminates when the hottest brake is registering 5 on the EICAS indication and extinguishes as the hottest brake cools with an EICAS indication of 4.

---

## **Engine Inoperative**

### **Initial Max Continuous EPR**

The Initial Max Continuous EPR setting for use following an engine failure is shown. The table shows a range of Cruise Mach numbers to provide a target EPR setting at the start of driftdown. Also shown is the maximum TAT at which the limit EPR can be set. Once driftdown is established, the Max Continuous EPR table should be used to determine EPR for the given conditions.

## 757 Flight Crew Operations Manual

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### Max Continuous EPR

Power setting is based on one engine operating with one A/C pack operating and all anti-ice bleeds off. Enter the table with pressure altitude and IAS or Mach to read EPR.

It is desirable to maintain engine thrust level within the limits of the Max Cruise thrust rating. However, where thrust level in excess of Max Cruise rating is required, such as for meeting terrain clearance, ATC altitude assignments, or to attain maximum range capability, it is permissible to use the thrust needed up to the Max Continuous thrust rating. The Max Continuous thrust rating is intended primarily for emergency use at the discretion of the pilot and is the maximum thrust that may be used continuously.

### Driftdown Speed/Level Off Altitude

The table shows optimum driftdown speed as a function of cruise weight at start of driftdown. Also shown are the approximate weight and pressure altitude at which the airplane will level off considering 100 ft/min residual rate of climb.

The level off altitude is dependent on air temperature (ISA deviation).

### Driftdown/LRC Range Capability

This table shows the range capability from the start of driftdown. Driftdown is continued to level off altitude. As weight decreases due to fuel burn, the airplane is accelerated to Long Range Cruise speed. Cruise is continued at level off altitude and Long Range Cruise speed.

To determine fuel required, enter the Ground to Air Miles Conversion table with the desired ground distance and adjust for anticipated winds to obtain air distance to destination. Then enter the Driftdown/Cruise Fuel and Time table with air distance and weight at start of driftdown to determine fuel and time required. If altitudes other than the level off altitude are used, fuel and time required may be obtained by using the Engine Inoperative Long Range Cruise Enroute Fuel and Time table.

### Long Range Cruise Altitude Capability

The table shows the maximum altitude that can be maintained at a given weight and air temperature (ISA deviation), based on Long Range Cruise speed, Max Continuous thrust, and 100 ft/min residual rate of climb.

### Long Range Cruise Control

The table provides target EPR, engine inoperative Long Range Cruise Mach number, IAS and fuel flow for the airplane weight and pressure altitude. The fuel flow values in this table reflect single engine fuel burn.

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**Long Range Cruise Diversion Fuel and Time**

Tables are provided for crews to determine the fuel and time required to proceed to an alternate airfield with one engine inoperative. The data is based on single engine Long Range Cruise speed and .78/290/250 descent. Enter with Air Distance as determined from the Ground to Air Miles Conversion table and read Fuel and Time required at the cruise pressure altitude. Adjust the fuel obtained for deviation from the reference weight at checkpoint as required by entering the Fuel Required Adjustment table with the fuel required for the reference weight and the actual weight at checkpoint.

**Holding**

Target EPR, indicated airspeed and fuel flow per engine information is tabulated for holding with flaps up based on the FMC optimum holding speed schedule. This is the higher of the maximum endurance speed and the maneuvering speed. Small variations in airspeed will not appreciably affect the overall endurance time. Enter the table with weight and pressure altitude to read EPR, IAS and fuel flow per engine.

---

**Gear Down**

This section contains performance for airplane operation with the landing gear extended for all phases of flight. The data is based on engine bleeds for normal air conditioning.

NOTE: The Flight Management Computer System (FMCS) does not contain special provisions for operation with landing gear extended. As a result, the FMCS will generate inaccurate enroute speed schedules, display non-conservative predictions of fuel burn, estimated time of arrival (ETA), maximum altitude, and compute overly shallow descent path. To obtain accurate ETA predictions, gear down cruise speed and altitude should be entered on the CLB and CRZ pages. Gear down cruise speed should also be entered on the DES page and a STEP SIZE of zero should be entered on the PERF INIT or CRZ page. Use of the VNAV during descent under these circumstances is not recommended.

Tables for gear down performance in this section are identical in format and used in the same manner as tables for the gear up configuration previously described.

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# Performance Inflight - QRH

## General

# Chapter PI-QRH

## Section 20

### Flight With Unreliable Airspeed / Turbulent Air Penetration

Altitude and/or vertical speed indications may also be unreliable.

#### Climb (290/.78)

#### Flaps Up, Set Max Climb Thrust

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |            |            |
|---------------------------|------------------|------------------|-------------|------------|------------|
|                           |                  | 60               | 80          | 100        | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>4.5</b>       | <b>4.0</b>  |            |            |
|                           | V/S (FT/MIN)     | 1800             | 800         |            |            |
| 30000                     | <b>PITCH ATT</b> | <b>4.0</b>       | <b>4.0</b>  | <b>3.5</b> | <b>4.0</b> |
|                           | V/S (FT/MIN)     | 2400             | 1600        | 1100       | 600        |
| 20000                     | <b>PITCH ATT</b> | <b>7.0</b>       | <b>6.0</b>  | <b>5.5</b> | <b>5.5</b> |
|                           | V/S (FT/MIN)     | 3700             | 2600        | 1900       | 1400       |
| 10000                     | <b>PITCH ATT</b> | <b>9.5</b>       | <b>8.0</b>  | <b>7.5</b> | <b>7.0</b> |
|                           | V/S (FT/MIN)     | 4900             | 3500        | 2700       | 2000       |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>13.0</b>      | <b>10.5</b> | <b>9.5</b> | <b>8.5</b> |
|                           | V/S (FT/MIN)     | 6000             | 4300        | 3300       | 2600       |

#### Cruise (.78/290)

#### Flaps Up, EPR for Level Flight

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |            |            |            |
|---------------------------|------------------|------------------|------------|------------|------------|
|                           |                  | 60               | 80         | 100        | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>2.0</b>       | <b>3.0</b> |            |            |
|                           | EPR              | 1.13             | 1.25       |            |            |
|                           | (Alt Mode %N1)   | (76.4)           | (80.9)     |            |            |
| 35000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.5</b> | <b>3.0</b> |            |
|                           | EPR              | 1.07             | 1.13       | 1.23       |            |
|                           | (Alt Mode %N1)   | (74.2)           | (76.9)     | (80.4)     |            |
| 30000                     | <b>PITCH ATT</b> | <b>1.0</b>       | <b>1.5</b> | <b>2.5</b> | <b>3.0</b> |
|                           | EPR              | 1.03             | 1.06       | 1.11       | 1.19       |
|                           | (Alt Mode %N1)   | (73.6)           | (75.2)     | (77.5)     | (80.5)     |
| 25000                     | <b>PITCH ATT</b> | <b>1.0</b>       | <b>2.0</b> | <b>2.5</b> | <b>3.5</b> |
|                           | EPR              | 0.99             | 1.01       | 1.05       | 1.10       |
|                           | (Alt Mode %N1)   | (70.0)           | (71.7)     | (73.9)     | (76.6)     |
| 20000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.0</b> | <b>2.5</b> | <b>3.5</b> |
|                           | EPR              | 0.98             | 0.99       | 1.02       | 1.06       |
|                           | (Alt Mode %N1)   | (67.0)           | (68.3)     | (70.5)     | (73.1)     |
| 15000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.0</b> | <b>3.0</b> | <b>3.5</b> |
|                           | EPR              | 0.97             | 0.98       | 1.00       | 1.03       |
|                           | (Alt Mode %N1)   | (63.8)           | (65.2)     | (67.2)     | (69.7)     |

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### Flight With Unreliable Airspeed / Turbulent Air Penetration

Altitude and/or vertical speed indications may also be unreliable.

Descent (.78/290)

Flaps Up, Set Idle Thrust

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |            |            |
|---------------------------|------------------|------------------|-------------|------------|------------|
|                           |                  | 60               | 80          | 100        | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>-1.0</b>      | <b>0.0</b>  |            |            |
|                           | V/S (FT/MIN)     | -2300            | -2300       |            |            |
| 30000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>0.5</b> |
|                           | V/S (FT/MIN)     | -2800            | -2300       | -2100      | -2000      |
| 20000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -2600            | -2100       | -1900      | -1800      |
| 10000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -2200            | -1800       | -1600      | -1600      |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -1900            | -1600       | -1400      | -1400      |

### Holding

Flaps Up, EPR for Level Flight

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |            |            |            |
|---------------------------|------------------|------------------|------------|------------|------------|
|                           |                  | 60               | 80         | 100        | 120        |
| 10000                     | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.5</b> | <b>6.0</b> | <b>6.0</b> |
|                           | EPR              | 1.01             | 1.02       | 1.03       | 1.04       |
|                           | (Alt Mode %N1)   | (49.7)           | (55.9)     | (61.0)     | (65.3)     |
|                           | KIAS             | 185              | 204        | 223        | 244        |
| 5000                      | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.5</b> | <b>6.0</b> | <b>6.0</b> |
|                           | EPR              | 1.00             | 1.01       | 1.02       | 1.03       |
|                           | (Alt Mode %N1)   | (46.7)           | (52.4)     | (57.5)     | (61.8)     |
|                           | KIAS             | 185              | 204        | 222        | 243        |

### Terminal Area (5000 FT)

EPR for Level Flight

| FLAP POSITION<br>(VREF + INCREMENT)      |                  | WEIGHT (1000 KG) |            |            |            |
|------------------------------------------|------------------|------------------|------------|------------|------------|
|                                          |                  | 60               | 80         | 100        | 120        |
| FLAPS UP<br>(GEAR UP)<br>(VREF30 + 80)   | <b>PITCH ATT</b> | <b>5.0</b>       | <b>6.0</b> | <b>6.5</b> | <b>6.5</b> |
|                                          | EPR              | 1.01             | 1.02       | 1.03       | 1.04       |
|                                          | KIAS             | 185              | 204        | 221        | 238        |
|                                          | (Alt Mode %N1)   | (44.4)           | (51.2)     | (56.4)     | (61.5)     |
| FLAPS 1<br>(GEAR UP)<br>(VREF30 + 60)    | <b>PITCH ATT</b> | <b>6.5</b>       | <b>7.0</b> | <b>7.5</b> | <b>8.0</b> |
|                                          | EPR              | 1.02             | 1.04       | 1.05       | 1.07       |
|                                          | KIAS             | 165              | 184        | 201        | 218        |
|                                          | (Alt Mode %N1)   | (45.9)           | (52.4)     | (58.2)     | (63.7)     |
| FLAPS 5<br>(GEAR UP)<br>(VREF30 + 40)    | <b>PITCH ATT</b> | <b>7.0</b>       | <b>7.0</b> | <b>7.5</b> | <b>7.5</b> |
|                                          | EPR              | 1.03             | 1.05       | 1.07       | 1.09       |
|                                          | KIAS             | 145              | 164        | 181        | 197        |
|                                          | (Alt Mode %N1)   | (46.0)           | (53.0)     | (59.7)     | (64.5)     |
| FLAPS 15<br>(GEAR UP)<br>(VREF30 + 20)   | <b>PITCH ATT</b> | <b>8.0</b>       | <b>8.0</b> | <b>8.0</b> | <b>8.0</b> |
|                                          | EPR              | 1.05             | 1.07       | 1.10       | 1.13       |
|                                          | KIAS             | 125              | 144        | 161        | 177        |
|                                          | (Alt Mode %N1)   | (47.5)           | (55.4)     | (62.0)     | (66.6)     |
| FLAPS 20<br>(GEAR DOWN)<br>(VREF30 + 20) | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.5</b> | <b>5.5</b> | <b>5.0</b> |
|                                          | EPR              | 1.07             | 1.12       | 1.14       | 1.18       |
|                                          | KIAS             | 125              | 144        | 161        | 177        |
|                                          | (Alt Mode %N1)   | (53.4)           | (61.7)     | (67.8)     | (72.7)     |

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**Flight With Unreliable Airspeed / Turbulent Air Penetration**

Altitude and/or vertical speed indications may also be unreliable.

**Final Approach (1500 FT)****Gear Down, EPR for 3° Glideslope**

| FLAP POSITION<br>(VREF + INCREMENT) |                  | WEIGHT (1000 KG) |            |            |            |
|-------------------------------------|------------------|------------------|------------|------------|------------|
|                                     |                  | 60               | 80         | 100        | 120        |
| FLAPS 20<br>(VREF20 + 10)           | <b>PITCH ATT</b> | <b>2.0</b>       | <b>2.0</b> | <b>2.0</b> | <b>2.0</b> |
|                                     | EPR              | 1.02             | 1.03       | 1.04       | 1.05       |
|                                     | KIAS             | 126              | 145        | 162        | 177        |
|                                     | (Alt Mode %N1)   | (38.3)           | (43.5)     | (48.4)     | (52.8)     |
| FLAPS 25<br>(VREF25 + 10)           | <b>PITCH ATT</b> | <b>2.5</b>       | <b>2.5</b> | <b>2.5</b> | <b>2.5</b> |
|                                     | EPR              | 1.03             | 1.04       | 1.06       | 1.07       |
|                                     | KIAS             | 118              | 136        | 153        | 168        |
|                                     | (Alt Mode %N1)   | (40.8)           | (47.1)     | (52.8)     | (58.2)     |
| FLAPS 30<br>(VREF30 + 10)           | <b>PITCH ATT</b> | <b>1.0</b>       | <b>1.0</b> | <b>0.5</b> | <b>0.5</b> |
|                                     | EPR              | 1.04             | 1.06       | 1.08       | 1.12       |
|                                     | KIAS             | 115              | 134        | 151        | 167        |
|                                     | (Alt Mode %N1)   | (44.1)           | (51.5)     | (58.3)     | (63.5)     |

**Go-Around (VREF 30 + 20)****Flaps 20, Gear Up, Set Go-Around Thrust (Normal Mode)**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |             |             |             |
|---------------------------|------------------|------------------|-------------|-------------|-------------|-------------|
|                           |                  | 60               | 80          | 100         | 120         | 140         |
| 10000                     | <b>PITCH ATT</b> | <b>21.5</b>      | <b>15.5</b> | <b>12.0</b> | <b>9.5</b>  | <b>8.0</b>  |
|                           | V/S (FT/MIN)     | 4800             | 3600        | 2800        | 2100        | 1600        |
|                           | KIAS             | 134              | 153         | 170         | 185         | 199         |
| 5000                      | <b>PITCH ATT</b> | <b>25.0</b>      | <b>18.0</b> | <b>14.0</b> | <b>11.0</b> | <b>9.5</b>  |
|                           | V/S (FT/MIN)     | 5300             | 4000        | 3200        | 2500        | 2000        |
|                           | KIAS             | 134              | 153         | 170         | 185         | 198         |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>28.0</b>      | <b>20.0</b> | <b>15.5</b> | <b>12.5</b> | <b>10.5</b> |
|                           | V/S (FT/MIN)     | 5600             | 4300        | 3400        | 2700        | 2200        |
|                           | KIAS             | 134              | 153         | 170         | 184         | 198         |

**Go-Around (VREF 30 + 20)****Flaps 20, Gear Up, Set Go-Around Thrust (Alternate Mode)**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |             |             |            |
|---------------------------|------------------|------------------|-------------|-------------|-------------|------------|
|                           |                  | 60               | 80          | 100         | 120         | 140        |
| 10000                     | <b>PITCH ATT</b> | <b>19.5</b>      | <b>14.0</b> | <b>11.0</b> | <b>9.0</b>  | <b>7.5</b> |
|                           | V/S (FT/MIN)     | 4300             | 3200        | 2400        | 1800        | 1300       |
|                           | KIAS             | 134              | 153         | 170         | 185         | 199        |
| 5000                      | <b>PITCH ATT</b> | <b>22.5</b>      | <b>16.5</b> | <b>12.5</b> | <b>10.0</b> | <b>8.5</b> |
|                           | V/S (FT/MIN)     | 4800             | 3600        | 2800        | 2200        | 1700       |
|                           | KIAS             | 134              | 153         | 170         | 185         | 198        |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>25.0</b>      | <b>18.0</b> | <b>14.0</b> | <b>11.5</b> | <b>9.5</b> |
|                           | V/S (FT/MIN)     | 5000             | 3800        | 3000        | 2400        | 1900       |
|                           | KIAS             | 134              | 153         | 170         | 184         | 198        |



757 Flight Crew Operations Manual

Max Climb EPR

Based on engine bleed for packs on and anti-ice off

| TAT<br>(°C) | PRESSURE ALTITUDE (1000 FT)/SPEED (KIAS OR MACH) |      |      |      |      |      |      |      |      |
|-------------|--------------------------------------------------|------|------|------|------|------|------|------|------|
|             | 0                                                | 5    | 10   | 15   | 20   | 25   | 30   | 35   | 40   |
|             | 250                                              | 250  | 250  | 290  | 290  | 290  | 290  | .78  | .78  |
| 60          | 1.15                                             | 1.14 | 1.12 | 1.08 | 1.05 | 1.02 | 0.99 | 0.98 | 0.97 |
| 50          | 1.18                                             | 1.17 | 1.16 | 1.11 | 1.09 | 1.06 | 1.04 | 1.03 | 1.02 |
| 40          | 1.22                                             | 1.21 | 1.19 | 1.15 | 1.13 | 1.11 | 1.09 | 1.08 | 1.07 |
| 30          | 1.24                                             | 1.25 | 1.23 | 1.20 | 1.18 | 1.16 | 1.14 | 1.13 | 1.12 |
| 20          | 1.24                                             | 1.27 | 1.28 | 1.25 | 1.23 | 1.21 | 1.19 | 1.18 | 1.18 |
| 10          | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.29 | 1.27 | 1.26 | 1.25 | 1.24 |
| 0           | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.33 | 1.32 | 1.32 |
| -10         | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.39 | 1.41 | 1.41 |
| -20         | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.39 | 1.48 | 1.50 |

EPR Adjustments for Engine Bleeds

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (1000 FT) |       |       |       |       |       |       |       |       |  |
|---------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                           | 0                           | 5     | 10    | 15    | 20    | 25    | 30    | 35    | 40    |  |
| PACKS OFF                 | 0.01                        | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  | 0.03  | 0.04  | 0.04  |  |
| ENGINE ANTI-ICE ON        | 0.00                        | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.04 | -0.05 | -0.07 |  |
| ENGINE & WING ANTI-ICE ON | -0.02                       | -0.02 | -0.06 | -0.06 | -0.06 | -0.07 | -0.08 | -0.10 | -0.13 |  |



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VREF (KIAS)

| WEIGHT<br>(1000 KG) | FLAPS |     |     |
|---------------------|-------|-----|-----|
|                     | 30    | 25  | 20  |
| 120                 | 157   | 158 | 167 |
| 110                 | 149   | 151 | 159 |
| 100                 | 140   | 142 | 151 |
| 90                  | 132   | 134 | 143 |
| 80                  | 124   | 126 | 135 |
| 70                  | 115   | 117 | 125 |
| 60                  | 106   | 108 | 116 |

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## 757 Flight Crew Operations Manual

# Performance Inflight - QRH

## Advisory Information

# Chapter PI-QRH

## Section 21

## ADVISORY INFORMATION

## Normal Configuration Landing Distance

## Flaps 30

## Dry Runway

|                          | LANDING DISTANCE AND ADJUSTMENTS (FT) |                                               |                                 |                        |              |                     |            |                      |            |                                  |                          |           |
|--------------------------|---------------------------------------|-----------------------------------------------|---------------------------------|------------------------|--------------|---------------------|------------|----------------------|------------|----------------------------------|--------------------------|-----------|
|                          | REF<br>DIST                           | WT<br>ADJ                                     | ALT<br>ADJ                      | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | TEMP ADJ<br>PER 10°C |            | VREF<br>ADJ                      | REVERSE<br>THRUST<br>ADJ |           |
| BRAKING<br>CONFIGURATION | 86000 KG<br>LANDING<br>WEIGHT         | PER<br>5000 KG<br>ABOVE/<br>BELOW<br>86000 KG | PER<br>1000 FT<br>STD/<br>HIGH* | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | ABV<br>ISA           | BLW<br>ISA | PER<br>10 KTS<br>ABOVE<br>VREF30 | ONE<br>REV               | NO<br>REV |
| MAX MANUAL               | 2700                                  | +110/-100                                     | 60/70                           | -110                   | 380          | 40                  | -30        | 50                   | -50        | 210                              | 60                       | 130       |
| MAX AUTO                 | 4040                                  | +180/-180                                     | 90/120                          | -180                   | 570          | 50                  | -50        | 90                   | -90        | 310                              | 180                      | 360       |
| AUTOBRAKE 4              | 4360                                  | +210/-200                                     | 110/140                         | -210                   | 680          | 60                  | -60        | 110                  | -100       | 360                              | 190                      | 390       |
| AUTOBRAKE 3              | 4940                                  | +260/-260                                     | 140/180                         | -250                   | 850          | 90                  | -90        | 140                  | -130       | 410                              | 240                      | 470       |
| AUTOBRAKE 2              | 5280                                  | +320/-310                                     | 170/220                         | -290                   | 980          | 150                 | -150       | 160                  | -140       | 410                              | 540                      | 800       |
| AUTOBRAKE 1              | 5530                                  | +360/-320                                     | 190/270                         | -320                   | 1110         | 190                 | -170       | 170                  | -150       | 410                              | 960                      | 1450      |

## Good Reported Braking Action

|             |      |           |         |      |     |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|-----|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 4050 | +180/-170 | 100/140 | -200 | 700 | 90  | -80  | 90  | -90  | 320 | 250 | 620  |
| MAX AUTO    | 4830 | +230/-220 | 120/160 | -230 | 790 | 100 | -90  | 120 | -100 | 360 | 410 | 1050 |
| AUTOBRAKE 4 | 5070 | +240/-240 | 130/160 | -250 | 840 | 90  | -80  | 130 | -130 | 410 | 280 | 770  |
| AUTOBRAKE 3 | 5680 | +300/-300 | 160/210 | -290 | 980 | 100 | -100 | 160 | -150 | 470 | 280 | 550  |

## Medium Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 5240 | +280/-240 | 150/210 | -300 | 1120 | 210 | -160 | 140 | -130 | 390 | 680 | 1890 |
| MAX AUTO    | 5530 | +300/-280 | 160/220 | -320 | 1150 | 220 | -180 | 150 | -130 | 390 | 850 | 2360 |
| AUTOBRAKE 4 | 5570 | +300/-280 | 160/220 | -320 | 1150 | 210 | -170 | 150 | -130 | 410 | 830 | 2320 |
| AUTOBRAKE 3 | 5960 | +320/-320 | 170/220 | -350 | 1220 | 180 | -170 | 160 | -150 | 470 | 530 | 1910 |

## Poor Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |      |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|------|------|
| MAX MANUAL  | 6460 | +370/-320 | 200/290 | -430 | 1690 | 450 | -300 | 170 | -150 | 440 | 1380 | 4430 |
| MAX AUTO    | 6460 | +380/-360 | 210/290 | -460 | 1700 | 450 | -320 | 180 | -150 | 430 | 1520 | 4830 |
| AUTOBRAKE 4 | 6460 | +380/-360 | 210/290 | -460 | 1700 | 450 | -320 | 180 | -150 | 440 | 1520 | 4830 |
| AUTOBRAKE 3 | 6590 | +380/-360 | 200/290 | -460 | 1710 | 430 | -310 | 180 | -160 | 470 | 1380 | 4690 |

Reference distance is for sea level, standard day, no wind or slope, VREF30 approach speed and 2 engine reverse thrust.

Max Manual braking data valid for auto speedbrakes. For manual speedbrakes, increase reference landing distance by 310 ft.

Autobrake data valid for both auto and manual speedbrakes.

Distance for GOOD, MEDIUM, and POOR are increased by 15%.

Includes distance from 50 ft above threshold (1000 ft of unfactored air distance).

\*For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply the HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Normal Configuration Landing Distance

##### Flaps 25

##### Dry Runway

|                          | LANDING DISTANCE AND ADJUSTMENTS (FT) |                                               |                                 |                        |              |                     |            |                      |            |                                  |                          |           |
|--------------------------|---------------------------------------|-----------------------------------------------|---------------------------------|------------------------|--------------|---------------------|------------|----------------------|------------|----------------------------------|--------------------------|-----------|
|                          | REF<br>DIST                           | WT<br>ADJ                                     | ALT<br>ADJ                      | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | TEMP ADJ<br>PER 10°C |            | VREF<br>ADJ                      | REVERSE<br>THRUST<br>ADJ |           |
| BRAKING<br>CONFIGURATION | 86000 KG<br>LANDING<br>WEIGHT         | PER<br>5000 KG<br>ABOVE/<br>BELOW<br>86000 KG | PER<br>1000 FT<br>STD/<br>HIGH* | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | ABV<br>ISA           | BLW<br>ISA | PER<br>10 KTS<br>ABOVE<br>VREF25 | ONE<br>REV               | NO<br>REV |
| MAX MANUAL               | 2730                                  | +100/-100                                     | 60/80                           | -110                   | 390          | 40                  | -30        | 60                   | -50        | 210                              | 60                       | 140       |
| MAX AUTO                 | 4170                                  | +180/-180                                     | 100/130                         | -180                   | 580          | 50                  | -50        | 100                  | -90        | 320                              | 190                      | 400       |
| AUTOBRAKE 4              | 4510                                  | +210/-210                                     | 110/150                         | -210                   | 690          | 60                  | -60        | 120                  | -110       | 380                              | 210                      | 430       |
| AUTOBRAKE 3              | 5120                                  | +260/-260                                     | 140/190                         | -260                   | 860          | 90                  | -100       | 150                  | -130       | 430                              | 270                      | 530       |
| AUTOBRAKE 2              | 5460                                  | +320/-320                                     | 180/240                         | -300                   | 1000         | 160                 | -160       | 180                  | -150       | 430                              | 610                      | 900       |
| AUTOBRAKE 1              | 5710                                  | +360/-330                                     | 200/280                         | -330                   | 1120         | 200                 | -180       | 190                  | -150       | 430                              | 1070                     | 1600      |

#### Good Reported Braking Action

|             |      |           |         |      |     |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|-----|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 4120 | +180/-170 | 100/140 | -200 | 700 | 90  | -80  | 90  | -90  | 320 | 260 | 670  |
| MAX AUTO    | 4960 | +230/-220 | 120/160 | -240 | 790 | 100 | -90  | 120 | -120 | 370 | 440 | 1140 |
| AUTOBRAKE 4 | 5240 | +240/-240 | 130/170 | -250 | 850 | 90  | -90  | 140 | -130 | 440 | 290 | 830  |
| AUTOBRAKE 3 | 5890 | +300/-300 | 160/220 | -300 | 990 | 100 | -120 | 170 | -150 | 490 | 310 | 610  |

#### Medium Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 5360 | +280/-240 | 150/220 | -300 | 1130 | 210 | -170 | 140 | -130 | 400 | 740 | 2080 |
| MAX AUTO    | 5680 | +300/-280 | 160/230 | -330 | 1160 | 220 | -180 | 160 | -140 | 400 | 930 | 2610 |
| AUTOBRAKE 4 | 5720 | +290/-280 | 160/230 | -330 | 1160 | 210 | -170 | 150 | -140 | 440 | 890 | 2560 |
| AUTOBRAKE 3 | 6150 | +320/-320 | 170/230 | -360 | 1240 | 200 | -170 | 170 | -160 | 490 | 580 | 2120 |

#### Poor Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |      |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|------|------|
| MAX MANUAL  | 6640 | +370/-330 | 200/290 | -430 | 1710 | 460 | -310 | 180 | -160 | 450 | 1490 | 4970 |
| MAX AUTO    | 6640 | +380/-360 | 210/300 | -460 | 1710 | 460 | -330 | 200 | -160 | 450 | 1660 | 5440 |
| AUTOBRAKE 4 | 6640 | +380/-360 | 210/300 | -460 | 1710 | 460 | -330 | 200 | -160 | 450 | 1640 | 5430 |
| AUTOBRAKE 3 | 6800 | +380/-360 | 210/290 | -470 | 1740 | 440 | -310 | 200 | -160 | 490 | 1480 | 5280 |

Reference distance is for sea level, standard day, no wind or slope, VREF25 approach speed and 2 engine reverse thrust.

Max Manual braking data valid for auto speedbrakes. For manual speedbrakes, increase reference landing distance by 310 ft.

Autobrake data valid for both auto and manual speedbrakes.

Distance for GOOD, MEDIUM, and POOR are increased by 15%.

Includes distance from 50 ft above threshold (1000 ft of unfactored air distance).

\*For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply the HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance  
Dry Runway**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 3545                                                        | 60/-55                                                  | 85/120                                            | -150                   | 535          | 75                  | -65        | 400                         |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 4060                                                        | 75/-65                                                  | 95/140                                            | -195                   | 730          | 90                  | -75        | 320                         |
| FLAPS UP                                                                    | VREF30+50 | 3645                                                        | 140/-55                                                 | 100/160                                           | -150                   | 585          | 55                  | -50        | 285                         |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 2735                                                        | 50/-40                                                  | 60/80                                             | -110                   | 400          | 40                  | -35        | 235                         |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 3245                                                        | 55/-50                                                  | 70/100                                            | -135                   | 475          | 50                  | -45        | 310                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 3515                                                        | 55/-55                                                  | 80/110                                            | -140                   | 490          | 55                  | -50        | 310                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 3295                                                        | 60/-55                                                  | 80/120                                            | -145                   | 515          | 75                  | -65        | 355                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 3925                                                        | 65/-55                                                  | 95/130                                            | -155                   | 530          | 65                  | -60        | 360                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 4065                                                        | 70/-65                                                  | 110/155                                           | -170                   | 585          | 100                 | -85        | 425                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 5585                                                        | 95/-80                                                  | 155/245                                           | -240                   | 815          | 220                 | -175       | 755                         |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Dry Runway**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 2870                                                        | 55/-45                                                  | 60/75                                             | -115                   | 395          | 35                  | -35        | 220                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 3330                                                        | 85/-50                                                  | 80/105                                            | -125                   | 430          | 45                  | -40        | 230                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 3550                                                        | 105/-55                                                 | 85/130                                            | -130                   | 445          | 45                  | -45        | 235                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 2915                                                        | 65/-45                                                  | 65/85                                             | -115                   | 450          | 40                  | -35        | 235                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 3355                                                        | 95/-50                                                  | 80/105                                            | -135                   | 505          | 50                  | -45        | 265                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 3235                                                        | 100/-45                                                 | 75/100                                            | -135                   | 495          | 45                  | -40        | 245                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 3445                                                        | 120/-50                                                 | 80/125                                            | -140                   | 525          | 50                  | -45        | 255                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Good Reported Braking Action**

| LANDING CONFIGURATION                                                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|----------------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                     | VREF30    | 5175                                                        | 95/-80                                                  | 150/240                                           | -270                   | 965          | 255                 | -190       | 590                         |
| ANTI-SKID SYSTEM INOP                                                            | VREF30    | 4840                                                        | 100/-90                                                 | 130/185                                           | -265                   | 1035         | 170                 | -135       | 365                         |
| FLAPS UP                                                                         | VREF30+50 | 4865                                                        | 90/-80                                                  | 140/190                                           | -200                   | 720          | 100                 | -90        | 285                         |
| HYDRAULIC SYSTEM CENTER INOP                                                     | VREF30    | 3535                                                        | 70/-60                                                  | 90/125                                            | -170                   | 630          | 85                  | -75        | 300                         |
| HYDRAULIC SYSTEM LEFT INOP                                                       | VREF30    | 4315                                                        | 85/-75                                                  | 115/170                                           | -215                   | 775          | 135                 | -110       | 415                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS $\geq$ 20 | VREF20    | 4745                                                        | 85/-80                                                  | 130/190                                           | -225                   | 810          | 145                 | -120       | 420                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                      | VREF30    | 4205                                                        | 90/-75                                                  | 120/175                                           | -210                   | 770          | 150                 | -120       | 440                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                                  | VREF30+20 | 5310                                                        | 95/-90                                                  | 150/225                                           | -245                   | 865          | 175                 | -140       | 480                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                                 | VREF30+20 | 5240                                                        | 100/-95                                                 | 155/240                                           | -245                   | 865          | 195                 | -160       | 520                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                                    | VREF30+20 | 7430                                                        | 125/-100                                                | 235/385                                           | -350                   | 1210         | 495                 | -355       | 980                         |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).  
Actual (unfactored) distances are shown.  
Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Good Reported Braking Action**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 3740                                                        | 70/-65                                                  | 95/135                                            | -175                   | 625          | 85                  | -75        | 290                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 4350                                                        | 80/-75                                                  | 120/170                                           | -190                   | 670          | 95                  | -85        | 300                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 4680                                                        | 85/-80                                                  | 130/185                                           | -200                   | 695          | 100                 | -90        | 305                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 3965                                                        | 75/-70                                                  | 105/140                                           | -190                   | 685          | 110                 | -90        | 320                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 4575                                                        | 85/-80                                                  | 125/170                                           | -205                   | 740          | 125                 | -105       | 325                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 4270                                                        | 80/-70                                                  | 115/165                                           | -185                   | 680          | 90                  | -80        | 280                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 4555                                                        | 85/-75                                                  | 125/180                                           | -190                   | 700          | 95                  | -85        | 280                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Medium Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 8520                                                        | 140/-95                                                 | 315/640                                           | -545                   | 2090         | 1210                | -650       | 830                                                  |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 5850                                                        | 130/-115                                                | 170/255                                           | -375                   | 1565         | 385                 | -255       | 410                                                  |
| FLAPS UP                                                                    | VREF30+50 | 6380                                                        | 130/-120                                                | 205/295                                           | -300                   | 1140         | 230                 | -185       | 360                                                  |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 4540                                                        | 100/-90                                                 | 135/190                                           | -255                   | 1005         | 195                 | -150       | 360                                                  |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 5920                                                        | 125/-105                                                | 185/305                                           | -350                   | 1360         | 380                 | -265       | 515                                                  |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 6600                                                        | 130/-120                                                | 210/345                                           | -375                   | 1425         | 420                 | -290       | 540                                                  |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 5880                                                        | 130/-110                                                | 195/325                                           | -355                   | 1365         | 415                 | -285       | 540                                                  |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 7350                                                        | 150/-130                                                | 245/395                                           | -400                   | 1500         | 475                 | -335       | 595                                                  |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 7390                                                        | 160/-135                                                | 260/420                                           | -405                   | 1515         | 525                 | -365       | 635                                                  |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 13050                                                       | 185/-95                                                 | 510/1075                                          | -730                   | 2640         | 2455                | -1215      | 1420                                                 |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).  
Actual (unfactored) distances are shown.  
Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Medium Reported Braking Action**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 4870                                                        | 100/-95                                                 | 140/210                                           | -265                   | 990          | 185                 | -150       | 360                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 5630                                                        | 120/-105                                                | 170/245                                           | -285                   | 1050         | 205                 | -170       | 360                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 6090                                                        | 130/-115                                                | 195/280                                           | -295                   | 1085         | 215                 | -180       | 370                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 5470                                                        | 115/-105                                                | 160/230                                           | -305                   | 1155         | 285                 | -210       | 420                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 6270                                                        | 130/-120                                                | 190/270                                           | -325                   | 1220         | 310                 | -235       | 415                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 5590                                                        | 120/-105                                                | 175/250                                           | -280                   | 1080         | 210                 | -165       | 350                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 5940                                                        | 125/-110                                                | 185/270                                           | -290                   | 1105         | 220                 | -170       | 350                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.



## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Poor Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | >15000                                                      | -                                                       | -                                                 | -                      | -            | -                   | -          | -                           |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 7445                                                        | 180/-155                                                | 235/335                                           | -600                   | 2865         | 2340                | -565       | 445                         |
| FLAPS UP                                                                    | VREF30+50 | 7865                                                        | 175/-160                                                | 275/400                                           | -425                   | 1720         | 515                 | -325       | 415                         |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 5580                                                        | 135/-115                                                | 175/265                                           | -370                   | 1545         | 445                 | -270       | 400                         |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 8050                                                        | 170/-130                                                | 300/555                                           | -590                   | 2555         | 1645                | -615       | 590                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 9035                                                        | 180/-155                                                | 340/630                                           | -630                   | 2670         | 1790                | -680       | 635                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 8080                                                        | 175/-135                                                | 315/585                                           | -600                   | 2580         | 1740                | -650       | 610                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 9945                                                        | 205/-170                                                | 380/705                                           | -665                   | 2775         | 1930                | -745       | 675                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 10085                                                       | 220/-175                                                | 405/750                                           | -675                   | 2805         | 2055                | -800       | 715                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | >15000                                                      | -                                                       | -                                                 | -                      | -            | -                   | -          | -                           |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).  
Actual (unfactored) distances are shown.  
Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Non-Normal Configuration Landing Distance

#### Poor Reported Braking Action

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1510         | 410                 | -275       | 405                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 6880                                                        | 160/-140                                                | 225/340                                           | -405                   | 1580         | 435                 | -300       | 400                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 7480                                                        | 170/-155                                                | 255/370                                           | -420                   | 1625         | 455                 | -315       | 425                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 7155                                                        | 170/-155                                                | 230/335                                           | -460                   | 1845         | 720                 | -420       | 500                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 8105                                                        | 185/-170                                                | 270/380                                           | -485                   | 1925         | 760                 | -450       | 485                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 6885                                                        | 160/-135                                                | 230/345                                           | -400                   | 1645         | 480                 | -300       | 405                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 7295                                                        | 170/-145                                                | 250/365                                           | -410                   | 1675         | 490                 | -305       | 400                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

### Recommended Brake Cooling Schedule

## Reference Brake Energy Per Brake (Millions of Foot Pounds)

|                     |             | BRAKES ON SPEED (KIAS) |      |      |      |           |      |      |      |           |      |      |      |           |      |      |      |           |      |      |      |           |      |      |  |
|---------------------|-------------|------------------------|------|------|------|-----------|------|------|------|-----------|------|------|------|-----------|------|------|------|-----------|------|------|------|-----------|------|------|--|
|                     |             | 80                     |      |      |      | 100       |      |      |      | 120       |      |      |      | 140       |      |      |      | 160       |      |      |      | 180       |      |      |  |
| WEIGHT<br>(1000 KG) | OAT<br>(°C) | PRESS ALT              |      |      |      | PRESS ALT |      |      |      | PRESS ALT |      |      |      | PRESS ALT |      |      |      | PRESS ALT |      |      |      | PRESS ALT |      |      |  |
|                     |             | 0                      | 5    | 10   |      | 0         | 5    | 10   |      | 0         | 5    | 10   |      | 0         | 5    | 10   |      | 0         | 5    | 10   |      | 0         | 5    | 10   |  |
| 120                 | 0           | 9.2                    | 10.9 | 12.7 |      | 14.1      | 16.8 | 19.6 |      | 19.8      | 23.9 | 27.9 |      | 26.3      | 31.7 | 37.1 |      | 33.1      | 39.8 |      |      | 40.2      |      |      |  |
|                     | 10          | 9.5                    | 11.3 | 13.1 |      | 14.6      | 17.5 | 20.4 |      | 20.5      | 24.7 | 28.9 |      | 27.2      | 32.8 | 38.4 |      | 34.3      | 41.1 |      |      | 41.6      |      |      |  |
|                     | 15          | 9.7                    | 11.5 | 13.4 |      | 14.8      | 17.8 | 20.7 |      | 20.9      | 25.2 | 29.4 |      | 27.7      | 33.4 | 39.0 |      | 34.9      | 41.8 |      |      | 42.3      |      |      |  |
|                     | 20          | 9.8                    | 11.7 | 13.6 |      | 15.1      | 18.1 | 21.1 |      | 21.2      | 25.6 | 29.9 |      | 28.1      | 33.9 | 39.7 |      | 35.5      | 42.5 |      |      | 43.0      |      |      |  |
|                     | 30          | 10.1                   | 12.0 | 14.0 |      | 15.5      | 18.6 | 21.7 |      | 21.8      | 26.3 | 30.8 |      | 29.0      | 34.9 | 40.9 |      | 36.5      | 43.8 |      |      | 44.2      |      |      |  |
|                     | 40          | 10.3                   | 12.3 | 14.2 |      | 15.8      | 19.0 | 22.2 |      | 22.3      | 26.9 | 31.6 |      | 29.7      | 35.8 | 41.9 |      | 37.4      | 44.9 |      |      | 45.4      |      |      |  |
| 50                  | 10.4        | 12.4                   | 14.4 |      | 16.0 | 19.3      | 22.5 |      | 22.7 | 27.4      | 32.1 |      | 30.2 | 36.5      | 42.8 |      | 38.2 | 45.9      |      |      | 46.3 |           |      |      |  |
| 110                 | 0           | 8.5                    | 10.1 | 11.7 |      | 13.0      | 15.5 | 18.1 |      | 18.2      | 21.9 | 25.7 |      | 24.1      | 29.1 | 34.1 |      | 30.5      | 36.7 |      | 42.9 | 37.1      |      |      |  |
|                     | 10          | 8.8                    | 10.5 | 12.1 |      | 13.4      | 16.1 | 18.7 |      | 18.9      | 22.7 | 26.6 |      | 25.0      | 30.2 | 35.3 |      | 31.6      | 38.0 |      | 44.4 | 38.4      |      |      |  |
|                     | 15          | 9.0                    | 10.6 | 12.3 |      | 13.7      | 16.4 | 19.1 |      | 19.2      | 23.1 | 27.1 |      | 25.4      | 30.7 | 35.9 |      | 32.1      | 38.6 |      | 45.1 | 39.1      |      |      |  |
|                     | 20          | 9.1                    | 10.8 | 12.6 |      | 13.9      | 16.7 | 19.4 |      | 19.6      | 23.5 | 27.5 |      | 25.9      | 31.2 | 36.5 |      | 32.7      | 39.3 |      | 45.9 | 39.7      |      |      |  |
|                     | 30          | 9.3                    | 11.1 | 12.9 |      | 14.3      | 17.1 | 20.0 |      | 20.1      | 24.2 | 28.2 |      | 26.6      | 32.1 | 37.6 |      | 33.6      | 40.4 |      | 47.2 | 40.9      |      |      |  |
|                     | 40          | 9.5                    | 11.3 | 13.2 |      | 14.6      | 17.5 | 20.4 |      | 20.6      | 24.8 | 29.0 |      | 27.2      | 32.9 | 38.5 |      | 34.5      | 41.4 |      | 48.4 | 41.9      |      |      |  |
| 50                  | 9.6         | 11.4                   | 13.3 |      | 14.8 | 17.8      | 20.7 |      | 20.9 | 25.2      | 29.5 |      | 27.7 | 33.5      | 39.3 |      | 35.1 | 42.3      |      | 49.5 | 42.8 |           |      |      |  |
| 100                 | 0           | 7.8                    | 9.3  | 10.7 |      | 11.9      | 14.2 | 16.5 |      | 16.6      | 20.0 | 23.4 |      | 22.0      | 26.5 | 31.1 |      | 27.8      | 33.5 |      | 39.2 | 33.9      |      | 40.7 |  |
|                     | 10          | 8.1                    | 9.6  | 11.1 |      | 12.3      | 14.7 | 17.1 |      | 17.2      | 20.7 | 24.2 |      | 22.8      | 27.5 | 32.2 |      | 28.8      | 34.7 |      | 40.6 | 35.1      |      | 42.1 |  |
|                     | 15          | 8.2                    | 9.8  | 11.3 |      | 12.5      | 15.0 | 17.5 |      | 17.6      | 21.1 | 24.7 |      | 23.2      | 28.0 | 32.7 |      | 29.3      | 35.3 |      | 41.3 | 35.7      |      | 42.8 |  |
|                     | 20          | 8.4                    | 10.0 | 11.5 |      | 12.8      | 15.3 | 17.8 |      | 17.9      | 21.5 | 25.1 |      | 23.6      | 28.4 | 33.3 |      | 29.8      | 35.9 |      | 42.0 | 36.3      |      | 43.5 |  |
|                     | 30          | 8.6                    | 10.2 | 11.8 |      | 13.1      | 15.7 | 18.3 |      | 18.4      | 22.1 | 25.8 |      | 24.3      | 29.3 | 34.3 |      | 30.7      | 36.9 |      | 43.2 | 37.4      |      | 44.8 |  |
|                     | 40          | 8.7                    | 10.4 | 12.1 |      | 13.4      | 16.0 | 18.7 |      | 18.8      | 22.6 | 26.4 |      | 24.8      | 30.0 | 35.1 |      | 31.4      | 37.9 |      | 44.3 | 38.3      |      | 45.9 |  |
| 50                  | 8.8         | 10.5                   | 12.2 |      | 13.5 | 16.2      | 18.9 |      | 19.1 | 23.0      | 26.9 |      | 25.2 | 30.5      | 35.8 |      | 32.0 | 38.6      |      | 45.2 | 39.1 |           | 46.9 |      |  |
| 90                  | 0           | 7.1                    | 8.5  | 9.8  |      | 10.8      | 12.9 | 15.0 |      | 15.1      | 18.1 | 21.1 |      | 19.8      | 23.9 | 28.0 |      | 25.0      | 30.2 |      | 35.4 | 30.6      |      | 36.8 |  |
|                     | 10          | 7.4                    | 8.8  | 10.1 |      | 11.2      | 13.4 | 15.5 |      | 15.6      | 18.7 | 21.9 |      | 20.5      | 24.8 | 29.0 |      | 25.9      | 31.3 |      | 36.7 | 31.7      |      | 38.1 |  |
|                     | 15          | 7.5                    | 8.9  | 10.3 |      | 11.4      | 13.6 | 15.8 |      | 15.9      | 19.1 | 22.3 |      | 20.9      | 25.2 | 29.5 |      | 26.4      | 31.8 |      | 37.3 | 32.2      |      | 38.7 |  |
|                     | 20          | 7.7                    | 9.1  | 10.5 |      | 11.6      | 13.9 | 16.1 |      | 16.2      | 19.4 | 22.6 |      | 21.3      | 25.6 | 30.0 |      | 26.9      | 32.4 |      | 37.9 | 32.8      |      | 39.4 |  |
|                     | 30          | 7.9                    | 9.3  | 10.8 |      | 11.9      | 14.2 | 16.6 |      | 16.6      | 20.0 | 23.3 |      | 21.9      | 26.4 | 30.9 |      | 27.6      | 33.3 |      | 39.0 | 33.7      |      | 40.5 |  |
|                     | 40          | 8.0                    | 9.5  | 11.0 |      | 12.1      | 14.5 | 16.9 |      | 17.0      | 20.4 | 23.8 |      | 22.4      | 27.0 | 31.6 |      | 28.3      | 34.1 |      | 40.0 | 34.6      |      | 41.6 |  |
| 50                  | 8.0         | 9.6                    | 11.1 |      | 12.3 | 14.7      | 17.1 |      | 17.2 | 20.7      | 24.2 |      | 22.7 | 27.5      | 32.2 |      | 28.8 | 34.8      |      | 40.8 | 35.2 |           | 42.4 |      |  |
| 80                  | 0           | 6.5                    | 7.7  | 8.8  |      | 9.7       | 11.6 | 13.5 |      | 13.5      | 16.1 | 18.8 |      | 17.7      | 21.2 | 24.8 |      | 22.2      | 26.8 |      | 31.4 | 27.1      |      | 32.7 |  |
|                     | 10          | 6.7                    | 7.9  | 9.2  |      | 10.1      | 12.0 | 13.9 |      | 14.0      | 16.7 | 19.5 |      | 18.3      | 22.0 | 25.7 |      | 23.0      | 27.8 |      | 32.5 | 28.1      |      | 33.9 |  |
|                     | 15          | 6.8                    | 8.1  | 9.3  |      | 10.3      | 12.2 | 14.2 |      | 14.2      | 17.0 | 19.9 |      | 18.6      | 22.4 | 26.2 |      | 23.4      | 28.3 |      | 33.1 | 28.6      |      | 34.4 |  |
|                     | 20          | 6.9                    | 8.2  | 9.5  |      | 10.4      | 12.4 | 14.4 |      | 14.5      | 17.3 | 20.2 |      | 18.9      | 22.8 | 26.6 |      | 23.8      | 28.8 |      | 33.7 | 29.1      |      | 35.0 |  |
|                     | 30          | 7.1                    | 8.4  | 9.7  |      | 10.7      | 12.8 | 14.9 |      | 14.9      | 17.8 | 20.8 |      | 19.5      | 23.5 | 27.4 |      | 24.5      | 29.6 |      | 34.7 | 29.9      |      | 36.1 |  |
|                     | 40          | 7.2                    | 8.6  | 9.9  |      | 10.9      | 13.0 | 15.2 |      | 15.2      | 18.2 | 21.2 |      | 19.9      | 24.0 | 28.1 |      | 25.1      | 30.3 |      | 35.5 | 30.6      |      | 36.9 |  |
| 50                  | 7.2         | 8.6                    | 10.0 |      | 11.0 | 13.2      | 15.4 |      | 15.4 | 18.5      | 21.6 |      | 20.2 | 24.4      | 28.6 |      | 25.5 | 30.9      |      | 36.2 | 31.2 |           | 37.7 |      |  |
| 70                  | 0           | 5.8                    | 6.8  | 7.9  |      | 8.6       | 10.3 | 11.9 |      | 11.9      | 14.2 | 16.5 |      | 15.5      | 18.6 | 21.7 |      | 19.4      | 23.3 |      | 27.3 | 23.5      |      | 28.4 |  |
|                     | 10          | 6.0                    | 7.1  | 8.2  |      | 9.0       | 10.6 | 12.3 |      | 12.3      | 14.7 | 17.1 |      | 16.0      | 19.2 | 22.5 |      | 20.1      | 24.2 |      | 28.3 | 24.4      |      | 29.4 |  |
|                     | 15          | 6.1                    | 7.2  | 8.3  |      | 9.1       | 10.8 | 12.6 |      | 12.5      | 15.0 | 17.4 |      | 16.3      | 19.6 | 22.9 |      | 20.4      | 24.6 |      | 28.8 | 24.8      |      | 29.9 |  |
|                     | 20          | 6.2                    | 7.3  | 8.5  |      | 9.3       | 11.0 | 12.8 |      | 12.8      | 15.2 | 17.7 |      | 16.6      | 19.9 | 23.3 |      | 20.8      | 25.0 |      | 29.3 | 25.2      |      | 30.4 |  |
|                     | 30          | 6.4                    | 7.5  | 8.7  |      | 9.5       | 11.3 | 13.1 |      | 13.1      | 15.7 | 18.3 |      | 17.1      | 20.5 | 23.9 |      | 21.4      | 25.7 |      | 30.1 | 26.0      |      | 31.3 |  |
|                     | 40          | 6.5                    | 7.6  | 8.8  |      | 9.7       | 11.5 | 13.4 |      | 13.4      | 16.0 | 18.6 |      | 17.4      | 21.0 | 24.5 |      | 21.8      | 26.3 |      | 30.8 | 26.6      |      | 32.1 |  |
| 50                  | 6.5         | 7.7                    | 8.9  |      | 9.8  | 11.7      | 13.6 |      | 13.6 | 16.2      | 18.9 |      | 17.7 | 21.3      | 24.9 |      | 22.2 | 26.8      |      | 31.2 | 27.0 |           | 32.7 |      |  |

To correct for wind, enter table with the brakes on speed minus one half the headwind or plus 1.5 times the tailwind. If ground speed is used for brakes on speed, ignore wind and enter table with sea level, 15°C.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Recommended Brake Cooling Schedule

Adjusted Brake Energy Per Brake (Millions of Foot Pounds)

No Reverse Thrust

|         |             | REFERENCE BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |      |      |      |      |      |      |      |      |      |      |
|---------|-------------|------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| EVENT   |             | 10                                                         | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| LANDING | RTO MAX MAN | 10                                                         | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|         | MAX MAN     | 9.2                                                        | 11.2 | 13.1 | 15.0 | 17.0 | 18.9 | 20.9 | 22.8 | 24.7 | 26.7 | 28.6 |
|         | MAX AUTO    | 8.9                                                        | 10.8 | 12.6 | 14.4 | 16.3 | 18.1 | 19.9 | 21.7 | 23.5 | 25.3 | 27.2 |
|         | AUTOBRAKE 4 | 8.8                                                        | 10.6 | 12.3 | 14.0 | 15.7 | 17.4 | 19.1 | 20.8 | 22.5 | 24.2 | 26.0 |
|         | AUTOBRAKE 3 | 8.7                                                        | 10.4 | 12.0 | 13.7 | 15.3 | 16.9 | 18.4 | 20.0 | 21.6 | 23.2 | 24.8 |
|         | AUTOBRAKE 2 | 8.6                                                        | 10.2 | 11.7 | 13.2 | 14.7 | 16.2 | 17.7 | 19.1 | 20.6 | 22.0 | 23.5 |
|         | AUTOBRAKE 1 | 8.4                                                        | 9.8  | 11.3 | 12.6 | 14.0 | 15.3 | 16.6 | 17.8 | 19.1 | 20.4 | 21.7 |

#### Two Engine Reverse

|         |             | REFERENCE BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |     |      |      |      |      |      |      |      |      |      |
|---------|-------------|------------------------------------------------------------|-----|------|------|------|------|------|------|------|------|------|
| EVENT   |             | 10                                                         | 12  | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| LANDING | RTO MAX MAN | 10                                                         | 12  | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|         | MAX MAN     | 7.6                                                        | 9.2 | 10.8 | 12.5 | 14.2 | 15.9 | 17.6 | 19.3 | 21.0 | 22.6 | 24.2 |
|         | MAX AUTO    | 5.0                                                        | 6.3 | 7.6  | 8.9  | 10.2 | 11.5 | 12.9 | 14.2 | 15.6 | 16.9 | 18.3 |
|         | AUTOBRAKE 4 | 3.4                                                        | 4.3 | 5.3  | 6.2  | 7.2  | 8.2  | 9.2  | 10.2 | 11.3 | 12.3 | 13.5 |
|         | AUTOBRAKE 3 | 2.4                                                        | 3.0 | 3.6  | 4.2  | 4.8  | 5.5  | 6.2  | 6.9  | 7.7  | 8.4  | 9.3  |
|         | AUTOBRAKE 2 | 1.9                                                        | 2.2 | 2.5  | 2.9  | 3.2  | 3.6  | 4.0  | 4.5  | 4.9  | 5.4  | 5.9  |
|         | AUTOBRAKE 1 | 1.5                                                        | 1.7 | 1.9  | 2.1  | 2.3  | 2.5  | 2.8  | 3.0  | 3.2  | 3.5  | 3.7  |

#### Cooling Time (Minutes)

|                       |                         | ADJUSTED BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |    |    |    |    |    |    |          |                        |  |
|-----------------------|-------------------------|-----------------------------------------------------------|----|----|----|----|----|----|----------|------------------------|--|
|                       |                         | 8 & BELOW                                                 | 9  | 10 | 12 | 14 | 16 | 17 | 18 TO 27 | 28 & ABOVE             |  |
| INFLIGHT<br>GEAR DOWN | NO SPECIAL<br>PROCEDURE |                                                           | 1  | 2  | 4  | 5  | 7  | 7  | CAUTION  | FUSE PLUG<br>MELT ZONE |  |
| GROUND                | REQUIRED                |                                                           | 10 | 20 | 38 | 51 | 62 | 66 |          |                        |  |
| BTMS                  | UP TO 2                 |                                                           | 2  | 2  | 3  | 3  | 4  | 5  |          |                        |  |

Observe maximum quick turnaround limit.

Table shows energy per brake added by a single stop with all brakes operating. Energy is assumed to be equally distributed among the operating brakes. Total energy is the sum of residual energy plus energy added.

Add 0.65 million foot pounds per brake for each taxi mile.

For one brake deactivated, increase brake energy by 15 percent.

When in caution zone, wheel fuse plugs may melt. Delay takeoff and inspect after one hour. If overheat occurs after takeoff, extend gear soon for at least 8 minutes.

When in fuse plug melt zone, clear runway immediately. Unless required, do not set parking brake. Do not attempt to taxi for one hour. Tire, wheel and brake replacement may be required. If overheat occurs after takeoff, extend gear soon for at least 12 minutes.

Brake temperature monitor system (BTMS) indication on EICAS may be used to 10 to 15 minutes after airplane has come to a complete stop, or inflight with gear retracted, to determine recommended cooling schedule.



**Performance Inflight - QRH**  
**Engine Inoperative**

**Chapter PI-QRH**  
**Section 22**

**ENGINE INOP**

**Initial Max Continuous EPR**

**Based on engine bleed for one pack on**

| PRESSURE<br>ALTITUDE (FT) |               | CRUISE MACH NUMBER |          |          |
|---------------------------|---------------|--------------------|----------|----------|
|                           |               | .72                | .76      | .80      |
| 41000                     | EPR           | 1.62               | 1.59     | 1.54     |
|                           | MAX TAT (SAT) | -22(-46)           | -20(-46) | -17(-46) |
|                           | EPR CORR      | 0.12               | 0.12     | 0.12     |
| 39000                     | EPR           | 1.62               | 1.61     | 1.56     |
|                           | MAX TAT (SAT) | -20(-44)           | -20(-46) | -17(-46) |
|                           | EPR CORR      | 0.13               | 0.13     | 0.13     |
| 37000                     | EPR           | 1.62               | 1.62     | 1.58     |
|                           | MAX TAT (SAT) | -18(-42)           | -19(-45) | -17(-46) |
|                           | EPR CORR      | 0.14               | 0.14     | 0.14     |
| 35000                     | EPR           | 1.62               | 1.62     | 1.57     |
|                           | MAX TAT (SAT) | -17(-41)           | -17(-43) | -15(-44) |
|                           | EPR CORR      | 0.13               | 0.13     | 0.13     |
| 33000                     | EPR           | 1.62               | 1.59     | 1.53     |
|                           | MAX TAT (SAT) | -15(-39)           | -13(-40) | -11(-41) |
|                           | EPR CORR      | 0.12               | 0.12     | 0.12     |
| 31000                     | EPR           | 1.60               | 1.55     | 1.50     |
|                           | MAX TAT (SAT) | -12(-36)           | -9(-36)  | -6(-36)  |
|                           | EPR CORR      | 0.12               | 0.12     | 0.12     |

**Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.**

## ENGINE INOP

### Max Continuous EPR

#### 41000 FT to 22000 FT Pressure Altitudes

Based on engine bleed for one pack on and anti-ice off

| PRESSURE ALTITUDE<br>(FT) |          | KIAS |      |      |      |      | MACH NUMBER |      |      |      |      |      |
|---------------------------|----------|------|------|------|------|------|-------------|------|------|------|------|------|
|                           |          | 180  | 200  | 220  | 240  | 260  | .70         | .72  | .74  | .76  | .78  | .80  |
| 41000                     | EPR      |      | 1.62 | 1.60 | 1.53 | 1.49 | 1.62        | 1.62 | 1.62 | 1.59 | 1.57 | 1.54 |
|                           | MAX TAT  |      | -21  | -21  | -17  | -12  | -21         | -22  | -22  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 39000                     | EPR      |      | 1.62 | 1.62 | 1.59 | 1.53 | 1.62        | 1.62 | 1.62 | 1.61 | 1.59 | 1.56 |
|                           | MAX TAT  |      | -19  | -20  | -19  | -15  | -20         | -20  | -20  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.13 | 0.13 | 0.13 | 0.13 | 0.13        | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| 37000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.58 | 1.62        | 1.62 | 1.62 | 1.62 | 1.61 | 1.58 |
|                           | MAX TAT  |      | -16  | -18  | -19  | -17  | -18         | -18  | -19  | -19  | -19  | -17  |
|                           | EPR CORR |      | 0.14 | 0.14 | 0.14 | 0.14 | 0.14        | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| 35000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.61 | 1.62        | 1.62 | 1.62 | 1.62 | 1.60 | 1.57 |
|                           | MAX TAT  |      | -14  | -15  | -17  | -17  | -16         | -17  | -17  | -17  | -16  | -15  |
|                           | EPR CORR |      | 0.13 | 0.13 | 0.13 | 0.13 | 0.13        | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| 33000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.61 | 1.62        | 1.62 | 1.61 | 1.59 | 1.56 | 1.53 |
|                           | MAX TAT  |      | -12  | -12  | -14  | -15  | -14         | -15  | -15  | -13  | -12  | -11  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 31000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.62 | 1.62        | 1.60 | 1.58 | 1.55 | 1.53 | 1.50 |
|                           | MAX TAT  |      | -10  | -10  | -11  | -13  | -13         | -12  | -10  | -9   | -8   | -6   |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 29000                     | EPR      |      | 1.61 | 1.62 | 1.62 | 1.62 | 1.59        | 1.57 | 1.55 | 1.52 | 1.50 | 1.48 |
|                           | MAX TAT  |      | -8   | -8   | -9   | -10  | -9          | -7   | -6   | -5   | -3   | -2   |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 27000                     | EPR      | 1.61 | 1.61 | 1.62 | 1.62 | 1.62 | 1.57        | 1.54 | 1.52 | 1.50 | 1.48 | 1.45 |
|                           | MAX TAT  | -13  | -7   | -6   | -6   | -7   | -5          | -3   | -2   | 0    | 1    | 3    |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| 25000                     | EPR      | 1.62 | 1.61 | 1.61 | 1.62 | 1.62 | 1.54        | 1.52 | 1.50 | 1.48 | 1.46 | 1.44 |
|                           | MAX TAT  | -13  | -6   | -4   | -4   | -4   | 0           | 1    | 3    | 4    | 6    | 7    |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| 22000                     | EPR      | 1.61 | 1.61 | 1.61 | 1.61 | 1.62 | 1.51        | 1.49 | 1.47 | 1.45 | 1.43 |      |
|                           | MAX TAT  | -10  | -6   | -1   | -1   | -1   | 6           | 8    | 9    | 11   | 12   |      |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 | 0.11 | 0.11 |      |

Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.

### EPR Adjustments for Engine Bleed

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (FT) |       |       |       |       |       |       |
|---------------------------|------------------------|-------|-------|-------|-------|-------|-------|
|                           | 0                      | 8000  | 8001  | 10000 | 20000 | 30000 | 40000 |
| PACKS OFF                 | 0.01                   | 0.01  | 0.01  | 0.01  | 0.02  | 0.03  | 0.04  |
| ENGINE ANTI-ICE ON        | 0.00                   | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.07 |
| ENGINE & WING ANTI-ICE ON | -0.02                  | -0.02 | -0.05 | -0.06 | -0.06 | -0.08 | -0.13 |

## 757 Flight Crew Operations Manual

**ENGINE INOP****Max Continuous EPR****20000 FT to Sea Level Pressure Altitudes****Based on engine bleed for one pack on and anti-ice off**

| PRESSURE ALTITUDE<br>(FT) |          | KIAS |      |      |      |      | MACH NUMBER |      |      |     |     |     |
|---------------------------|----------|------|------|------|------|------|-------------|------|------|-----|-----|-----|
|                           |          | 180  | 200  | 220  | 240  | 260  | .70         | .72  | .74  | .76 | .78 | .80 |
| 20000                     | EPR      | 1.59 | 1.62 | 1.61 | 1.61 | 1.61 | 1.49        | 1.47 | 1.45 |     |     |     |
|                           | MAX TAT  | -6   | -6   | -1   | 1    | 2    | 11          | 12   | 14   |     |     |     |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 |     |     |     |
| 18000                     | EPR      | 1.57 | 1.58 | 1.60 | 1.60 | 1.58 | 1.45        | 1.43 |      |     |     |     |
|                           | MAX TAT  | -3   | -1   | 1    | 3    | 5    | 15          | 17   |      |     |     |     |
|                           | EPR CORR | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10        | 0.10 |      |     |     |     |
| 16000                     | EPR      | 1.55 | 1.55 | 1.56 | 1.56 | 1.55 | 1.41        |      |      |     |     |     |
|                           | MAX TAT  | 0    | 2    | 4    | 6    | 8    | 19          |      |      |     |     |     |
|                           | EPR CORR | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10        |      |      |     |     |     |
| 14000                     | EPR      | 1.53 | 1.52 | 1.53 | 1.52 | 1.52 |             |      |      |     |     |     |
|                           | MAX TAT  | 4    | 6    | 7    | 9    | 11   |             |      |      |     |     |     |
|                           | EPR CORR | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |             |      |      |     |     |     |
| 12000                     | EPR      | 1.51 | 1.50 | 1.50 | 1.49 | 1.48 |             |      |      |     |     |     |
|                           | MAX TAT  | 8    | 9    | 11   | 12   | 14   |             |      |      |     |     |     |
|                           | EPR CORR | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |             |      |      |     |     |     |
| 10000                     | EPR      | 1.49 | 1.48 | 1.47 | 1.47 | 1.46 |             |      |      |     |     |     |
|                           | MAX TAT  | 11   | 13   | 14   | 16   | 18   |             |      |      |     |     |     |
|                           | EPR CORR | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |             |      |      |     |     |     |
| 5000                      | EPR      | 1.43 | 1.42 | 1.42 | 1.41 | 1.40 |             |      |      |     |     |     |
|                           | MAX TAT  | 20   | 21   | 23   | 24   | 26   |             |      |      |     |     |     |
|                           | EPR CORR | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |             |      |      |     |     |     |
| 1500                      | EPR      | 1.38 | 1.38 | 1.37 | 1.36 | 1.35 |             |      |      |     |     |     |
|                           | MAX TAT  | 27   | 28   | 29   | 30   | 32   |             |      |      |     |     |     |
|                           | EPR CORR | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |             |      |      |     |     |     |
| 0                         | EPR      | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 |             |      |      |     |     |     |
|                           | MAX TAT  | 29   | 30   | 32   | 33   | 34   |             |      |      |     |     |     |
|                           | EPR CORR | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |             |      |      |     |     |     |

Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.

**EPR Adjustments for Engine Bleed**

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (FT) |       |       |       |       |       |       |
|---------------------------|------------------------|-------|-------|-------|-------|-------|-------|
|                           | 0                      | 8000  | 8001  | 10000 | 20000 | 30000 | 40000 |
| PACKS OFF                 | 0.01                   | 0.01  | 0.01  | 0.01  | 0.02  | 0.03  | 0.04  |
| ENGINE ANTI-ICE ON        | 0.00                   | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.07 |
| ENGINE & WING ANTI-ICE ON | -0.02                  | -0.02 | -0.05 | -0.06 | -0.06 | -0.08 | -0.13 |



757 Flight Crew Operations Manual

ENGINE INOP

MAX CONTINUOUS THRUST

Driftdown Speed/Level Off Altitude

100 ft/min residual rate of climb

Includes APU fuel burn

| WEIGHT (1000 KG)       |              | OPTIMUM<br>DRIFTDOWN<br>SPEED<br>(KIAS) | LEVEL OFF ALTITUDE (FT) |            |            |
|------------------------|--------------|-----------------------------------------|-------------------------|------------|------------|
| START<br>DRIFT<br>DOWN | LEVEL<br>OFF |                                         | ISA + 10°C<br>& BELOW   | ISA + 15°C | ISA + 20°C |
| 120                    | 116          | 252                                     | 21000                   | 20100      | 18500      |
| 110                    | 106          | 242                                     | 23000                   | 22500      | 21200      |
| 100                    | 96           | 231                                     | 25000                   | 24900      | 23800      |
| 90                     | 87           | 219                                     | 27300                   | 27200      | 26600      |
| 80                     | 77           | 207                                     | 29700                   | 29700      | 29600      |
| 70                     | 67           | 194                                     | 32500                   | 32500      | 32400      |
| 60                     | 58           | 183                                     | 35600                   | 35600      | 35500      |



## 757 Flight Crew Operations Manual

**ENGINE INOP****MAX CONTINUOUS THRUST****Driftdown/LRC Cruise Range Capability**  
**Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 280                      | 260  | 242  | 226  | 212  | 200                        | 189                      | 179  | 171  | 163  | 155  |
| 558                      | 517  | 482  | 451  | 424  | 400                        | 379                      | 359  | 342  | 326  | 312  |
| 830                      | 771  | 720  | 675  | 635  | 600                        | 568                      | 540  | 514  | 491  | 470  |
| 1098                     | 1022 | 956  | 897  | 846  | 800                        | 759                      | 722  | 688  | 657  | 629  |
| 1364                     | 1271 | 1190 | 1119 | 1056 | 1000                       | 949                      | 904  | 862  | 824  | 789  |
| 1629                     | 1520 | 1425 | 1341 | 1267 | 1200                       | 1140                     | 1086 | 1036 | 991  | 950  |
| 1896                     | 1770 | 1661 | 1564 | 1477 | 1400                       | 1330                     | 1267 | 1210 | 1158 | 1110 |
| 2166                     | 2023 | 1897 | 1787 | 1688 | 1600                       | 1521                     | 1449 | 1383 | 1323 | 1269 |
| 2441                     | 2278 | 2136 | 2011 | 1900 | 1800                       | 1710                     | 1629 | 1555 | 1488 | 1426 |

**Driftdown/Cruise Fuel and Time**

| AIR DIST<br>(NM) | FUEL REQUIRED (1000 KG)                |      |      |      |      |      |      | TIME<br>(HR:MIN) |
|------------------|----------------------------------------|------|------|------|------|------|------|------------------|
|                  | WEIGHT AT START OF DRIFTDOWN (1000 KG) |      |      |      |      |      |      |                  |
|                  | 60                                     | 70   | 80   | 90   | 100  | 110  | 120  |                  |
| 200              | 1.1                                    | 1.2  | 1.4  | 1.5  | 1.6  | 1.8  | 1.9  | 0:34             |
| 400              | 2.4                                    | 2.7  | 3.0  | 3.3  | 3.7  | 4.0  | 4.3  | 1:08             |
| 600              | 3.5                                    | 4.0  | 4.5  | 5.0  | 5.5  | 6.0  | 6.5  | 1:40             |
| 800              | 4.6                                    | 5.2  | 5.9  | 6.6  | 7.3  | 7.9  | 8.5  | 2:10             |
| 1000             | 5.7                                    | 6.5  | 7.4  | 8.2  | 9.0  | 9.8  | 10.6 | 2:40             |
| 1200             | 6.8                                    | 7.7  | 8.8  | 9.8  | 10.7 | 11.7 | 12.6 | 3:10             |
| 1400             | 7.9                                    | 9.0  | 10.1 | 11.3 | 12.4 | 13.6 | 14.6 | 3:40             |
| 1600             | 8.9                                    | 10.2 | 11.5 | 12.8 | 14.1 | 15.4 | 16.6 | 4:11             |
| 1800             | 9.9                                    | 11.3 | 12.8 | 14.3 | 15.7 | 17.2 | 18.5 | 4:43             |

Includes APU fuel burn.

Driftdown at optimum driftdown speed and cruise at Long Range Cruise speed.

**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Altitude Capability**

**100 ft/min residual rate of climb**

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 120                 | 16700                  | 14300      | 8100       |
| 115                 | 18200                  | 16300      | 11300      |
| 110                 | 19800                  | 18100      | 15000      |
| 105                 | 21100                  | 19900      | 17500      |
| 100                 | 22400                  | 21200      | 19800      |
| 95                  | 23700                  | 22600      | 21300      |
| 90                  | 25100                  | 24000      | 22800      |
| 85                  | 26600                  | 25500      | 24300      |
| 80                  | 28000                  | 27100      | 25900      |
| 75                  | 29400                  | 28700      | 27500      |
| 70                  | 31000                  | 30500      | 29300      |
| 65                  | 32400                  | 32200      | 31300      |
| 60                  | 34000                  | 33900      | 33200      |

With engine anti-ice on, decrease altitude capability by 2200 ft.

With engine and wing anti-ice on, decrease altitude capability by 5800 ft.

## 757 Flight Crew Operations Manual

**ENGINE INOP****MAX CONTINUOUS THRUST****Long Range Cruise Control**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|------|
|                     |        | 10                          | 14   | 18   | 21   | 23   | 25   | 27   | 29   | 31   |
| 120                 | EPR    | 1.27                        | 1.34 | 1.47 |      |      |      |      |      |      |
|                     | MACH   | .601                        | .623 | .659 |      |      |      |      |      |      |
|                     | KIAS   | 334                         | 322  | 316  |      |      |      |      |      |      |
|                     | FF/ENG | 4605                        | 4472 | 4496 |      |      |      |      |      |      |
| 110                 | EPR    | 1.24                        | 1.30 | 1.39 | 1.52 |      |      |      |      |      |
|                     | MACH   | .584                        | .613 | .635 | .672 |      |      |      |      |      |
|                     | KIAS   | 324                         | 316  | 304  | 304  |      |      |      |      |      |
|                     | FF/ENG | 4256                        | 4162 | 4027 | 4181 |      |      |      |      |      |
| 100                 | EPR    | 1.20                        | 1.26 | 1.34 | 1.42 | 1.52 |      |      |      |      |
|                     | MACH   | .561                        | .597 | .620 | .642 | .668 |      |      |      |      |
|                     | KIAS   | 312                         | 308  | 297  | 290  | 290  |      |      |      |      |
|                     | FF/ENG | 3861                        | 3827 | 3671 | 3670 | 3780 |      |      |      |      |
| 90                  | EPR    | 1.17                        | 1.23 | 1.29 | 1.36 | 1.42 | 1.51 |      |      |      |
|                     | MACH   | .530                        | .574 | .607 | .623 | .638 | .662 |      |      |      |
|                     | KIAS   | 294                         | 296  | 290  | 281  | 276  | 276  |      |      |      |
|                     | FF/ENG | 3439                        | 3465 | 3363 | 3282 | 3287 | 3370 |      |      |      |
| 80                  | EPR    | 1.14                        | 1.19 | 1.25 | 1.30 | 1.34 | 1.40 | 1.48 | 1.60 |      |
|                     | MACH   | .492                        | .542 | .584 | .608 | .619 | .631 | .652 | .685 |      |
|                     | KIAS   | 273                         | 279  | 279  | 274  | 268  | 262  | 260  | 262  |      |
|                     | FF/ENG | 3002                        | 3053 | 3029 | 2974 | 2928 | 2906 | 2960 | 3075 |      |
| 70                  | EPR    | 1.11                        | 1.15 | 1.20 | 1.25 | 1.29 | 1.33 | 1.38 | 1.45 | 1.55 |
|                     | MACH   | .467                        | .499 | .551 | .583 | .600 | .614 | .624 | .641 | .668 |
|                     | KIAS   | 258                         | 256  | 262  | 262  | 259  | 254  | 248  | 244  | 244  |
|                     | FF/ENG | 2662                        | 2622 | 2636 | 2641 | 2612 | 2582 | 2541 | 2555 | 2621 |
| 60                  | EPR    | 1.09                        | 1.12 | 1.15 | 1.20 | 1.23 | 1.26 | 1.30 | 1.35 | 1.41 |
|                     | MACH   | .441                        | .468 | .502 | .542 | .566 | .586 | .603 | .616 | .628 |
|                     | KIAS   | 243                         | 240  | 238  | 243  | 244  | 242  | 239  | 234  | 229  |
|                     | FF/ENG | 2333                        | 2269 | 2216 | 2245 | 2260 | 2253 | 2227 | 2196 | 2160 |

757 Flight Crew Operations Manual

# ENGINE INOP

## MAX CONTINUOUS THRUST

### Long Range Cruise Diversion Fuel and Time

#### Ground to Air Miles Conversion

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 286                      | 264  | 244  | 227  | 213  | 200                        | 190                      | 181  | 173  | 166  | 159  |
| 573                      | 528  | 489  | 455  | 426  | 400                        | 381                      | 363  | 347  | 332  | 319  |
| 861                      | 794  | 734  | 683  | 639  | 600                        | 571                      | 544  | 520  | 498  | 479  |
| 1151                     | 1061 | 980  | 912  | 853  | 800                        | 762                      | 727  | 694  | 665  | 638  |
| 1443                     | 1328 | 1227 | 1141 | 1067 | 1000                       | 952                      | 908  | 867  | 830  | 797  |
| 1737                     | 1598 | 1475 | 1370 | 1281 | 1200                       | 1142                     | 1089 | 1040 | 996  | 956  |
| 2033                     | 1869 | 1724 | 1601 | 1495 | 1400                       | 1332                     | 1270 | 1213 | 1161 | 1115 |
| 2330                     | 2140 | 1973 | 1831 | 1709 | 1600                       | 1523                     | 1451 | 1386 | 1327 | 1274 |
| 2628                     | 2412 | 2222 | 2062 | 1923 | 1800                       | 1713                     | 1633 | 1559 | 1492 | 1432 |

#### Reference Fuel and Time Required at Check Point

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 10                          |                  | 14                |                  | 18                |                  | 22                |                  | 26                |                  |
|                     | FUEL<br>(1000 KG)           | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) |
| 200                 | 2.0                         | 0:41             | 1.7               | 0:39             | 1.5               | 0:38             | 1.4               | 0:38             | 1.3               | 0:36             |
| 400                 | 4.0                         | 1:17             | 3.7               | 1:13             | 3.3               | 1:10             | 3.1               | 1:09             | 3.0               | 1:06             |
| 600                 | 6.1                         | 1:54             | 5.6               | 1:47             | 5.1               | 1:43             | 4.8               | 1:41             | 4.6               | 1:36             |
| 800                 | 8.1                         | 2:31             | 7.5               | 2:21             | 6.9               | 2:15             | 6.5               | 2:12             | 6.3               | 2:07             |
| 1000                | 10.1                        | 3:09             | 9.4               | 2:56             | 8.7               | 2:48             | 8.1               | 2:44             | 7.9               | 2:38             |
| 1200                | 12.1                        | 3:47             | 11.2              | 3:31             | 10.4              | 3:21             | 9.8               | 3:16             | 9.5               | 3:09             |
| 1400                | 14.0                        | 4:26             | 13.0              | 4:07             | 12.1              | 3:54             | 11.4              | 3:48             | 11.0              | 3:40             |
| 1600                | 16.0                        | 5:05             | 14.9              | 4:43             | 13.8              | 4:28             | 13.0              | 4:20             | 12.6              | 4:11             |
| 1800                | 17.9                        | 5:45             | 16.7              | 5:19             | 15.5              | 5:02             | 14.6              | 4:53             | 14.1              | 4:43             |

#### Fuel Required Adjustment (1000 KG)

| REFERENCE FUEL REQUIRED<br>(1000 KG) | WEIGHT AT CHECK POINT (1000 KG) |      |     |     |     |     |
|--------------------------------------|---------------------------------|------|-----|-----|-----|-----|
|                                      | 70                              | 80   | 90  | 100 | 110 | 120 |
| 2                                    | -0.2                            | -0.1 | 0.0 | 0.2 | 0.4 | 0.8 |
| 4                                    | -0.4                            | -0.2 | 0.0 | 0.3 | 0.7 | 1.3 |
| 6                                    | -0.6                            | -0.3 | 0.0 | 0.5 | 1.1 | 1.9 |
| 8                                    | -0.8                            | -0.4 | 0.0 | 0.7 | 1.5 | 2.4 |
| 10                                   | -1.1                            | -0.5 | 0.0 | 0.9 | 1.9 | 3.0 |
| 12                                   | -1.3                            | -0.6 | 0.0 | 1.1 | 2.2 | 3.5 |
| 14                                   | -1.5                            | -0.8 | 0.0 | 1.3 | 2.6 | 4.0 |
| 16                                   | -1.7                            | -0.9 | 0.0 | 1.5 | 3.0 | 4.6 |
| 18                                   | -2.0                            | -1.0 | 0.0 | 1.7 | 3.4 | 5.1 |
| 20                                   | -2.2                            | -1.1 | 0.0 | 1.9 | 3.7 | 5.7 |
| 22                                   | -2.4                            | -1.2 | 0.0 | 2.0 | 4.1 | 6.2 |

Includes APU fuel burn.

757 Flight Crew Operations Manual

**ENGINE INOP**  
**MAX CONTINUOUS THRUST**

**Holding  
Flaps Up**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |       |       |       |
|---------------------|--------|------------------------|------|-------|-------|-------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 | 20000 | 25000 | 30000 |
| 120                 | EPR    | 1.16                   | 1.19 | 1.26  | 1.36  | 1.53  |       |       |
|                     | KIAS   | 243                    | 243  | 244   | 246   | 247   |       |       |
|                     | FF/ENG | 3890                   | 3870 | 3870  | 3870  | 4090  |       |       |
| 110                 | EPR    | 1.14                   | 1.17 | 1.23  | 1.31  | 1.44  |       |       |
|                     | KIAS   | 232                    | 233  | 234   | 235   | 236   |       |       |
|                     | FF/ENG | 3560                   | 3540 | 3520  | 3510  | 3600  |       |       |
| 100                 | EPR    | 1.13                   | 1.15 | 1.20  | 1.27  | 1.37  | 1.58  |       |
|                     | KIAS   | 221                    | 222  | 223   | 224   | 225   | 227   |       |
|                     | FF/ENG | 3220                   | 3210 | 3180  | 3160  | 3200  | 3440  |       |
| 90                  | EPR    | 1.11                   | 1.13 | 1.17  | 1.23  | 1.32  | 1.47  |       |
|                     | KIAS   | 212                    | 212  | 212   | 212   | 213   | 215   |       |
|                     | FF/ENG | 2950                   | 2880 | 2860  | 2820  | 2830  | 2940  |       |
| 80                  | EPR    | 1.09                   | 1.11 | 1.14  | 1.19  | 1.26  | 1.38  | 1.60  |
|                     | KIAS   | 203                    | 203  | 203   | 203   | 203   | 203   | 203   |
|                     | FF/ENG | 2670                   | 2600 | 2540  | 2500  | 2500  | 2530  | 2720  |
| 70                  | EPR    | 1.08                   | 1.09 | 1.12  | 1.16  | 1.21  | 1.30  | 1.45  |
|                     | KIAS   | 194                    | 194  | 194   | 194   | 194   | 194   | 194   |
|                     | FF/ENG | 2370                   | 2330 | 2240  | 2190  | 2180  | 2190  | 2250  |
| 60                  | EPR    | 1.06                   | 1.07 | 1.09  | 1.12  | 1.17  | 1.23  | 1.34  |
|                     | KIAS   | 185                    | 185  | 185   | 185   | 185   | 185   | 185   |
|                     | FF/ENG | 2070                   | 2040 | 1960  | 1890  | 1870  | 1870  | 1880  |

This table includes 5% additional fuel for holding in a racetrack pattern.

Intentionally  
Blank



# Performance Inflight - QRH

## Gear Down

# Chapter PI-QRH

## Section 23

### GEAR DOWN

#### 210 KIAS Max Climb EPR

Based on engine bleed for packs on and anti-ice off

| TAT<br>(°C) | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | 0                           | 5    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | 32   | 34   |
| 55          | 1.18                        | 1.17 | 1.16 | 1.16 | 1.15 | 1.14 | 1.14 | 1.13 | 1.11 | 1.10 | 1.09 | 1.07 | 1.06 | 1.04 | 1.03 |
| 50          | 1.19                        | 1.19 | 1.18 | 1.18 | 1.17 | 1.16 | 1.15 | 1.14 | 1.13 | 1.12 | 1.11 | 1.09 | 1.08 | 1.06 | 1.05 |
| 45          | 1.21                        | 1.21 | 1.20 | 1.19 | 1.19 | 1.18 | 1.17 | 1.16 | 1.15 | 1.14 | 1.12 | 1.11 | 1.10 | 1.08 | 1.07 |
| 40          | 1.23                        | 1.22 | 1.21 | 1.21 | 1.20 | 1.20 | 1.19 | 1.18 | 1.17 | 1.16 | 1.14 | 1.13 | 1.12 | 1.10 | 1.09 |
| 35          | 1.25                        | 1.24 | 1.23 | 1.23 | 1.22 | 1.22 | 1.21 | 1.20 | 1.19 | 1.18 | 1.17 | 1.15 | 1.14 | 1.12 | 1.11 |
| 30          | 1.26                        | 1.26 | 1.25 | 1.25 | 1.24 | 1.24 | 1.23 | 1.22 | 1.21 | 1.20 | 1.19 | 1.18 | 1.16 | 1.15 | 1.14 |
| 25          | 1.26                        | 1.29 | 1.28 | 1.27 | 1.27 | 1.26 | 1.25 | 1.25 | 1.24 | 1.22 | 1.21 | 1.20 | 1.19 | 1.17 | 1.16 |
| 20          | 1.26                        | 1.30 | 1.30 | 1.30 | 1.29 | 1.29 | 1.28 | 1.27 | 1.26 | 1.25 | 1.24 | 1.23 | 1.21 | 1.20 | 1.19 |
| 15          | 1.26                        | 1.30 | 1.33 | 1.33 | 1.32 | 1.31 | 1.31 | 1.30 | 1.29 | 1.28 | 1.27 | 1.25 | 1.24 | 1.23 | 1.22 |
| 10          | 1.26                        | 1.30 | 1.34 | 1.35 | 1.35 | 1.34 | 1.34 | 1.33 | 1.32 | 1.31 | 1.30 | 1.28 | 1.27 | 1.26 | 1.25 |
| 5           | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.38 | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 | 1.30 | 1.29 | 1.28 |
| 0           | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.40 | 1.39 | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 |
| -5          | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.42 | 1.41 | 1.40 | 1.39 | 1.38 | 1.37 | 1.36 |
| -10         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.44 | 1.43 | 1.42 | 1.41 |
| -15         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.49 | 1.48 | 1.47 | 1.47 |
| -20         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.54 | 1.53 |
| -25         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.56 | 1.57 |
| -30         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.56 | 1.57 |

#### EPR Adjustments for Engine Bleeds

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (1000 FT) |       |       |       |       |       |       |       |       |       |       |       |       |  |
|---------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                           | 0                           | 5     | 10    | 12    | 16    | 18    | 22    | 24    | 26    | 28    | 30    | 32    | 34    |  |
| PACKS OFF                 | 0.01                        | 0.01  | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  | 0.02  | 0.03  | 0.03  | 0.03  | 0.04  | 0.04  |  |
| ENGINE ANTI-ICE ON        | 0.00                        | 0.00  | -0.03 | -0.03 | -0.03 | -0.03 | -0.03 | -0.04 | -0.04 | -0.04 | -0.04 | -0.05 | -0.05 |  |
| ENGINE & WING ANTI-ICE ON | -0.02                       | -0.02 | -0.05 | -0.06 | -0.06 | -0.06 | -0.06 | -0.07 | -0.07 | -0.08 | -0.08 | -0.09 | -0.10 |  |

## 757 Flight Crew Operations Manual

## GEAR DOWN

## Long Range Cruise Altitude Capability

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 120                 | 15000                  | 12700      | 9800       |
| 115                 | 16600                  | 14700      | 12000      |
| 110                 | 18500                  | 16400      | 14300      |
| 105                 | 20400                  | 18400      | 16200      |
| 100                 | 22500                  | 20300      | 18300      |
| 95                  | 24900                  | 22200      | 20300      |
| 90                  | 27400                  | 24400      | 22400      |
| 85                  | 29700                  | 26900      | 24500      |
| 80                  | 32200                  | 29600      | 26800      |
| 75                  | 33900                  | 32400      | 29400      |
| 70                  | 35200                  | 34700      | 32600      |
| 65                  | 36500                  | 36500      | 34900      |
| 60                  | 37900                  | 37800      | 36700      |



## 757 Flight Crew Operations Manual

**GEAR DOWN****Long Range Cruise Control**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|------|------|------|
|                     |        | 10                          | 14   | 18   | 21   | 23   | 25   | 27   | 29   | 31   | 33   | 35   |
| 120                 | EPR    | 1.19                        | 1.25 |      |      |      |      |      |      |      |      |      |
|                     | MACH   | .454                        | .487 |      |      |      |      |      |      |      |      |      |
|                     | KIAS   | 253                         | 252  |      |      |      |      |      |      |      |      |      |
|                     | FF/ENG | 3245                        | 3235 |      |      |      |      |      |      |      |      |      |
| 110                 | EPR    | 1.17                        | 1.22 | 1.29 |      |      |      |      |      |      |      |      |
|                     | MACH   | .437                        | .468 | .509 |      |      |      |      |      |      |      |      |
|                     | KIAS   | 243                         | 242  | 244  |      |      |      |      |      |      |      |      |
|                     | FF/ENG | 2967                        | 2943 | 2949 |      |      |      |      |      |      |      |      |
| 100                 | EPR    | 1.15                        | 1.19 | 1.24 | 1.30 |      |      |      |      |      |      |      |
|                     | MACH   | .418                        | .449 | .482 | .517 |      |      |      |      |      |      |      |
|                     | KIAS   | 233                         | 232  | 231  | 234  |      |      |      |      |      |      |      |
|                     | FF/ENG | 2689                        | 2673 | 2629 | 2702 |      |      |      |      |      |      |      |
| 90                  | EPR    | 1.13                        | 1.16 | 1.21 | 1.25 | 1.30 | 1.34 | 1.40 |      |      |      |      |
|                     | MACH   | .398                        | .428 | .461 | .487 | .511 | .534 | .552 |      |      |      |      |
|                     | KIAS   | 222                         | 221  | 220  | 220  | 222  | 222  | 220  |      |      |      |      |
|                     | FF/ENG | 2419                        | 2398 | 2359 | 2354 | 2426 | 2399 | 2398 |      |      |      |      |
| 80                  | EPR    | 1.11                        | 1.14 | 1.17 | 1.21 | 1.24 | 1.28 | 1.33 | 1.38 | 1.45 |      |      |
|                     | MACH   | .380                        | .405 | .437 | .462 | .479 | .502 | .527 | .546 | .565 |      |      |
|                     | KIAS   | 211                         | 209  | 208  | 208  | 207  | 208  | 210  | 209  | 207  |      |      |
|                     | FF/ENG | 2172                        | 2125 | 2090 | 2079 | 2074 | 2095 | 2116 | 2118 | 2122 |      |      |
| 70                  | EPR    | 1.09                        | 1.11 | 1.14 | 1.17 | 1.20 | 1.23 | 1.26 | 1.31 | 1.36 | 1.42 | 1.51 |
|                     | MACH   | .360                        | .383 | .411 | .435 | .452 | .470 | .490 | .515 | .538 | .556 | .580 |
|                     | KIAS   | 200                         | 197  | 196  | 195  | 195  | 194  | 194  | 196  | 196  | 194  | 194  |
|                     | FF/ENG | 1935                        | 1875 | 1820 | 1812 | 1810 | 1803 | 1808 | 1829 | 1830 | 1833 | 1895 |
| 60                  | EPR    | 1.07                        | 1.09 | 1.12 | 1.14 | 1.16 | 1.18 | 1.21 | 1.25 | 1.29 | 1.34 | 1.40 |
|                     | MACH   | .335                        | .360 | .388 | .412 | .429 | .447 | .466 | .486 | .508 | .530 | .553 |
|                     | KIAS   | 186                         | 185  | 185  | 185  | 185  | 185  | 185  | 185  | 185  | 185  | 185  |
|                     | FF/ENG | 1679                        | 1642 | 1593 | 1584 | 1584 | 1583 | 1599 | 1600 | 1579 | 1579 | 1596 |

**GEAR DOWN**

**Long Range Cruise Enroute Fuel and Time  
Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 330                      | 294  | 263  | 238  | 218  | 200                        | 188                      | 178  | 168  | 160  | 153  |
| 665                      | 591  | 527  | 477  | 436  | 400                        | 377                      | 356  | 337  | 320  | 306  |
| 1005                     | 891  | 794  | 717  | 654  | 600                        | 566                      | 534  | 506  | 481  | 459  |
| 1348                     | 1194 | 1062 | 958  | 873  | 800                        | 754                      | 712  | 675  | 641  | 611  |
| 1697                     | 1500 | 1331 | 1199 | 1093 | 1000                       | 942                      | 889  | 842  | 800  | 763  |
| 2050                     | 1808 | 1602 | 1442 | 1312 | 1200                       | 1131                     | 1067 | 1010 | 959  | 914  |
| 2409                     | 2121 | 1876 | 1686 | 1533 | 1400                       | 1318                     | 1243 | 1176 | 1117 | 1065 |
| 2775                     | 2439 | 2153 | 1931 | 1754 | 1600                       | 1506                     | 1421 | 1344 | 1275 | 1215 |
| 3147                     | 2760 | 2432 | 2178 | 1975 | 1800                       | 1694                     | 1597 | 1510 | 1432 | 1364 |

**Reference Fuel and Time Required at Check Point**

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 10                          |                  | 14                |                  | 18                |                  | 22                |                  | 28                |                  |
|                     | FUEL<br>(1000 KG)           | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) |
| 200                 | 3.6                         | 0:52             | 3.3               | 0:49             | 2.9               | 0:47             | 2.7               | 0:45             | 2.4               | 0:43             |
| 400                 | 7.3                         | 1:40             | 6.7               | 1:35             | 6.2               | 1:30             | 5.7               | 1:26             | 5.2               | 1:19             |
| 600                 | 10.9                        | 2:29             | 10.1              | 2:22             | 9.3               | 2:14             | 8.7               | 2:07             | 7.9               | 1:56             |
| 800                 | 14.4                        | 3:20             | 13.4              | 3:10             | 12.4              | 2:59             | 11.6              | 2:49             | 10.6              | 2:34             |
| 1000                | 17.9                        | 4:11             | 16.6              | 3:58             | 15.4              | 3:44             | 14.4              | 3:32             | 13.2              | 3:12             |
| 1200                | 21.3                        | 5:03             | 19.8              | 4:47             | 18.3              | 4:31             | 17.2              | 4:15             | 15.8              | 3:51             |
| 1400                | 24.6                        | 5:56             | 22.9              | 5:38             | 21.2              | 5:18             | 19.9              | 4:59             | 18.3              | 4:30             |
| 1600                | 27.8                        | 6:51             | 25.9              | 6:29             | 24.0              | 6:06             | 22.6              | 5:44             | 20.8              | 5:10             |
| 1800                | 31.0                        | 7:47             | 28.9              | 7:21             | 26.8              | 6:55             | 25.2              | 6:29             | 23.2              | 5:51             |

**Fuel Required Adjustment (1000 KG)**

| REFERENCE FUEL REQUIRED<br>(1000 KG) | WEIGHT AT CHECK POINT (1000 KG) |      |     |     |     |     |
|--------------------------------------|---------------------------------|------|-----|-----|-----|-----|
|                                      | 70                              | 80   | 90  | 100 | 110 | 120 |
| 5                                    | -0.5                            | -0.3 | 0.0 | 0.4 | 1.0 | 1.5 |
| 10                                   | -1.1                            | -0.5 | 0.0 | 0.9 | 1.9 | 2.9 |
| 15                                   | -1.7                            | -0.8 | 0.0 | 1.3 | 2.8 | 4.3 |
| 20                                   | -2.3                            | -1.1 | 0.0 | 1.6 | 3.5 | 5.6 |
| 25                                   | -2.8                            | -1.4 | 0.0 | 2.0 | 4.2 | 6.7 |
| 30                                   | -3.4                            | -1.7 | 0.0 | 2.3 | 4.8 | 7.7 |
| 35                                   | -4.0                            | -2.0 | 0.0 | 2.6 | 5.3 | 8.6 |



757 Flight Crew Operations Manual

GEAR DOWN

Descent at VREF30+80

|                             |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| PRESSURE ALTITUDE (1000 FT) | 5  | 10 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 |
| DISTANCE (NM)               | 13 | 23 | 32 | 36 | 40 | 43 | 47 | 51 | 55 | 59 | 63 | 67 | 71 |
| TIME (MINUTES)              | 7  | 9  | 11 | 12 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 18 | 19 |



757 Flight Crew Operations Manual

GEAR DOWN

Holding  
Flaps Up

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |       |       |       |
|---------------------|--------|------------------------|------|-------|-------|-------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 | 20000 | 25000 | 30000 |
| 120                 | EPR    | 1.11                   | 1.14 | 1.18  | 1.25  |       |       |       |
|                     | KIAS   | 237                    | 237  | 237   | 237   |       |       |       |
|                     | FF/ENG | 3220                   | 3180 | 3160  | 3140  |       |       |       |
| 110                 | EPR    | 1.10                   | 1.12 | 1.16  | 1.22  | 1.31  |       |       |
|                     | KIAS   | 229                    | 229  | 229   | 229   | 229   |       |       |
|                     | FF/ENG | 3000                   | 2930 | 2910  | 2870  | 2890  |       |       |
| 100                 | EPR    | 1.09                   | 1.11 | 1.14  | 1.19  | 1.26  |       |       |
|                     | KIAS   | 221                    | 221  | 221   | 221   | 221   |       |       |
|                     | FF/ENG | 2770                   | 2710 | 2650  | 2620  | 2620  |       |       |
| 90                  | EPR    | 1.08                   | 1.09 | 1.12  | 1.16  | 1.23  | 1.32  |       |
|                     | KIAS   | 212                    | 212  | 212   | 212   | 212   | 212   |       |
|                     | FF/ENG | 2540                   | 2500 | 2410  | 2370  | 2370  | 2380  |       |
| 80                  | EPR    | 1.07                   | 1.08 | 1.11  | 1.14  | 1.19  | 1.27  | 1.40  |
|                     | KIAS   | 203                    | 203  | 203   | 203   | 203   | 203   | 203   |
|                     | FF/ENG | 2310                   | 2270 | 2180  | 2140  | 2130  | 2140  | 2160  |
| 70                  | EPR    | 1.06                   | 1.07 | 1.09  | 1.12  | 1.16  | 1.23  | 1.33  |
|                     | KIAS   | 194                    | 194  | 194   | 194   | 194   | 194   | 194   |
|                     | FF/ENG | 2080                   | 2050 | 1970  | 1910  | 1890  | 1890  | 1890  |
| 60                  | EPR    | 1.05                   | 1.06 | 1.07  | 1.10  | 1.13  | 1.18  | 1.27  |
|                     | KIAS   | 185                    | 185  | 185   | 185   | 185   | 185   | 185   |
|                     | FF/ENG | 1860                   | 1820 | 1750  | 1690  | 1660  | 1660  | 1680  |

This table includes 5% additional fuel for holding in a racetrack pattern.



Performance Inflight - QRH

Chapter PI-QRH

Gear Down, Engine Inop

Section 24

GEAR DOWN

ENGINE INOP

MAX CONTINUOUS THRUST

Driftdown Speed/Level Off Altitude

100 ft/min residual rate of climb

Includes APU fuel burn

| WEIGHT (1000 KG)   |              | OPTIMUM<br>DRIFTDOWN<br>SPEED<br>(KIAS) | LEVEL OFF ALTITUDE (FT) |            |            |
|--------------------|--------------|-----------------------------------------|-------------------------|------------|------------|
| START<br>DRIFTDOWN | LEVEL<br>OFF |                                         | ISA + 10°C<br>& BELOW   | ISA + 15°C | ISA + 20°C |
| 110                | 104          | 226                                     | 4300                    |            |            |
| 100                | 95           | 218                                     | 8500                    | 6500       | 3200       |
| 90                 | 85           | 210                                     | 12200                   | 10700      | 8700       |
| 80                 | 76           | 201                                     | 15700                   | 14600      | 13100      |
| 70                 | 67           | 193                                     | 19400                   | 18400      | 17100      |
| 60                 | 57           | 183                                     | 22500                   | 21900      | 21000      |



757 Flight Crew Operations Manual

**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Altitude Capability**  
**100 ft/min residual rate of climb**

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 100                 | 3800                   |            |            |
| 95                  | 7300                   |            |            |
| 90                  | 9900                   | 7400       |            |
| 85                  | 12400                  | 10300      | 7300       |
| 80                  | 14400                  | 13000      | 10700      |
| 75                  | 16200                  | 15000      | 13500      |
| 70                  | 18200                  | 17000      | 15700      |
| 65                  | 20200                  | 19200      | 17800      |
| 60                  | 21700                  | 21000      | 20100      |



757 Flight Crew Operations Manual

**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Control**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|
|                     |        | 6                           | 8    | 10   | 12   | 14   | 16   | 18   | 20   |
| 100                 | EPR    | 1.41                        |      |      |      |      |      |      |      |
|                     | MACH   | .381                        |      |      |      |      |      |      |      |
|                     | KIAS   | 229                         |      |      |      |      |      |      |      |
|                     | FF/ENG | 5281                        |      |      |      |      |      |      |      |
| 90                  | EPR    | 1.35                        | 1.39 | 1.44 | 1.49 |      |      |      |      |
|                     | MACH   | .367                        | .377 | .388 | .396 |      |      |      |      |
|                     | KIAS   | 220                         | 218  | 216  | 212  |      |      |      |      |
|                     | FF/ENG | 4759                        | 4718 | 4699 | 4674 |      |      |      |      |
| 80                  | EPR    | 1.30                        | 1.33 | 1.37 | 1.42 | 1.47 |      |      |      |
|                     | MACH   | .349                        | .361 | .371 | .383 | .395 |      |      |      |
|                     | KIAS   | 209                         | 209  | 206  | 205  | 203  |      |      |      |
|                     | FF/ENG | 4243                        | 4218 | 4166 | 4144 | 4165 |      |      |      |
| 70                  | EPR    | 1.25                        | 1.28 | 1.31 | 1.35 | 1.39 | 1.45 | 1.52 |      |
|                     | MACH   | .328                        | .340 | .352 | .364 | .378 | .393 | .408 |      |
|                     | KIAS   | 196                         | 196  | 196  | 195  | 194  | 194  | 194  |      |
|                     | FF/ENG | 3687                        | 3679 | 3668 | 3637 | 3642 | 3640 | 3728 |      |
| 60                  | EPR    | 1.21                        | 1.23 | 1.26 | 1.29 | 1.32 | 1.36 | 1.42 | 1.48 |
|                     | MACH   | .309                        | .321 | .333 | .346 | .359 | .374 | .388 | .404 |
|                     | KIAS   | 185                         | 185  | 185  | 185  | 185  | 185  | 185  | 185  |
|                     | FF/ENG | 3218                        | 3202 | 3186 | 3186 | 3181 | 3151 | 3165 | 3216 |

## GEAR DOWN

## ENGINE INOP

### MAX CONTINUOUS THRUST

#### Long Range Cruise Diversion Fuel and Time Ground to Air Miles Conversion

| AIR DISTANCE (NM)        |      |      |     |     | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |     |     |     |     |
|--------------------------|------|------|-----|-----|----------------------------|--------------------------|-----|-----|-----|-----|
| HEADWIND COMPONENT (KTS) |      |      |     |     |                            | TAILWIND COMPONENT (KTS) |     |     |     |     |
| 100                      | 80   | 60   | 40  | 20  |                            | 20                       | 40  | 60  | 80  | 100 |
| 170                      | 150  | 132  | 119 | 109 | 100                        | 94                       | 88  | 82  | 78  | 74  |
| 344                      | 302  | 267  | 240 | 219 | 200                        | 187                      | 175 | 165 | 156 | 148 |
| 519                      | 456  | 403  | 362 | 329 | 300                        | 281                      | 263 | 247 | 233 | 221 |
| 696                      | 611  | 538  | 483 | 438 | 400                        | 374                      | 350 | 329 | 310 | 294 |
| 874                      | 767  | 675  | 605 | 549 | 500                        | 467                      | 437 | 410 | 387 | 367 |
| 1054                     | 923  | 812  | 727 | 659 | 600                        | 560                      | 524 | 492 | 464 | 440 |
| 1235                     | 1080 | 949  | 849 | 769 | 700                        | 653                      | 610 | 573 | 540 | 512 |
| 1418                     | 1239 | 1088 | 972 | 880 | 800                        | 746                      | 697 | 654 | 616 | 584 |

#### Reference Fuel and Time Required at Check Point

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 6                           |                  | 10                |                  | 14                |                  | 18                |                  |
|                     | FUEL<br>(1000 KG)           | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) |
| 100                 | 1.9                         | 0:29             | 1.7               | 0:28             | 1.5               | 0:27             | 1.4               | 0:26             |
| 200                 | 3.9                         | 0:55             | 3.6               | 0:53             | 3.4               | 0:51             | 3.2               | 0:48             |
| 300                 | 5.9                         | 1:20             | 5.5               | 1:17             | 5.2               | 1:14             | 5.0               | 1:09             |
| 400                 | 7.9                         | 1:46             | 7.3               | 1:42             | 7.0               | 1:38             | 6.8               | 1:32             |
| 500                 | 9.8                         | 2:13             | 9.1               | 2:07             | 8.7               | 2:02             | 8.5               | 1:54             |
| 600                 | 11.8                        | 2:39             | 11.0              | 2:33             | 10.5              | 2:26             | 10.2              | 2:17             |
| 700                 | 13.6                        | 3:06             | 12.7              | 2:58             | 12.1              | 2:51             | 11.9              | 2:40             |
| 800                 | 15.5                        | 3:34             | 14.5              | 3:24             | 13.8              | 3:15             | 13.5              | 3:03             |

#### Fuel Required Adjustment (1000 KG)

| REFERENCE FUEL REQUIRED<br>(1000 KG) | WEIGHT AT CHECK POINT (1000 KG) |      |     |     |     |
|--------------------------------------|---------------------------------|------|-----|-----|-----|
|                                      | 70                              | 80   | 90  | 100 | 110 |
| 2                                    | -0.2                            | -0.1 | 0.0 | 0.1 | 0.7 |
| 4                                    | -0.5                            | -0.2 | 0.0 | 0.3 | 1.1 |
| 6                                    | -0.7                            | -0.3 | 0.0 | 0.6 | 1.5 |
| 8                                    | -1.0                            | -0.5 | 0.0 | 0.8 | 1.8 |
| 10                                   | -1.2                            | -0.6 | 0.0 | 1.0 | 2.2 |
| 12                                   | -1.5                            | -0.7 | 0.0 | 1.2 | 2.5 |
| 14                                   | -1.7                            | -0.9 | 0.0 | 1.4 | 2.9 |
| 16                                   | -2.0                            | -1.0 | 0.0 | 1.6 | 3.3 |
| 18                                   | -2.2                            | -1.1 | 0.0 | 1.8 | 3.6 |

Includes APU fuel burn.





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**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Holding  
Flaps Up**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |
|---------------------|--------|------------------------|------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 |
| 110                 | EPR    | 1.34                   |      |       |       |
|                     | KIAS   | 229                    |      |       |       |
|                     | FF/ENG | 5820                   |      |       |       |
| 100                 | EPR    | 1.30                   | 1.36 |       |       |
|                     | KIAS   | 221                    | 221  |       |       |
|                     | FF/ENG | 5310                   | 5300 |       |       |
| 90                  | EPR    | 1.26                   | 1.32 | 1.43  |       |
|                     | KIAS   | 212                    | 212  | 212   |       |
|                     | FF/ENG | 4800                   | 4790 | 4820  |       |
| 80                  | EPR    | 1.23                   | 1.27 | 1.36  | 1.51  |
|                     | KIAS   | 203                    | 203  | 203   | 203   |
|                     | FF/ENG | 4330                   | 4310 | 4300  | 4390  |
| 70                  | EPR    | 1.20                   | 1.23 | 1.31  | 1.42  |
|                     | KIAS   | 194                    | 194  | 194   | 194   |
|                     | FF/ENG | 3870                   | 3840 | 3820  | 3800  |
| 60                  | EPR    | 1.17                   | 1.20 | 1.26  | 1.34  |
|                     | KIAS   | 185                    | 185  | 185   | 185   |
|                     | FF/ENG | 3400                   | 3390 | 3350  | 3310  |

This table includes 5% additional fuel for holding in a racetrack pattern.

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## Performance Inflight - QRH

## Chapter PI-QRH

### Text

### Section 25

## Introduction

This chapter contains information to supplement performance data from the Flight Management Computer (FMC). In addition, sufficient inflight data is provided to complete a flight with the FMC inoperative. In the event of conflict between data presented in this chapter and that contained in the approved Airplane Flight Manual, the Flight Manual shall always take precedence.

## General

### Flight with Unreliable Airspeed / Turbulent Air Penetration

Pitch attitude and average EPR information is provided for use in all phases of flight in the event of unreliable airspeed/Mach indications resulting from blocking or freezing of the pitot system. Loss of radome or turbulent air may also cause unreliable airspeed/Mach indications. The cruise table in this section may also be used for turbulent air penetration.

Pitch attitude is shown in bold type for emphasis since altitude and/or vertical speed indications may also be unreliable.

### Max Climb EPR

This table shows Max Climb EPR for a 250/290/.78 climb speed schedule, normal engine bleed for packs on and anti-ice off. Enter the table with airport pressure altitude and TAT and read EPR. EPR adjustments are shown for packs off and anti-ice operation.

### VREF

This table contains flaps 30, 25 and 20 reference speeds for a given weight.

## Advisory Information

### Normal Configuration Landing Distance

Tables are provided as advisory information for normal configuration landing distances on dry runways and slippery runways with good, medium, and poor reported braking action. Landing distances for slippery runways are 115% of the actual landing distances.

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To use these tables, determine the reference landing distance for the selected braking configuration. Then adjust the reference distance for landing weight, altitude, wind, slope, temperature, approach speed, and the number of operative thrust reversers to obtain the actual landing distance.

When landing on slippery runways or runways contaminated with ice, snow, slush, or standing water, the reported braking action must be considered. If the surface is affected by water, snow, or ice and the braking action is reported as "good", conditions should not be expected to be as good as on clean, dry runways. The value "good" is comparative and is intended to mean that airplanes should not experience braking or directional control difficulties when landing. The performance level used to calculate the "good" data is consistent with wet runway testing done on early Boeing jets. The performance level used to calculate "poor" data reflects runways covered with wet ice.

Use of the autobrake system commands the airplane to a constant deceleration rate. In some conditions, such as a runway with "poor" braking action, the airplane may not be able to achieve these deceleration rates. In these cases, runway slope and inoperative reversers influence the stopping distance. Since it cannot be determined quickly when this becomes a factor, it is conservative to add the effects of slope and inoperative reversers when using the autobrake system.

### Non-normal Configuration Landing Distance

Advisory information is provided to support non-normal configurations that affect the landing performance of the airplane. Landing distances and adjustments are provided for dry runways and runways with good, medium, and poor reported braking action.

Enter the table with the applicable non-normal configuration and read the normal approach speed. The reference landing distance is a reference distance from 50 ft above the threshold to stop based on a reference landing weight and speed at sea level, zero wind, and zero slope. Subsequent columns provide adjustments for off-reference landing weight, altitude, wind, slope, and speed conditions. Each adjustment is independently added to the reference landing distance. Landing distance includes the effects of max manual braking and reverse thrust.

### Recommended Brake Cooling Schedule

Advisory information is provided to assist in avoiding the problems associated with hot brakes. For normal operation, most landings are at weights below the AFM quick turnaround limit weight.

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Use of the recommended cooling schedule will help avoid brake overheat and fuse plug problems that could result from repeated landings at short time intervals or a rejected takeoff.

Enter the Recommended Brake Cooling Schedule table with the airplane weight and brakes on speed, adjusted for wind, at the appropriate temperature and altitude condition. Instructions for applying wind adjustments are included below the table. Linear interpolation may be used to obtain intermediate values. The resulting number is the reference brake energy per brake in millions of foot-pounds, and represents the amount of energy absorbed by each brake during a rejected takeoff

To determine the energy per brake absorbed during landing, enter the appropriate Adjusted Brake Energy Per Brake table (No Reverse Thrust or Two Engine Reverse) with the reference brake energy per brake and the type of braking used during landing (Max Manual, Max Auto, or Autobrake). The resulting number is the adjusted brake energy per brake and represents the energy absorbed in each brake during the landing.

The recommended cooling time is found in the final table by entering with the adjusted brake energy per brake or brake temperature monitor system (BTMS) indication on EICAS. Times are provided for ground cooling and inflight gear down cooling.

If brake temperature monitor indication on EICAS is available, the hottest brake indication 10 to 15 minutes after the airplane has come to a complete stop, or inflight with gear retracted, may be used to determine the recommended cooling schedule by entering at the bottom of the chart. The brake temperature light illuminates when the hottest brake is registering 5 on the EICAS indication and extinguishes as the hottest brake cools with an EICAS indication of 4.

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## **Engine Inoperative**

### **Initial Max Continuous EPR**

The Initial Max Continuous EPR setting for use following an engine failure is shown. The table shows a range of Cruise Mach numbers to provide a target EPR setting at the start of driftdown. Also shown is the maximum TAT at which the limit EPR can be set. Once driftdown is established, the Max Continuous EPR table should be used to determine EPR for the given conditions.

## **Max Continuous EPR**

Power setting is based on one engine operating with one A/C pack operating and all anti-ice bleeds off. Enter the table with pressure altitude and IAS or Mach to read EPR.

It is desirable to maintain engine thrust level within the limits of the Max Cruise thrust rating. However, where thrust level in excess of Max Cruise rating is required, such as for meeting terrain clearance, ATC altitude assignments, or to attain maximum range capability, it is permissible to use the thrust needed up to the Max Continuous thrust rating. The Max Continuous thrust rating is intended primarily for emergency use at the discretion of the pilot and is the maximum thrust that may be used continuously.

## **Driftdown Speed/Level Off Altitude**

The table shows optimum driftdown speed as a function of cruise weight at start of driftdown. Also shown are the approximate weight and pressure altitude at which the airplane will level off considering 100 ft/min residual rate of climb.

The level off altitude is dependent on air temperature (ISA deviation).

## **Driftdown/LRC Range Capability**

This table shows the range capability from the start of driftdown. Driftdown is continued to level off altitude. As weight decreases due to fuel burn, the airplane is accelerated to Long Range Cruise speed. Cruise is continued at level off altitude and Long Range Cruise speed.

To determine fuel required, enter the Ground to Air Miles Conversion table with the desired ground distance and adjust for anticipated winds to obtain air distance to destination. Then enter the Driftdown/Cruise Fuel and Time table with air distance and weight at start of driftdown to determine fuel and time required. If altitudes other than the level off altitude are used, fuel and time required may be obtained by using the Engine Inoperative Long Range Cruise Enroute Fuel and Time table.

## **Long Range Cruise Altitude Capability**

The table shows the maximum altitude that can be maintained at a given weight and air temperature (ISA deviation), based on Long Range Cruise speed, Max Continuous thrust, and 100 ft/min residual rate of climb.

## **Long Range Cruise Control**

The table provides target EPR, engine inoperative Long Range Cruise Mach number, IAS and fuel flow for the airplane weight and pressure altitude. The fuel flow values in this table reflect single engine fuel burn.

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### Long Range Cruise Diversion Fuel and Time

Tables are provided for crews to determine the fuel and time required to proceed to an alternate airfield with one engine inoperative. The data is based on single engine Long Range Cruise speed and .78/290/250 descent. Enter with Air Distance as determined from the Ground to Air Miles Conversion table and read Fuel and Time required at the cruise pressure altitude. Adjust the fuel obtained for deviation from the reference weight at checkpoint as required by entering the Fuel Required Adjustment table with the fuel required for the reference weight and the actual weight at checkpoint.

### Holding

Target EPR, indicated airspeed and fuel flow per engine information is tabulated for holding with flaps up based on the FMC optimum holding speed schedule. This is the higher of the maximum endurance speed and the maneuvering speed. Small variations in airspeed will not appreciably affect the overall endurance time. Enter the table with weight and pressure altitude to read EPR, IAS and fuel flow per engine.

---

### Gear Down

This section contains performance for airplane operation with the landing gear extended for all phases of flight. The data is based on engine bleeds for normal air conditioning.

NOTE: The Flight Management Computer System (FMCS) does not contain special provisions for operation with landing gear extended. As a result, the FMCS will generate inaccurate enroute speed schedules, display non-conservative predictions of fuel burn, estimated time of arrival (ETA), maximum altitude, and compute overly shallow descent path. To obtain accurate ETA predictions, gear down cruise speed and altitude should be entered on the CLB and CRZ pages. Gear down cruise speed should also be entered on the DES page and a STEP SIZE of zero should be entered on the PERF INIT or CRZ page. Use of the VNAV during descent under these circumstances is not recommended.

Tables for gear down performance in this section are identical in format and used in the same manner as tables for the gear up configuration previously described.

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# Performance Inflight - QRH

## General

# Chapter PI-QRH

## Section 30

### Flight With Unreliable Airspeed / Turbulent Air Penetration

Altitude and/or vertical speed indications may also be unreliable.

#### Climb (290/.78)

#### Flaps Up, Set Max Climb Thrust

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |            |            |
|---------------------------|------------------|------------------|-------------|------------|------------|
|                           |                  | 60               | 80          | 100        | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>4.5</b>       | <b>4.0</b>  |            |            |
|                           | V/S (FT/MIN)     | 1800             | 800         |            |            |
| 30000                     | <b>PITCH ATT</b> | <b>4.0</b>       | <b>4.0</b>  | <b>3.5</b> | <b>4.0</b> |
|                           | V/S (FT/MIN)     | 2400             | 1600        | 1100       | 600        |
| 20000                     | <b>PITCH ATT</b> | <b>7.0</b>       | <b>6.0</b>  | <b>5.5</b> | <b>5.5</b> |
|                           | V/S (FT/MIN)     | 3700             | 2600        | 1900       | 1400       |
| 10000                     | <b>PITCH ATT</b> | <b>9.5</b>       | <b>8.0</b>  | <b>7.5</b> | <b>7.0</b> |
|                           | V/S (FT/MIN)     | 4900             | 3500        | 2700       | 2000       |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>13.0</b>      | <b>10.5</b> | <b>9.5</b> | <b>8.5</b> |
|                           | V/S (FT/MIN)     | 6000             | 4300        | 3300       | 2600       |

#### Cruise (.78/290)

#### Flaps Up, EPR for Level Flight

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |            |            |            |
|---------------------------|------------------|------------------|------------|------------|------------|
|                           |                  | 60               | 80         | 100        | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>2.0</b>       | <b>3.0</b> |            |            |
|                           | EPR              | 1.13             | 1.25       |            |            |
|                           | (Alt Mode %N1)   | (76.4)           | (80.9)     |            |            |
| 35000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.5</b> | <b>3.0</b> |            |
|                           | EPR              | 1.07             | 1.13       | 1.23       |            |
|                           | (Alt Mode %N1)   | (74.2)           | (76.9)     | (80.4)     |            |
| 30000                     | <b>PITCH ATT</b> | <b>1.0</b>       | <b>1.5</b> | <b>2.5</b> | <b>3.0</b> |
|                           | EPR              | 1.03             | 1.06       | 1.11       | 1.19       |
|                           | (Alt Mode %N1)   | (73.6)           | (75.2)     | (77.5)     | (80.5)     |
| 25000                     | <b>PITCH ATT</b> | <b>1.0</b>       | <b>2.0</b> | <b>2.5</b> | <b>3.5</b> |
|                           | EPR              | 0.99             | 1.01       | 1.05       | 1.10       |
|                           | (Alt Mode %N1)   | (70.0)           | (71.7)     | (73.9)     | (76.6)     |
| 20000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.0</b> | <b>2.5</b> | <b>3.5</b> |
|                           | EPR              | 0.98             | 0.99       | 1.02       | 1.06       |
|                           | (Alt Mode %N1)   | (67.0)           | (68.3)     | (70.5)     | (73.1)     |
| 15000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.0</b> | <b>3.0</b> | <b>3.5</b> |
|                           | EPR              | 0.97             | 0.98       | 1.00       | 1.03       |
|                           | (Alt Mode %N1)   | (63.8)           | (65.2)     | (67.2)     | (69.7)     |

## 757 Flight Crew Operations Manual

### Flight With Unreliable Airspeed / Turbulent Air Penetration

Altitude and/or vertical speed indications may also be unreliable.

Descent (.78/290)

Flaps Up, Set Idle Thrust

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |            |            |
|---------------------------|------------------|------------------|-------------|------------|------------|
|                           |                  | 60               | 80          | 100        | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>-1.0</b>      | <b>0.0</b>  |            |            |
|                           | V/S (FT/MIN)     | -2300            | -2300       |            |            |
| 30000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>0.5</b> |
|                           | V/S (FT/MIN)     | -2800            | -2300       | -2100      | -2000      |
| 20000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -2600            | -2100       | -1900      | -1800      |
| 10000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -2200            | -1800       | -1600      | -1600      |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -1900            | -1600       | -1400      | -1400      |

### Holding

Flaps Up, EPR for Level Flight

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |            |            |            |
|---------------------------|------------------|------------------|------------|------------|------------|
|                           |                  | 60               | 80         | 100        | 120        |
| 10000                     | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.5</b> | <b>6.0</b> | <b>6.0</b> |
|                           | EPR              | 1.01             | 1.02       | 1.03       | 1.04       |
|                           | (Alt Mode %N1)   | (49.7)           | (55.9)     | (61.0)     | (65.3)     |
|                           | KIAS             | 185              | 204        | 223        | 244        |
| 5000                      | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.5</b> | <b>6.0</b> | <b>6.0</b> |
|                           | EPR              | 1.00             | 1.01       | 1.02       | 1.03       |
|                           | (Alt Mode %N1)   | (46.7)           | (52.4)     | (57.5)     | (61.8)     |
|                           | KIAS             | 185              | 204        | 222        | 243        |

### Terminal Area (5000 FT)

EPR for Level Flight

| FLAP POSITION<br>(VREF + INCREMENT)      |                  | WEIGHT (1000 KG) |            |            |            |
|------------------------------------------|------------------|------------------|------------|------------|------------|
|                                          |                  | 60               | 80         | 100        | 120        |
| FLAPS UP<br>(GEAR UP)<br>(VREF30 + 80)   | <b>PITCH ATT</b> | <b>5.0</b>       | <b>6.0</b> | <b>6.5</b> | <b>6.5</b> |
|                                          | EPR              | 1.01             | 1.02       | 1.03       | 1.04       |
|                                          | KIAS             | 185              | 204        | 221        | 238        |
|                                          | (Alt Mode %N1)   | (44.4)           | (51.2)     | (56.4)     | (61.5)     |
| FLAPS 1<br>(GEAR UP)<br>(VREF30 + 60)    | <b>PITCH ATT</b> | <b>6.5</b>       | <b>7.0</b> | <b>7.5</b> | <b>8.0</b> |
|                                          | EPR              | 1.02             | 1.04       | 1.05       | 1.07       |
|                                          | KIAS             | 165              | 184        | 201        | 218        |
|                                          | (Alt Mode %N1)   | (45.9)           | (52.4)     | (58.2)     | (63.7)     |
| FLAPS 5<br>(GEAR UP)<br>(VREF30 + 40)    | <b>PITCH ATT</b> | <b>7.0</b>       | <b>7.0</b> | <b>7.5</b> | <b>7.5</b> |
|                                          | EPR              | 1.03             | 1.05       | 1.07       | 1.09       |
|                                          | KIAS             | 145              | 164        | 181        | 197        |
|                                          | (Alt Mode %N1)   | (46.0)           | (53.0)     | (59.7)     | (64.5)     |
| FLAPS 15<br>(GEAR UP)<br>(VREF30 + 20)   | <b>PITCH ATT</b> | <b>8.0</b>       | <b>8.0</b> | <b>8.0</b> | <b>8.0</b> |
|                                          | EPR              | 1.05             | 1.07       | 1.10       | 1.13       |
|                                          | KIAS             | 125              | 144        | 161        | 177        |
|                                          | (Alt Mode %N1)   | (47.5)           | (55.4)     | (62.0)     | (66.6)     |
| FLAPS 20<br>(GEAR DOWN)<br>(VREF30 + 20) | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.5</b> | <b>5.5</b> | <b>5.0</b> |
|                                          | EPR              | 1.07             | 1.12       | 1.14       | 1.18       |
|                                          | KIAS             | 125              | 144        | 161        | 177        |
|                                          | (Alt Mode %N1)   | (53.4)           | (61.7)     | (67.8)     | (72.7)     |

## 757 Flight Crew Operations Manual

**Flight With Unreliable Airspeed / Turbulent Air Penetration**

Altitude and/or vertical speed indications may also be unreliable.

**Final Approach (1500 FT)****Gear Down, EPR for 3° Glideslope**

| FLAP POSITION<br>(VREF + INCREMENT) |                  | WEIGHT (1000 KG) |            |            |            |
|-------------------------------------|------------------|------------------|------------|------------|------------|
|                                     |                  | 60               | 80         | 100        | 120        |
| FLAPS 20<br>(VREF20 + 10)           | <b>PITCH ATT</b> | <b>2.0</b>       | <b>2.0</b> | <b>2.0</b> | <b>2.0</b> |
|                                     | EPR              | 1.02             | 1.03       | 1.04       | 1.05       |
|                                     | KIAS             | 126              | 145        | 162        | 177        |
|                                     | (Alt Mode %N1)   | (38.3)           | (43.5)     | (48.4)     | (52.8)     |
| FLAPS 25<br>(VREF25 + 10)           | <b>PITCH ATT</b> | <b>2.5</b>       | <b>2.5</b> | <b>2.5</b> | <b>2.5</b> |
|                                     | EPR              | 1.03             | 1.04       | 1.06       | 1.07       |
|                                     | KIAS             | 118              | 136        | 153        | 168        |
|                                     | (Alt Mode %N1)   | (40.8)           | (47.1)     | (52.8)     | (58.2)     |
| FLAPS 30<br>(VREF30 + 10)           | <b>PITCH ATT</b> | <b>1.0</b>       | <b>1.0</b> | <b>0.5</b> | <b>0.5</b> |
|                                     | EPR              | 1.04             | 1.06       | 1.08       | 1.12       |
|                                     | KIAS             | 115              | 134        | 151        | 167        |
|                                     | (Alt Mode %N1)   | (44.1)           | (51.5)     | (58.3)     | (63.5)     |

**Go-Around (VREF 30 + 20)****Flaps 20, Gear Up, Set Go-Around Thrust (Normal Mode)**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |             |             |             |
|---------------------------|------------------|------------------|-------------|-------------|-------------|-------------|
|                           |                  | 60               | 80          | 100         | 120         | 140         |
| 10000                     | <b>PITCH ATT</b> | <b>21.5</b>      | <b>15.5</b> | <b>12.0</b> | <b>9.5</b>  | <b>8.0</b>  |
|                           | V/S (FT/MIN)     | 4800             | 3600        | 2800        | 2100        | 1600        |
|                           | KIAS             | 134              | 153         | 170         | 185         | 199         |
| 5000                      | <b>PITCH ATT</b> | <b>25.0</b>      | <b>18.0</b> | <b>14.0</b> | <b>11.0</b> | <b>9.5</b>  |
|                           | V/S (FT/MIN)     | 5300             | 4000        | 3200        | 2500        | 2000        |
|                           | KIAS             | 134              | 153         | 170         | 185         | 198         |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>28.0</b>      | <b>20.0</b> | <b>15.5</b> | <b>12.5</b> | <b>10.5</b> |
|                           | V/S (FT/MIN)     | 5600             | 4300        | 3400        | 2700        | 2200        |
|                           | KIAS             | 134              | 153         | 170         | 184         | 198         |

**Go-Around (VREF 30 + 20)****Flaps 20, Gear Up, Set Go-Around Thrust (Alternate Mode)**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |             |             |            |
|---------------------------|------------------|------------------|-------------|-------------|-------------|------------|
|                           |                  | 60               | 80          | 100         | 120         | 140        |
| 10000                     | <b>PITCH ATT</b> | <b>19.5</b>      | <b>14.0</b> | <b>11.0</b> | <b>9.0</b>  | <b>7.5</b> |
|                           | V/S (FT/MIN)     | 4300             | 3200        | 2400        | 1800        | 1300       |
|                           | KIAS             | 134              | 153         | 170         | 185         | 199        |
| 5000                      | <b>PITCH ATT</b> | <b>22.5</b>      | <b>16.5</b> | <b>12.5</b> | <b>10.0</b> | <b>8.5</b> |
|                           | V/S (FT/MIN)     | 4800             | 3600        | 2800        | 2200        | 1700       |
|                           | KIAS             | 134              | 153         | 170         | 185         | 198        |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>25.0</b>      | <b>18.0</b> | <b>14.0</b> | <b>11.5</b> | <b>9.5</b> |
|                           | V/S (FT/MIN)     | 5000             | 3800        | 3000        | 2400        | 1900       |
|                           | KIAS             | 134              | 153         | 170         | 184         | 198        |



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Max Climb EPR

Based on engine bleed for packs on and anti-ice off

| TAT<br>(°C) | PRESSURE ALTITUDE (1000 FT)/SPEED (KIAS OR MACH) |      |      |      |      |      |      |      |      |
|-------------|--------------------------------------------------|------|------|------|------|------|------|------|------|
|             | 0                                                | 5    | 10   | 15   | 20   | 25   | 30   | 35   | 40   |
|             | 250                                              | 250  | 250  | 290  | 290  | 290  | 290  | .78  | .78  |
| 60          | 1.15                                             | 1.14 | 1.12 | 1.08 | 1.05 | 1.02 | 0.99 | 0.98 | 0.97 |
| 50          | 1.18                                             | 1.17 | 1.16 | 1.11 | 1.09 | 1.06 | 1.04 | 1.03 | 1.02 |
| 40          | 1.22                                             | 1.21 | 1.19 | 1.15 | 1.13 | 1.11 | 1.09 | 1.08 | 1.07 |
| 30          | 1.24                                             | 1.25 | 1.23 | 1.20 | 1.18 | 1.16 | 1.14 | 1.13 | 1.12 |
| 20          | 1.24                                             | 1.27 | 1.28 | 1.25 | 1.23 | 1.21 | 1.19 | 1.18 | 1.18 |
| 10          | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.29 | 1.27 | 1.26 | 1.25 | 1.24 |
| 0           | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.33 | 1.32 | 1.32 |
| -10         | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.39 | 1.41 | 1.41 |
| -20         | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.39 | 1.48 | 1.50 |

EPR Adjustments for Engine Bleeds

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (1000 FT) |       |       |       |       |       |       |       |       |  |
|---------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                           | 0                           | 5     | 10    | 15    | 20    | 25    | 30    | 35    | 40    |  |
| PACKS OFF                 | 0.01                        | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  | 0.03  | 0.04  | 0.04  |  |
| ENGINE ANTI-ICE ON        | 0.00                        | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.04 | -0.05 | -0.07 |  |
| ENGINE & WING ANTI-ICE ON | -0.02                       | -0.02 | -0.06 | -0.06 | -0.06 | -0.07 | -0.08 | -0.10 | -0.13 |  |



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VREF (KIAS)

| WEIGHT<br>(1000 KG) | FLAPS |     |     |
|---------------------|-------|-----|-----|
|                     | 30    | 25  | 20  |
| 120                 | 157   | 158 | 167 |
| 110                 | 149   | 151 | 159 |
| 100                 | 140   | 142 | 151 |
| 90                  | 132   | 134 | 143 |
| 80                  | 124   | 126 | 135 |
| 70                  | 115   | 117 | 125 |
| 60                  | 106   | 108 | 116 |

**757 Flight Crew Operations Manual**

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## 757 Flight Crew Operations Manual

**Performance Inflight - QRH**  
**Advisory Information**
**Chapter PI-QRH**  
**Section 31**
**ADVISORY INFORMATION****Normal Configuration Landing Distance****Flaps 30****Dry Runway**

|                          | LANDING DISTANCE AND ADJUSTMENTS (FT) |                                               |                                 |                        |              |                     |            |                      |            |                                  |                          |           |
|--------------------------|---------------------------------------|-----------------------------------------------|---------------------------------|------------------------|--------------|---------------------|------------|----------------------|------------|----------------------------------|--------------------------|-----------|
|                          | REF<br>DIST                           | WT<br>ADJ                                     | ALT<br>ADJ                      | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | TEMP ADJ<br>PER 10°C |            | VREF<br>ADJ                      | REVERSE<br>THRUST<br>ADJ |           |
| BRAKING<br>CONFIGURATION | 86000 KG<br>LANDING<br>WEIGHT         | PER<br>5000 KG<br>ABOVE/<br>BELOW<br>86000 KG | PER<br>1000 FT<br>STD/<br>HIGH* | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | ABV<br>ISA           | BLW<br>ISA | PER<br>10 KTS<br>ABOVE<br>VREF30 | ONE<br>REV               | NO<br>REV |
| MAX MANUAL               | 2700                                  | +110/-100                                     | 60/70                           | -110                   | 380          | 40                  | -30        | 50                   | -50        | 210                              | 60                       | 130       |
| MAX AUTO                 | 4040                                  | +180/-180                                     | 90/120                          | -180                   | 570          | 50                  | -50        | 90                   | -90        | 310                              | 180                      | 360       |
| AUTOBRAKE 4              | 4360                                  | +210/-200                                     | 110/140                         | -210                   | 680          | 60                  | -60        | 110                  | -100       | 360                              | 190                      | 390       |
| AUTOBRAKE 3              | 4940                                  | +260/-260                                     | 140/180                         | -250                   | 850          | 90                  | -90        | 140                  | -130       | 410                              | 240                      | 470       |
| AUTOBRAKE 2              | 5280                                  | +320/-310                                     | 170/220                         | -290                   | 980          | 150                 | -150       | 160                  | -140       | 410                              | 540                      | 800       |
| AUTOBRAKE 1              | 5530                                  | +360/-320                                     | 190/270                         | -320                   | 1110         | 190                 | -170       | 170                  | -150       | 410                              | 960                      | 1450      |

**Good Reported Braking Action**

|             |      |           |         |      |     |    |     |     |      |     |     |     |
|-------------|------|-----------|---------|------|-----|----|-----|-----|------|-----|-----|-----|
| MAX MANUAL  | 3520 | +160/-150 | 90/120  | -170 | 610 | 80 | -70 | 80  | -80  | 280 | 220 | 540 |
| MAX AUTO    | 4200 | +200/-190 | 100/140 | -200 | 690 | 90 | -80 | 100 | -90  | 310 | 360 | 910 |
| AUTOBRAKE 4 | 4410 | +210/-210 | 110/140 | -220 | 730 | 80 | -70 | 110 | -110 | 360 | 240 | 670 |
| AUTOBRAKE 3 | 4940 | +260/-260 | 140/180 | -250 | 850 | 90 | -90 | 140 | -130 | 410 | 240 | 480 |

**Medium Reported Braking Action**

|             |      |           |         |      |      |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 4560 | +240/-210 | 130/180 | -260 | 970  | 180 | -140 | 120 | -110 | 340 | 590 | 1640 |
| MAX AUTO    | 4810 | +260/-240 | 140/190 | -280 | 1000 | 190 | -160 | 130 | -110 | 340 | 740 | 2050 |
| AUTOBRAKE 4 | 4840 | +260/-240 | 140/190 | -280 | 1000 | 180 | -150 | 130 | -110 | 360 | 720 | 2020 |
| AUTOBRAKE 3 | 5180 | +280/-280 | 150/190 | -300 | 1060 | 160 | -150 | 140 | -130 | 410 | 460 | 1660 |

**Poor Reported Braking Action**

|             |      |           |         |      |      |     |      |     |      |     |      |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|------|------|
| MAX MANUAL  | 5620 | +320/-280 | 170/250 | -370 | 1470 | 390 | -260 | 150 | -130 | 380 | 1200 | 3850 |
| MAX AUTO    | 5620 | +330/-310 | 180/250 | -400 | 1480 | 390 | -280 | 160 | -130 | 370 | 1320 | 4200 |
| AUTOBRAKE 4 | 5620 | +330/-310 | 180/250 | -400 | 1480 | 390 | -280 | 160 | -130 | 380 | 1320 | 4200 |
| AUTOBRAKE 3 | 5730 | +330/-310 | 170/250 | -400 | 1490 | 370 | -270 | 160 | -140 | 410 | 1200 | 4080 |

Reference distance is for sea level, standard day, no wind or slope, VREF30 approach speed and 2 engine reverse thrust.

Max Manual braking data valid for auto speedbrakes. For manual speedbrakes, increase reference landing distance by 270 ft.

Autobrake data valid both for auto and manual speedbrakes.

Actual (unfactored) distances are shown.

Includes distance from 50 ft above threshold (1000 ft of air distance).

\*For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply the HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Normal Configuration Landing Distance

##### Flaps 25

##### Dry Runway

|                          | LANDING DISTANCE AND ADJUSTMENTS (FT) |                                               |                                 |                        |              |                     |            |                      |            |                                  |                          |           |
|--------------------------|---------------------------------------|-----------------------------------------------|---------------------------------|------------------------|--------------|---------------------|------------|----------------------|------------|----------------------------------|--------------------------|-----------|
|                          | REF<br>DIST                           | WT<br>ADJ                                     | ALT<br>ADJ                      | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | TEMP ADJ<br>PER 10°C |            | VREF<br>ADJ                      | REVERSE<br>THRUST<br>ADJ |           |
| BRAKING<br>CONFIGURATION | 86000 KG<br>LANDING<br>WEIGHT         | PER<br>5000 KG<br>ABOVE/<br>BELOW<br>86000 KG | PER<br>1000 FT<br>STD/<br>HIGH* | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | ABV<br>ISA           | BLW<br>ISA | PER<br>10 KTS<br>ABOVE<br>VREF25 | ONE<br>REV               | NO<br>REV |
| MAX MANUAL               | 2730                                  | +100/-100                                     | 60/80                           | -110                   | 390          | 40                  | -30        | 60                   | -50        | 210                              | 60                       | 140       |
| MAX AUTO                 | 4170                                  | +180/-180                                     | 100/130                         | -180                   | 580          | 50                  | -50        | 100                  | -90        | 320                              | 190                      | 400       |
| AUTOBRAKE 4              | 4510                                  | +210/-210                                     | 110/150                         | -210                   | 690          | 60                  | -60        | 120                  | -110       | 380                              | 210                      | 430       |
| AUTOBRAKE 3              | 5120                                  | +260/-260                                     | 140/190                         | -260                   | 860          | 90                  | -100       | 150                  | -130       | 430                              | 270                      | 530       |
| AUTOBRAKE 2              | 5460                                  | +320/-320                                     | 180/240                         | -300                   | 1000         | 160                 | -160       | 180                  | -150       | 430                              | 610                      | 900       |
| AUTOBRAKE 1              | 5710                                  | +360/-330                                     | 200/280                         | -330                   | 1120         | 200                 | -180       | 190                  | -150       | 430                              | 1070                     | 1600      |

#### Good Reported Braking Action

|             |      |           |         |      |     |    |      |     |      |     |     |     |
|-------------|------|-----------|---------|------|-----|----|------|-----|------|-----|-----|-----|
| MAX MANUAL  | 3580 | +160/-150 | 90/120  | -170 | 610 | 80 | -70  | 80  | -80  | 280 | 230 | 580 |
| MAX AUTO    | 4310 | +200/-190 | 100/140 | -210 | 690 | 90 | -80  | 100 | -100 | 320 | 380 | 990 |
| AUTOBRAKE 4 | 4560 | +210/-210 | 110/150 | -220 | 740 | 80 | -80  | 120 | -110 | 380 | 250 | 720 |
| AUTOBRAKE 3 | 5120 | +260/-260 | 140/190 | -260 | 860 | 90 | -100 | 150 | -130 | 430 | 270 | 530 |

#### Medium Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 4660 | +240/-210 | 130/190 | -260 | 980  | 180 | -150 | 120 | -110 | 350 | 640 | 1810 |
| MAX AUTO    | 4940 | +260/-240 | 140/200 | -290 | 1010 | 190 | -160 | 140 | -120 | 350 | 810 | 2270 |
| AUTOBRAKE 4 | 4970 | +250/-240 | 140/200 | -290 | 1010 | 180 | -150 | 130 | -120 | 380 | 770 | 2230 |
| AUTOBRAKE 3 | 5350 | +280/-280 | 150/200 | -310 | 1080 | 170 | -150 | 150 | -140 | 430 | 500 | 1840 |

#### Poor Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |      |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|------|------|
| MAX MANUAL  | 5770 | +320/-290 | 170/250 | -370 | 1490 | 400 | -270 | 160 | -140 | 390 | 1300 | 4320 |
| MAX AUTO    | 5770 | +330/-310 | 180/260 | -400 | 1490 | 400 | -290 | 170 | -140 | 390 | 1440 | 4730 |
| AUTOBRAKE 4 | 5770 | +330/-310 | 180/260 | -400 | 1490 | 400 | -290 | 170 | -140 | 390 | 1430 | 4720 |
| AUTOBRAKE 3 | 5910 | +330/-310 | 180/250 | -410 | 1510 | 380 | -270 | 170 | -140 | 430 | 1290 | 4590 |

Reference distance is for sea level, standard day, no wind or slope, VREF25 approach speed and 2 engine reverse thrust.

Max Manual braking data valid for auto speedbrakes. For manual speedbrakes, increase reference landing distance by 270 ft.

Autobrake data valid for both auto and manual speedbrakes.

Actual (unfactored) distances are shown.

Includes distance from 50 ft above threshold (1000 ft of air distance).

\*For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply the HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

Non-Normal Configuration Landing Distance  
Dry Runway

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 3545                                                        | 60/-55                                                  | 85/120                                            | -150                   | 535          | 75                  | -65        | 400                         |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 4060                                                        | 75/-65                                                  | 95/140                                            | -195                   | 730          | 90                  | -75        | 320                         |
| FLAPS UP                                                                    | VREF30+50 | 3645                                                        | 140/-55                                                 | 100/160                                           | -150                   | 585          | 55                  | -50        | 285                         |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 2735                                                        | 50/-40                                                  | 60/80                                             | -110                   | 400          | 40                  | -35        | 235                         |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 3245                                                        | 55/-50                                                  | 70/100                                            | -135                   | 475          | 50                  | -45        | 310                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 3515                                                        | 55/-55                                                  | 80/110                                            | -140                   | 490          | 55                  | -50        | 310                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 3295                                                        | 60/-55                                                  | 80/120                                            | -145                   | 515          | 75                  | -65        | 355                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 3925                                                        | 65/-55                                                  | 95/130                                            | -155                   | 530          | 65                  | -60        | 360                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 4065                                                        | 70/-65                                                  | 110/155                                           | -170                   | 585          | 100                 | -85        | 425                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 5585                                                        | 95/-80                                                  | 155/245                                           | -240                   | 815          | 220                 | -175       | 755                         |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Dry Runway**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 2870                                                        | 55/-45                                                  | 60/75                                             | -115                   | 395          | 35                  | -35        | 220                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 3330                                                        | 85/-50                                                  | 80/105                                            | -125                   | 430          | 45                  | -40        | 230                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 3550                                                        | 105/-55                                                 | 85/130                                            | -130                   | 445          | 45                  | -45        | 235                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 2915                                                        | 65/-45                                                  | 65/85                                             | -115                   | 450          | 40                  | -35        | 235                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 3355                                                        | 95/-50                                                  | 80/105                                            | -135                   | 505          | 50                  | -45        | 265                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 3235                                                        | 100/-45                                                 | 75/100                                            | -135                   | 495          | 45                  | -40        | 245                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 3445                                                        | 120/-50                                                 | 80/125                                            | -140                   | 525          | 50                  | -45        | 255                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Good Reported Braking Action**

| LANDING CONFIGURATION                                                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|----------------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                     | VREF30    | 5175                                                        | 95/-80                                                  | 150/240                                           | -270                   | 965          | 255                 | -190       | 590                         |
| ANTI-SKID SYSTEM INOP                                                            | VREF30    | 4840                                                        | 100/-90                                                 | 130/185                                           | -265                   | 1035         | 170                 | -135       | 365                         |
| FLAPS UP                                                                         | VREF30+50 | 4865                                                        | 90/-80                                                  | 140/190                                           | -200                   | 720          | 100                 | -90        | 285                         |
| HYDRAULIC SYSTEM CENTER INOP                                                     | VREF30    | 3535                                                        | 70/-60                                                  | 90/125                                            | -170                   | 630          | 85                  | -75        | 300                         |
| HYDRAULIC SYSTEM LEFT INOP                                                       | VREF30    | 4315                                                        | 85/-75                                                  | 115/170                                           | -215                   | 775          | 135                 | -110       | 415                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS $\geq$ 20 | VREF20    | 4745                                                        | 85/-80                                                  | 130/190                                           | -225                   | 810          | 145                 | -120       | 420                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                      | VREF30    | 4205                                                        | 90/-75                                                  | 120/175                                           | -210                   | 770          | 150                 | -120       | 440                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                                  | VREF30+20 | 5310                                                        | 95/-90                                                  | 150/225                                           | -245                   | 865          | 175                 | -140       | 480                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                                 | VREF30+20 | 5240                                                        | 100/-95                                                 | 155/240                                           | -245                   | 865          | 195                 | -160       | 520                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                                    | VREF30+20 | 7430                                                        | 125/-100                                                | 235/385                                           | -350                   | 1210         | 495                 | -355       | 980                         |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Good Reported Braking Action**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 3740                                                        | 70/-65                                                  | 95/135                                            | -175                   | 625          | 85                  | -75        | 290                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 4350                                                        | 80/-75                                                  | 120/170                                           | -190                   | 670          | 95                  | -85        | 300                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 4680                                                        | 85/-80                                                  | 130/185                                           | -200                   | 695          | 100                 | -90        | 305                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 3965                                                        | 75/-70                                                  | 105/140                                           | -190                   | 685          | 110                 | -90        | 320                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 4575                                                        | 85/-80                                                  | 125/170                                           | -205                   | 740          | 125                 | -105       | 325                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 4270                                                        | 80/-70                                                  | 115/165                                           | -185                   | 680          | 90                  | -80        | 280                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 4555                                                        | 85/-75                                                  | 125/180                                           | -190                   | 700          | 95                  | -85        | 280                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Medium Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 8520                                                        | 140/-95                                                 | 315/640                                           | -545                   | 2090         | 1210                | -650       | 830                         |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 5850                                                        | 130/-115                                                | 170/255                                           | -375                   | 1565         | 385                 | -255       | 410                         |
| FLAPS UP                                                                    | VREF30+50 | 6380                                                        | 130/-120                                                | 205/295                                           | -300                   | 1140         | 230                 | -185       | 360                         |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 4540                                                        | 100/-90                                                 | 135/190                                           | -255                   | 1005         | 195                 | -150       | 360                         |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 5920                                                        | 125/-105                                                | 185/305                                           | -350                   | 1360         | 380                 | -265       | 515                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 6600                                                        | 130/-120                                                | 210/345                                           | -375                   | 1425         | 420                 | -290       | 540                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 5880                                                        | 130/-110                                                | 195/325                                           | -355                   | 1365         | 415                 | -285       | 540                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 7350                                                        | 150/-130                                                | 245/395                                           | -400                   | 1500         | 475                 | -335       | 595                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 7390                                                        | 160/-135                                                | 260/420                                           | -405                   | 1515         | 525                 | -365       | 635                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 13050                                                       | 185/-95                                                 | 510/1075                                          | -730                   | 2640         | 2455                | -1215      | 1420                        |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).  
Actual (unfactored) distances are shown.  
Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Non-Normal Configuration Landing Distance Medium Reported Braking Action

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 4870                                                        | 100/-95                                                 | 140/210                                           | -265                   | 990          | 185                 | -150       | 360                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 5630                                                        | 120/-105                                                | 170/245                                           | -285                   | 1050         | 205                 | -170       | 360                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 6090                                                        | 130/-115                                                | 195/280                                           | -295                   | 1085         | 215                 | -180       | 370                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 5470                                                        | 115/-105                                                | 160/230                                           | -305                   | 1155         | 285                 | -210       | 420                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 6270                                                        | 130/-120                                                | 190/270                                           | -325                   | 1220         | 310                 | -235       | 415                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 5590                                                        | 120/-105                                                | 175/250                                           | -280                   | 1080         | 210                 | -165       | 350                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 5940                                                        | 125/-110                                                | 185/270                                           | -290                   | 1105         | 220                 | -170       | 350                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.



## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Poor Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | >15000                                                      | -                                                       | -                                                 | -                      | -            | -                   | -          | -                           |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 7445                                                        | 180/-155                                                | 235/335                                           | -600                   | 2865         | 2340                | -565       | 445                         |
| FLAPS UP                                                                    | VREF30+50 | 7865                                                        | 175/-160                                                | 275/400                                           | -425                   | 1720         | 515                 | -325       | 415                         |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 5580                                                        | 135/-115                                                | 175/265                                           | -370                   | 1545         | 445                 | -270       | 400                         |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 8050                                                        | 170/-130                                                | 300/555                                           | -590                   | 2555         | 1645                | -615       | 590                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 9035                                                        | 180/-155                                                | 340/630                                           | -630                   | 2670         | 1790                | -680       | 635                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 8080                                                        | 175/-135                                                | 315/585                                           | -600                   | 2580         | 1740                | -650       | 610                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 9945                                                        | 205/-170                                                | 380/705                                           | -665                   | 2775         | 1930                | -745       | 675                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 10085                                                       | 220/-175                                                | 405/750                                           | -675                   | 2805         | 2055                | -800       | 715                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | >15000                                                      | -                                                       | -                                                 | -                      | -            | -                   | -          | -                           |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Non-Normal Configuration Landing Distance

#### Poor Reported Braking Action

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1510         | 410                 | -275       | 405                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 6880                                                        | 160/-140                                                | 225/340                                           | -405                   | 1580         | 435                 | -300       | 400                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 7480                                                        | 170/-155                                                | 255/370                                           | -420                   | 1625         | 455                 | -315       | 425                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 7155                                                        | 170/-155                                                | 230/335                                           | -460                   | 1845         | 720                 | -420       | 500                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 8105                                                        | 185/-170                                                | 270/380                                           | -485                   | 1925         | 760                 | -450       | 485                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 6885                                                        | 160/-135                                                | 230/345                                           | -400                   | 1645         | 480                 | -300       | 405                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 7295                                                        | 170/-145                                                | 250/365                                           | -410                   | 1675         | 490                 | -305       | 400                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

## Recommended Brake Cooling Schedule

## Reference Brake Energy Per Brake (Millions of Foot Pounds)

|                     |             | BRAKES ON SPEED (KIAS) |      |      |      |      |      |           |      |      |      |      |      |           |      |      |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|---------------------|-------------|------------------------|------|------|------|------|------|-----------|------|------|------|------|------|-----------|------|------|------|------|------|-----------|---|----|---|---|----|-----------|---|----|---|---|----|-----------|--|--|--|--|--|
|                     |             | 80                     |      |      |      |      |      | 100       |      |      |      |      |      | 120       |      |      |      |      |      | 140       |   |    |   |   |    | 160       |   |    |   |   |    | 180       |  |  |  |  |  |
| WEIGHT<br>(1000 KG) | OAT<br>(°C) | PRESS ALT              |      |      |      |      |      | PRESS ALT |      |      |      |      |      | PRESS ALT |      |      |      |      |      | PRESS ALT |   |    |   |   |    | PRESS ALT |   |    |   |   |    | PRESS ALT |  |  |  |  |  |
|                     |             | 0                      | 5    | 10   | 0    | 5    | 10   | 0         | 5    | 10   | 0    | 5    | 10   | 0         | 5    | 10   | 0    | 5    | 10   | 0         | 5 | 10 | 0 | 5 | 10 | 0         | 5 | 10 | 0 | 5 | 10 |           |  |  |  |  |  |
| 120                 | 0           | 9.2                    | 10.9 | 12.7 | 14.1 | 16.8 | 19.6 | 19.8      | 23.9 | 27.9 | 26.3 | 31.7 | 37.1 | 33.1      | 39.8 |      |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 10          | 9.5                    | 11.3 | 13.1 | 14.6 | 17.5 | 20.4 | 20.5      | 24.7 | 28.9 | 27.2 | 32.8 | 38.4 | 34.3      | 41.1 |      |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 15          | 9.7                    | 11.5 | 13.4 | 14.8 | 17.8 | 20.7 | 20.9      | 25.2 | 29.4 | 27.7 | 33.4 | 39.0 | 34.9      | 41.8 |      |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 20          | 9.8                    | 11.7 | 13.6 | 15.1 | 18.1 | 21.1 | 21.2      | 25.6 | 29.9 | 28.1 | 33.9 | 39.7 | 35.5      | 42.5 |      |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 30          | 10.1                   | 12.0 | 14.0 | 15.5 | 18.6 | 21.7 | 21.8      | 26.3 | 30.8 | 29.0 | 34.9 | 40.9 | 36.5      | 43.8 |      |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 40          | 10.3                   | 12.3 | 14.2 | 15.8 | 19.0 | 22.2 | 22.3      | 26.9 | 31.6 | 29.7 | 35.8 | 41.9 | 37.4      | 44.9 |      |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 50          | 10.4                   | 12.4 | 14.4 | 16.0 | 19.3 | 22.5 | 22.7      | 27.4 | 32.1 | 30.2 | 36.5 | 42.8 | 38.2      | 45.9 |      |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
| 110                 | 0           | 8.5                    | 10.1 | 11.7 | 13.0 | 15.5 | 18.1 | 18.2      | 21.9 | 25.7 | 24.1 | 29.1 | 34.1 | 30.5      | 36.7 | 42.9 |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 10          | 8.8                    | 10.5 | 12.1 | 13.4 | 16.1 | 18.7 | 18.9      | 22.7 | 26.6 | 25.0 | 30.2 | 35.3 | 31.6      | 38.0 | 44.4 |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 15          | 9.0                    | 10.6 | 12.3 | 13.7 | 16.4 | 19.1 | 19.2      | 23.1 | 27.1 | 25.4 | 30.7 | 35.9 | 32.1      | 38.6 | 45.1 |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 20          | 9.1                    | 10.8 | 12.6 | 13.9 | 16.7 | 19.4 | 19.6      | 23.5 | 27.5 | 25.9 | 31.2 | 36.5 | 32.7      | 39.3 | 45.9 |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 30          | 9.3                    | 11.1 | 12.9 | 14.3 | 17.1 | 20.0 | 20.1      | 24.2 | 28.3 | 26.6 | 32.1 | 37.6 | 33.6      | 40.4 | 47.2 |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 40          | 9.5                    | 11.3 | 13.2 | 14.6 | 17.5 | 20.4 | 20.6      | 24.8 | 29.0 | 27.2 | 32.9 | 38.5 | 34.5      | 41.4 | 48.4 |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 50          | 9.6                    | 11.4 | 13.3 | 14.8 | 17.8 | 20.7 | 20.9      | 25.2 | 29.5 | 27.7 | 33.5 | 39.3 | 35.1      | 42.3 | 49.5 |      |      |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
| 100                 | 0           | 7.8                    | 9.3  | 10.7 | 11.9 | 14.2 | 16.5 | 16.6      | 20.0 | 23.4 | 22.0 | 26.5 | 31.1 | 27.8      | 33.5 | 39.2 | 33.9 | 40.7 |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 10          | 8.1                    | 9.6  | 11.1 | 12.3 | 14.7 | 17.1 | 17.2      | 20.7 | 24.2 | 22.8 | 27.5 | 32.2 | 28.8      | 34.7 | 40.6 | 35.1 | 42.1 |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 15          | 8.2                    | 9.8  | 11.3 | 12.5 | 15.0 | 17.5 | 17.6      | 21.1 | 24.7 | 23.2 | 28.0 | 32.7 | 29.3      | 35.3 | 41.3 | 35.7 | 42.8 |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 20          | 8.4                    | 10.0 | 11.5 | 12.8 | 15.3 | 17.8 | 17.9      | 21.5 | 25.1 | 23.6 | 28.4 | 33.3 | 29.8      | 35.9 | 42.0 | 36.3 | 43.5 |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 30          | 8.6                    | 10.2 | 11.8 | 13.1 | 15.7 | 18.3 | 18.4      | 22.1 | 25.8 | 24.3 | 29.3 | 34.3 | 30.7      | 36.9 | 43.2 | 37.4 | 44.8 |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 40          | 8.7                    | 10.4 | 12.1 | 13.4 | 16.0 | 18.7 | 18.8      | 22.6 | 26.4 | 24.8 | 30.0 | 35.1 | 31.4      | 37.9 | 44.3 | 38.3 | 45.9 |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 50          | 8.8                    | 10.5 | 12.2 | 13.5 | 16.2 | 18.9 | 19.1      | 23.0 | 26.9 | 25.2 | 30.5 | 35.8 | 32.0      | 38.6 | 45.2 | 39.1 | 46.9 |      |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
| 90                  | 0           | 7.1                    | 8.5  | 9.8  | 10.8 | 12.9 | 15.0 | 15.1      | 18.1 | 21.1 | 19.8 | 23.9 | 28.0 | 25.0      | 30.2 | 35.4 | 30.6 | 36.8 | 43.0 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 10          | 7.4                    | 8.8  | 10.1 | 11.2 | 13.4 | 15.5 | 15.6      | 18.7 | 21.9 | 20.5 | 24.8 | 29.0 | 25.9      | 31.3 | 36.7 | 31.7 | 38.1 | 44.5 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 15          | 7.5                    | 8.9  | 10.3 | 11.4 | 13.6 | 15.8 | 15.9      | 19.1 | 22.3 | 20.9 | 25.2 | 29.5 | 26.4      | 31.8 | 37.3 | 32.2 | 38.7 | 45.2 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 20          | 7.7                    | 9.1  | 10.5 | 11.6 | 13.9 | 16.1 | 16.2      | 19.4 | 22.6 | 21.3 | 25.6 | 30.0 | 26.9      | 32.4 | 37.9 | 32.8 | 39.4 | 46.0 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 30          | 7.9                    | 9.3  | 10.8 | 11.9 | 14.2 | 16.6 | 16.6      | 20.0 | 23.3 | 21.9 | 26.4 | 30.9 | 27.6      | 33.3 | 39.0 | 33.7 | 40.5 | 47.3 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 40          | 8.0                    | 9.5  | 11.0 | 12.1 | 14.5 | 16.9 | 17.0      | 20.4 | 23.8 | 22.4 | 27.0 | 31.6 | 28.3      | 34.1 | 40.0 | 34.6 | 41.6 | 48.6 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 50          | 8.0                    | 9.6  | 11.1 | 12.3 | 14.7 | 17.1 | 17.2      | 20.7 | 24.2 | 22.7 | 27.5 | 32.2 | 28.8      | 34.8 | 40.8 | 35.2 | 42.4 | 49.6 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
| 80                  | 0           | 6.5                    | 7.7  | 8.8  | 9.7  | 11.6 | 13.5 | 13.5      | 16.1 | 18.8 | 17.7 | 21.2 | 24.8 | 22.2      | 26.8 | 31.4 | 27.1 | 32.7 | 38.3 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 10          | 6.7                    | 7.9  | 9.2  | 10.1 | 12.0 | 13.9 | 14.0      | 16.7 | 19.5 | 18.3 | 22.0 | 25.7 | 23.0      | 27.8 | 32.5 | 28.1 | 33.9 | 39.6 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 15          | 6.8                    | 8.1  | 9.3  | 10.3 | 12.2 | 14.2 | 14.2      | 17.0 | 19.9 | 18.6 | 22.4 | 26.2 | 23.4      | 28.3 | 33.1 | 28.6 | 34.4 | 40.3 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 20          | 6.9                    | 8.2  | 9.5  | 10.4 | 12.4 | 14.4 | 14.5      | 17.3 | 20.2 | 18.9 | 22.8 | 26.6 | 23.8      | 28.8 | 33.7 | 29.1 | 35.0 | 41.0 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 30          | 7.1                    | 8.4  | 9.7  | 10.7 | 12.8 | 14.9 | 14.9      | 17.8 | 20.8 | 19.5 | 23.5 | 27.4 | 24.5      | 29.6 | 34.7 | 29.9 | 36.1 | 42.2 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 40          | 7.2                    | 8.6  | 9.9  | 10.9 | 13.0 | 15.2 | 15.2      | 18.2 | 21.2 | 19.9 | 24.0 | 28.1 | 25.1      | 30.3 | 35.5 | 30.6 | 36.9 | 43.2 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 50          | 7.2                    | 8.6  | 10.0 | 11.0 | 13.2 | 15.4 | 15.4      | 18.5 | 21.6 | 20.2 | 24.4 | 28.6 | 25.5      | 30.9 | 36.2 | 31.2 | 37.7 | 44.1 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
| 70                  | 0           | 5.8                    | 6.8  | 7.9  | 8.6  | 10.3 | 11.9 | 11.9      | 14.2 | 16.5 | 15.5 | 18.6 | 21.7 | 19.4      | 23.3 | 27.3 | 23.5 | 28.4 | 33.2 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 10          | 6.0                    | 7.1  | 8.2  | 9.0  | 10.6 | 12.3 | 12.3      | 14.7 | 17.1 | 16.0 | 19.2 | 22.5 | 20.1      | 24.2 | 28.3 | 24.4 | 29.4 | 34.4 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 15          | 6.1                    | 7.2  | 8.3  | 9.1  | 10.8 | 12.6 | 12.5      | 15.0 | 17.4 | 16.3 | 19.6 | 22.9 | 20.4      | 24.6 | 28.8 | 24.8 | 29.9 | 35.0 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 20          | 6.2                    | 7.3  | 8.5  | 9.3  | 11.0 | 12.8 | 12.8      | 15.2 | 17.7 | 16.6 | 19.9 | 23.3 | 20.8      | 25.0 | 29.3 | 25.2 | 30.4 | 35.6 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 30          | 6.4                    | 7.5  | 8.7  | 9.5  | 11.3 | 13.1 | 13.1      | 15.7 | 18.3 | 17.1 | 20.5 | 23.9 | 21.4      | 25.7 | 30.1 | 26.0 | 31.3 | 36.7 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 40          | 6.5                    | 7.6  | 8.8  | 9.7  | 11.5 | 13.4 | 13.4      | 16.0 | 18.6 | 17.4 | 21.0 | 24.5 | 21.8      | 26.3 | 30.8 | 26.6 | 32.1 | 37.6 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |
|                     | 50          | 6.5                    | 7.7  | 8.9  | 9.8  | 11.7 | 13.6 | 13.5      | 16.2 | 18.9 | 17.7 | 21.3 | 24.9 | 22.2      | 26.8 | 31.4 | 27.0 | 32.7 | 38.3 |           |   |    |   |   |    |           |   |    |   |   |    |           |  |  |  |  |  |

To correct for wind, enter table with the brakes on speed minus one half the headwind or plus 1.5 times the tailwind. If ground speed is used for brakes on speed, ignore wind and enter table with sea level, 15°C.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Recommended Brake Cooling Schedule

Adjusted Brake Energy Per Brake (Millions of Foot Pounds)

No Reverse Thrust

|         |             | REFERENCE BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |      |      |      |      |      |      |      |      |      |      |
|---------|-------------|------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| EVENT   |             | 10                                                         | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| LANDING | RTO MAX MAN | 10                                                         | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|         | MAX MAN     | 9.2                                                        | 11.2 | 13.1 | 15.0 | 17.0 | 18.9 | 20.9 | 22.8 | 24.7 | 26.7 | 28.6 |
|         | MAX AUTO    | 8.9                                                        | 10.8 | 12.6 | 14.4 | 16.3 | 18.1 | 19.9 | 21.7 | 23.5 | 25.3 | 27.2 |
|         | AUTOBRAKE 4 | 8.8                                                        | 10.6 | 12.3 | 14.0 | 15.7 | 17.4 | 19.1 | 20.8 | 22.5 | 24.2 | 26.0 |
|         | AUTOBRAKE 3 | 8.7                                                        | 10.4 | 12.0 | 13.7 | 15.3 | 16.9 | 18.4 | 20.0 | 21.6 | 23.2 | 24.8 |
|         | AUTOBRAKE 2 | 8.6                                                        | 10.2 | 11.7 | 13.2 | 14.7 | 16.2 | 17.7 | 19.1 | 20.6 | 22.0 | 23.5 |
|         | AUTOBRAKE 1 | 8.4                                                        | 9.8  | 11.3 | 12.6 | 14.0 | 15.3 | 16.6 | 17.8 | 19.1 | 20.4 | 21.7 |

#### Two Engine Reverse

|         |             | REFERENCE BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |     |      |      |      |      |      |      |      |      |      |
|---------|-------------|------------------------------------------------------------|-----|------|------|------|------|------|------|------|------|------|
| EVENT   |             | 10                                                         | 12  | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| LANDING | RTO MAX MAN | 10                                                         | 12  | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|         | MAX MAN     | 7.6                                                        | 9.2 | 10.8 | 12.5 | 14.2 | 15.9 | 17.6 | 19.3 | 21.0 | 22.6 | 24.2 |
|         | MAX AUTO    | 5.0                                                        | 6.3 | 7.6  | 8.9  | 10.2 | 11.5 | 12.9 | 14.2 | 15.6 | 16.9 | 18.3 |
|         | AUTOBRAKE 4 | 3.4                                                        | 4.3 | 5.3  | 6.2  | 7.2  | 8.2  | 9.2  | 10.2 | 11.3 | 12.3 | 13.5 |
|         | AUTOBRAKE 3 | 2.4                                                        | 3.0 | 3.6  | 4.2  | 4.8  | 5.5  | 6.2  | 6.9  | 7.7  | 8.4  | 9.3  |
|         | AUTOBRAKE 2 | 1.9                                                        | 2.2 | 2.5  | 2.9  | 3.2  | 3.6  | 4.0  | 4.5  | 4.9  | 5.4  | 5.9  |
|         | AUTOBRAKE 1 | 1.5                                                        | 1.7 | 1.9  | 2.1  | 2.3  | 2.5  | 2.8  | 3.0  | 3.2  | 3.5  | 3.7  |

#### Cooling Time (Minutes)

|                       |                         | ADJUSTED BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |    |    |    |    |    |    |          |                        |  |
|-----------------------|-------------------------|-----------------------------------------------------------|----|----|----|----|----|----|----------|------------------------|--|
|                       |                         | 8 & BELOW                                                 | 9  | 10 | 12 | 14 | 16 | 17 | 18 TO 27 | 28 & ABOVE             |  |
| INFLIGHT<br>GEAR DOWN | NO SPECIAL<br>PROCEDURE |                                                           | 1  | 2  | 4  | 5  | 7  | 7  | CAUTION  | FUSE PLUG<br>MELT ZONE |  |
| GROUND                | REQUIRED                |                                                           | 10 | 20 | 38 | 51 | 62 | 66 |          |                        |  |
| BTMS                  | UP TO 2                 |                                                           | 2  | 2  | 3  | 3  | 4  | 5  | 5 TO 8   | 8 & ABOVE              |  |

Observe maximum quick turnaround limit.

Table shows energy per brake added by a single stop with all brakes operating. Energy is assumed to be equally distributed among the operating brakes. Total energy is the sum of residual energy plus energy added.

Add 0.65 million foot pounds per brake for each taxi mile.

For one brake deactivated, increase brake energy by 15 percent.

When in caution zone, wheel fuse plugs may melt. Delay takeoff and inspect after one hour. If overheat occurs after takeoff, extend gear soon for at least 8 minutes.

When in fuse plug melt zone, clear runway immediately. Unless required, do not set parking brake. Do not attempt to taxi for one hour. Tire, wheel and brake replacement may be required. If overheat occurs after takeoff, extend gear soon for at least 12 minutes.

Brake temperature monitor system (BTMS) indication on EICAS may be used to 10 to 15 minutes after airplane has come to a complete stop, or inflight with gear retracted, to determine recommended cooling schedule.



**Performance Inflight - QRH**  
**Engine Inoperative**

**Chapter PI-QRH**  
**Section 32**

**ENGINE INOP**

**Initial Max Continuous EPR**

**Based on engine bleed for one pack on**

| PRESSURE<br>ALTITUDE (FT) |               | CRUISE MACH NUMBER |          |          |
|---------------------------|---------------|--------------------|----------|----------|
|                           |               | .72                | .76      | .80      |
| 41000                     | EPR           | 1.62               | 1.59     | 1.54     |
|                           | MAX TAT (SAT) | -22(-46)           | -20(-46) | -17(-46) |
|                           | EPR CORR      | 0.12               | 0.12     | 0.12     |
| 39000                     | EPR           | 1.62               | 1.61     | 1.56     |
|                           | MAX TAT (SAT) | -20(-44)           | -20(-46) | -17(-46) |
|                           | EPR CORR      | 0.13               | 0.13     | 0.13     |
| 37000                     | EPR           | 1.62               | 1.62     | 1.58     |
|                           | MAX TAT (SAT) | -18(-42)           | -19(-45) | -17(-46) |
|                           | EPR CORR      | 0.14               | 0.14     | 0.14     |
| 35000                     | EPR           | 1.62               | 1.62     | 1.57     |
|                           | MAX TAT (SAT) | -17(-41)           | -17(-43) | -15(-44) |
|                           | EPR CORR      | 0.13               | 0.13     | 0.13     |
| 33000                     | EPR           | 1.62               | 1.59     | 1.53     |
|                           | MAX TAT (SAT) | -15(-39)           | -13(-40) | -11(-41) |
|                           | EPR CORR      | 0.12               | 0.12     | 0.12     |
| 31000                     | EPR           | 1.60               | 1.55     | 1.50     |
|                           | MAX TAT (SAT) | -12(-36)           | -9(-36)  | -6(-36)  |
|                           | EPR CORR      | 0.12               | 0.12     | 0.12     |

**Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.**

## ENGINE INOP

### Max Continuous EPR

#### 41000 FT to 22000 FT Pressure Altitudes

Based on engine bleed for one pack on and anti-ice off

| PRESSURE ALTITUDE<br>(FT) |          | KIAS |      |      |      |      | MACH NUMBER |      |      |      |      |      |
|---------------------------|----------|------|------|------|------|------|-------------|------|------|------|------|------|
|                           |          | 180  | 200  | 220  | 240  | 260  | .70         | .72  | .74  | .76  | .78  | .80  |
| 41000                     | EPR      |      | 1.62 | 1.60 | 1.53 | 1.49 | 1.62        | 1.62 | 1.62 | 1.59 | 1.57 | 1.54 |
|                           | MAX TAT  |      | -21  | -21  | -17  | -12  | -21         | -22  | -22  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 39000                     | EPR      |      | 1.62 | 1.62 | 1.59 | 1.53 | 1.62        | 1.62 | 1.62 | 1.61 | 1.59 | 1.56 |
|                           | MAX TAT  |      | -19  | -20  | -19  | -15  | -20         | -20  | -20  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.13 | 0.13 | 0.13 | 0.13 | 0.13        | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| 37000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.58 | 1.62        | 1.62 | 1.62 | 1.62 | 1.61 | 1.58 |
|                           | MAX TAT  |      | -16  | -18  | -19  | -17  | -18         | -18  | -19  | -19  | -19  | -17  |
|                           | EPR CORR |      | 0.14 | 0.14 | 0.14 | 0.14 | 0.14        | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| 35000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.61 | 1.62        | 1.62 | 1.62 | 1.62 | 1.60 | 1.57 |
|                           | MAX TAT  |      | -14  | -15  | -17  | -17  | -16         | -17  | -17  | -17  | -16  | -15  |
|                           | EPR CORR |      | 0.13 | 0.13 | 0.13 | 0.13 | 0.13        | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| 33000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.61 | 1.62        | 1.62 | 1.61 | 1.59 | 1.56 | 1.53 |
|                           | MAX TAT  |      | -12  | -12  | -14  | -15  | -14         | -15  | -15  | -13  | -12  | -11  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 31000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.62 | 1.62        | 1.60 | 1.58 | 1.55 | 1.53 | 1.50 |
|                           | MAX TAT  |      | -10  | -10  | -11  | -13  | -13         | -12  | -10  | -9   | -8   | -6   |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 29000                     | EPR      |      | 1.61 | 1.62 | 1.62 | 1.62 | 1.59        | 1.57 | 1.55 | 1.52 | 1.50 | 1.48 |
|                           | MAX TAT  |      | -8   | -8   | -9   | -10  | -9          | -7   | -6   | -5   | -3   | -2   |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 27000                     | EPR      | 1.61 | 1.61 | 1.62 | 1.62 | 1.62 | 1.57        | 1.54 | 1.52 | 1.50 | 1.48 | 1.45 |
|                           | MAX TAT  | -13  | -7   | -6   | -6   | -7   | -5          | -3   | -2   | 0    | 1    | 3    |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| 25000                     | EPR      | 1.62 | 1.61 | 1.61 | 1.62 | 1.62 | 1.54        | 1.52 | 1.50 | 1.48 | 1.46 | 1.44 |
|                           | MAX TAT  | -13  | -6   | -4   | -4   | -4   | 0           | 1    | 3    | 4    | 6    | 7    |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| 22000                     | EPR      | 1.61 | 1.61 | 1.61 | 1.61 | 1.62 | 1.51        | 1.49 | 1.47 | 1.45 | 1.43 |      |
|                           | MAX TAT  | -10  | -6   | -1   | -1   | -1   | 6           | 8    | 9    | 11   | 12   |      |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 | 0.11 | 0.11 |      |

Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.

### EPR Adjustments for Engine Bleed

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (FT) |       |       |       |       |       |       |
|---------------------------|------------------------|-------|-------|-------|-------|-------|-------|
|                           | 0                      | 8000  | 8001  | 10000 | 20000 | 30000 | 40000 |
| PACKS OFF                 | 0.01                   | 0.01  | 0.01  | 0.01  | 0.02  | 0.03  | 0.04  |
| ENGINE ANTI-ICE ON        | 0.00                   | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.07 |
| ENGINE & WING ANTI-ICE ON | -0.02                  | -0.02 | -0.05 | -0.06 | -0.06 | -0.08 | -0.13 |

## 757 Flight Crew Operations Manual

**ENGINE INOP****Max Continuous EPR****20000 FT to Sea Level Pressure Altitudes****Based on engine bleed for one pack on and anti-ice off**

| PRESSURE ALTITUDE<br>(FT) |          | KIAS |      |      |      |      | MACH NUMBER |      |      |     |     |     |
|---------------------------|----------|------|------|------|------|------|-------------|------|------|-----|-----|-----|
|                           |          | 180  | 200  | 220  | 240  | 260  | .70         | .72  | .74  | .76 | .78 | .80 |
| 20000                     | EPR      | 1.59 | 1.62 | 1.61 | 1.61 | 1.61 | 1.49        | 1.47 | 1.45 |     |     |     |
|                           | MAX TAT  | -6   | -6   | -1   | 1    | 2    | 11          | 12   | 14   |     |     |     |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 |     |     |     |
| 18000                     | EPR      | 1.57 | 1.58 | 1.60 | 1.60 | 1.58 | 1.45        | 1.43 |      |     |     |     |
|                           | MAX TAT  | -3   | -1   | 1    | 3    | 5    | 15          | 17   |      |     |     |     |
|                           | EPR CORR | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10        | 0.10 |      |     |     |     |
| 16000                     | EPR      | 1.55 | 1.55 | 1.56 | 1.56 | 1.55 | 1.41        |      |      |     |     |     |
|                           | MAX TAT  | 0    | 2    | 4    | 6    | 8    | 19          |      |      |     |     |     |
|                           | EPR CORR | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10        |      |      |     |     |     |
| 14000                     | EPR      | 1.53 | 1.52 | 1.53 | 1.52 | 1.52 |             |      |      |     |     |     |
|                           | MAX TAT  | 4    | 6    | 7    | 9    | 11   |             |      |      |     |     |     |
|                           | EPR CORR | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |             |      |      |     |     |     |
| 12000                     | EPR      | 1.51 | 1.50 | 1.50 | 1.49 | 1.48 |             |      |      |     |     |     |
|                           | MAX TAT  | 8    | 9    | 11   | 12   | 14   |             |      |      |     |     |     |
|                           | EPR CORR | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |             |      |      |     |     |     |
| 10000                     | EPR      | 1.49 | 1.48 | 1.47 | 1.47 | 1.46 |             |      |      |     |     |     |
|                           | MAX TAT  | 11   | 13   | 14   | 16   | 18   |             |      |      |     |     |     |
|                           | EPR CORR | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |             |      |      |     |     |     |
| 5000                      | EPR      | 1.43 | 1.42 | 1.42 | 1.41 | 1.40 |             |      |      |     |     |     |
|                           | MAX TAT  | 20   | 21   | 23   | 24   | 26   |             |      |      |     |     |     |
|                           | EPR CORR | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |             |      |      |     |     |     |
| 1500                      | EPR      | 1.38 | 1.38 | 1.37 | 1.36 | 1.35 |             |      |      |     |     |     |
|                           | MAX TAT  | 27   | 28   | 29   | 30   | 32   |             |      |      |     |     |     |
|                           | EPR CORR | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |             |      |      |     |     |     |
| 0                         | EPR      | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 |             |      |      |     |     |     |
|                           | MAX TAT  | 29   | 30   | 32   | 33   | 34   |             |      |      |     |     |     |
|                           | EPR CORR | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |             |      |      |     |     |     |

Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.

**EPR Adjustments for Engine Bleed**

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (FT) |       |       |       |       |       |       |
|---------------------------|------------------------|-------|-------|-------|-------|-------|-------|
|                           | 0                      | 8000  | 8001  | 10000 | 20000 | 30000 | 40000 |
| PACKS OFF                 | 0.01                   | 0.01  | 0.01  | 0.01  | 0.02  | 0.03  | 0.04  |
| ENGINE ANTI-ICE ON        | 0.00                   | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.07 |
| ENGINE & WING ANTI-ICE ON | -0.02                  | -0.02 | -0.05 | -0.06 | -0.06 | -0.08 | -0.13 |



757 Flight Crew Operations Manual

ENGINE INOP

MAX CONTINUOUS THRUST

Driftdown Speed/Level Off Altitude

100 ft/min residual rate of climb

Includes APU fuel burn

| WEIGHT (1000 KG)       |              | OPTIMUM<br>DRIFTDOWN<br>SPEED<br>(KIAS) | LEVEL OFF ALTITUDE (FT) |            |            |
|------------------------|--------------|-----------------------------------------|-------------------------|------------|------------|
| START<br>DRIFT<br>DOWN | LEVEL<br>OFF |                                         | ISA + 10°C<br>& BELOW   | ISA + 15°C | ISA + 20°C |
| 120                    | 116          | 252                                     | 21000                   | 20100      | 18500      |
| 110                    | 106          | 242                                     | 23000                   | 22500      | 21200      |
| 100                    | 96           | 231                                     | 25000                   | 24900      | 23800      |
| 90                     | 87           | 219                                     | 27300                   | 27200      | 26600      |
| 80                     | 77           | 207                                     | 29700                   | 29700      | 29600      |
| 70                     | 67           | 194                                     | 32500                   | 32500      | 32400      |
| 60                     | 58           | 183                                     | 35600                   | 35600      | 35500      |



## 757 Flight Crew Operations Manual

**ENGINE INOP****MAX CONTINUOUS THRUST****Driftdown/LRC Cruise Range Capability**  
**Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 280                      | 260  | 242  | 226  | 212  | 200                        | 189                      | 179  | 171  | 163  | 155  |
| 558                      | 517  | 482  | 451  | 424  | 400                        | 379                      | 359  | 342  | 326  | 312  |
| 830                      | 771  | 720  | 675  | 635  | 600                        | 568                      | 540  | 514  | 491  | 470  |
| 1098                     | 1022 | 956  | 897  | 846  | 800                        | 759                      | 722  | 688  | 657  | 629  |
| 1364                     | 1271 | 1190 | 1119 | 1056 | 1000                       | 949                      | 904  | 862  | 824  | 789  |
| 1629                     | 1520 | 1425 | 1341 | 1267 | 1200                       | 1140                     | 1086 | 1036 | 991  | 950  |
| 1896                     | 1770 | 1661 | 1564 | 1477 | 1400                       | 1330                     | 1267 | 1210 | 1158 | 1110 |
| 2166                     | 2023 | 1897 | 1787 | 1688 | 1600                       | 1521                     | 1449 | 1383 | 1323 | 1269 |
| 2441                     | 2278 | 2136 | 2011 | 1900 | 1800                       | 1710                     | 1629 | 1555 | 1488 | 1426 |

**Driftdown/Cruise Fuel and Time**

| AIR DIST<br>(NM) | FUEL REQUIRED (1000 KG)                |      |      |      |      |      |      | TIME<br>(HR:MIN) |
|------------------|----------------------------------------|------|------|------|------|------|------|------------------|
|                  | WEIGHT AT START OF DRIFTDOWN (1000 KG) |      |      |      |      |      |      |                  |
|                  | 60                                     | 70   | 80   | 90   | 100  | 110  | 120  |                  |
| 200              | 1.1                                    | 1.2  | 1.4  | 1.5  | 1.6  | 1.8  | 1.9  | 0:34             |
| 400              | 2.4                                    | 2.7  | 3.0  | 3.3  | 3.7  | 4.0  | 4.3  | 1:08             |
| 600              | 3.5                                    | 4.0  | 4.5  | 5.0  | 5.5  | 6.0  | 6.5  | 1:40             |
| 800              | 4.6                                    | 5.2  | 5.9  | 6.6  | 7.3  | 7.9  | 8.5  | 2:10             |
| 1000             | 5.7                                    | 6.5  | 7.4  | 8.2  | 9.0  | 9.8  | 10.6 | 2:40             |
| 1200             | 6.8                                    | 7.7  | 8.8  | 9.8  | 10.7 | 11.7 | 12.6 | 3:10             |
| 1400             | 7.9                                    | 9.0  | 10.1 | 11.3 | 12.4 | 13.6 | 14.6 | 3:40             |
| 1600             | 8.9                                    | 10.2 | 11.5 | 12.8 | 14.1 | 15.4 | 16.6 | 4:11             |
| 1800             | 9.9                                    | 11.3 | 12.8 | 14.3 | 15.7 | 17.2 | 18.5 | 4:43             |

Includes APU fuel burn.

Driftdown at optimum driftdown speed and cruise at Long Range Cruise speed.

757 Flight Crew Operations Manual

**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Altitude Capability**

**100 ft/min residual rate of climb**

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 120                 | 16700                  | 14300      | 8100       |
| 115                 | 18200                  | 16300      | 11300      |
| 110                 | 19800                  | 18100      | 15000      |
| 105                 | 21100                  | 19900      | 17500      |
| 100                 | 22400                  | 21200      | 19800      |
| 95                  | 23700                  | 22600      | 21300      |
| 90                  | 25100                  | 24000      | 22800      |
| 85                  | 26600                  | 25500      | 24300      |
| 80                  | 28000                  | 27100      | 25900      |
| 75                  | 29400                  | 28700      | 27500      |
| 70                  | 31000                  | 30500      | 29300      |
| 65                  | 32400                  | 32200      | 31300      |
| 60                  | 34000                  | 33900      | 33200      |

With engine anti-ice on, decrease altitude capability by 2200 ft.

With engine and wing anti-ice on, decrease altitude capability by 5800 ft.

## 757 Flight Crew Operations Manual

# ENGINE INOP

## MAX CONTINUOUS THRUST

### Long Range Cruise Control

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|------|
|                     |        | 10                          | 14   | 18   | 21   | 23   | 25   | 27   | 29   | 31   |
| 120                 | EPR    | 1.27                        | 1.34 | 1.47 |      |      |      |      |      |      |
|                     | MACH   | .601                        | .623 | .659 |      |      |      |      |      |      |
|                     | KIAS   | 334                         | 322  | 316  |      |      |      |      |      |      |
|                     | FF/ENG | 4605                        | 4472 | 4496 |      |      |      |      |      |      |
| 110                 | EPR    | 1.24                        | 1.30 | 1.39 | 1.52 |      |      |      |      |      |
|                     | MACH   | .584                        | .613 | .635 | .672 |      |      |      |      |      |
|                     | KIAS   | 324                         | 316  | 304  | 304  |      |      |      |      |      |
|                     | FF/ENG | 4256                        | 4162 | 4027 | 4181 |      |      |      |      |      |
| 100                 | EPR    | 1.20                        | 1.26 | 1.34 | 1.42 | 1.52 |      |      |      |      |
|                     | MACH   | .561                        | .597 | .620 | .642 | .668 |      |      |      |      |
|                     | KIAS   | 312                         | 308  | 297  | 290  | 290  |      |      |      |      |
|                     | FF/ENG | 3861                        | 3827 | 3671 | 3670 | 3780 |      |      |      |      |
| 90                  | EPR    | 1.17                        | 1.23 | 1.29 | 1.36 | 1.42 | 1.51 |      |      |      |
|                     | MACH   | .530                        | .574 | .607 | .623 | .638 | .662 |      |      |      |
|                     | KIAS   | 294                         | 296  | 290  | 281  | 276  | 276  |      |      |      |
|                     | FF/ENG | 3439                        | 3465 | 3363 | 3282 | 3287 | 3370 |      |      |      |
| 80                  | EPR    | 1.14                        | 1.19 | 1.25 | 1.30 | 1.34 | 1.40 | 1.48 | 1.60 |      |
|                     | MACH   | .492                        | .542 | .584 | .608 | .619 | .631 | .652 | .685 |      |
|                     | KIAS   | 273                         | 279  | 279  | 274  | 268  | 262  | 260  | 262  |      |
|                     | FF/ENG | 3002                        | 3053 | 3029 | 2974 | 2928 | 2906 | 2960 | 3075 |      |
| 70                  | EPR    | 1.11                        | 1.15 | 1.20 | 1.25 | 1.29 | 1.33 | 1.38 | 1.45 | 1.55 |
|                     | MACH   | .467                        | .499 | .551 | .583 | .600 | .614 | .624 | .641 | .668 |
|                     | KIAS   | 258                         | 256  | 262  | 262  | 259  | 254  | 248  | 244  | 244  |
|                     | FF/ENG | 2662                        | 2622 | 2636 | 2641 | 2612 | 2582 | 2541 | 2555 | 2621 |
| 60                  | EPR    | 1.09                        | 1.12 | 1.15 | 1.20 | 1.23 | 1.26 | 1.30 | 1.35 | 1.41 |
|                     | MACH   | .441                        | .468 | .502 | .542 | .566 | .586 | .603 | .616 | .628 |
|                     | KIAS   | 243                         | 240  | 238  | 243  | 244  | 242  | 239  | 234  | 229  |
|                     | FF/ENG | 2333                        | 2269 | 2216 | 2245 | 2260 | 2253 | 2227 | 2196 | 2160 |



## 757 Flight Crew Operations Manual

# ENGINE INOP

## MAX CONTINUOUS THRUST

### Holding Flaps Up

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |       |       |       |
|---------------------|--------|------------------------|------|-------|-------|-------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 | 20000 | 25000 | 30000 |
| 120                 | EPR    | 1.16                   | 1.19 | 1.26  | 1.36  | 1.53  |       |       |
|                     | KIAS   | 243                    | 243  | 244   | 246   | 247   |       |       |
|                     | FF/ENG | 3890                   | 3870 | 3870  | 3870  | 4090  |       |       |
| 110                 | EPR    | 1.14                   | 1.17 | 1.23  | 1.31  | 1.44  |       |       |
|                     | KIAS   | 232                    | 233  | 234   | 235   | 236   |       |       |
|                     | FF/ENG | 3560                   | 3540 | 3520  | 3510  | 3600  |       |       |
| 100                 | EPR    | 1.13                   | 1.15 | 1.20  | 1.27  | 1.37  | 1.58  |       |
|                     | KIAS   | 221                    | 222  | 223   | 224   | 225   | 227   |       |
|                     | FF/ENG | 3220                   | 3210 | 3180  | 3160  | 3200  | 3440  |       |
| 90                  | EPR    | 1.11                   | 1.13 | 1.17  | 1.23  | 1.32  | 1.47  |       |
|                     | KIAS   | 212                    | 212  | 212   | 212   | 213   | 215   |       |
|                     | FF/ENG | 2950                   | 2880 | 2860  | 2820  | 2830  | 2940  |       |
| 80                  | EPR    | 1.09                   | 1.11 | 1.14  | 1.19  | 1.26  | 1.38  | 1.60  |
|                     | KIAS   | 203                    | 203  | 203   | 203   | 203   | 203   | 203   |
|                     | FF/ENG | 2670                   | 2600 | 2540  | 2500  | 2500  | 2530  | 2720  |
| 70                  | EPR    | 1.08                   | 1.09 | 1.12  | 1.16  | 1.21  | 1.30  | 1.45  |
|                     | KIAS   | 194                    | 194  | 194   | 194   | 194   | 194   | 194   |
|                     | FF/ENG | 2370                   | 2330 | 2240  | 2190  | 2180  | 2190  | 2250  |
| 60                  | EPR    | 1.06                   | 1.07 | 1.09  | 1.12  | 1.17  | 1.23  | 1.34  |
|                     | KIAS   | 185                    | 185  | 185   | 185   | 185   | 185   | 185   |
|                     | FF/ENG | 2070                   | 2040 | 1960  | 1890  | 1870  | 1870  | 1880  |

This table includes 5% additional fuel for holding in a racetrack pattern.

**757 Flight Crew Operations Manual**

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Intentionally  
Blank



## 757 Flight Crew Operations Manual

Performance Inflight - QRH  
Gear DownChapter PI-QRH  
Section 33**GEAR DOWN****210 KIAS Max Climb EPR**

Based on engine bleed for packs on and anti-ice off

| TAT<br>(°C) | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | 0                           | 5    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | 32   | 34   |
| 55          | 1.18                        | 1.17 | 1.16 | 1.16 | 1.15 | 1.14 | 1.14 | 1.13 | 1.11 | 1.10 | 1.09 | 1.07 | 1.06 | 1.04 | 1.03 |
| 50          | 1.19                        | 1.19 | 1.18 | 1.18 | 1.17 | 1.16 | 1.15 | 1.14 | 1.13 | 1.12 | 1.11 | 1.09 | 1.08 | 1.06 | 1.05 |
| 45          | 1.21                        | 1.21 | 1.20 | 1.19 | 1.19 | 1.18 | 1.17 | 1.16 | 1.15 | 1.14 | 1.12 | 1.11 | 1.10 | 1.08 | 1.07 |
| 40          | 1.23                        | 1.22 | 1.21 | 1.21 | 1.20 | 1.20 | 1.19 | 1.18 | 1.17 | 1.16 | 1.14 | 1.13 | 1.12 | 1.10 | 1.09 |
| 35          | 1.25                        | 1.24 | 1.23 | 1.23 | 1.22 | 1.22 | 1.21 | 1.20 | 1.19 | 1.18 | 1.17 | 1.15 | 1.14 | 1.12 | 1.11 |
| 30          | 1.26                        | 1.26 | 1.25 | 1.25 | 1.24 | 1.24 | 1.23 | 1.22 | 1.21 | 1.20 | 1.19 | 1.18 | 1.16 | 1.15 | 1.14 |
| 25          | 1.26                        | 1.29 | 1.28 | 1.27 | 1.27 | 1.26 | 1.25 | 1.25 | 1.24 | 1.22 | 1.21 | 1.20 | 1.19 | 1.17 | 1.16 |
| 20          | 1.26                        | 1.30 | 1.30 | 1.30 | 1.29 | 1.29 | 1.28 | 1.27 | 1.26 | 1.25 | 1.24 | 1.23 | 1.21 | 1.20 | 1.19 |
| 15          | 1.26                        | 1.30 | 1.33 | 1.33 | 1.32 | 1.31 | 1.31 | 1.30 | 1.29 | 1.28 | 1.27 | 1.25 | 1.24 | 1.23 | 1.22 |
| 10          | 1.26                        | 1.30 | 1.34 | 1.35 | 1.35 | 1.34 | 1.34 | 1.33 | 1.32 | 1.31 | 1.30 | 1.28 | 1.27 | 1.26 | 1.25 |
| 5           | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.38 | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 | 1.30 | 1.29 | 1.28 |
| 0           | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.40 | 1.39 | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 |
| -5          | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.42 | 1.41 | 1.40 | 1.39 | 1.38 | 1.37 | 1.36 |
| -10         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.49 | 1.48 | 1.47 | 1.46 |
| -15         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.49 | 1.48 | 1.47 | 1.46 |
| -20         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.54 | 1.53 |
| -25         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.56 | 1.57 |
| -30         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.56 | 1.57 |

**EPR Adjustments for Engine Bleeds**

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (1000 FT) |       |       |       |       |       |       |       |       |       |       |       |       |  |
|---------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                           | 0                           | 5     | 10    | 12    | 16    | 18    | 22    | 24    | 26    | 28    | 30    | 32    | 34    |  |
| PACKS OFF                 | 0.01                        | 0.01  | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  | 0.02  | 0.03  | 0.03  | 0.03  | 0.04  | 0.04  |  |
| ENGINE ANTI-ICE ON        | 0.00                        | 0.00  | -0.03 | -0.03 | -0.03 | -0.03 | -0.03 | -0.04 | -0.04 | -0.04 | -0.04 | -0.05 | -0.05 |  |
| ENGINE & WING ANTI-ICE ON | -0.02                       | -0.02 | -0.05 | -0.06 | -0.06 | -0.06 | -0.06 | -0.07 | -0.07 | -0.08 | -0.08 | -0.09 | -0.10 |  |

## 757 Flight Crew Operations Manual

## GEAR DOWN

## Long Range Cruise Altitude Capability

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 120                 | 15000                  | 12700      | 9800       |
| 115                 | 16600                  | 14700      | 12000      |
| 110                 | 18500                  | 16400      | 14300      |
| 105                 | 20400                  | 18400      | 16200      |
| 100                 | 22500                  | 20300      | 18300      |
| 95                  | 24900                  | 22200      | 20300      |
| 90                  | 27400                  | 24400      | 22400      |
| 85                  | 29700                  | 26900      | 24500      |
| 80                  | 32200                  | 29600      | 26800      |
| 75                  | 33900                  | 32400      | 29400      |
| 70                  | 35200                  | 34700      | 32600      |
| 65                  | 36500                  | 36500      | 34900      |
| 60                  | 37900                  | 37800      | 36700      |



## 757 Flight Crew Operations Manual

**GEAR DOWN****Long Range Cruise Control**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|------|------|------|
|                     |        | 10                          | 14   | 18   | 21   | 23   | 25   | 27   | 29   | 31   | 33   | 35   |
| 120                 | EPR    | 1.19                        | 1.25 |      |      |      |      |      |      |      |      |      |
|                     | MACH   | .454                        | .487 |      |      |      |      |      |      |      |      |      |
|                     | KIAS   | 253                         | 252  |      |      |      |      |      |      |      |      |      |
|                     | FF/ENG | 3245                        | 3235 |      |      |      |      |      |      |      |      |      |
| 110                 | EPR    | 1.17                        | 1.22 | 1.29 |      |      |      |      |      |      |      |      |
|                     | MACH   | .437                        | .468 | .509 |      |      |      |      |      |      |      |      |
|                     | KIAS   | 243                         | 242  | 244  |      |      |      |      |      |      |      |      |
|                     | FF/ENG | 2967                        | 2943 | 2949 |      |      |      |      |      |      |      |      |
| 100                 | EPR    | 1.15                        | 1.19 | 1.24 | 1.30 |      |      |      |      |      |      |      |
|                     | MACH   | .418                        | .449 | .482 | .517 |      |      |      |      |      |      |      |
|                     | KIAS   | 233                         | 232  | 231  | 234  |      |      |      |      |      |      |      |
|                     | FF/ENG | 2689                        | 2673 | 2629 | 2702 |      |      |      |      |      |      |      |
| 90                  | EPR    | 1.13                        | 1.16 | 1.21 | 1.25 | 1.30 | 1.34 | 1.40 |      |      |      |      |
|                     | MACH   | .398                        | .428 | .461 | .487 | .511 | .534 | .552 |      |      |      |      |
|                     | KIAS   | 222                         | 221  | 220  | 220  | 222  | 222  | 220  |      |      |      |      |
|                     | FF/ENG | 2419                        | 2398 | 2359 | 2354 | 2426 | 2399 | 2398 |      |      |      |      |
| 80                  | EPR    | 1.11                        | 1.14 | 1.17 | 1.21 | 1.24 | 1.28 | 1.33 | 1.38 | 1.45 |      |      |
|                     | MACH   | .380                        | .405 | .437 | .462 | .479 | .502 | .527 | .546 | .565 |      |      |
|                     | KIAS   | 211                         | 209  | 208  | 208  | 207  | 208  | 210  | 209  | 207  |      |      |
|                     | FF/ENG | 2172                        | 2125 | 2090 | 2079 | 2074 | 2095 | 2116 | 2118 | 2122 |      |      |
| 70                  | EPR    | 1.09                        | 1.11 | 1.14 | 1.17 | 1.20 | 1.23 | 1.26 | 1.31 | 1.36 | 1.42 | 1.51 |
|                     | MACH   | .360                        | .383 | .411 | .435 | .452 | .470 | .490 | .515 | .538 | .556 | .580 |
|                     | KIAS   | 200                         | 197  | 196  | 195  | 195  | 194  | 194  | 196  | 196  | 194  | 194  |
|                     | FF/ENG | 1935                        | 1875 | 1820 | 1812 | 1810 | 1803 | 1808 | 1829 | 1830 | 1833 | 1895 |
| 60                  | EPR    | 1.07                        | 1.09 | 1.12 | 1.14 | 1.16 | 1.18 | 1.21 | 1.25 | 1.29 | 1.34 | 1.40 |
|                     | MACH   | .335                        | .360 | .388 | .412 | .429 | .447 | .466 | .486 | .508 | .530 | .553 |
|                     | KIAS   | 186                         | 185  | 185  | 185  | 185  | 185  | 185  | 185  | 185  | 185  | 185  |
|                     | FF/ENG | 1679                        | 1642 | 1593 | 1584 | 1584 | 1583 | 1599 | 1600 | 1579 | 1579 | 1596 |

757 Flight Crew Operations Manual

**GEAR DOWN**

**Long Range Cruise Enroute Fuel and Time  
Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 330                      | 294  | 263  | 238  | 218  | 200                        | 188                      | 178  | 168  | 160  | 153  |
| 665                      | 591  | 527  | 477  | 436  | 400                        | 377                      | 356  | 337  | 320  | 306  |
| 1005                     | 891  | 794  | 717  | 654  | 600                        | 566                      | 534  | 506  | 481  | 459  |
| 1348                     | 1194 | 1062 | 958  | 873  | 800                        | 754                      | 712  | 675  | 641  | 611  |
| 1697                     | 1500 | 1331 | 1199 | 1093 | 1000                       | 942                      | 889  | 842  | 800  | 763  |
| 2050                     | 1808 | 1602 | 1442 | 1312 | 1200                       | 1131                     | 1067 | 1010 | 959  | 914  |
| 2409                     | 2121 | 1876 | 1686 | 1533 | 1400                       | 1318                     | 1243 | 1176 | 1117 | 1065 |
| 2775                     | 2439 | 2153 | 1931 | 1754 | 1600                       | 1506                     | 1421 | 1344 | 1275 | 1215 |
| 3147                     | 2760 | 2432 | 2178 | 1975 | 1800                       | 1694                     | 1597 | 1510 | 1432 | 1364 |

**Reference Fuel and Time Required at Check Point**

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 10                          |                  | 14                |                  | 18                |                  | 22                |                  | 28                |                  |
|                     | FUEL<br>(1000 KG)           | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) |
| 200                 | 3.6                         | 0:52             | 3.3               | 0:49             | 2.9               | 0:47             | 2.7               | 0:45             | 2.4               | 0:43             |
| 400                 | 7.3                         | 1:40             | 6.7               | 1:35             | 6.2               | 1:30             | 5.7               | 1:26             | 5.2               | 1:19             |
| 600                 | 10.9                        | 2:29             | 10.1              | 2:22             | 9.3               | 2:14             | 8.7               | 2:07             | 7.9               | 1:56             |
| 800                 | 14.4                        | 3:20             | 13.4              | 3:10             | 12.4              | 2:59             | 11.6              | 2:49             | 10.6              | 2:34             |
| 1000                | 17.9                        | 4:11             | 16.6              | 3:58             | 15.4              | 3:44             | 14.4              | 3:32             | 13.2              | 3:12             |
| 1200                | 21.3                        | 5:03             | 19.8              | 4:47             | 18.3              | 4:31             | 17.2              | 4:15             | 15.8              | 3:51             |
| 1400                | 24.6                        | 5:56             | 22.9              | 5:38             | 21.2              | 5:18             | 19.9              | 4:59             | 18.3              | 4:30             |
| 1600                | 27.8                        | 6:51             | 25.9              | 6:29             | 24.0              | 6:06             | 22.6              | 5:44             | 20.8              | 5:10             |
| 1800                | 31.0                        | 7:47             | 28.9              | 7:21             | 26.8              | 6:55             | 25.2              | 6:29             | 23.2              | 5:51             |

**Fuel Required Adjustment (1000 KG)**

| REFERENCE FUEL REQUIRED<br>(1000 KG) | WEIGHT AT CHECK POINT (1000 KG) |      |     |     |     |     |
|--------------------------------------|---------------------------------|------|-----|-----|-----|-----|
|                                      | 70                              | 80   | 90  | 100 | 110 | 120 |
| 5                                    | -0.5                            | -0.3 | 0.0 | 0.4 | 1.0 | 1.5 |
| 10                                   | -1.1                            | -0.5 | 0.0 | 0.9 | 1.9 | 2.9 |
| 15                                   | -1.7                            | -0.8 | 0.0 | 1.3 | 2.8 | 4.3 |
| 20                                   | -2.3                            | -1.1 | 0.0 | 1.6 | 3.5 | 5.6 |
| 25                                   | -2.8                            | -1.4 | 0.0 | 2.0 | 4.2 | 6.7 |
| 30                                   | -3.4                            | -1.7 | 0.0 | 2.3 | 4.8 | 7.7 |
| 35                                   | -4.0                            | -2.0 | 0.0 | 2.6 | 5.3 | 8.6 |



757 Flight Crew Operations Manual

GEAR DOWN

Descent at VREF30+80

|                             |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| PRESSURE ALTITUDE (1000 FT) | 5  | 10 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 |
| DISTANCE (NM)               | 13 | 23 | 32 | 36 | 40 | 43 | 47 | 51 | 55 | 59 | 63 | 67 | 71 |
| TIME (MINUTES)              | 7  | 9  | 11 | 12 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 18 | 19 |

757 Flight Crew Operations Manual

**GEAR DOWN**

**Holding  
Flaps Up**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |       |       |       |
|---------------------|--------|------------------------|------|-------|-------|-------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 | 20000 | 25000 | 30000 |
| 120                 | EPR    | 1.11                   | 1.14 | 1.18  | 1.25  |       |       |       |
|                     | KIAS   | 237                    | 237  | 237   | 237   |       |       |       |
|                     | FF/ENG | 3220                   | 3180 | 3160  | 3140  |       |       |       |
| 110                 | EPR    | 1.10                   | 1.12 | 1.16  | 1.22  | 1.31  |       |       |
|                     | KIAS   | 229                    | 229  | 229   | 229   | 229   |       |       |
|                     | FF/ENG | 3000                   | 2930 | 2910  | 2870  | 2890  |       |       |
| 100                 | EPR    | 1.09                   | 1.11 | 1.14  | 1.19  | 1.26  |       |       |
|                     | KIAS   | 221                    | 221  | 221   | 221   | 221   |       |       |
|                     | FF/ENG | 2770                   | 2710 | 2650  | 2620  | 2620  |       |       |
| 90                  | EPR    | 1.08                   | 1.09 | 1.12  | 1.16  | 1.23  | 1.32  |       |
|                     | KIAS   | 212                    | 212  | 212   | 212   | 212   | 212   |       |
|                     | FF/ENG | 2540                   | 2500 | 2410  | 2370  | 2370  | 2380  |       |
| 80                  | EPR    | 1.07                   | 1.08 | 1.11  | 1.14  | 1.19  | 1.27  | 1.40  |
|                     | KIAS   | 203                    | 203  | 203   | 203   | 203   | 203   | 203   |
|                     | FF/ENG | 2310                   | 2270 | 2180  | 2140  | 2130  | 2140  | 2160  |
| 70                  | EPR    | 1.06                   | 1.07 | 1.09  | 1.12  | 1.16  | 1.23  | 1.33  |
|                     | KIAS   | 194                    | 194  | 194   | 194   | 194   | 194   | 194   |
|                     | FF/ENG | 2080                   | 2050 | 1970  | 1910  | 1890  | 1890  | 1890  |
| 60                  | EPR    | 1.05                   | 1.06 | 1.07  | 1.10  | 1.13  | 1.18  | 1.27  |
|                     | KIAS   | 185                    | 185  | 185   | 185   | 185   | 185   | 185   |
|                     | FF/ENG | 1860                   | 1820 | 1750  | 1690  | 1660  | 1660  | 1680  |

This table includes 5% additional fuel for holding in a racetrack pattern.



Performance Inflight - QRH  
Gear Down, Engine Inop

Chapter PI-QRH  
Section 34

GEAR DOWN

ENGINE INOP

MAX CONTINUOUS THRUST

Driftdown Speed/Level Off Altitude

100 ft/min residual rate of climb

Includes APU fuel burn

| WEIGHT (1000 KG)   |              | OPTIMUM<br>DRIFTDOWN<br>SPEED<br>(KIAS) | LEVEL OFF ALTITUDE (FT) |            |            |
|--------------------|--------------|-----------------------------------------|-------------------------|------------|------------|
| START<br>DRIFTDOWN | LEVEL<br>OFF |                                         | ISA + 10°C<br>& BELOW   | ISA + 15°C | ISA + 20°C |
| 110                | 104          | 226                                     | 4300                    |            |            |
| 100                | 95           | 218                                     | 8500                    | 6500       | 3200       |
| 90                 | 85           | 210                                     | 12200                   | 10700      | 8700       |
| 80                 | 76           | 201                                     | 15700                   | 14600      | 13100      |
| 70                 | 67           | 193                                     | 19400                   | 18400      | 17100      |
| 60                 | 57           | 183                                     | 22500                   | 21900      | 21000      |



757 Flight Crew Operations Manual

**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Altitude Capability**  
**100 ft/min residual rate of climb**

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 100                 | 3800                   |            |            |
| 95                  | 7300                   |            |            |
| 90                  | 9900                   | 7400       |            |
| 85                  | 12400                  | 10300      | 7300       |
| 80                  | 14400                  | 13000      | 10700      |
| 75                  | 16200                  | 15000      | 13500      |
| 70                  | 18200                  | 17000      | 15700      |
| 65                  | 20200                  | 19200      | 17800      |
| 60                  | 21700                  | 21000      | 20100      |



757 Flight Crew Operations Manual

**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Control**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|
|                     |        | 6                           | 8    | 10   | 12   | 14   | 16   | 18   | 20   |
| 100                 | EPR    | 1.41                        |      |      |      |      |      |      |      |
|                     | MACH   | .381                        |      |      |      |      |      |      |      |
|                     | KIAS   | 229                         |      |      |      |      |      |      |      |
|                     | FF/ENG | 5281                        |      |      |      |      |      |      |      |
| 90                  | EPR    | 1.35                        | 1.39 | 1.44 | 1.49 |      |      |      |      |
|                     | MACH   | .367                        | .377 | .388 | .396 |      |      |      |      |
|                     | KIAS   | 220                         | 218  | 216  | 212  |      |      |      |      |
|                     | FF/ENG | 4759                        | 4718 | 4699 | 4674 |      |      |      |      |
| 80                  | EPR    | 1.30                        | 1.33 | 1.37 | 1.42 | 1.47 |      |      |      |
|                     | MACH   | .349                        | .361 | .371 | .383 | .395 |      |      |      |
|                     | KIAS   | 209                         | 209  | 206  | 205  | 203  |      |      |      |
|                     | FF/ENG | 4243                        | 4218 | 4166 | 4144 | 4165 |      |      |      |
| 70                  | EPR    | 1.25                        | 1.28 | 1.31 | 1.35 | 1.39 | 1.45 | 1.52 |      |
|                     | MACH   | .328                        | .340 | .352 | .364 | .378 | .393 | .408 |      |
|                     | KIAS   | 196                         | 196  | 196  | 195  | 194  | 194  | 194  |      |
|                     | FF/ENG | 3687                        | 3679 | 3668 | 3637 | 3642 | 3640 | 3728 |      |
| 60                  | EPR    | 1.21                        | 1.23 | 1.26 | 1.29 | 1.32 | 1.36 | 1.42 | 1.48 |
|                     | MACH   | .309                        | .321 | .333 | .346 | .359 | .374 | .388 | .404 |
|                     | KIAS   | 185                         | 185  | 185  | 185  | 185  | 185  | 185  | 185  |
|                     | FF/ENG | 3218                        | 3202 | 3186 | 3186 | 3181 | 3151 | 3165 | 3216 |

**GEAR DOWN**

**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Diversion Fuel and Time  
Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |     |     | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |     |     |     |     |
|--------------------------|------|------|-----|-----|----------------------------|--------------------------|-----|-----|-----|-----|
| HEADWIND COMPONENT (KTS) |      |      |     |     |                            | TAILWIND COMPONENT (KTS) |     |     |     |     |
| 100                      | 80   | 60   | 40  | 20  |                            | 20                       | 40  | 60  | 80  | 100 |
| 170                      | 150  | 132  | 119 | 109 | 100                        | 94                       | 88  | 82  | 78  | 74  |
| 344                      | 302  | 267  | 240 | 219 | 200                        | 187                      | 175 | 165 | 156 | 148 |
| 519                      | 456  | 403  | 362 | 329 | 300                        | 281                      | 263 | 247 | 233 | 221 |
| 696                      | 611  | 538  | 483 | 438 | 400                        | 374                      | 350 | 329 | 310 | 294 |
| 874                      | 767  | 675  | 605 | 549 | 500                        | 467                      | 437 | 410 | 387 | 367 |
| 1054                     | 923  | 812  | 727 | 659 | 600                        | 560                      | 524 | 492 | 464 | 440 |
| 1235                     | 1080 | 949  | 849 | 769 | 700                        | 653                      | 610 | 573 | 540 | 512 |
| 1418                     | 1239 | 1088 | 972 | 880 | 800                        | 746                      | 697 | 654 | 616 | 584 |

**Reference Fuel and Time Required at Check Point**

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 6                           |                  | 10                |                  | 14                |                  | 18                |                  |
|                     | FUEL<br>(1000 KG)           | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) |
| 100                 | 1.9                         | 0:29             | 1.7               | 0:28             | 1.5               | 0:27             | 1.4               | 0:26             |
| 200                 | 3.9                         | 0:55             | 3.6               | 0:53             | 3.4               | 0:51             | 3.2               | 0:48             |
| 300                 | 5.9                         | 1:20             | 5.5               | 1:17             | 5.2               | 1:14             | 5.0               | 1:09             |
| 400                 | 7.9                         | 1:46             | 7.3               | 1:42             | 7.0               | 1:38             | 6.8               | 1:32             |
| 500                 | 9.8                         | 2:13             | 9.1               | 2:07             | 8.7               | 2:02             | 8.5               | 1:54             |
| 600                 | 11.8                        | 2:39             | 11.0              | 2:33             | 10.5              | 2:26             | 10.2              | 2:17             |
| 700                 | 13.6                        | 3:06             | 12.7              | 2:58             | 12.1              | 2:51             | 11.9              | 2:40             |
| 800                 | 15.5                        | 3:34             | 14.5              | 3:24             | 13.8              | 3:15             | 13.5              | 3:03             |

**Fuel Required Adjustment (1000 KG)**

| REFERENCE FUEL REQUIRED<br>(1000 KG) | WEIGHT AT CHECK POINT (1000 KG) |      |     |     |     |
|--------------------------------------|---------------------------------|------|-----|-----|-----|
|                                      | 70                              | 80   | 90  | 100 | 110 |
| 2                                    | -0.2                            | -0.1 | 0.0 | 0.1 | 0.7 |
| 4                                    | -0.5                            | -0.2 | 0.0 | 0.3 | 1.1 |
| 6                                    | -0.7                            | -0.3 | 0.0 | 0.6 | 1.5 |
| 8                                    | -1.0                            | -0.5 | 0.0 | 0.8 | 1.8 |
| 10                                   | -1.2                            | -0.6 | 0.0 | 1.0 | 2.2 |
| 12                                   | -1.5                            | -0.7 | 0.0 | 1.2 | 2.5 |
| 14                                   | -1.7                            | -0.9 | 0.0 | 1.4 | 2.9 |
| 16                                   | -2.0                            | -1.0 | 0.0 | 1.6 | 3.3 |
| 18                                   | -2.2                            | -1.1 | 0.0 | 1.8 | 3.6 |

Includes APU fuel burn.





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**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Holding  
Flaps Up**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |
|---------------------|--------|------------------------|------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 |
| 110                 | EPR    | 1.34                   |      |       |       |
|                     | KIAS   | 229                    |      |       |       |
|                     | FF/ENG | 5820                   |      |       |       |
| 100                 | EPR    | 1.30                   | 1.36 |       |       |
|                     | KIAS   | 221                    | 221  |       |       |
|                     | FF/ENG | 5310                   | 5300 |       |       |
| 90                  | EPR    | 1.26                   | 1.32 | 1.43  |       |
|                     | KIAS   | 212                    | 212  | 212   |       |
|                     | FF/ENG | 4800                   | 4790 | 4820  |       |
| 80                  | EPR    | 1.23                   | 1.27 | 1.36  | 1.51  |
|                     | KIAS   | 203                    | 203  | 203   | 203   |
|                     | FF/ENG | 4330                   | 4310 | 4300  | 4390  |
| 70                  | EPR    | 1.20                   | 1.23 | 1.31  | 1.42  |
|                     | KIAS   | 194                    | 194  | 194   | 194   |
|                     | FF/ENG | 3870                   | 3840 | 3820  | 3800  |
| 60                  | EPR    | 1.17                   | 1.20 | 1.26  | 1.34  |
|                     | KIAS   | 185                    | 185  | 185   | 185   |
|                     | FF/ENG | 3400                   | 3390 | 3350  | 3310  |

This table includes 5% additional fuel for holding in a racetrack pattern.

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## Performance Inflight - QRH

## Chapter PI-QRH

### Text

### Section 35

## Introduction

This chapter contains information to supplement performance data from the Flight Management Computer (FMC). In addition, sufficient inflight data is provided to complete a flight with the FMC inoperative. In the event of conflict between data presented in this chapter and that contained in the approved Airplane Flight Manual, the Flight Manual shall always take precedence.

## General

### Flight with Unreliable Airspeed / Turbulent Air Penetration

Pitch attitude and average EPR information is provided for use in all phases of flight in the event of unreliable airspeed/Mach indications resulting from blocking or freezing of the pitot system. Loss of radome or turbulent air may also cause unreliable airspeed/Mach indications. The cruise table in this section may also be used for turbulent air penetration.

Pitch attitude is shown in bold type for emphasis since altitude and/or vertical speed indications may also be unreliable.

### Max Climb EPR

This table shows Max Climb EPR for a 250/290/.78 climb speed schedule, normal engine bleed for packs on and anti-ice off. Enter the table with airport pressure altitude and TAT and read EPR. EPR adjustments are shown for packs off and anti-ice operation.

### VREF

This table contains flaps 30, 25 and 20 reference speeds for a given weight.

## Advisory Information

### Normal Configuration Landing Distance

Tables are provided as advisory information for normal configuration landing distance on dry runways and slippery runways with good, medium, and poor reported braking action. These values are actual landing distances and do not include the 1.67 regulatory factor. Therefore, they cannot be used to determine the dispatch required landing field length.

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To use these tables, determine the reference landing distance for the selected braking configuration. Then adjust the reference distance for landing weight, altitude, wind, slope, temperature, approach speed, and the number of operative thrust reversers to obtain the actual landing distance.

When landing on slippery runways or runways contaminated with ice, snow, slush, or standing water, the reported braking action must be considered. If the surface is affected by water, snow, or ice and the braking action is reported as "good", conditions should not be expected to be as good as on clean, dry runways. The value "good" is comparative and is intended to mean that airplanes should not experience braking or directional control difficulties when landing. The performance level used to calculate the "good" data is consistent with wet runway testing done on early Boeing jets. The performance level used to calculate "poor" data reflects runways covered with wet ice.

Use of the autobrake system commands the airplane to a constant deceleration rate. In some conditions, such as a runway with "poor" braking action, the airplane may not be able to achieve these deceleration rates. In these cases, runway slope and inoperative reversers influence the stopping distance. Since it cannot be determined quickly when this becomes a factor, it is conservative to add the effects of slope and inoperative reversers when using the autobrake system.

### Non-normal Configuration Landing Distance

Advisory information is provided to support non-normal configurations that affect the landing performance of the airplane. Landing distances and adjustments are provided for dry runways and runways with good, medium, and poor reported braking action.

Enter the table with the applicable non-normal configuration and read the normal approach speed. The reference landing distance is a reference distance from 50 ft above the threshold to stop based on a reference landing weight and speed at sea level, zero wind, and zero slope. Subsequent columns provide adjustments for off-reference landing weight, altitude, wind, slope, and speed conditions. Each adjustment is independently added to the reference landing distance. Landing distance includes the effects of max manual braking and reverse thrust.

### Recommended Brake Cooling Schedule

Advisory information is provided to assist in avoiding the problems associated with hot brakes. For normal operation, most landings are at weights below the AFM quick turnaround limit weight.

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Use of the recommended cooling schedule will help avoid brake overheat and fuse plug problems that could result from repeated landings at short time intervals or a rejected takeoff.

Enter the Recommended Brake Cooling Schedule table with the airplane weight and brakes on speed, adjusted for wind, at the appropriate temperature and altitude condition. Instructions for applying wind adjustments are included below the table. Linear interpolation may be used to obtain intermediate values. The resulting number is the reference brake energy per brake in millions of foot-pounds, and represents the amount of energy absorbed by each brake during a rejected takeoff

To determine the energy per brake absorbed during landing, enter the appropriate Adjusted Brake Energy Per Brake table (No Reverse Thrust or Two Engine Reverse) with the reference brake energy per brake and the type of braking used during landing (Max Manual, Max Auto, or Autobrake). The resulting number is the adjusted brake energy per brake and represents the energy absorbed in each brake during the landing.

The recommended cooling time is found in the final table by entering with the adjusted brake energy per brake or brake temperature monitor system (BTMS) indication on EICAS. Times are provided for ground cooling and inflight gear down cooling.

If brake temperature monitor indication on EICAS is available, the hottest brake indication 10 to 15 minutes after the airplane has come to a complete stop, or inflight with gear retracted, may be used to determine the recommended cooling schedule by entering at the bottom of the chart. The brake temperature light illuminates when the hottest brake is registering 5 on the EICAS indication and extinguishes as the hottest brake cools with an EICAS indication of 4.

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## **Engine Inoperative**

### **Initial Max Continuous EPR**

The Initial Max Continuous EPR setting for use following an engine failure is shown. The table shows a range of Cruise Mach numbers to provide a target EPR setting at the start of driftdown. Also shown is the maximum TAT at which the limit EPR can be set. Once driftdown is established, the Max Continuous EPR table should be used to determine EPR for the given conditions.

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### Max Continuous EPR

Power setting is based on one engine operating with one A/C pack operating and all anti-ice bleeds off. Enter the table with pressure altitude and IAS or Mach to read EPR.

It is desirable to maintain engine thrust level within the limits of the Max Cruise thrust rating. However, where thrust level in excess of Max Cruise rating is required, such as for meeting terrain clearance, ATC altitude assignments, or to attain maximum range capability, it is permissible to use the thrust needed up to the Max Continuous thrust rating. The Max Continuous thrust rating is intended primarily for emergency use at the discretion of the pilot and is the maximum thrust that may be used continuously.

### Driftdown Speed/Level Off Altitude

The table shows optimum driftdown speed as a function of cruise weight at start of driftdown. Also shown are the approximate weight and pressure altitude at which the airplane will level off considering 100 ft/min residual rate of climb.

The level off altitude is dependent on air temperature (ISA deviation).

### Driftdown/LRC Range Capability

This table shows the range capability from the start of driftdown. Driftdown is continued to level off altitude. As weight decreases due to fuel burn, the airplane is accelerated to Long Range Cruise speed. Cruise is continued at level off altitude and Long Range Cruise speed.

To determine fuel required, enter the Ground to Air Miles Conversion table with the desired ground distance and adjust for anticipated winds to obtain air distance to destination. Then enter the Driftdown/Cruise Fuel and Time table with air distance and weight at start of driftdown to determine fuel and time required. If altitudes other than the level off altitude are used, fuel and time required may be obtained by using the Engine Inoperative Long Range Cruise Enroute Fuel and Time table.

### Long Range Cruise Altitude Capability

The table shows the maximum altitude that can be maintained at a given weight and air temperature (ISA deviation), based on Long Range Cruise speed, Max Continuous thrust, and 100 ft/min residual rate of climb.

### Long Range Cruise Control

The table provides target EPR, engine inoperative Long Range Cruise Mach number, IAS and fuel flow for the airplane weight and pressure altitude. The fuel flow values in this table reflect single engine fuel burn.

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**Long Range Cruise Diversion Fuel and Time**

Tables are provided for crews to determine the fuel and time required to proceed to an alternate airfield with one engine inoperative. The data is based on single engine Long Range Cruise speed and .78/290/250 descent. Enter with Air Distance as determined from the Ground to Air Miles Conversion table and read Fuel and Time required at the cruise pressure altitude. Adjust the fuel obtained for deviation from the reference weight at checkpoint as required by entering the Fuel Required Adjustment table with the fuel required for the reference weight and the actual weight at checkpoint.

**Holding**

Target EPR, indicated airspeed and fuel flow per engine information is tabulated for holding with flaps up based on the FMC optimum holding speed schedule. This is the higher of the maximum endurance speed and the maneuvering speed. Small variations in airspeed will not appreciably affect the overall endurance time. Enter the table with weight and pressure altitude to read EPR, IAS and fuel flow per engine.

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**Gear Down**

This section contains performance for airplane operation with the landing gear extended for all phases of flight. The data is based on engine bleeds for normal air conditioning.

NOTE: The Flight Management Computer System (FMCS) does not contain special provisions for operation with landing gear extended. As a result, the FMCS will generate inaccurate enroute speed schedules, display non-conservative predictions of fuel burn, estimated time of arrival (ETA), maximum altitude, and compute overly shallow descent path. To obtain accurate ETA predictions, gear down cruise speed and altitude should be entered on the CLB and CRZ pages. Gear down cruise speed should also be entered on the DES page and a STEP SIZE of zero should be entered on the PERF INIT or CRZ page. Use of the VNAV during descent under these circumstances is not recommended.

Tables for gear down performance in this section are identical in format and used in the same manner as tables for the gear up configuration previously described.

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## 757 Flight Crew Operations Manual

# Performance Inflight - QRH

## General

# Chapter PI-QRH

## Section 40

**Flight With Unreliable Airspeed / Turbulent Air Penetration**

Altitude and/or vertical speed indications may also be unreliable.

**Climb (290/.78)****Flaps Up, Set Max Climb Thrust**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |            |            |
|---------------------------|------------------|------------------|-------------|------------|------------|
|                           |                  | 60               | 80          | 100        | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>4.5</b>       | <b>4.5</b>  |            |            |
|                           | V/S (FT/MIN)     | 1800             | 1000        |            |            |
| 30000                     | <b>PITCH ATT</b> | <b>4.0</b>       | <b>4.0</b>  | <b>4.0</b> | <b>4.0</b> |
|                           | V/S (FT/MIN)     | 2400             | 1600        | 1100       | 700        |
| 20000                     | <b>PITCH ATT</b> | <b>7.0</b>       | <b>6.0</b>  | <b>5.5</b> | <b>5.5</b> |
|                           | V/S (FT/MIN)     | 3800             | 2600        | 1900       | 1400       |
| 10000                     | <b>PITCH ATT</b> | <b>9.5</b>       | <b>8.0</b>  | <b>7.5</b> | <b>7.0</b> |
|                           | V/S (FT/MIN)     | 4900             | 3600        | 2700       | 2100       |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>13.0</b>      | <b>10.5</b> | <b>9.5</b> | <b>9.0</b> |
|                           | V/S (FT/MIN)     | 6000             | 4300        | 3300       | 2600       |

**Cruise (.78/290)****Flaps Up, EPR for Level Flight**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |            |            |            |
|---------------------------|------------------|------------------|------------|------------|------------|
|                           |                  | 60               | 80         | 100        | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>2.0</b>       | <b>3.0</b> |            |            |
|                           | EPR              | 1.12             | 1.22       |            |            |
|                           | (Alt Mode %N1)   | (76.1)           | (79.6)     |            |            |
| 35000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.5</b> | <b>3.0</b> | <b>4.0</b> |
|                           | EPR              | 1.08             | 1.12       | 1.20       | 1.36       |
|                           | (Alt Mode %N1)   | (74.3)           | (76.4)     | (79.2)     | (84.6)     |
| 30000                     | <b>PITCH ATT</b> | <b>1.0</b>       | <b>1.5</b> | <b>2.5</b> | <b>3.0</b> |
|                           | EPR              | 1.04             | 1.07       | 1.11       | 1.16       |
|                           | (Alt Mode %N1)   | (73.9)           | (75.2)     | (77.0)     | (79.3)     |
| 25000                     | <b>PITCH ATT</b> | <b>1.0</b>       | <b>2.0</b> | <b>2.5</b> | <b>3.5</b> |
|                           | EPR              | 0.99             | 1.02       | 1.05       | 1.09       |
|                           | (Alt Mode %N1)   | (69.9)           | (71.5)     | (73.5)     | (75.8)     |
| 20000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.0</b> | <b>2.5</b> | <b>3.5</b> |
|                           | EPR              | 0.98             | 1.00       | 1.02       | 1.05       |
|                           | (Alt Mode %N1)   | (66.9)           | (68.2)     | (70.1)     | (72.5)     |
| 15000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.0</b> | <b>3.0</b> | <b>3.5</b> |
|                           | EPR              | 0.97             | 0.99       | 1.00       | 1.03       |
|                           | (Alt Mode %N1)   | (63.8)           | (65.0)     | (66.9)     | (69.1)     |

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**Flight With Unreliable Airspeed / Turbulent Air Penetration**

Altitude and/or vertical speed indications may also be unreliable.

**Descent (.78/290)**

**Flaps Up, Set Idle Thrust**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |             |            |
|---------------------------|------------------|------------------|-------------|-------------|------------|
|                           |                  | 60               | 80          | 100         | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>-1.0</b>      | <b>0.5</b>  | <b>1.0</b>  | <b>0.5</b> |
|                           | V/S (FT/MIN)     | -2300            | -2100       | -2500       | -3700      |
| 30000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b>  | <b>0.5</b> |
|                           | V/S (FT/MIN)     | -2900            | -2300       | -2000       | -1900      |
| 20000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b>  | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -2600            | -2100       | -1900       | -1800      |
| 10000                     | <b>PITCH ATT</b> | <b>-3.0</b>      | <b>-1.5</b> | <b>0.0</b>  | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -2500            | -2000       | -1800       | -1700      |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>-3.0</b>      | <b>-1.5</b> | <b>-0.5</b> | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -2300            | -1800       | -1600       | -1500      |

**Holding**

**Flaps Up, EPR for Level Flight**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |            |            |            |
|---------------------------|------------------|------------------|------------|------------|------------|
|                           |                  | 60               | 80         | 100        | 120        |
| 10000                     | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.0</b> | <b>5.0</b> | <b>5.0</b> |
|                           | EPR              | 1.01             | 1.01       | 1.02       | 1.03       |
|                           | (Alt Mode %N1)   | (48.8)           | (55.3)     | (60.4)     | (64.6)     |
|                           | KIAS             | 185              | 213        | 239        | 262        |
| 5000                      | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.0</b> | <b>5.0</b> | <b>5.0</b> |
|                           | EPR              | 1.01             | 1.01       | 1.01       | 1.02       |
|                           | (Alt Mode %N1)   | (46.0)           | (51.7)     | (56.8)     | (61.1)     |
|                           | KIAS             | 185              | 213        | 238        | 261        |

**Terminal Area (5000 FT)**

**EPR for Level Flight**

| FLAP POSITION<br>(VREF + INCREMENT)      |                  | WEIGHT (1000 KG) |            |            |            |
|------------------------------------------|------------------|------------------|------------|------------|------------|
|                                          |                  | 60               | 80         | 100        | 120        |
| FLAPS UP<br>(GEAR UP)<br>(VREF30 + 80)   | <b>PITCH ATT</b> | <b>5.0</b>       | <b>6.0</b> | <b>6.5</b> | <b>6.5</b> |
|                                          | EPR              | 1.01             | 1.01       | 1.02       | 1.04       |
|                                          | KIAS             | 185              | 204        | 221        | 238        |
|                                          | (Alt Mode %N1)   | (43.8)           | (50.6)     | (55.6)     | (60.4)     |
|                                          |                  |                  |            |            |            |
| FLAPS 1<br>(GEAR UP)<br>(VREF30 + 60)    | <b>PITCH ATT</b> | <b>6.5</b>       | <b>7.0</b> | <b>7.5</b> | <b>8.0</b> |
|                                          | EPR              | 1.02             | 1.03       | 1.04       | 1.06       |
|                                          | KIAS             | 165              | 184        | 201        | 218        |
|                                          | (Alt Mode %N1)   | (44.8)           | (51.2)     | (56.6)     | (61.8)     |
|                                          |                  |                  |            |            |            |
| FLAPS 5<br>(GEAR UP)<br>(VREF30 + 40)    | <b>PITCH ATT</b> | <b>7.0</b>       | <b>7.0</b> | <b>7.5</b> | <b>7.5</b> |
|                                          | EPR              | 1.03             | 1.04       | 1.06       | 1.08       |
|                                          | KIAS             | 145              | 164        | 181        | 197        |
|                                          | (Alt Mode %N1)   | (44.7)           | (51.2)     | (57.5)     | (62.9)     |
|                                          |                  |                  |            |            |            |
| FLAPS 15<br>(GEAR UP)<br>(VREF30 + 20)   | <b>PITCH ATT</b> | <b>8.0</b>       | <b>8.0</b> | <b>8.0</b> | <b>8.0</b> |
|                                          | EPR              | 1.04             | 1.06       | 1.08       | 1.11       |
|                                          | KIAS             | 125              | 144        | 161        | 177        |
|                                          | (Alt Mode %N1)   | (46.0)           | (53.4)     | (60.4)     | (64.9)     |
|                                          |                  |                  |            |            |            |
| FLAPS 20<br>(GEAR DOWN)<br>(VREF30 + 20) | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.5</b> | <b>5.5</b> | <b>5.0</b> |
|                                          | EPR              | 1.07             | 1.10       | 1.14       | 1.17       |
|                                          | KIAS             | 125              | 144        | 161        | 177        |
|                                          | (Alt Mode %N1)   | (52.4)           | (60.9)     | (66.7)     | (71.9)     |
|                                          |                  |                  |            |            |            |

## 757 Flight Crew Operations Manual

**Flight With Unreliable Airspeed / Turbulent Air Penetration**

Altitude and/or vertical speed indications may also be unreliable.

**Final Approach (1500 FT)****Gear Down, EPR for 3° Glideslope**

| FLAP POSITION<br>(VREF + INCREMENT) |                  | WEIGHT (1000 KG) |            |            |            |
|-------------------------------------|------------------|------------------|------------|------------|------------|
|                                     |                  | 60               | 80         | 100        | 120        |
| FLAPS 20<br>(VREF20 + 10)           | <b>PITCH ATT</b> | <b>2.0</b>       | <b>2.0</b> | <b>2.0</b> | <b>2.0</b> |
|                                     | EPR              | 1.01             | 1.02       | 1.03       | 1.04       |
|                                     | KIAS             | 126              | 145        | 162        | 177        |
|                                     | (Alt Mode %N1)   | (37.3)           | (42.1)     | (47.0)     | (51.1)     |
| FLAPS 25<br>(VREF25 + 10)           | <b>PITCH ATT</b> | <b>2.5</b>       | <b>2.5</b> | <b>2.5</b> | <b>2.5</b> |
|                                     | EPR              | 1.03             | 1.04       | 1.05       | 1.07       |
|                                     | KIAS             | 118              | 136        | 153        | 168        |
|                                     | (Alt Mode %N1)   | (40.0)           | (46.2)     | (51.7)     | (56.9)     |
| FLAPS 30<br>(VREF30 + 10)           | <b>PITCH ATT</b> | <b>1.0</b>       | <b>1.0</b> | <b>0.5</b> | <b>0.5</b> |
|                                     | EPR              | 1.04             | 1.06       | 1.07       | 1.11       |
|                                     | KIAS             | 115              | 134        | 151        | 167        |
|                                     | (Alt Mode %N1)   | (43.4)           | (50.5)     | (57.1)     | (62.7)     |

**Go-Around (VREF 30 + 20)****Flaps 20, Gear Up, Set Go-Around Thrust (Normal Mode)**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |             |             |            |
|---------------------------|------------------|------------------|-------------|-------------|-------------|------------|
|                           |                  | 60               | 80          | 100         | 120         | 140        |
| 8000                      | <b>PITCH ATT</b> | <b>19.0</b>      | <b>13.5</b> | <b>10.5</b> | <b>8.5</b>  | <b>7.5</b> |
|                           | V/S (FT/MIN)     | 4100             | 3000        | 2300        | 1700        | 1300       |
|                           | KIAS             | 134              | 153         | 170         | 185         | 199        |
| 4000                      | <b>PITCH ATT</b> | <b>21.5</b>      | <b>15.5</b> | <b>12.0</b> | <b>10.0</b> | <b>8.5</b> |
|                           | V/S (FT/MIN)     | 4500             | 3300        | 2600        | 2000        | 1600       |
|                           | KIAS             | 134              | 153         | 170         | 185         | 198        |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>22.5</b>      | <b>16.0</b> | <b>12.5</b> | <b>10.5</b> | <b>8.5</b> |
|                           | V/S (FT/MIN)     | 4400             | 3300        | 2600        | 2000        | 1600       |
|                           | KIAS             | 134              | 153         | 170         | 184         | 198        |

**Go-Around (VREF 30 + 20)****Flaps 20, Gear Up, Set Go-Around Thrust (Alternate Mode)**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |             |            |            |
|---------------------------|------------------|------------------|-------------|-------------|------------|------------|
|                           |                  | 60               | 80          | 100         | 120        | 140        |
| 8000                      | <b>PITCH ATT</b> | <b>18.5</b>      | <b>13.5</b> | <b>10.5</b> | <b>8.5</b> | <b>7.0</b> |
|                           | V/S (FT/MIN)     | 3900             | 2900        | 2100        | 1600       | 1200       |
|                           | KIAS             | 134              | 153         | 170         | 185        | 199        |
| 4000                      | <b>PITCH ATT</b> | <b>20.0</b>      | <b>14.5</b> | <b>11.0</b> | <b>9.0</b> | <b>8.0</b> |
|                           | V/S (FT/MIN)     | 4100             | 3000        | 2300        | 1800       | 1300       |
|                           | KIAS             | 134              | 153         | 170         | 185        | 198        |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>20.5</b>      | <b>15.0</b> | <b>11.5</b> | <b>9.5</b> | <b>8.0</b> |
|                           | V/S (FT/MIN)     | 4000             | 3000        | 2300        | 1800       | 1300       |
|                           | KIAS             | 134              | 153         | 170         | 184        | 198        |



757 Flight Crew Operations Manual

Max Climb EPR

Based on engine bleed for packs on and anti-ice off

| TAT<br>(°C) | PRESSURE ALTITUDE (1000 FT)/SPEED (KIAS OR MACH) |      |      |      |      |      |      |      |      |
|-------------|--------------------------------------------------|------|------|------|------|------|------|------|------|
|             | 0                                                | 5    | 10   | 15   | 20   | 25   | 30   | 35   | 40   |
|             | 250                                              | 250  | 250  | 290  | 290  | 290  | 290  | .78  | .78  |
| 60          | 1.15                                             | 1.14 | 1.12 | 1.08 | 1.05 | 1.02 | 0.99 | 0.98 | 0.97 |
| 50          | 1.18                                             | 1.17 | 1.16 | 1.11 | 1.09 | 1.06 | 1.04 | 1.03 | 1.02 |
| 40          | 1.22                                             | 1.21 | 1.19 | 1.15 | 1.13 | 1.11 | 1.09 | 1.08 | 1.07 |
| 30          | 1.24                                             | 1.25 | 1.23 | 1.20 | 1.18 | 1.16 | 1.14 | 1.13 | 1.12 |
| 20          | 1.24                                             | 1.27 | 1.28 | 1.25 | 1.23 | 1.21 | 1.19 | 1.18 | 1.18 |
| 10          | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.29 | 1.27 | 1.26 | 1.25 | 1.24 |
| 0           | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.33 | 1.32 | 1.32 |
| -10         | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.39 | 1.41 | 1.41 |
| -20         | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.39 | 1.48 | 1.50 |

EPR Adjustments for Engine Bleeds

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (1000 FT) |       |       |       |       |       |       |       |       |  |
|---------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                           | 0                           | 5     | 10    | 15    | 20    | 25    | 30    | 35    | 40    |  |
| PACKS OFF                 | 0.01                        | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  | 0.03  | 0.04  | 0.04  |  |
| ENGINE ANTI-ICE ON        | 0.00                        | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.04 | -0.05 | -0.07 |  |
| ENGINE & WING ANTI-ICE ON | -0.02                       | -0.02 | -0.06 | -0.06 | -0.06 | -0.07 | -0.08 | -0.10 | -0.13 |  |



757 Flight Crew Operations Manual

VREF (KIAS)

| WEIGHT<br>(1000 KG) | FLAPS |     |     |
|---------------------|-------|-----|-----|
|                     | 30    | 25  | 20  |
| 120                 | 157   | 158 | 167 |
| 110                 | 149   | 151 | 159 |
| 100                 | 140   | 142 | 151 |
| 90                  | 132   | 134 | 143 |
| 80                  | 124   | 126 | 135 |
| 70                  | 115   | 117 | 125 |
| 60                  | 106   | 108 | 116 |

**757 Flight Crew Operations Manual**

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757 Flight Crew Operations Manual

**Performance Inflight - QRH**  
**Advisory Information**

**Chapter PI-QRH**  
**Section 41**

**ADVISORY INFORMATION**

**Normal Configuration Landing Distance**

**Flaps 30**

**Dry Runway**

|                          | LANDING DISTANCE AND ADJUSTMENTS (FT) |                                               |                                 |                        |              |                     |            |                      |            |                                  |                          |           |
|--------------------------|---------------------------------------|-----------------------------------------------|---------------------------------|------------------------|--------------|---------------------|------------|----------------------|------------|----------------------------------|--------------------------|-----------|
|                          | REF<br>DIST                           | WT<br>ADJ                                     | ALT<br>ADJ                      | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | TEMP ADJ<br>PER 10°C |            | VREF<br>ADJ                      | REVERSE<br>THRUST<br>ADJ |           |
| BRAKING<br>CONFIGURATION | 86000 KG<br>LANDING<br>WEIGHT         | PER<br>5000 KG<br>ABOVE/<br>BELOW<br>86000 KG | PER<br>1000 FT<br>STD/<br>HIGH* | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | ABV<br>ISA           | BLW<br>ISA | PER<br>10 KTS<br>ABOVE<br>VREF30 | ONE<br>REV               | NO<br>REV |
| MAX MANUAL               | 2700                                  | +110/-100                                     | 60/70                           | -110                   | 380          | 40                  | -30        | 50                   | -50        | 210                              | 60                       | 130       |
| MAX AUTO                 | 4040                                  | +180/-180                                     | 90/120                          | -180                   | 570          | 50                  | -50        | 90                   | -90        | 310                              | 180                      | 360       |
| AUTOBRAKE 4              | 4360                                  | +210/-200                                     | 110/140                         | -210                   | 680          | 60                  | -60        | 110                  | -100       | 360                              | 190                      | 390       |
| AUTOBRAKE 3              | 4940                                  | +260/-260                                     | 140/180                         | -250                   | 850          | 90                  | -90        | 140                  | -130       | 410                              | 240                      | 470       |
| AUTOBRAKE 2              | 5280                                  | +320/-310                                     | 170/220                         | -290                   | 980          | 150                 | -150       | 160                  | -140       | 410                              | 540                      | 800       |
| AUTOBRAKE 1              | 5530                                  | +360/-320                                     | 190/270                         | -320                   | 1110         | 190                 | -170       | 170                  | -150       | 410                              | 960                      | 1450      |

**Good Reported Braking Action**

|             |      |           |         |      |     |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|-----|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 4050 | +180/-170 | 100/140 | -200 | 700 | 90  | -80  | 90  | -90  | 320 | 250 | 620  |
| MAX AUTO    | 4830 | +230/-220 | 120/160 | -230 | 790 | 100 | -90  | 120 | -100 | 360 | 410 | 1050 |
| AUTOBRAKE 4 | 5070 | +240/-240 | 130/160 | -250 | 840 | 90  | -80  | 130 | -130 | 410 | 280 | 770  |
| AUTOBRAKE 3 | 5680 | +300/-300 | 160/210 | -290 | 980 | 100 | -100 | 160 | -150 | 470 | 280 | 550  |

**Medium Reported Braking Action**

|             |      |           |         |      |      |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 5240 | +280/-240 | 150/210 | -300 | 1120 | 210 | -160 | 140 | -130 | 390 | 680 | 1890 |
| MAX AUTO    | 5530 | +300/-280 | 160/220 | -320 | 1150 | 220 | -180 | 150 | -130 | 390 | 850 | 2360 |
| AUTOBRAKE 4 | 5570 | +300/-280 | 160/220 | -320 | 1150 | 210 | -170 | 150 | -130 | 410 | 830 | 2320 |
| AUTOBRAKE 3 | 5960 | +320/-320 | 170/220 | -350 | 1220 | 180 | -170 | 160 | -150 | 470 | 530 | 1910 |

**Poor Reported Braking Action**

|             |      |           |         |      |      |     |      |     |      |     |      |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|------|------|
| MAX MANUAL  | 6460 | +370/-320 | 200/290 | -430 | 1690 | 450 | -300 | 170 | -150 | 440 | 1380 | 4430 |
| MAX AUTO    | 6460 | +380/-360 | 210/290 | -460 | 1700 | 450 | -320 | 180 | -150 | 430 | 1520 | 4830 |
| AUTOBRAKE 4 | 6460 | +380/-360 | 210/290 | -460 | 1700 | 450 | -320 | 180 | -150 | 440 | 1520 | 4830 |
| AUTOBRAKE 3 | 6590 | +380/-360 | 200/290 | -460 | 1710 | 430 | -310 | 180 | -160 | 470 | 1380 | 4690 |

Reference distance is for sea level, standard day, no wind or slope, VREF30 approach speed and 2 engine reverse thrust.

Max Manual braking data valid for auto speedbrakes. For manual speedbrakes, increase reference landing distance by 310 ft.

Autobrake data valid for both auto and manual speedbrakes.

Distance for GOOD, MEDIUM, and POOR are increased by 15%.

Includes distance from 50 ft above threshold (1000 ft of unfactored air distance).

\*For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply the HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Normal Configuration Landing Distance

##### Flaps 25

##### Dry Runway

|                          | LANDING DISTANCE AND ADJUSTMENTS (FT) |                                               |                                 |                        |              |                     |            |                      |            |                                  |                          |           |
|--------------------------|---------------------------------------|-----------------------------------------------|---------------------------------|------------------------|--------------|---------------------|------------|----------------------|------------|----------------------------------|--------------------------|-----------|
|                          | REF<br>DIST                           | WT<br>ADJ                                     | ALT<br>ADJ                      | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | TEMP ADJ<br>PER 10°C |            | VREF<br>ADJ                      | REVERSE<br>THRUST<br>ADJ |           |
| BRAKING<br>CONFIGURATION | 86000 KG<br>LANDING<br>WEIGHT         | PER<br>5000 KG<br>ABOVE/<br>BELOW<br>86000 KG | PER<br>1000 FT<br>STD/<br>HIGH* | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | ABV<br>ISA           | BLW<br>ISA | PER<br>10 KTS<br>ABOVE<br>VREF25 | ONE<br>REV               | NO<br>REV |
| MAX MANUAL               | 2730                                  | +100/-100                                     | 60/80                           | -110                   | 390          | 40                  | -30        | 60                   | -50        | 210                              | 60                       | 140       |
| MAX AUTO                 | 4170                                  | +180/-180                                     | 100/130                         | -180                   | 580          | 50                  | -50        | 100                  | -90        | 320                              | 190                      | 400       |
| AUTOBRAKE 4              | 4510                                  | +210/-210                                     | 110/150                         | -210                   | 690          | 60                  | -60        | 120                  | -110       | 380                              | 210                      | 430       |
| AUTOBRAKE 3              | 5120                                  | +260/-260                                     | 140/190                         | -260                   | 860          | 90                  | -100       | 150                  | -130       | 430                              | 270                      | 530       |
| AUTOBRAKE 2              | 5460                                  | +320/-320                                     | 180/240                         | -300                   | 1000         | 160                 | -160       | 180                  | -150       | 430                              | 610                      | 900       |
| AUTOBRAKE 1              | 5710                                  | +360/-330                                     | 200/280                         | -330                   | 1120         | 200                 | -180       | 190                  | -150       | 430                              | 1070                     | 1600      |

#### Good Reported Braking Action

|             |      |           |         |      |     |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|-----|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 4120 | +180/-170 | 100/140 | -200 | 700 | 90  | -80  | 90  | -90  | 320 | 260 | 670  |
| MAX AUTO    | 4960 | +230/-220 | 120/160 | -240 | 790 | 100 | -90  | 120 | -120 | 370 | 440 | 1140 |
| AUTOBRAKE 4 | 5240 | +240/-240 | 130/170 | -250 | 850 | 90  | -90  | 140 | -130 | 440 | 290 | 830  |
| AUTOBRAKE 3 | 5890 | +300/-300 | 160/220 | -300 | 990 | 100 | -120 | 170 | -150 | 490 | 310 | 610  |

#### Medium Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 5360 | +280/-240 | 150/220 | -300 | 1130 | 210 | -170 | 140 | -130 | 400 | 740 | 2080 |
| MAX AUTO    | 5680 | +300/-280 | 160/230 | -330 | 1160 | 220 | -180 | 160 | -140 | 400 | 930 | 2610 |
| AUTOBRAKE 4 | 5720 | +290/-280 | 160/230 | -330 | 1160 | 210 | -170 | 150 | -140 | 440 | 890 | 2560 |
| AUTOBRAKE 3 | 6150 | +320/-320 | 170/230 | -360 | 1240 | 200 | -170 | 170 | -160 | 490 | 580 | 2120 |

#### Poor Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |      |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|------|------|
| MAX MANUAL  | 6640 | +370/-330 | 200/290 | -430 | 1710 | 460 | -310 | 180 | -160 | 450 | 1490 | 4970 |
| MAX AUTO    | 6640 | +380/-360 | 210/300 | -460 | 1710 | 460 | -330 | 200 | -160 | 450 | 1660 | 5440 |
| AUTOBRAKE 4 | 6640 | +380/-360 | 210/300 | -460 | 1710 | 460 | -330 | 200 | -160 | 450 | 1640 | 5430 |
| AUTOBRAKE 3 | 6800 | +380/-360 | 210/290 | -470 | 1740 | 440 | -310 | 200 | -160 | 490 | 1480 | 5280 |

Reference distance is for sea level, standard day, no wind or slope, VREF25 approach speed and 2 engine reverse thrust.

Max Manual braking data valid for auto speedbrakes. For manual speedbrakes, increase reference landing distance by 310 ft.

Autobrake data valid for both auto and manual speedbrakes.

Distance for GOOD, MEDIUM, and POOR are increased by 15%.

Includes distance from 50 ft above threshold (1000 ft of unfactored air distance).

\*For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply the HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

Non-Normal Configuration Landing Distance  
Dry Runway

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT) |                                         |                                       |                     |           |                  |         |                       |
|-----------------------------------------------------------------------------|-----------|---------------------------------------|-----------------------------------------|---------------------------------------|---------------------|-----------|------------------|---------|-----------------------|
|                                                                             |           | REFERENCE DISTANCE*                   | WT ADJ PER 2000 KG ABOVE/BELOW 86000 KG | ALTITUDE ADJ PER 1000 FT STD/HIGH *** | WIND ADJ PER 10 KTS |           | SLOPE ADJ PER 1% |         | APPROACH SPEED        |
|                                                                             |           | FOR 86000 KG LANDING WEIGHT           |                                         |                                       | HEAD WIND           | TAIL WIND | DOWN HILL        | UP HILL | PER 10 KTS ABOVE VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 3545                                  | 60/-55                                  | 85/120                                | -150                | 535       | 75               | -65     | 400                   |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 4060                                  | 75/-65                                  | 95/140                                | -195                | 730       | 90               | -75     | 320                   |
| FLAPS UP                                                                    | VREF30+50 | 3645                                  | 140/-55                                 | 100/160                               | -150                | 585       | 55               | -50     | 285                   |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 2735                                  | 50/-40                                  | 60/80                                 | -110                | 400       | 40               | -35     | 235                   |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 3245                                  | 55/-50                                  | 70/100                                | -135                | 475       | 50               | -45     | 310                   |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 3515                                  | 55/-55                                  | 80/110                                | -140                | 490       | 55               | -50     | 310                   |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 3295                                  | 60/-55                                  | 80/120                                | -145                | 515       | 75               | -65     | 355                   |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 3925                                  | 65/-55                                  | 95/130                                | -155                | 530       | 65               | -60     | 360                   |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 4065                                  | 70/-65                                  | 110/155                               | -170                | 585       | 100              | -85     | 425                   |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 5585                                  | 95/-80                                  | 155/245                               | -240                | 815       | 220              | -175    | 755                   |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Dry Runway**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 2870                                                        | 55/-45                                                  | 60/75                                             | -115                   | 395          | 35                  | -35        | 220                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 3330                                                        | 85/-50                                                  | 80/105                                            | -125                   | 430          | 45                  | -40        | 230                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 3550                                                        | 105/-55                                                 | 85/130                                            | -130                   | 445          | 45                  | -45        | 235                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 2915                                                        | 65/-45                                                  | 65/85                                             | -115                   | 450          | 40                  | -35        | 235                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 3355                                                        | 95/-50                                                  | 80/105                                            | -135                   | 505          | 50                  | -45        | 265                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 3235                                                        | 100/-45                                                 | 75/100                                            | -135                   | 495          | 45                  | -40        | 245                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 3445                                                        | 120/-50                                                 | 80/125                                            | -140                   | 525          | 50                  | -45        | 255                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Good Reported Braking Action**

| LANDING CONFIGURATION                                                                              | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |      |                     |      |                   |
|----------------------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|------|---------------------|------|-------------------|
|                                                                                                    |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |      | SLOPE ADJ<br>PER 1% |      | APPROACH<br>SPEED |
| AIR-GROUND<br>LOGIC IN AIR<br>MODE                                                                 | VREF30    | 5175                                                        | 95/-80                                                  | 150/240                                           | -270                   | 965  | 255                 | -190 | 590               |
| ANTI-SKID<br>SYSTEM INOP                                                                           | VREF30    | 4840                                                        | 100/-90                                                 | 130/185                                           | -265                   | 1035 | 170                 | -135 | 365               |
| FLAPS UP                                                                                           | VREF30+50 | 4865                                                        | 90/-80                                                  | 140/190                                           | -200                   | 720  | 100                 | -90  | 285               |
| HYDRAULIC<br>SYSTEM<br>CENTER INOP                                                                 | VREF30    | 3535                                                        | 70/-60                                                  | 90/125                                            | -170                   | 630  | 85                  | -75  | 300               |
| HYDRAULIC<br>SYSTEM<br>LEFT INOP                                                                   | VREF30    | 4315                                                        | 85/-75                                                  | 115/170                                           | -215                   | 775  | 135                 | -110 | 415               |
| HYDRAULIC<br>SYSTEM LEFT<br>INOP WITH<br>LE SLAT OR<br>TE FLAPS<br>DISAGREE FOR<br>FLAPS $\geq$ 20 | VREF20    | 4745                                                        | 85/-80                                                  | 130/190                                           | -225                   | 810  | 145                 | -120 | 420               |
| HYDRAULIC<br>SYSTEM<br>RIGHT INOP                                                                  | VREF30    | 4205                                                        | 90/-75                                                  | 120/175                                           | -210                   | 770  | 150                 | -120 | 440               |
| HYDRAULIC<br>SYSTEMS<br>CENTER AND<br>LEFT INOP<br>FLAPS 20                                        | VREF30+20 | 5310                                                        | 95/-90                                                  | 150/225                                           | -245                   | 865  | 175                 | -140 | 480               |
| HYDRAULIC<br>SYSTEMS<br>CENTER AND<br>RIGHT INOP<br>FLAPS 20                                       | VREF30+20 | 5240                                                        | 100/-95                                                 | 155/240                                           | -245                   | 865  | 195                 | -160 | 520               |
| HYDRAULIC<br>SYSTEM**<br>LEFT & RIGHT<br>INOP<br>FLAPS 20                                          | VREF30+20 | 7430                                                        | 125/-100                                                | 235/385                                           | -350                   | 1210 | 495                 | -355 | 980               |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).  
Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Good Reported Braking Action**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 3740                                                        | 70/-65                                                  | 95/135                                            | -175                   | 625          | 85                  | -75        | 290                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 4350                                                        | 80/-75                                                  | 120/170                                           | -190                   | 670          | 95                  | -85        | 300                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 4680                                                        | 85/-80                                                  | 130/185                                           | -200                   | 695          | 100                 | -90        | 305                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 3965                                                        | 75/-70                                                  | 105/140                                           | -190                   | 685          | 110                 | -90        | 320                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 4575                                                        | 85/-80                                                  | 125/170                                           | -205                   | 740          | 125                 | -105       | 325                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 4270                                                        | 80/-70                                                  | 115/165                                           | -185                   | 680          | 90                  | -80        | 280                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 4555                                                        | 85/-75                                                  | 125/180                                           | -190                   | 700          | 95                  | -85        | 280                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Medium Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 8520                                                        | 140/-95                                                 | 315/640                                           | -545                   | 2090         | 1210                | -650       | 830                         |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 5850                                                        | 130/-115                                                | 170/255                                           | -375                   | 1565         | 385                 | -255       | 410                         |
| FLAPS UP                                                                    | VREF30+50 | 6380                                                        | 130/-120                                                | 205/295                                           | -300                   | 1140         | 230                 | -185       | 360                         |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 4540                                                        | 100/-90                                                 | 135/190                                           | -255                   | 1005         | 195                 | -150       | 360                         |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 5920                                                        | 125/-105                                                | 185/305                                           | -350                   | 1360         | 380                 | -265       | 515                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 6600                                                        | 130/-120                                                | 210/345                                           | -375                   | 1425         | 420                 | -290       | 540                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 5880                                                        | 130/-110                                                | 195/325                                           | -355                   | 1365         | 415                 | -285       | 540                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 7350                                                        | 150/-130                                                | 245/395                                           | -400                   | 1500         | 475                 | -335       | 595                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 7390                                                        | 160/-135                                                | 260/420                                           | -405                   | 1515         | 525                 | -365       | 635                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 13050                                                       | 185/-95                                                 | 510/1075                                          | -730                   | 2640         | 2455                | -1215      | 1420                        |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).  
Actual (unfactored) distances are shown.  
Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Medium Reported Braking Action**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 4870                                                        | 100/-95                                                 | 140/210                                           | -265                   | 990          | 185                 | -150       | 360                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 5630                                                        | 120/-105                                                | 170/245                                           | -285                   | 1050         | 205                 | -170       | 360                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 6090                                                        | 130/-115                                                | 195/280                                           | -295                   | 1085         | 215                 | -180       | 370                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 5470                                                        | 115/-105                                                | 160/230                                           | -305                   | 1155         | 285                 | -210       | 420                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 6270                                                        | 130/-120                                                | 190/270                                           | -325                   | 1220         | 310                 | -235       | 415                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 5590                                                        | 120/-105                                                | 175/250                                           | -280                   | 1080         | 210                 | -165       | 350                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 5940                                                        | 125/-110                                                | 185/270                                           | -290                   | 1105         | 220                 | -170       | 350                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.



## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Poor Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | >15000                                                      | -                                                       | -                                                 | -                      | -            | -                   | -          | -                           |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 7445                                                        | 180/-155                                                | 235/335                                           | -600                   | 2865         | 2340                | -565       | 445                         |
| FLAPS UP                                                                    | VREF30+50 | 7865                                                        | 175/-160                                                | 275/400                                           | -425                   | 1720         | 515                 | -325       | 415                         |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 5580                                                        | 135/-115                                                | 175/265                                           | -370                   | 1545         | 445                 | -270       | 400                         |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 8050                                                        | 170/-130                                                | 300/555                                           | -590                   | 2555         | 1645                | -615       | 590                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 9035                                                        | 180/-155                                                | 340/630                                           | -630                   | 2670         | 1790                | -680       | 635                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 8080                                                        | 175/-135                                                | 315/585                                           | -600                   | 2580         | 1740                | -650       | 610                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 9945                                                        | 205/-170                                                | 380/705                                           | -665                   | 2775         | 1930                | -745       | 675                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 10085                                                       | 220/-175                                                | 405/750                                           | -675                   | 2805         | 2055                | -800       | 715                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | >15000                                                      | -                                                       | -                                                 | -                      | -            | -                   | -          | -                           |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

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757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Poor Reported Braking Action**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1510         | 410                 | -275       | 405                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 6880                                                        | 160/-140                                                | 225/340                                           | -405                   | 1580         | 435                 | -300       | 400                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 7480                                                        | 170/-155                                                | 255/370                                           | -420                   | 1625         | 455                 | -315       | 425                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 7155                                                        | 170/-155                                                | 230/335                                           | -460                   | 1845         | 720                 | -420       | 500                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 8105                                                        | 185/-170                                                | 270/380                                           | -485                   | 1925         | 760                 | -450       | 485                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 6885                                                        | 160/-135                                                | 230/345                                           | -400                   | 1645         | 480                 | -300       | 405                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 7295                                                        | 170/-145                                                | 250/365                                           | -410                   | 1675         | 490                 | -305       | 400                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

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## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

## Recommended Brake Cooling Schedule

## Reference Brake Energy Per Brake (Millions of Foot Pounds)

|                     |             | BRAKES ON SPEED (KIAS) |      |      |      |      |      |           |      |      |      |      |      |           |      |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|---------------------|-------------|------------------------|------|------|------|------|------|-----------|------|------|------|------|------|-----------|------|------|------|------|------|-----------|---|----|---|---|----|-----------|---|----|--|--|--|-----------|--|--|--|--|--|
|                     |             | 80                     |      |      |      |      |      | 100       |      |      |      |      |      | 120       |      |      |      |      |      | 140       |   |    |   |   |    | 160       |   |    |  |  |  | 180       |  |  |  |  |  |
| WEIGHT<br>(1000 KG) | OAT<br>(°C) | PRESS ALT              |      |      |      |      |      | PRESS ALT |      |      |      |      |      | PRESS ALT |      |      |      |      |      | PRESS ALT |   |    |   |   |    | PRESS ALT |   |    |  |  |  | PRESS ALT |  |  |  |  |  |
|                     |             | 0                      | 5    | 10   | 0    | 5    | 10   | 0         | 5    | 10   | 0    | 5    | 10   | 0         | 5    | 10   | 0    | 5    | 10   | 0         | 5 | 10 | 0 | 5 | 10 | 0         | 5 | 10 |  |  |  |           |  |  |  |  |  |
| 120                 | 0           | 9.2                    | 10.9 | 12.7 | 14.1 | 16.8 | 19.6 | 19.8      | 23.9 | 27.9 | 26.3 | 31.7 | 37.1 | 33.1      | 39.8 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 9.5                    | 11.3 | 13.1 | 14.6 | 17.5 | 20.4 | 20.5      | 24.7 | 28.9 | 27.2 | 32.8 | 38.4 | 34.3      | 41.1 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 9.7                    | 11.5 | 13.4 | 14.8 | 17.8 | 20.7 | 20.9      | 25.2 | 29.4 | 27.7 | 33.4 | 39.0 | 34.9      | 41.8 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 9.8                    | 11.7 | 13.6 | 15.1 | 18.1 | 21.1 | 21.2      | 25.6 | 29.9 | 28.1 | 33.9 | 39.7 | 35.5      | 42.5 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 10.1                   | 12.0 | 14.0 | 15.5 | 18.6 | 21.7 | 21.8      | 26.3 | 30.8 | 29.0 | 34.9 | 40.9 | 36.5      | 43.8 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 10.3                   | 12.3 | 14.2 | 15.8 | 19.0 | 22.2 | 22.3      | 26.9 | 31.6 | 29.7 | 35.8 | 41.9 | 37.4      | 44.9 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 10.4                   | 12.4 | 14.4 | 16.0 | 19.3 | 22.5 | 22.7      | 27.4 | 32.1 | 30.2 | 36.5 | 42.8 | 38.2      | 45.9 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
| 110                 | 0           | 8.5                    | 10.1 | 11.7 | 13.0 | 15.5 | 18.1 | 18.2      | 21.9 | 25.7 | 24.1 | 29.1 | 34.1 | 30.5      | 36.7 | 42.9 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 8.8                    | 10.5 | 12.1 | 13.4 | 16.1 | 18.7 | 18.9      | 22.7 | 26.6 | 25.0 | 30.2 | 35.3 | 31.6      | 38.0 | 44.4 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 9.0                    | 10.6 | 12.3 | 13.7 | 16.4 | 19.1 | 19.2      | 23.1 | 27.1 | 25.4 | 30.7 | 35.9 | 32.1      | 38.6 | 45.1 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 9.1                    | 10.8 | 12.6 | 13.9 | 16.7 | 19.4 | 19.6      | 23.5 | 27.5 | 25.9 | 31.2 | 36.5 | 32.7      | 39.3 | 45.9 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 9.3                    | 11.1 | 12.9 | 14.3 | 17.1 | 20.0 | 20.1      | 24.2 | 28.3 | 26.6 | 32.1 | 37.6 | 33.6      | 40.4 | 47.2 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 9.5                    | 11.3 | 13.2 | 14.6 | 17.5 | 20.4 | 20.6      | 24.8 | 29.0 | 27.2 | 32.9 | 38.5 | 34.5      | 41.4 | 48.4 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 9.6                    | 11.4 | 13.3 | 14.8 | 17.8 | 20.7 | 20.9      | 25.2 | 29.5 | 27.7 | 33.5 | 39.3 | 35.1      | 42.3 | 49.5 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
| 100                 | 0           | 7.8                    | 9.3  | 10.7 | 11.9 | 14.2 | 16.5 | 16.6      | 20.0 | 23.4 | 22.0 | 26.5 | 31.1 | 27.8      | 33.5 | 39.2 | 33.9 | 40.7 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 8.1                    | 9.6  | 11.1 | 12.3 | 14.7 | 17.1 | 17.2      | 20.7 | 24.2 | 22.8 | 27.5 | 32.2 | 28.8      | 34.7 | 40.6 | 35.1 | 42.1 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 8.2                    | 9.8  | 11.3 | 12.5 | 15.0 | 17.5 | 17.6      | 21.1 | 24.7 | 23.2 | 28.0 | 32.7 | 29.3      | 35.3 | 41.3 | 35.7 | 42.8 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 8.4                    | 10.0 | 11.5 | 12.8 | 15.3 | 17.8 | 17.9      | 21.5 | 25.1 | 23.6 | 28.4 | 33.3 | 29.8      | 35.9 | 42.0 | 36.3 | 43.5 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 8.6                    | 10.2 | 11.8 | 13.1 | 15.7 | 18.3 | 18.4      | 22.1 | 25.8 | 24.3 | 29.3 | 34.3 | 30.7      | 36.9 | 43.2 | 37.4 | 44.8 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 8.7                    | 10.4 | 12.1 | 13.4 | 16.0 | 18.7 | 18.8      | 22.6 | 26.4 | 24.8 | 30.0 | 35.1 | 31.4      | 37.9 | 44.3 | 38.3 | 45.9 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 8.8                    | 10.5 | 12.2 | 13.5 | 16.2 | 18.9 | 19.1      | 23.0 | 26.9 | 25.2 | 30.5 | 35.8 | 32.0      | 38.6 | 45.2 | 39.1 | 46.9 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
| 90                  | 0           | 7.1                    | 8.5  | 9.8  | 10.8 | 12.9 | 15.0 | 15.1      | 18.1 | 21.1 | 19.8 | 23.9 | 28.0 | 25.0      | 30.2 | 35.4 | 30.6 | 36.8 | 43.0 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 7.4                    | 8.8  | 10.1 | 11.2 | 13.4 | 15.5 | 15.6      | 18.7 | 21.9 | 20.5 | 24.8 | 29.0 | 25.9      | 31.3 | 36.7 | 31.7 | 38.1 | 44.5 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 7.5                    | 8.9  | 10.3 | 11.4 | 13.6 | 15.8 | 15.9      | 19.1 | 22.3 | 20.9 | 25.2 | 29.5 | 26.4      | 31.8 | 37.3 | 32.2 | 38.7 | 45.2 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 7.7                    | 9.1  | 10.5 | 11.6 | 13.9 | 16.1 | 16.2      | 19.4 | 22.6 | 21.3 | 25.6 | 30.0 | 26.9      | 32.4 | 37.9 | 32.8 | 39.4 | 46.0 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 7.9                    | 9.3  | 10.8 | 11.9 | 14.2 | 16.6 | 16.6      | 20.0 | 23.3 | 21.9 | 26.4 | 30.9 | 27.6      | 33.3 | 39.0 | 33.7 | 40.5 | 47.3 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 8.0                    | 9.5  | 11.0 | 12.1 | 14.5 | 16.9 | 17.0      | 20.4 | 23.8 | 22.4 | 27.0 | 31.6 | 28.3      | 34.1 | 40.0 | 34.6 | 41.6 | 48.6 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 8.0                    | 9.6  | 11.1 | 12.3 | 14.7 | 17.1 | 17.2      | 20.7 | 24.2 | 22.7 | 27.5 | 32.2 | 28.8      | 34.8 | 40.8 | 35.2 | 42.4 | 49.6 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
| 80                  | 0           | 6.5                    | 7.7  | 8.8  | 9.7  | 11.6 | 13.5 | 13.5      | 16.1 | 18.8 | 17.7 | 21.2 | 24.8 | 22.2      | 26.8 | 31.4 | 27.1 | 32.7 | 38.3 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 6.7                    | 7.9  | 9.2  | 10.1 | 12.0 | 13.9 | 14.0      | 16.7 | 19.5 | 18.3 | 22.0 | 25.7 | 23.0      | 27.8 | 32.5 | 28.1 | 33.9 | 39.6 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 6.8                    | 8.1  | 9.3  | 10.3 | 12.2 | 14.2 | 14.2      | 17.0 | 19.9 | 18.6 | 22.4 | 26.2 | 23.4      | 28.3 | 33.1 | 28.6 | 34.4 | 40.3 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 6.9                    | 8.2  | 9.5  | 10.4 | 12.4 | 14.4 | 14.5      | 17.3 | 20.2 | 18.9 | 22.8 | 26.6 | 23.8      | 28.8 | 33.7 | 29.1 | 35.0 | 41.0 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 7.1                    | 8.4  | 9.7  | 10.7 | 12.8 | 14.9 | 14.9      | 17.8 | 20.8 | 19.5 | 23.5 | 27.4 | 24.5      | 29.6 | 34.7 | 29.9 | 36.1 | 42.2 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 7.2                    | 8.6  | 9.9  | 10.9 | 13.0 | 15.2 | 15.2      | 18.2 | 21.2 | 19.9 | 24.0 | 28.1 | 25.1      | 30.3 | 35.5 | 30.6 | 36.9 | 43.2 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 7.2                    | 8.6  | 10.0 | 11.0 | 13.2 | 15.4 | 15.4      | 18.5 | 21.6 | 20.2 | 24.4 | 28.6 | 25.5      | 30.9 | 36.2 | 31.2 | 37.7 | 44.1 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
| 70                  | 0           | 5.8                    | 6.8  | 7.9  | 8.6  | 10.3 | 11.9 | 11.9      | 14.2 | 16.5 | 15.5 | 18.6 | 21.7 | 19.4      | 23.3 | 27.3 | 23.5 | 28.4 | 33.2 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 6.0                    | 7.1  | 8.2  | 9.0  | 10.6 | 12.3 | 12.3      | 14.7 | 17.1 | 16.0 | 19.2 | 22.5 | 20.1      | 24.2 | 28.3 | 24.4 | 29.4 | 34.4 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 6.1                    | 7.2  | 8.3  | 9.1  | 10.8 | 12.6 | 12.5      | 15.0 | 17.4 | 16.3 | 19.6 | 22.9 | 20.4      | 24.6 | 28.8 | 24.8 | 29.9 | 35.0 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 6.2                    | 7.3  | 8.5  | 9.3  | 11.0 | 12.8 | 12.8      | 15.2 | 17.7 | 16.6 | 19.9 | 23.3 | 20.8      | 25.0 | 29.3 | 25.2 | 30.4 | 35.6 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 6.4                    | 7.5  | 8.7  | 9.5  | 11.3 | 13.1 | 13.1      | 15.7 | 18.3 | 17.1 | 20.5 | 23.9 | 21.4      | 25.7 | 30.1 | 26.0 | 31.3 | 36.7 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 6.5                    | 7.6  | 8.8  | 9.7  | 11.5 | 13.4 | 13.4      | 16.0 | 18.6 | 17.4 | 21.0 | 24.5 | 21.8      | 26.3 | 30.8 | 26.6 | 32.1 | 37.6 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 6.5                    | 7.7  | 8.9  | 9.8  | 11.7 | 13.6 | 13.5      | 16.2 | 18.9 | 17.7 | 21.3 | 24.9 | 22.2      | 26.8 | 31.4 | 27.0 | 32.7 | 38.3 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |

To correct for wind, enter table with the brakes on speed minus one half the headwind or plus 1.5 times the tailwind. If ground speed is used for brakes on speed, ignore wind and enter table with sea level, 15°C.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Recommended Brake Cooling Schedule

Adjusted Brake Energy Per Brake (Millions of Foot Pounds)

No Reverse Thrust

|         |             | REFERENCE BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |      |      |      |      |      |      |      |      |      |      |
|---------|-------------|------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| EVENT   |             | 10                                                         | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| LANDING | RTO MAX MAN | 10                                                         | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|         | MAX MAN     | 9.2                                                        | 11.2 | 13.1 | 15.0 | 17.0 | 18.9 | 20.9 | 22.8 | 24.7 | 26.7 | 28.6 |
|         | MAX AUTO    | 8.9                                                        | 10.8 | 12.6 | 14.4 | 16.3 | 18.1 | 19.9 | 21.7 | 23.5 | 25.3 | 27.2 |
|         | AUTOBRAKE 4 | 8.8                                                        | 10.6 | 12.3 | 14.0 | 15.7 | 17.4 | 19.1 | 20.8 | 22.5 | 24.2 | 26.0 |
|         | AUTOBRAKE 3 | 8.7                                                        | 10.4 | 12.0 | 13.7 | 15.3 | 16.9 | 18.4 | 20.0 | 21.6 | 23.2 | 24.8 |
|         | AUTOBRAKE 2 | 8.6                                                        | 10.2 | 11.7 | 13.2 | 14.7 | 16.2 | 17.7 | 19.1 | 20.6 | 22.0 | 23.5 |
|         | AUTOBRAKE 1 | 8.4                                                        | 9.8  | 11.3 | 12.6 | 14.0 | 15.3 | 16.6 | 17.8 | 19.1 | 20.4 | 21.7 |

#### Two Engine Reverse

|         |             | REFERENCE BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |     |      |      |      |      |      |      |      |      |      |
|---------|-------------|------------------------------------------------------------|-----|------|------|------|------|------|------|------|------|------|
| EVENT   |             | 10                                                         | 12  | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| LANDING | RTO MAX MAN | 10                                                         | 12  | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|         | MAX MAN     | 7.6                                                        | 9.2 | 10.8 | 12.5 | 14.2 | 15.9 | 17.6 | 19.3 | 21.0 | 22.6 | 24.2 |
|         | MAX AUTO    | 5.0                                                        | 6.3 | 7.6  | 8.9  | 10.2 | 11.5 | 12.9 | 14.2 | 15.6 | 16.9 | 18.3 |
|         | AUTOBRAKE 4 | 3.4                                                        | 4.3 | 5.3  | 6.2  | 7.2  | 8.2  | 9.2  | 10.2 | 11.3 | 12.3 | 13.5 |
|         | AUTOBRAKE 3 | 2.4                                                        | 3.0 | 3.6  | 4.2  | 4.8  | 5.5  | 6.2  | 6.9  | 7.7  | 8.4  | 9.3  |
|         | AUTOBRAKE 2 | 1.9                                                        | 2.2 | 2.5  | 2.9  | 3.2  | 3.6  | 4.0  | 4.5  | 4.9  | 5.4  | 5.9  |
|         | AUTOBRAKE 1 | 1.5                                                        | 1.7 | 1.9  | 2.1  | 2.3  | 2.5  | 2.8  | 3.0  | 3.2  | 3.5  | 3.7  |

#### Cooling Time (Minutes)

|                       |                         | ADJUSTED BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |    |    |    |    |    |    |          |                        |  |
|-----------------------|-------------------------|-----------------------------------------------------------|----|----|----|----|----|----|----------|------------------------|--|
|                       |                         | 8 & BELOW                                                 | 9  | 10 | 12 | 14 | 16 | 17 | 18 TO 27 | 28 & ABOVE             |  |
| INFLIGHT<br>GEAR DOWN | NO SPECIAL<br>PROCEDURE |                                                           | 1  | 2  | 4  | 5  | 7  | 7  | CAUTION  | FUSE PLUG<br>MELT ZONE |  |
| GROUND                | REQUIRED                |                                                           | 10 | 20 | 38 | 51 | 62 | 66 |          |                        |  |
| BTMS                  | UP TO 2                 |                                                           | 2  | 2  | 3  | 3  | 4  | 5  |          |                        |  |

Observe maximum quick turnaround limit.

Table shows energy per brake added by a single stop with all brakes operating. Energy is assumed to be equally distributed among the operating brakes. Total energy is the sum of residual energy plus energy added.

Add 0.65 million foot pounds per brake for each taxi mile.

For one brake deactivated, increase brake energy by 15 percent.

When in caution zone, wheel fuse plugs may melt. Delay takeoff and inspect after one hour. If overheat occurs after takeoff, extend gear soon for at least 8 minutes.

When in fuse plug melt zone, clear runway immediately. Unless required, do not set parking brake. Do not attempt to taxi for one hour. Tire, wheel and brake replacement may be required. If overheat occurs after takeoff, extend gear soon for at least 12 minutes.

Brake temperature monitor system (BTMS) indication on EICAS may be used to 10 to 15 minutes after airplane has come to a complete stop, or inflight with gear retracted, to determine recommended cooling schedule.



**Performance Inflight - QRH**  
**Engine Inoperative**

**Chapter PI-QRH**  
**Section 42**

**ENGINE INOP**

**Initial Max Continuous EPR**

**Based on engine bleed for one pack on**

| PRESSURE<br>ALTITUDE (FT) |               | CRUISE MACH NUMBER |           |           |
|---------------------------|---------------|--------------------|-----------|-----------|
|                           |               | .72                | .76       | .80       |
| 41000                     | EPR           | 1.56               | 1.52      | 1.48      |
|                           | MAX TAT (SAT) | -23 (-46)          | -20 (-46) | -17 (-46) |
|                           | EPR CORR      | 0.12               | 0.12      | 0.12      |
| 39000                     | EPR           | 1.56               | 1.52      | 1.48      |
|                           | MAX TAT (SAT) | -23 (-46)          | -20 (-46) | -17 (-46) |
|                           | EPR CORR      | 0.12               | 0.12      | 0.12      |
| 37000                     | EPR           | 1.57               | 1.53      | 1.49      |
|                           | MAX TAT (SAT) | -23 (-46)          | -20 (-46) | -17 (-46) |
|                           | EPR CORR      | 0.12               | 0.12      | 0.12      |
| 35000                     | EPR           | 1.54               | 1.50      | 1.46      |
|                           | MAX TAT (SAT) | -21 (-44)          | -18 (-44) | -15 (-44) |
|                           | EPR CORR      | 0.12               | 0.12      | 0.12      |
| 33000                     | EPR           | 1.49               | 1.45      | 1.42      |
|                           | MAX TAT (SAT) | -16 (-40)          | -13 (-40) | -11 (-41) |
|                           | EPR CORR      | 0.12               | 0.12      | 0.12      |
| 31000                     | EPR           | 1.44               | 1.41      | 1.38      |
|                           | MAX TAT (SAT) | -12 (-36)          | -9 (-36)  | -6 (-36)  |
|                           | EPR CORR      | 0.10               | 0.10      | 0.10      |

**Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.**

757 Flight Crew Operations Manual

# ENGINE INOP

## Max Continuous EPR

41000 FT to 22000 FT Pressure Altitudes

Based on engine bleed for one pack on and anti-ice off

| PRESSURE ALTITUDE<br>(FT) |          | KIAS |      |      |      |      | MACH NUMBER |      |      |      |      |      |
|---------------------------|----------|------|------|------|------|------|-------------|------|------|------|------|------|
|                           |          | 180  | 200  | 220  | 240  | 260  | .70         | .72  | .74  | .76  | .78  | .80  |
| 41000                     | EPR      |      | 1.57 | 1.53 | 1.47 | 1.42 | 1.57        | 1.56 | 1.54 | 1.52 | 1.50 | 1.48 |
|                           | MAX TAT  |      | -25  | -21  | -17  | -12  | -24         | -23  | -22  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 39000                     | EPR      |      | 1.57 | 1.56 | 1.51 | 1.45 | 1.57        | 1.56 | 1.54 | 1.52 | 1.50 | 1.48 |
|                           | MAX TAT  |      | -27  | -23  | -19  | -15  | -24         | -23  | -22  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 37000                     | EPR      |      | 1.57 | 1.57 | 1.54 | 1.49 | 1.57        | 1.57 | 1.55 | 1.53 | 1.51 | 1.49 |
|                           | MAX TAT  |      | -28  | -25  | -21  | -17  | -24         | -23  | -22  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 35000                     | EPR      |      | 1.57 | 1.57 | 1.54 | 1.49 | 1.56        | 1.54 | 1.52 | 1.50 | 1.48 | 1.46 |
|                           | MAX TAT  |      | -28  | -24  | -21  | -17  | -22         | -21  | -19  | -18  | -16  | -15  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 33000                     | EPR      |      | 1.57 | 1.56 | 1.52 | 1.47 | 1.51        | 1.49 | 1.47 | 1.45 | 1.44 | 1.42 |
|                           | MAX TAT  |      | -25  | -22  | -19  | -15  | -18         | -16  | -15  | -13  | -12  | -11  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 31000                     | EPR      |      | 1.56 | 1.53 | 1.49 | 1.45 | 1.46        | 1.44 | 1.43 | 1.41 | 1.40 | 1.38 |
|                           | MAX TAT  |      | -22  | -19  | -16  | -13  | -13         | -12  | -10  | -9   | -8   | -6   |
|                           | EPR CORR |      | 0.10 | 0.10 | 0.10 | 0.10 | 0.10        | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| 29000                     | EPR      |      | 1.56 | 1.52 | 1.48 | 1.45 | 1.44        | 1.42 | 1.40 | 1.39 | 1.37 | 1.35 |
|                           | MAX TAT  |      | -19  | -16  | -13  | -10  | -9          | -7   | -6   | -5   | -3   | -2   |
|                           | EPR CORR |      | 0.09 | 0.09 | 0.09 | 0.09 | 0.09        | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |
| 27000                     | EPR      | 1.57 | 1.56 | 1.53 | 1.49 | 1.46 | 1.43        | 1.41 | 1.39 | 1.37 | 1.36 | 1.34 |
|                           | MAX TAT  | -18  | -16  | -13  | -11  | -8   | -5          | -3   | -2   | 0    | 1    | 3    |
|                           | EPR CORR | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09        | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |
| 25000                     | EPR      | 1.57 | 1.56 | 1.53 | 1.50 | 1.47 | 1.41        | 1.40 | 1.38 | 1.36 | 1.35 | 1.33 |
|                           | MAX TAT  | -15  | -13  | -10  | -8   | -5   | 0           | 1    | 3    | 4    | 6    | 7    |
|                           | EPR CORR | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09        | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |
| 22000                     | EPR      | 1.57 | 1.55 | 1.53 | 1.51 | 1.48 | 1.40        | 1.38 | 1.36 | 1.35 | 1.33 |      |
|                           | MAX TAT  | -10  | -8   | -6   | -3   | -1   | 6           | 8    | 9    | 11   | 12   |      |
|                           | EPR CORR | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08        | 0.08 | 0.08 | 0.08 | 0.08 |      |

Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.

## EPR Adjustments for Engine Bleed

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (FT) |       |       |       |       |       |       |
|---------------------------|------------------------|-------|-------|-------|-------|-------|-------|
|                           | 0                      | 8000  | 8001  | 10000 | 20000 | 30000 | 40000 |
| PACKS OFF                 | 0.01                   | 0.01  | 0.01  | 0.01  | 0.02  | 0.03  | 0.04  |
| ENGINE ANTI-ICE ON        | 0.00                   | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.07 |
| ENGINE & WING ANTI-ICE ON | -0.02                  | -0.02 | -0.05 | -0.06 | -0.06 | -0.08 | -0.13 |

## 757 Flight Crew Operations Manual

**ENGINE INOP****Max Continuous EPR****20000 FT to Sea Level Pressure Altitudes****Based on engine bleed for one pack on and anti-ice off**

| PRESSURE ALTITUDE<br>(FT) |          | KIAS |      |      |      |      | MACH NUMBER |      |      |     |     |     |
|---------------------------|----------|------|------|------|------|------|-------------|------|------|-----|-----|-----|
|                           |          | 180  | 200  | 220  | 240  | 260  | .70         | .72  | .74  | .76 | .78 | .80 |
| 20000                     | EPR      | 1.57 | 1.55 | 1.53 | 1.51 | 1.48 | 1.39        | 1.37 | 1.36 |     |     |     |
|                           | MAX TAT  | -6   | -5   | -3   | 0    | 2    | 11          | 12   | 14   |     |     |     |
|                           | EPR CORR | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08        | 0.08 | 0.08 |     |     |     |
| 18000                     | EPR      | 1.55 | 1.53 | 1.51 | 1.48 | 1.46 | 1.36        | 1.34 |      |     |     |     |
|                           | MAX TAT  | -3   | -1   | 1    | 3    | 5    | 15          | 17   |      |     |     |     |
|                           | EPR CORR | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08        | 0.08 |      |     |     |     |
| 16000                     | EPR      | 1.53 | 1.51 | 1.49 | 1.46 | 1.44 | 1.33        |      |      |     |     |     |
|                           | MAX TAT  | 0    | 2    | 4    | 6    | 8    | 19          |      |      |     |     |     |
|                           | EPR CORR | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07        |      |      |     |     |     |
| 14000                     | EPR      | 1.50 | 1.49 | 1.47 | 1.44 | 1.42 |             |      |      |     |     |     |
|                           | MAX TAT  | 4    | 6    | 7    | 9    | 11   |             |      |      |     |     |     |
|                           | EPR CORR | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |             |      |      |     |     |     |
| 12000                     | EPR      | 1.48 | 1.46 | 1.45 | 1.43 | 1.40 |             |      |      |     |     |     |
|                           | MAX TAT  | 8    | 9    | 11   | 12   | 14   |             |      |      |     |     |     |
|                           | EPR CORR | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |             |      |      |     |     |     |
| 10000                     | EPR      | 1.46 | 1.44 | 1.43 | 1.41 | 1.39 |             |      |      |     |     |     |
|                           | MAX TAT  | 11   | 13   | 14   | 16   | 18   |             |      |      |     |     |     |
|                           | EPR CORR | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |             |      |      |     |     |     |
| 5000                      | EPR      | 1.40 | 1.39 | 1.33 | 1.36 | 1.35 |             |      |      |     |     |     |
|                           | MAX TAT  | 20   | 21   | 23   | 24   | 26   |             |      |      |     |     |     |
|                           | EPR CORR | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |             |      |      |     |     |     |
| 1500                      | EPR      | 1.35 | 1.34 | 1.30 | 1.31 | 1.30 |             |      |      |     |     |     |
|                           | MAX TAT  | 27   | 28   | 29   | 30   | 32   |             |      |      |     |     |     |
|                           | EPR CORR | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |             |      |      |     |     |     |
| 0                         | EPR      | 1.33 | 1.32 | 1.30 | 1.29 | 1.28 |             |      |      |     |     |     |
|                           | MAX TAT  | 29   | 30   | 32   | 33   | 34   |             |      |      |     |     |     |
|                           | EPR CORR | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |             |      |      |     |     |     |

Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.

**EPR Adjustments for Engine Bleed**

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (FT) |       |       |       |       |       |       |
|---------------------------|------------------------|-------|-------|-------|-------|-------|-------|
|                           | 0                      | 8000  | 8001  | 10000 | 20000 | 30000 | 40000 |
| PACKS OFF                 | 0.01                   | 0.01  | 0.01  | 0.01  | 0.02  | 0.03  | 0.04  |
| ENGINE ANTI-ICE ON        | 0.00                   | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.07 |
| ENGINE & WING ANTI-ICE ON | -0.02                  | -0.02 | -0.05 | -0.06 | -0.06 | -0.08 | -0.13 |

757 Flight Crew Operations Manual

**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Driftdown Speed/Level Off Altitude**

**100 ft/min residual rate of climb**

**Includes APU fuel burn**

| WEIGHT (1000 KG)       |              | OPTIMUM<br>DRIFTDOWN<br>SPEED<br>(KIAS) | LEVEL OFF ALTITUDE (FT) |            |            |
|------------------------|--------------|-----------------------------------------|-------------------------|------------|------------|
| START<br>DRIFT<br>DOWN | LEVEL<br>OFF |                                         | ISA + 10°C<br>& BELOW   | ISA + 15°C | ISA + 20°C |
| 120                    | 116          | 253                                     | 19900                   | 18500      | 16700      |
| 110                    | 106          | 242                                     | 22100                   | 21100      | 19900      |
| 100                    | 96           | 232                                     | 24400                   | 23400      | 22300      |
| 90                     | 87           | 220                                     | 26800                   | 26000      | 24900      |
| 80                     | 77           | 208                                     | 29500                   | 28700      | 27800      |
| 70                     | 67           | 195                                     | 32800                   | 32000      | 31000      |
| 60                     | 58           | 182                                     | 35800                   | 35700      | 34900      |



## 757 Flight Crew Operations Manual

**ENGINE INOP****MAX CONTINUOUS THRUST****Driftdown/LRC Cruise Range Capability**  
**Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 281                      | 260  | 242  | 226  | 212  | 200                        | 189                      | 179  | 170  | 162  | 155  |
| 559                      | 518  | 482  | 451  | 424  | 400                        | 378                      | 359  | 341  | 325  | 311  |
| 834                      | 773  | 721  | 675  | 635  | 600                        | 568                      | 539  | 513  | 489  | 468  |
| 1106                     | 1027 | 959  | 899  | 846  | 800                        | 758                      | 720  | 685  | 654  | 626  |
| 1377                     | 1280 | 1196 | 1123 | 1058 | 1000                       | 948                      | 901  | 858  | 820  | 784  |
| 1648                     | 1533 | 1434 | 1346 | 1269 | 1200                       | 1138                     | 1082 | 1031 | 985  | 943  |
| 1919                     | 1786 | 1671 | 1569 | 1480 | 1400                       | 1328                     | 1263 | 1204 | 1150 | 1101 |
| 2190                     | 2040 | 1908 | 1793 | 1691 | 1600                       | 1518                     | 1444 | 1377 | 1316 | 1260 |
| 2464                     | 2295 | 2147 | 2017 | 1902 | 1800                       | 1707                     | 1624 | 1549 | 1480 | 1417 |

**Driftdown/Cruise Fuel and Time**

| AIR DIST<br>(NM) | FUEL REQUIRED (1000 KG)                |      |      |      |      |      |      | TIME<br>(HR:MIN) |
|------------------|----------------------------------------|------|------|------|------|------|------|------------------|
|                  | WEIGHT AT START OF DRIFTDOWN (1000 KG) |      |      |      |      |      |      |                  |
|                  | 60                                     | 70   | 80   | 90   | 100  | 110  | 120  |                  |
| 200              | 1.0                                    | 1.1  | 1.3  | 1.4  | 1.5  | 1.6  | 1.8  | 0:35             |
| 400              | 2.2                                    | 2.5  | 2.8  | 3.1  | 3.4  | 3.7  | 4.0  | 1:08             |
| 600              | 3.4                                    | 3.8  | 4.2  | 4.7  | 5.2  | 5.6  | 6.1  | 1:41             |
| 800              | 4.5                                    | 5.0  | 5.7  | 6.3  | 6.9  | 7.5  | 8.1  | 2:13             |
| 1000             | 5.5                                    | 6.3  | 7.0  | 7.8  | 8.6  | 9.4  | 10.2 | 2:44             |
| 1200             | 6.6                                    | 7.5  | 8.4  | 9.4  | 10.3 | 11.2 | 12.1 | 3:16             |
| 1400             | 7.6                                    | 8.7  | 9.8  | 10.9 | 12.0 | 13.0 | 14.1 | 3:47             |
| 1600             | 8.7                                    | 9.9  | 11.1 | 12.4 | 13.6 | 14.8 | 16.0 | 4:19             |
| 1800             | 9.7                                    | 11.0 | 12.4 | 13.8 | 15.2 | 16.6 | 17.9 | 4:51             |

Includes APU fuel burn.

Driftdown at optimum driftdown speed and cruise at Long Range Cruise speed.

757 Flight Crew Operations Manual

**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Altitude Capability**

**100 ft/min residual rate of climb**

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 120                 | 14300                  | 9400       | 6000       |
| 115                 | 16200                  | 12100      | 8200       |
| 110                 | 18000                  | 15000      | 10500      |
| 105                 | 19800                  | 17400      | 13200      |
| 100                 | 21000                  | 19700      | 15800      |
| 95                  | 22300                  | 21100      | 19000      |
| 90                  | 23600                  | 22500      | 20900      |
| 85                  | 24900                  | 23900      | 22400      |
| 80                  | 26300                  | 25300      | 23900      |
| 75                  | 27800                  | 26800      | 25500      |
| 70                  | 29300                  | 28400      | 27200      |
| 65                  | 31500                  | 30000      | 28900      |
| 60                  | 33800                  | 32200      | 30800      |

With engine anti-ice on, decrease altitude capability by 4700 ft.

With engine and wing anti-ice on, decrease altitude capability by 10000 ft.

## 757 Flight Crew Operations Manual

**ENGINE INOP****MAX CONTINUOUS THRUST****Long Range Cruise Control**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|------|
|                     |        | 10                          | 15   | 17   | 19   | 21   | 23   | 25   | 27   | 29   |
| 120                 | EPR    | 1.26                        | 1.34 |      |      |      |      |      |      |      |
|                     | MACH   | .589                        | .617 |      |      |      |      |      |      |      |
|                     | KIAS   | 327                         | 313  |      |      |      |      |      |      |      |
|                     | FF/ENG | 4463                        | 4230 |      |      |      |      |      |      |      |
| 110                 | EPR    | 1.23                        | 1.31 | 1.35 | 1.40 |      |      |      |      |      |
|                     | MACH   | .572                        | .606 | .616 | .632 |      |      |      |      |      |
|                     | KIAS   | 318                         | 307  | 300  | 296  |      |      |      |      |      |
|                     | FF/ENG | 4118                        | 3933 | 3869 | 3869 |      |      |      |      |      |
| 100                 | EPR    | 1.20                        | 1.27 | 1.31 | 1.34 | 1.39 |      |      |      |      |
|                     | MACH   | .550                        | .592 | .604 | .614 | .629 |      |      |      |      |
|                     | KIAS   | 305                         | 300  | 294  | 288  | 284  |      |      |      |      |
|                     | FF/ENG | 3741                        | 3649 | 3578 | 3512 | 3506 |      |      |      |      |
| 90                  | EPR    | 1.17                        | 1.24 | 1.27 | 1.30 | 1.34 | 1.39 |      |      |      |
|                     | MACH   | .518                        | .572 | .588 | .601 | .611 | .625 |      |      |      |
|                     | KIAS   | 287                         | 289  | 286  | 282  | 275  | 270  |      |      |      |
|                     | FF/ENG | 3335                        | 3320 | 3287 | 3227 | 3164 | 3147 |      |      |      |
| 80                  | EPR    | 1.14                        | 1.20 | 1.23 | 1.26 | 1.29 | 1.33 | 1.37 | 1.44 |      |
|                     | MACH   | .481                        | .543 | .563 | .581 | .596 | .607 | .619 | .637 |      |
|                     | KIAS   | 266                         | 274  | 274  | 272  | 268  | 262  | 257  | 254  |      |
|                     | FF/ENG | 2897                        | 2947 | 2944 | 2926 | 2881 | 2826 | 2790 | 2820 |      |
| 70                  | EPR    | 1.12                        | 1.16 | 1.18 | 1.21 | 1.24 | 1.28 | 1.31 | 1.36 | 1.41 |
|                     | MACH   | .455                        | .501 | .527 | .551 | .571 | .588 | .602 | .612 | .627 |
|                     | KIAS   | 252                         | 252  | 255  | 257  | 256  | 254  | 249  | 243  | 239  |
|                     | FF/ENG | 2564                        | 2531 | 2559 | 2564 | 2564 | 2539 | 2497 | 2451 | 2446 |
| 60                  | EPR    | 1.10                        | 1.13 | 1.14 | 1.17 | 1.19 | 1.22 | 1.26 | 1.29 | 1.33 |
|                     | MACH   | .429                        | .462 | .478 | .504 | .530 | .555 | .575 | .592 | .605 |
|                     | KIAS   | 237                         | 232  | 231  | 234  | 237  | 239  | 237  | 235  | 230  |
|                     | FF/ENG | 2250                        | 2150 | 2134 | 2160 | 2185 | 2193 | 2192 | 2162 | 2123 |

757 Flight Crew Operations Manual

# ENGINE INOP

## MAX CONTINUOUS THRUST

### Long Range Cruise Diversion Fuel and Time

#### Ground to Air Miles Conversion

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 289                      | 266  | 245  | 228  | 213  | 200                        | 190                      | 181  | 173  | 165  | 158  |
| 578                      | 532  | 490  | 456  | 427  | 400                        | 380                      | 362  | 346  | 331  | 318  |
| 869                      | 800  | 738  | 686  | 640  | 600                        | 571                      | 544  | 519  | 497  | 477  |
| 1162                     | 1068 | 985  | 914  | 854  | 800                        | 761                      | 725  | 692  | 662  | 635  |
| 1458                     | 1339 | 1234 | 1145 | 1068 | 1000                       | 951                      | 906  | 865  | 828  | 794  |
| 1755                     | 1610 | 1483 | 1375 | 1283 | 1200                       | 1141                     | 1087 | 1038 | 993  | 952  |
| 2054                     | 1884 | 1733 | 1606 | 1497 | 1400                       | 1331                     | 1268 | 1210 | 1157 | 1110 |
| 2355                     | 2158 | 1983 | 1837 | 1712 | 1600                       | 1521                     | 1449 | 1383 | 1322 | 1268 |
| 2657                     | 2433 | 2235 | 2069 | 1927 | 1800                       | 1711                     | 1629 | 1554 | 1486 | 1425 |

#### Reference Fuel and Time Required at Check Point

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 10                          |                  | 14                |                  | 18                |                  | 22                |                  | 26                |                  |
|                     | FUEL<br>(1000 KG)           | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) |
| 200                 | 1.9                         | 0:41             | 1.7               | 0:40             | 1.5               | 0:38             | 1.3               | 0:38             | 1.2               | 0:37             |
| 400                 | 4.0                         | 1:18             | 3.6               | 1:14             | 3.3               | 1:11             | 3.0               | 1:10             | 2.9               | 1:08             |
| 600                 | 6.0                         | 1:56             | 5.5               | 1:48             | 5.1               | 1:44             | 4.7               | 1:42             | 4.5               | 1:39             |
| 800                 | 8.0                         | 2:34             | 7.4               | 2:24             | 6.8               | 2:17             | 6.3               | 2:15             | 6.1               | 2:10             |
| 1000                | 10.0                        | 3:13             | 9.3               | 2:59             | 8.6               | 2:51             | 8.0               | 2:47             | 7.7               | 2:41             |
| 1200                | 12.0                        | 3:52             | 11.1              | 3:35             | 10.3              | 3:25             | 9.6               | 3:20             | 9.2               | 3:13             |
| 1400                | 13.9                        | 4:32             | 12.9              | 4:11             | 12.0              | 3:59             | 11.2              | 3:52             | 10.8              | 3:45             |
| 1600                | 15.8                        | 5:12             | 14.7              | 4:48             | 13.6              | 4:33             | 12.8              | 4:25             | 12.3              | 4:17             |
| 1800                | 17.7                        | 5:53             | 16.5              | 5:26             | 15.3              | 5:07             | 14.3              | 4:58             | 13.7              | 4:49             |

#### Fuel Required Adjustment (1000 KG)

| REFERENCE FUEL REQUIRED<br>(1000 KG) | WEIGHT AT CHECK POINT (1000 KG) |      |     |     |     |     |
|--------------------------------------|---------------------------------|------|-----|-----|-----|-----|
|                                      | 70                              | 80   | 90  | 100 | 110 | 120 |
| 2                                    | -0.2                            | -0.1 | 0.0 | 0.1 | 0.3 | 0.4 |
| 4                                    | -0.4                            | -0.2 | 0.0 | 0.3 | 0.7 | 1.0 |
| 6                                    | -0.6                            | -0.3 | 0.0 | 0.5 | 1.0 | 1.5 |
| 8                                    | -0.9                            | -0.4 | 0.0 | 0.7 | 1.4 | 2.1 |
| 10                                   | -1.1                            | -0.5 | 0.0 | 0.9 | 1.8 | 2.6 |
| 12                                   | -1.3                            | -0.7 | 0.0 | 1.1 | 2.2 | 3.2 |
| 14                                   | -1.5                            | -0.8 | 0.0 | 1.3 | 2.5 | 3.8 |
| 16                                   | -1.7                            | -0.9 | 0.0 | 1.4 | 2.9 | 4.3 |
| 18                                   | -1.9                            | -1.0 | 0.0 | 1.6 | 3.3 | 4.9 |
| 20                                   | -2.1                            | -1.1 | 0.0 | 1.8 | 3.6 | 5.5 |
| 22                                   | -2.4                            | -1.2 | 0.0 | 1.9 | 4.0 | 6.0 |
| 24                                   | -2.6                            | -1.3 | 0.0 | 2.1 | 4.4 | 6.6 |

Includes APU fuel burn.



757 Flight Crew Operations Manual

**ENGINE INOP**  
**MAX CONTINUOUS THRUST**

**Holding  
Flaps Up**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |       |       |       |       |
|---------------------|--------|------------------------|------|-------|-------|-------|-------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 | 20000 | 25000 | 30000 | 35000 |
| 120                 | EPR    | 1.15                   | 1.18 | 1.23  | 1.32  | 1.45  |       |       |       |
|                     | KIAS   | 260                    | 261  | 262   | 264   | 266   |       |       |       |
|                     | FF/ENG | 3810                   | 3800 | 3810  | 3790  | 3940  |       |       |       |
| 110                 | EPR    | 1.13                   | 1.16 | 1.21  | 1.28  | 1.39  |       |       |       |
|                     | KIAS   | 249                    | 250  | 251   | 252   | 254   |       |       |       |
|                     | FF/ENG | 3490                   | 3480 | 3470  | 3460  | 3500  |       |       |       |
| 100                 | EPR    | 1.11                   | 1.14 | 1.18  | 1.24  | 1.33  |       |       |       |
|                     | KIAS   | 237                    | 238  | 239   | 241   | 242   |       |       |       |
|                     | FF/ENG | 3190                   | 3150 | 3140  | 3120  | 3130  |       |       |       |
| 90                  | EPR    | 1.10                   | 1.12 | 1.16  | 1.21  | 1.29  | 1.41  |       |       |
|                     | KIAS   | 225                    | 225  | 227   | 228   | 229   | 231   |       |       |
|                     | FF/ENG | 2920                   | 2840 | 2810  | 2780  | 2800  | 2860  |       |       |
| 80                  | EPR    | 1.09                   | 1.10 | 1.13  | 1.18  | 1.24  | 1.34  |       |       |
|                     | KIAS   | 212                    | 213  | 213   | 215   | 216   | 217   |       |       |
|                     | FF/ENG | 2620                   | 2570 | 2490  | 2460  | 2460  | 2490  |       |       |
| 70                  | EPR    | 1.07                   | 1.09 | 1.11  | 1.15  | 1.20  | 1.28  | 1.40  |       |
|                     | KIAS   | 197                    | 198  | 199   | 200   | 201   | 203   | 204   |       |
|                     | FF/ENG | 2310                   | 2270 | 2190  | 2140  | 2140  | 2160  | 2190  |       |
| 60                  | EPR    | 1.06                   | 1.07 | 1.09  | 1.12  | 1.16  | 1.22  | 1.32  | 1.48  |
|                     | KIAS   | 185                    | 185  | 185   | 185   | 186   | 187   | 188   | 190   |
|                     | FF/ENG | 2010                   | 1980 | 1900  | 1840  | 1820  | 1830  | 1840  | 1920  |

This table includes 5% additional fuel for holding in a racetrack pattern.

Intentionally  
Blank



# Performance Inflight - QRH

## Gear Down

# Chapter PI-QRH

## Section 43

### GEAR DOWN

#### 210 KIAS Max Climb EPR

Based on engine bleed for packs on and anti-ice off

| TAT<br>(°C) | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | 0                           | 5    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | 32   | 34   |
| 55          | 1.18                        | 1.17 | 1.16 | 1.16 | 1.15 | 1.14 | 1.14 | 1.13 | 1.11 | 1.10 | 1.09 | 1.07 | 1.06 | 1.04 | 1.03 |
| 50          | 1.19                        | 1.19 | 1.18 | 1.18 | 1.17 | 1.16 | 1.15 | 1.14 | 1.13 | 1.12 | 1.11 | 1.09 | 1.08 | 1.06 | 1.05 |
| 45          | 1.21                        | 1.21 | 1.20 | 1.19 | 1.19 | 1.18 | 1.17 | 1.16 | 1.15 | 1.14 | 1.12 | 1.11 | 1.10 | 1.08 | 1.07 |
| 40          | 1.23                        | 1.22 | 1.21 | 1.21 | 1.20 | 1.20 | 1.19 | 1.18 | 1.17 | 1.16 | 1.14 | 1.13 | 1.12 | 1.10 | 1.09 |
| 35          | 1.25                        | 1.24 | 1.23 | 1.23 | 1.22 | 1.22 | 1.21 | 1.20 | 1.19 | 1.18 | 1.17 | 1.15 | 1.14 | 1.12 | 1.11 |
| 30          | 1.26                        | 1.26 | 1.25 | 1.25 | 1.24 | 1.24 | 1.23 | 1.22 | 1.21 | 1.20 | 1.19 | 1.18 | 1.16 | 1.15 | 1.14 |
| 25          | 1.26                        | 1.29 | 1.28 | 1.27 | 1.27 | 1.26 | 1.25 | 1.25 | 1.24 | 1.22 | 1.21 | 1.20 | 1.19 | 1.17 | 1.16 |
| 20          | 1.26                        | 1.30 | 1.30 | 1.30 | 1.29 | 1.29 | 1.28 | 1.27 | 1.26 | 1.25 | 1.24 | 1.23 | 1.21 | 1.20 | 1.19 |
| 15          | 1.26                        | 1.30 | 1.33 | 1.33 | 1.32 | 1.31 | 1.31 | 1.30 | 1.29 | 1.28 | 1.27 | 1.25 | 1.24 | 1.23 | 1.22 |
| 10          | 1.26                        | 1.30 | 1.34 | 1.35 | 1.35 | 1.34 | 1.34 | 1.33 | 1.32 | 1.31 | 1.30 | 1.28 | 1.27 | 1.26 | 1.25 |
| 5           | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.38 | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 | 1.30 | 1.29 | 1.28 |
| 0           | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.40 | 1.39 | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 |
| -5          | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.42 | 1.41 | 1.40 | 1.39 | 1.38 | 1.37 | 1.36 |
| -10         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.44 | 1.43 | 1.42 | 1.41 |
| -15         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.49 | 1.48 | 1.47 | 1.47 |
| -20         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.54 | 1.53 |
| -25         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.56 | 1.57 |
| -30         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.56 | 1.57 |

#### EPR Adjustments for Engine Bleeds

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (1000 FT) |       |       |       |       |       |       |       |       |       |       |       |       |  |
|---------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                           | 0                           | 5     | 10    | 12    | 16    | 18    | 22    | 24    | 26    | 28    | 30    | 32    | 34    |  |
| PACKS OFF                 | 0.01                        | 0.01  | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  | 0.02  | 0.03  | 0.03  | 0.03  | 0.04  | 0.04  |  |
| ENGINE ANTI-ICE ON        | 0.00                        | 0.00  | -0.03 | -0.03 | -0.03 | -0.03 | -0.03 | -0.04 | -0.04 | -0.04 | -0.04 | -0.05 | -0.05 |  |
| ENGINE & WING ANTI-ICE ON | -0.02                       | -0.02 | -0.05 | -0.06 | -0.06 | -0.06 | -0.06 | -0.07 | -0.07 | -0.08 | -0.08 | -0.09 | -0.10 |  |

757 Flight Crew Operations Manual

**GEAR DOWN**

**Long Range Cruise Altitude Capability**

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 120                 | 15800                  | 14000      | 11300      |
| 115                 | 17600                  | 15600      | 13500      |
| 110                 | 19500                  | 17400      | 15300      |
| 105                 | 21600                  | 19300      | 17300      |
| 100                 | 23900                  | 21200      | 19300      |
| 95                  | 26400                  | 23300      | 21200      |
| 90                  | 28800                  | 25700      | 23200      |
| 85                  | 31100                  | 28300      | 25400      |
| 80                  | 33100                  | 31100      | 27900      |
| 75                  | 34500                  | 33600      | 31000      |
| 70                  | 35900                  | 35700      | 33700      |
| 65                  | 37100                  | 37100      | 35900      |
| 60                  | 38500                  | 38300      | 37200      |



## 757 Flight Crew Operations Manual

**GEAR DOWN****Long Range Cruise Control**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|------|------|
|                     |        | 10                          | 15   | 17   | 19   | 21   | 23   | 25   | 27   | 29   | 31   |
| 120                 | EPR    | 1.19                        | 1.26 |      |      |      |      |      |      |      |      |
|                     | MACH   | .454                        | .498 |      |      |      |      |      |      |      |      |
|                     | KIAS   | 253                         | 253  |      |      |      |      |      |      |      |      |
|                     | FF/ENG | 3186                        | 3163 |      |      |      |      |      |      |      |      |
| 110                 | EPR    | 1.17                        | 1.23 | 1.26 | 1.30 |      |      |      |      |      |      |
|                     | MACH   | .437                        | .476 | .497 | .520 |      |      |      |      |      |      |
|                     | KIAS   | 243                         | 242  | 243  | 245  |      |      |      |      |      |      |
|                     | FF/ENG | 2912                        | 2857 | 2878 | 2911 |      |      |      |      |      |      |
| 100                 | EPR    | 1.15                        | 1.20 | 1.22 | 1.25 | 1.29 | 1.34 |      |      |      |      |
|                     | MACH   | .418                        | .457 | .473 | .493 | .517 | .538 |      |      |      |      |
|                     | KIAS   | 233                         | 232  | 231  | 232  | 234  | 234  |      |      |      |      |
|                     | FF/ENG | 2641                        | 2596 | 2581 | 2592 | 2629 | 2634 |      |      |      |      |
| 90                  | EPR    | 1.13                        | 1.17 | 1.19 | 1.22 | 1.25 | 1.29 | 1.33 | 1.38 |      |      |
|                     | MACH   | .398                        | .436 | .452 | .469 | .487 | .511 | .534 | .552 |      |      |
|                     | KIAS   | 222                         | 221  | 220  | 220  | 220  | 222  | 222  | 220  |      |      |
|                     | FF/ENG | 2377                        | 2330 | 2322 | 2308 | 2309 | 2349 | 2359 | 2350 |      |      |
| 80                  | EPR    | 1.11                        | 1.14 | 1.16 | 1.18 | 1.21 | 1.24 | 1.27 | 1.32 | 1.36 | 1.42 |
|                     | MACH   | .380                        | .413 | .429 | .445 | .462 | .479 | .502 | .527 | .546 | .565 |
|                     | KIAS   | 211                         | 209  | 209  | 208  | 208  | 207  | 208  | 210  | 209  | 207  |
|                     | FF/ENG | 2140                        | 2065 | 2057 | 2050 | 2043 | 2037 | 2063 | 2084 | 2080 | 2073 |
| 70                  | EPR    | 1.09                        | 1.12 | 1.13 | 1.15 | 1.17 | 1.20 | 1.22 | 1.26 | 1.30 | 1.35 |
|                     | MACH   | .360                        | .389 | .403 | .419 | .435 | .452 | .470 | .490 | .515 | .538 |
|                     | KIAS   | 200                         | 197  | 196  | 196  | 195  | 195  | 194  | 194  | 196  | 196  |
|                     | FF/ENG | 1909                        | 1816 | 1796 | 1787 | 1783 | 1780 | 1773 | 1777 | 1804 | 1801 |
| 60                  | EPR    | 1.07                        | 1.10 | 1.11 | 1.12 | 1.14 | 1.16 | 1.18 | 1.21 | 1.24 | 1.28 |
|                     | MACH   | .335                        | .366 | .381 | .396 | .412 | .429 | .447 | .466 | .486 | .507 |
|                     | KIAS   | 186                         | 185  | 185  | 185  | 185  | 185  | 185  | 185  | 185  | 185  |
|                     | FF/ENG | 1659                        | 1591 | 1578 | 1567 | 1563 | 1579 | 1578 | 1578 | 1579 | 1566 |

757 Flight Crew Operations Manual

**GEAR DOWN**

**Long Range Cruise Enroute Fuel and Time  
Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 330                      | 294  | 263  | 238  | 218  | 200                        | 188                      | 178  | 168  | 160  | 153  |
| 665                      | 591  | 527  | 477  | 436  | 400                        | 377                      | 357  | 338  | 321  | 306  |
| 1004                     | 891  | 793  | 717  | 654  | 600                        | 566                      | 534  | 506  | 481  | 459  |
| 1348                     | 1194 | 1062 | 958  | 873  | 800                        | 754                      | 712  | 675  | 641  | 611  |
| 1696                     | 1499 | 1331 | 1199 | 1093 | 1000                       | 942                      | 889  | 842  | 800  | 763  |
| 2049                     | 1808 | 1602 | 1442 | 1312 | 1200                       | 1131                     | 1067 | 1010 | 959  | 914  |
| 2407                     | 2120 | 1876 | 1686 | 1533 | 1400                       | 1319                     | 1244 | 1177 | 1118 | 1065 |
| 2772                     | 2436 | 2152 | 1930 | 1753 | 1600                       | 1506                     | 1421 | 1344 | 1275 | 1215 |
| 3144                     | 2758 | 2431 | 2177 | 1975 | 1800                       | 1693                     | 1597 | 1510 | 1432 | 1365 |

**Reference Fuel and Time Required at Check Point**

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 10                          |                  | 14                |                  | 18                |                  | 22                |                  | 28                |                  |
|                     | FUEL<br>(1000 KG)           | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) |
| 200                 | 3.5                         | 0:52             | 3.2               | 0:49             | 2.9               | 0:47             | 2.6               | 0:45             | 2.3               | 0:43             |
| 400                 | 7.1                         | 1:40             | 6.6               | 1:35             | 6.0               | 1:30             | 5.6               | 1:26             | 5.0               | 1:19             |
| 600                 | 10.7                        | 2:29             | 9.9               | 2:22             | 9.1               | 2:14             | 8.5               | 2:07             | 7.7               | 1:56             |
| 800                 | 14.2                        | 3:19             | 13.2              | 3:09             | 12.2              | 2:59             | 11.4              | 2:49             | 10.4              | 2:34             |
| 1000                | 17.6                        | 4:11             | 16.4              | 3:58             | 15.1              | 3:44             | 14.2              | 3:32             | 13.0              | 3:12             |
| 1200                | 21.0                        | 5:03             | 19.5              | 4:47             | 18.0              | 4:30             | 16.9              | 4:15             | 15.5              | 3:50             |
| 1400                | 24.2                        | 5:56             | 22.5              | 5:37             | 20.9              | 5:17             | 19.6              | 4:59             | 18.0              | 4:30             |
| 1600                | 27.4                        | 6:50             | 25.5              | 6:28             | 23.6              | 6:05             | 22.2              | 5:43             | 20.4              | 5:10             |
| 1800                | 30.6                        | 7:46             | 28.5              | 7:20             | 26.4              | 6:54             | 24.8              | 6:29             | 22.8              | 5:50             |

**Fuel Required Adjustment (1000 KG)**

| REFERENCE FUEL REQUIRED<br>(1000 KG) | WEIGHT AT CHECK POINT (1000 KG) |      |     |     |     |     |
|--------------------------------------|---------------------------------|------|-----|-----|-----|-----|
|                                      | 70                              | 80   | 90  | 100 | 110 | 120 |
| 2                                    | -0.2                            | -0.1 | 0.0 | 0.2 | 0.4 | 0.5 |
| 6                                    | -0.6                            | -0.3 | 0.0 | 0.5 | 1.1 | 1.7 |
| 10                                   | -1.1                            | -0.5 | 0.0 | 0.8 | 1.8 | 2.9 |
| 14                                   | -1.5                            | -0.8 | 0.0 | 1.1 | 2.5 | 4.0 |
| 18                                   | -2.0                            | -1.0 | 0.0 | 1.4 | 3.1 | 4.9 |
| 22                                   | -2.4                            | -1.2 | 0.0 | 1.7 | 3.6 | 5.8 |
| 26                                   | -2.9                            | -1.4 | 0.0 | 1.9 | 4.1 | 6.6 |
| 30                                   | -3.3                            | -1.7 | 0.0 | 2.2 | 4.5 | 7.3 |
| 34                                   | -3.7                            | -1.9 | 0.0 | 2.4 | 4.9 | 7.9 |



757 Flight Crew Operations Manual

GEAR DOWN

Descent at VREF30+80

|                             |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| PRESSURE ALTITUDE (1000 FT) | 5  | 10 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 |
| DISTANCE (NM)               | 12 | 22 | 31 | 35 | 39 | 43 | 47 | 51 | 55 | 59 | 64 | 68 | 72 |
| TIME (MINUTES)              | 7  | 9  | 11 | 12 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 18 | 19 |



757 Flight Crew Operations Manual

GEAR DOWN

Holding  
Flaps Up

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |       |       |       |       |
|---------------------|--------|------------------------|------|-------|-------|-------|-------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 | 20000 | 25000 | 30000 | 35000 |
| 120                 | EPR    | 1.11                   | 1.14 | 1.18  | 1.24  |       |       |       |       |
|                     | KIAS   | 237                    | 237  | 237   | 237   |       |       |       |       |
|                     | FF/ENG | 3150                   | 3100 | 3080  | 3060  |       |       |       |       |
| 110                 | EPR    | 1.10                   | 1.12 | 1.16  | 1.21  | 1.29  |       |       |       |
|                     | KIAS   | 229                    | 229  | 229   | 229   | 229   |       |       |       |
|                     | FF/ENG | 2940                   | 2860 | 2830  | 2800  | 2820  |       |       |       |
| 100                 | EPR    | 1.09                   | 1.11 | 1.14  | 1.19  | 1.26  | 1.36  |       |       |
|                     | KIAS   | 221                    | 221  | 221   | 221   | 221   | 221   |       |       |
|                     | FF/ENG | 2710                   | 2660 | 2590  | 2560  | 2560  | 2600  |       |       |
| 90                  | EPR    | 1.08                   | 1.09 | 1.12  | 1.16  | 1.22  | 1.31  |       |       |
|                     | KIAS   | 212                    | 212  | 212   | 212   | 212   | 212   |       |       |
|                     | FF/ENG | 2490                   | 2440 | 2360  | 2320  | 2310  | 2340  |       |       |
| 80                  | EPR    | 1.07                   | 1.08 | 1.11  | 1.14  | 1.19  | 1.26  | 1.38  |       |
|                     | KIAS   | 203                    | 203  | 203   | 203   | 203   | 203   | 203   |       |
|                     | FF/ENG | 2270                   | 2230 | 2150  | 2090  | 2080  | 2100  | 2110  |       |
| 70                  | EPR    | 1.06                   | 1.07 | 1.09  | 1.12  | 1.16  | 1.22  | 1.32  | 1.48  |
|                     | KIAS   | 194                    | 194  | 194   | 194   | 194   | 194   | 194   | 194   |
|                     | FF/ENG | 2050                   | 2020 | 1940  | 1880  | 1860  | 1860  | 1870  | 1940  |
| 60                  | EPR    | 1.05                   | 1.06 | 1.07  | 1.10  | 1.13  | 1.18  | 1.26  | 1.38  |
|                     | KIAS   | 185                    | 185  | 185   | 185   | 185   | 185   | 185   | 185   |
|                     | FF/ENG | 1830                   | 1800 | 1730  | 1670  | 1640  | 1660  | 1660  | 1650  |

This table includes 5% additional fuel for holding in a racetrack pattern.



Performance Inflight - QRH

Chapter PI-QRH

Gear Down, Engine Inop

Section 44

GEAR DOWN

ENGINE INOP

MAX CONTINUOUS THRUST

Driftdown Speed/Level Off Altitude

100 ft/min residual rate of climb

Includes APU fuel burn

| WEIGHT (1000 KG)   |              | OPTIMUM<br>DRIFTDOWN<br>SPEED<br>(KIAS) | LEVEL OFF ALTITUDE (FT) |            |            |
|--------------------|--------------|-----------------------------------------|-------------------------|------------|------------|
| START<br>DRIFTDOWN | LEVEL<br>OFF |                                         | ISA + 10°C<br>& BELOW   | ISA + 15°C | ISA + 20°C |
| 110                | 102          | 226                                     | 1800                    |            |            |
| 100                | 95           | 219                                     | 7400                    | 4900       | 200        |
| 90                 | 85           | 210                                     | 11500                   | 9400       | 7100       |
| 80                 | 76           | 202                                     | 15400                   | 13800      | 11700      |
| 70                 | 67           | 193                                     | 19100                   | 17800      | 16200      |
| 60                 | 57           | 184                                     | 22300                   | 21400      | 20400      |



757 Flight Crew Operations Manual

**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Altitude Capability**  
**100 ft/min residual rate of climb**

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 95                  | 5200                   |            |            |
| 90                  | 8300                   | 4100       |            |
| 85                  | 11300                  | 8400       | 4800       |
| 80                  | 13900                  | 11600      | 8300       |
| 75                  | 15900                  | 14300      | 12000      |
| 70                  | 17900                  | 16500      | 14700      |
| 65                  | 20000                  | 18700      | 17000      |
| 60                  | 21600                  | 20700      | 19500      |



757 Flight Crew Operations Manual

**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Control**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|
|                     |        | 5                           | 7    | 9    | 11   | 13   | 15   | 17   |
| 90                  | EPR    | 1.33                        | 1.36 | 1.40 |      |      |      |      |
|                     | MACH   | .362                        | .372 | .383 |      |      |      |      |
|                     | KIAS   | 221                         | 218  | 217  |      |      |      |      |
|                     | FF/ENG | 4703                        | 4633 | 4602 |      |      |      |      |
| 80                  | EPR    | 1.28                        | 1.31 | 1.34 | 1.38 | 1.42 | 1.48 |      |
|                     | MACH   | .343                        | .355 | .366 | .377 | .388 | .402 |      |
|                     | KIAS   | 209                         | 209  | 207  | 206  | 204  | 203  |      |
|                     | FF/ENG | 4169                        | 4162 | 4111 | 4067 | 4040 | 4061 |      |
| 70                  | EPR    | 1.23                        | 1.26 | 1.29 | 1.32 | 1.36 | 1.40 | 1.46 |
|                     | MACH   | .322                        | .334 | .346 | .359 | .371 | .385 | .400 |
|                     | KIAS   | 196                         | 196  | 196  | 196  | 194  | 194  | 194  |
|                     | FF/ENG | 3633                        | 3618 | 3610 | 3596 | 3565 | 3547 | 3588 |
| 60                  | EPR    | 1.20                        | 1.22 | 1.24 | 1.27 | 1.30 | 1.34 | 1.38 |
|                     | MACH   | .304                        | .315 | .327 | .339 | .353 | .366 | .381 |
|                     | KIAS   | 185                         | 185  | 185  | 185  | 185  | 185  | 185  |
|                     | FF/ENG | 3178                        | 3165 | 3150 | 3135 | 3138 | 3102 | 3108 |

757 Flight Crew Operations Manual

**GEAR DOWN**

**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Diversion Fuel and Time  
Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |     |     |     |     |
|--------------------------|------|------|------|------|----------------------------|--------------------------|-----|-----|-----|-----|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |     |     |     |     |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40  | 60  | 80  | 100 |
| 171                      | 149  | 131  | 118  | 108  | 100                        | 93                       | 87  | 82  | 78  | 76  |
| 344                      | 302  | 267  | 240  | 219  | 200                        | 187                      | 175 | 165 | 156 | 148 |
| 519                      | 456  | 403  | 362  | 329  | 300                        | 281                      | 263 | 247 | 233 | 221 |
| 696                      | 611  | 538  | 483  | 438  | 400                        | 374                      | 350 | 329 | 311 | 295 |
| 874                      | 766  | 674  | 604  | 548  | 500                        | 467                      | 437 | 410 | 387 | 367 |
| 1053                     | 922  | 812  | 727  | 659  | 600                        | 560                      | 524 | 492 | 464 | 440 |
| 1235                     | 1080 | 949  | 849  | 769  | 700                        | 653                      | 610 | 573 | 540 | 512 |
| 1418                     | 1239 | 1087 | 971  | 879  | 800                        | 746                      | 697 | 654 | 617 | 585 |
| 1602                     | 1398 | 1226 | 1094 | 990  | 900                        | 839                      | 784 | 735 | 693 | 657 |
| 1788                     | 1559 | 1365 | 1217 | 1101 | 1000                       | 932                      | 871 | 817 | 769 | 729 |

**Reference Fuel and Time Required at Check Point**

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 6                           |                  | 10                |                  | 14                |                  | 18                |                  |
|                     | FUEL<br>(1000 KG)           | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) |
| 100                 | 1.9                         | 0:29             | 1.7               | 0:28             | 1.5               | 0:27             | 1.4               | 0:26             |
| 200                 | 3.9                         | 0:54             | 3.5               | 0:53             | 3.3               | 0:51             | 3.2               | 0:48             |
| 300                 | 5.8                         | 1:20             | 5.3               | 1:17             | 5.0               | 1:14             | 4.9               | 1:09             |
| 400                 | 7.7                         | 1:46             | 7.2               | 1:42             | 6.8               | 1:38             | 6.6               | 1:31             |
| 500                 | 9.7                         | 2:13             | 8.9               | 2:07             | 8.5               | 2:02             | 8.3               | 1:54             |
| 600                 | 11.5                        | 2:39             | 10.7              | 2:33             | 10.1              | 2:26             | 9.9               | 2:17             |
| 700                 | 13.4                        | 3:06             | 12.5              | 2:58             | 11.8              | 2:51             | 11.6              | 2:39             |
| 800                 | 15.2                        | 3:33             | 14.2              | 3:24             | 13.4              | 3:15             | 13.2              | 3:02             |
| 900                 | 17.1                        | 4:01             | 15.9              | 3:50             | 15.1              | 3:40             | 14.7              | 3:25             |
| 1000                | 18.8                        | 4:29             | 17.6              | 4:16             | 16.6              | 4:04             | 16.3              | 3:49             |

**Fuel Required Adjustment (1000 KG)**

| REFERENCE FUEL REQUIRED<br>(1000 KG) | WEIGHT AT CHECK POINT (1000 KG) |      |     |     |     |
|--------------------------------------|---------------------------------|------|-----|-----|-----|
|                                      | 70                              | 80   | 90  | 100 | 110 |
| 2                                    | -0.2                            | -0.1 | 0.0 | 0.2 | 0.5 |
| 4                                    | -0.5                            | -0.2 | 0.0 | 0.4 | 0.9 |
| 6                                    | -0.7                            | -0.3 | 0.0 | 0.6 | 1.4 |
| 8                                    | -1.0                            | -0.5 | 0.0 | 0.8 | 1.8 |
| 10                                   | -1.2                            | -0.6 | 0.0 | 1.0 | 2.2 |
| 12                                   | -1.4                            | -0.7 | 0.0 | 1.2 | 2.6 |
| 14                                   | -1.7                            | -0.8 | 0.0 | 1.4 | 3.0 |
| 16                                   | -1.9                            | -1.0 | 0.0 | 1.6 | 3.4 |
| 18                                   | -2.1                            | -1.1 | 0.0 | 1.8 | 3.8 |
| 20                                   | -2.4                            | -1.2 | 0.0 | 2.0 | 4.2 |

Includes APU fuel burn.





757 Flight Crew Operations Manual

**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Holding  
Flaps Up**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |
|---------------------|--------|------------------------|------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 |
| 100                 | EPR    | 1.29                   | 1.35 |       |       |
|                     | KIAS   | 212                    | 212  |       |       |
|                     | FF/ENG | 5180                   | 5160 |       |       |
| 90                  | EPR    | 1.26                   | 1.31 | 1.41  |       |
|                     | KIAS   | 212                    | 212  | 212   |       |
|                     | FF/ENG | 4690                   | 4690 | 4700  |       |
| 80                  | EPR    | 1.23                   | 1.27 | 1.35  | 1.48  |
|                     | KIAS   | 203                    | 203  | 203   | 203   |
|                     | FF/ENG | 4250                   | 4210 | 4210  | 4260  |
| 70                  | EPR    | 1.20                   | 1.23 | 1.30  | 1.40  |
|                     | KIAS   | 194                    | 194  | 194   | 194   |
|                     | FF/ENG | 3800                   | 3770 | 3750  | 3720  |
| 60                  | EPR    | 1.17                   | 1.20 | 1.25  | 1.34  |
|                     | KIAS   | 185                    | 185  | 185   | 185   |
|                     | FF/ENG | 3350                   | 3340 | 3300  | 3260  |

This table includes 5% additional fuel for holding in a racetrack pattern.

Intentionally  
Blank



## Performance Inflight - QRH

## Chapter PI-QRH

### Text

### Section 45

## Introduction

This chapter contains information to supplement performance data from the Flight Management Computer (FMC). In addition, sufficient inflight data is provided to complete a flight with the FMC inoperative. In the event of conflict between data presented in this chapter and that contained in the approved Airplane Flight Manual, the Flight Manual shall always take precedence.

## General

### Flight with Unreliable Airspeed / Turbulent Air Penetration

Pitch attitude and average EPR information is provided for use in all phases of flight in the event of unreliable airspeed/Mach indications resulting from blocking or freezing of the pitot system. Loss of radome or turbulent air may also cause unreliable airspeed/Mach indications. The cruise table in this section may also be used for turbulent air penetration.

Pitch attitude is shown in bold type for emphasis since altitude and/or vertical speed indications may also be unreliable.

### Max Climb EPR

This table shows Max Climb EPR for a 250/290/.78 climb speed schedule, normal engine bleed for packs on and anti-ice off. Enter the table with airport pressure altitude and TAT and read EPR. EPR adjustments are shown for packs off and anti-ice operation.

### VREF

This table contains flaps 30, 25 and 20 reference speeds for a given weight.

## Advisory Information

### Normal Configuration Landing Distance

Tables are provided as advisory information for normal configuration landing distances on dry runways and slippery runways with good, medium, and poor reported braking action. Landing distances for slippery runways are 115% of the actual landing distances.

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To use these tables, determine the reference landing distance for the selected braking configuration. Then adjust the reference distance for landing weight, altitude, wind, slope, temperature, approach speed, and the number of operative thrust reversers to obtain the actual landing distance.

When landing on slippery runways or runways contaminated with ice, snow, slush, or standing water, the reported braking action must be considered. If the surface is affected by water, snow, or ice and the braking action is reported as "good", conditions should not be expected to be as good as on clean, dry runways. The value "good" is comparative and is intended to mean that airplanes should not experience braking or directional control difficulties when landing. The performance level used to calculate the "good" data is consistent with wet runway testing done on early Boeing jets. The performance level used to calculate "poor" data reflects runways covered with wet ice.

Use of the autobrake system commands the airplane to a constant deceleration rate. In some conditions, such as a runway with "poor" braking action, the airplane may not be able to achieve these deceleration rates. In these cases, runway slope and inoperative reversers influence the stopping distance. Since it cannot be determined quickly when this becomes a factor, it is conservative to add the effects of slope and inoperative reversers when using the autobrake system.

### Non-normal Configuration Landing Distance

Advisory information is provided to support non-normal configurations that affect the landing performance of the airplane. Landing distances and adjustments are provided for dry runways and runways with good, medium, and poor reported braking action.

Enter the table with the applicable non-normal configuration and read the normal approach speed. The reference landing distance is a reference distance from 50 ft above the threshold to stop based on a reference landing weight and speed at sea level, zero wind, and zero slope. Subsequent columns provide adjustments for off-reference landing weight, altitude, wind, slope, and speed conditions. Each adjustment is independently added to the reference landing distance. Landing distance includes the effects of max manual braking and reverse thrust.

### Recommended Brake Cooling Schedule

Advisory information is provided to assist in avoiding the problems associated with hot brakes. For normal operation, most landings are at weights below the AFM quick turnaround limit weight.

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Use of the recommended cooling schedule will help avoid brake overheat and fuse plug problems that could result from repeated landings at short time intervals or a rejected takeoff.

Enter the Recommended Brake Cooling Schedule table with the airplane weight and brakes on speed, adjusted for wind, at the appropriate temperature and altitude condition. Instructions for applying wind adjustments are included below the table. Linear interpolation may be used to obtain intermediate values. The resulting number is the reference brake energy per brake in millions of foot-pounds, and represents the amount of energy absorbed by each brake during a rejected takeoff

To determine the energy per brake absorbed during landing, enter the appropriate Adjusted Brake Energy Per Brake table (No Reverse Thrust or Two Engine Reverse) with the reference brake energy per brake and the type of braking used during landing (Max Manual, Max Auto, or Autobrake). The resulting number is the adjusted brake energy per brake and represents the energy absorbed in each brake during the landing.

The recommended cooling time is found in the final table by entering with the adjusted brake energy per brake or brake temperature monitor system (BTMS) indication on EICAS. Times are provided for ground cooling and inflight gear down cooling.

If brake temperature monitor indication on EICAS is available, the hottest brake indication 10 to 15 minutes after the airplane has come to a complete stop, or inflight with gear retracted, may be used to determine the recommended cooling schedule by entering at the bottom of the chart. The brake temperature light illuminates when the hottest brake is registering 5 on the EICAS indication and extinguishes as the hottest brake cools with an EICAS indication of 4.

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## **Engine Inoperative**

### **Initial Max Continuous EPR**

The Initial Max Continuous EPR setting for use following an engine failure is shown. The table shows a range of Cruise Mach numbers to provide a target EPR setting at the start of driftdown. Also shown is the maximum TAT at which the limit EPR can be set. Once driftdown is established, the Max Continuous EPR table should be used to determine EPR for the given conditions.

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### Max Continuous EPR

Power setting is based on one engine operating with one A/C pack operating and all anti-ice bleeds off. Enter the table with pressure altitude and IAS or Mach to read EPR.

It is desirable to maintain engine thrust level within the limits of the Max Cruise thrust rating. However, where thrust level in excess of Max Cruise rating is required, such as for meeting terrain clearance, ATC altitude assignments, or to attain maximum range capability, it is permissible to use the thrust needed up to the Max Continuous thrust rating. The Max Continuous thrust rating is intended primarily for emergency use at the discretion of the pilot and is the maximum thrust that may be used continuously.

### Driftdown Speed/Level Off Altitude

The table shows optimum driftdown speed as a function of cruise weight at start of driftdown. Also shown are the approximate weight and pressure altitude at which the airplane will level off considering 100 ft/min residual rate of climb.

The level off altitude is dependent on air temperature (ISA deviation).

### Driftdown/LRC Range Capability

This table shows the range capability from the start of driftdown. Driftdown is continued to level off altitude. As weight decreases due to fuel burn, the airplane is accelerated to Long Range Cruise speed. Cruise is continued at level off altitude and Long Range Cruise speed.

To determine fuel required, enter the Ground to Air Miles Conversion table with the desired ground distance and adjust for anticipated winds to obtain air distance to destination. Then enter the Driftdown/Cruise Fuel and Time table with air distance and weight at start of driftdown to determine fuel and time required. If altitudes other than the level off altitude are used, fuel and time required may be obtained by using the Engine Inoperative Long Range Cruise Enroute Fuel and Time table.

### Long Range Cruise Altitude Capability

The table shows the maximum altitude that can be maintained at a given weight and air temperature (ISA deviation), based on Long Range Cruise speed, Max Continuous thrust, and 100 ft/min residual rate of climb.

### Long Range Cruise Control

The table provides target EPR, engine inoperative Long Range Cruise Mach number, IAS and fuel flow for the airplane weight and pressure altitude. The fuel flow values in this table reflect single engine fuel burn.

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### Long Range Cruise Diversion Fuel and Time

Tables are provided for crews to determine the fuel and time required to proceed to an alternate airfield with one engine inoperative. The data is based on single engine Long Range Cruise speed and .78/290/250 descent. Enter with Air Distance as determined from the Ground to Air Miles Conversion table and read Fuel and Time required at the cruise pressure altitude. Adjust the fuel obtained for deviation from the reference weight at checkpoint as required by entering the Fuel Required Adjustment table with the fuel required for the reference weight and the actual weight at checkpoint.

### Holding

Target EPR, indicated airspeed and fuel flow per engine information is tabulated for holding with flaps up based on the FMC optimum holding speed schedule. This is the higher of the maximum endurance speed and the maneuvering speed. Small variations in airspeed will not appreciably affect the overall endurance time. Enter the table with weight and pressure altitude to read EPR, IAS and fuel flow per engine.

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### Gear Down

This section contains performance for airplane operation with the landing gear extended for all phases of flight. The data is based on engine bleeds for normal air conditioning.

NOTE: The Flight Management Computer System (FMCS) does not contain special provisions for operation with landing gear extended. As a result, the FMCS will generate inaccurate enroute speed schedules, display non-conservative predictions of fuel burn, estimated time of arrival (ETA), maximum altitude, and compute overly shallow descent path. To obtain accurate ETA predictions, gear down cruise speed and altitude should be entered on the CLB and CRZ pages. Gear down cruise speed should also be entered on the DES page and a STEP SIZE of zero should be entered on the PERF INIT or CRZ page. Use of the VNAV during descent under these circumstances is not recommended.

Tables for gear down performance in this section are identical in format and used in the same manner as tables for the gear up configuration previously described.

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# Performance Inflight - QRH

## General

# Chapter PI-QRH

## Section 50

### Flight With Unreliable Airspeed / Turbulent Air Penetration

Altitude and/or vertical speed indications may also be unreliable.

#### Climb (290/.78)

#### Flaps Up, Set Max Climb Thrust

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |            |            |
|---------------------------|------------------|------------------|-------------|------------|------------|
|                           |                  | 60               | 80          | 100        | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>4.5</b>       | <b>4.5</b>  |            |            |
|                           | V/S (FT/MIN)     | 1800             | 1000        |            |            |
| 30000                     | <b>PITCH ATT</b> | <b>4.0</b>       | <b>4.0</b>  | <b>4.0</b> | <b>4.0</b> |
|                           | V/S (FT/MIN)     | 2400             | 1600        | 1100       | 700        |
| 20000                     | <b>PITCH ATT</b> | <b>7.0</b>       | <b>6.0</b>  | <b>5.5</b> | <b>5.5</b> |
|                           | V/S (FT/MIN)     | 3800             | 2600        | 1900       | 1400       |
| 10000                     | <b>PITCH ATT</b> | <b>9.5</b>       | <b>8.0</b>  | <b>7.5</b> | <b>7.0</b> |
|                           | V/S (FT/MIN)     | 4900             | 3600        | 2700       | 2100       |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>13.0</b>      | <b>10.5</b> | <b>9.5</b> | <b>9.0</b> |
|                           | V/S (FT/MIN)     | 6000             | 4300        | 3300       | 2600       |

#### Cruise (.78/290)

#### Flaps Up, EPR for Level Flight

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |            |            |            |
|---------------------------|------------------|------------------|------------|------------|------------|
|                           |                  | 60               | 80         | 100        | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>2.0</b>       | <b>3.0</b> |            |            |
|                           | EPR              | 1.12             | 1.22       |            |            |
|                           | (Alt Mode %N1)   | (76.1)           | (79.6)     |            |            |
| 35000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.5</b> | <b>3.0</b> | <b>4.0</b> |
|                           | EPR              | 1.08             | 1.12       | 1.20       | 1.36       |
|                           | (Alt Mode %N1)   | (74.3)           | (76.4)     | (79.2)     | (84.6)     |
| 30000                     | <b>PITCH ATT</b> | <b>1.0</b>       | <b>1.5</b> | <b>2.5</b> | <b>3.0</b> |
|                           | EPR              | 1.04             | 1.07       | 1.11       | 1.16       |
|                           | (Alt Mode %N1)   | (73.9)           | (75.2)     | (77.0)     | (79.3)     |
| 25000                     | <b>PITCH ATT</b> | <b>1.0</b>       | <b>2.0</b> | <b>2.5</b> | <b>3.5</b> |
|                           | EPR              | 0.99             | 1.02       | 1.05       | 1.09       |
|                           | (Alt Mode %N1)   | (69.9)           | (71.5)     | (73.5)     | (75.8)     |
| 20000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.0</b> | <b>2.5</b> | <b>3.5</b> |
|                           | EPR              | 0.98             | 1.00       | 1.02       | 1.05       |
|                           | (Alt Mode %N1)   | (66.9)           | (68.2)     | (70.1)     | (72.5)     |
| 15000                     | <b>PITCH ATT</b> | <b>1.5</b>       | <b>2.0</b> | <b>3.0</b> | <b>3.5</b> |
|                           | EPR              | 0.97             | 0.99       | 1.00       | 1.03       |
|                           | (Alt Mode %N1)   | (63.8)           | (65.0)     | (66.9)     | (69.1)     |

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**Flight With Unreliable Airspeed / Turbulent Air Penetration**

Altitude and/or vertical speed indications may also be unreliable.

**Descent (.78/290)**

**Flaps Up, Set Idle Thrust**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |            |            |
|---------------------------|------------------|------------------|-------------|------------|------------|
|                           |                  | 60               | 80          | 100        | 120        |
| 40000                     | <b>PITCH ATT</b> | <b>-1.0</b>      | <b>0.5</b>  | <b>1.0</b> | <b>0.5</b> |
|                           | V/S (FT/MIN)     | -2300            | -2100       | -2500      | -3700      |
| 30000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>0.5</b> |
|                           | V/S (FT/MIN)     | -2900            | -2300       | -2000      | -1900      |
| 20000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -2600            | -2100       | -1900      | -1700      |
| 10000                     | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -2200            | -1800       | -1600      | -1500      |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>-2.5</b>      | <b>-1.0</b> | <b>0.0</b> | <b>1.0</b> |
|                           | V/S (FT/MIN)     | -1900            | -1600       | -1400      | -1300      |

**Holding**

**Flaps Up, EPR for Level Flight**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |            |            |            |
|---------------------------|------------------|------------------|------------|------------|------------|
|                           |                  | 60               | 80         | 100        | 120        |
| 10000                     | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.0</b> | <b>5.0</b> | <b>5.0</b> |
|                           | EPR              | 1.01             | 1.01       | 1.02       | 1.03       |
|                           | (Alt Mode %N1)   | (48.8)           | (55.3)     | (60.4)     | (64.6)     |
|                           | KIAS             | 185              | 213        | 239        | 262        |
| 5000                      | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.0</b> | <b>5.0</b> | <b>5.0</b> |
|                           | EPR              | 1.01             | 1.01       | 1.01       | 1.02       |
|                           | (Alt Mode %N1)   | (46.0)           | (51.7)     | (56.8)     | (61.1)     |
|                           | KIAS             | 185              | 213        | 238        | 261        |

**Terminal Area (5000 FT)**

**EPR for Level Flight**

| FLAP POSITION<br>(VREF + INCREMENT)      |                  | WEIGHT (1000 KG) |            |            |            |
|------------------------------------------|------------------|------------------|------------|------------|------------|
|                                          |                  | 60               | 80         | 100        | 120        |
| FLAPS UP<br>(GEAR UP)<br>(VREF30 + 80)   | <b>PITCH ATT</b> | <b>5.0</b>       | <b>6.0</b> | <b>6.5</b> | <b>6.5</b> |
|                                          | EPR              | 1.01             | 1.01       | 1.02       | 1.04       |
|                                          | KIAS             | 185              | 204        | 221        | 238        |
|                                          | (Alt Mode %N1)   | (43.8)           | (50.6)     | (55.6)     | (60.4)     |
| FLAPS 1<br>(GEAR UP)<br>(VREF30 + 60)    | <b>PITCH ATT</b> | <b>6.5</b>       | <b>7.0</b> | <b>7.5</b> | <b>8.0</b> |
|                                          | EPR              | 1.02             | 1.03       | 1.04       | 1.06       |
|                                          | KIAS             | 165              | 184        | 201        | 218        |
|                                          | (Alt Mode %N1)   | (44.8)           | (51.2)     | (56.6)     | (61.8)     |
| FLAPS 5<br>(GEAR UP)<br>(VREF30 + 40)    | <b>PITCH ATT</b> | <b>7.0</b>       | <b>7.0</b> | <b>7.5</b> | <b>7.5</b> |
|                                          | EPR              | 1.03             | 1.04       | 1.06       | 1.08       |
|                                          | KIAS             | 145              | 164        | 181        | 197        |
|                                          | (Alt Mode %N1)   | (44.7)           | (51.2)     | (57.5)     | (62.9)     |
| FLAPS 15<br>(GEAR UP)<br>(VREF30 + 20)   | <b>PITCH ATT</b> | <b>8.0</b>       | <b>8.0</b> | <b>8.0</b> | <b>8.0</b> |
|                                          | EPR              | 1.04             | 1.06       | 1.08       | 1.11       |
|                                          | KIAS             | 125              | 144        | 161        | 177        |
|                                          | (Alt Mode %N1)   | (46.0)           | (53.4)     | (60.4)     | (64.9)     |
| FLAPS 20<br>(GEAR DOWN)<br>(VREF30 + 20) | <b>PITCH ATT</b> | <b>5.0</b>       | <b>5.5</b> | <b>5.5</b> | <b>5.0</b> |
|                                          | EPR              | 1.07             | 1.10       | 1.14       | 1.17       |
|                                          | KIAS             | 125              | 144        | 161        | 177        |
|                                          | (Alt Mode %N1)   | (52.4)           | (60.9)     | (66.7)     | (71.9)     |

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**Flight With Unreliable Airspeed / Turbulent Air Penetration**

Altitude and/or vertical speed indications may also be unreliable.

**Final Approach (1500 FT)****Gear Down, EPR for 3° Glideslope**

| FLAP POSITION<br>(VREF + INCREMENT) |                  | WEIGHT (1000 KG) |            |            |            |
|-------------------------------------|------------------|------------------|------------|------------|------------|
|                                     |                  | 60               | 80         | 100        | 120        |
| FLAPS 20<br>(VREF20 + 10)           | <b>PITCH ATT</b> | <b>2.0</b>       | <b>2.0</b> | <b>2.0</b> | <b>2.0</b> |
|                                     | EPR              | 1.01             | 1.02       | 1.03       | 1.04       |
|                                     | KIAS             | 126              | 145        | 162        | 177        |
|                                     | (Alt Mode %N1)   | (37.3)           | (42.1)     | (47.0)     | (51.1)     |
| FLAPS 25<br>(VREF25 + 10)           | <b>PITCH ATT</b> | <b>2.5</b>       | <b>2.5</b> | <b>2.5</b> | <b>2.5</b> |
|                                     | EPR              | 1.03             | 1.04       | 1.05       | 1.07       |
|                                     | KIAS             | 118              | 136        | 153        | 168        |
|                                     | (Alt Mode %N1)   | (40.0)           | (46.2)     | (51.7)     | (56.9)     |
| FLAPS 30<br>(VREF30 + 10)           | <b>PITCH ATT</b> | <b>1.0</b>       | <b>1.0</b> | <b>0.5</b> | <b>0.5</b> |
|                                     | EPR              | 1.04             | 1.06       | 1.07       | 1.11       |
|                                     | KIAS             | 115              | 134        | 151        | 167        |
|                                     | (Alt Mode %N1)   | (43.4)           | (50.5)     | (57.1)     | (62.7)     |

**Go-Around (VREF 30 + 20)****Flaps 20, Gear Up, Set Go-Around Thrust (Normal Mode)**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |             |             |             |
|---------------------------|------------------|------------------|-------------|-------------|-------------|-------------|
|                           |                  | 60               | 80          | 100         | 120         | 140         |
| 10000                     | <b>PITCH ATT</b> | <b>21.5</b>      | <b>15.5</b> | <b>12.0</b> | <b>10.0</b> | <b>8.5</b>  |
|                           | V/S (FT/MIN)     | 4900             | 3700        | 2800        | 2200        | 1700        |
|                           | KIAS             | 134              | 153         | 170         | 185         | 199         |
| 5000                      | <b>PITCH ATT</b> | <b>25.0</b>      | <b>18.0</b> | <b>14.0</b> | <b>11.5</b> | <b>9.5</b>  |
|                           | V/S (FT/MIN)     | 5400             | 4100        | 3200        | 2600        | 2000        |
|                           | KIAS             | 134              | 153         | 170         | 185         | 198         |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>28.0</b>      | <b>20.0</b> | <b>15.5</b> | <b>12.5</b> | <b>10.5</b> |
|                           | V/S (FT/MIN)     | 5600             | 4300        | 3500        | 2800        | 2300        |
|                           | KIAS             | 134              | 153         | 170         | 184         | 198         |

**Go-Around (VREF 30 + 20)****Flaps 20, Gear Up, Set Go-Around Thrust (Alternate Mode)**

| PRESSURE<br>ALTITUDE (FT) |                  | WEIGHT (1000 KG) |             |             |             |            |
|---------------------------|------------------|------------------|-------------|-------------|-------------|------------|
|                           |                  | 60               | 80          | 100         | 120         | 140        |
| 10000                     | <b>PITCH ATT</b> | <b>19.5</b>      | <b>14.0</b> | <b>11.0</b> | <b>9.0</b>  | <b>7.5</b> |
|                           | V/S (FT/MIN)     | 4400             | 3300        | 2500        | 1900        | 1400       |
|                           | KIAS             | 134              | 153         | 170         | 185         | 199        |
| 5000                      | <b>PITCH ATT</b> | <b>23.0</b>      | <b>16.5</b> | <b>12.5</b> | <b>10.5</b> | <b>9.0</b> |
|                           | V/S (FT/MIN)     | 4800             | 3700        | 2800        | 2200        | 1700       |
|                           | KIAS             | 134              | 153         | 170         | 185         | 198        |
| SEA LEVEL                 | <b>PITCH ATT</b> | <b>25.5</b>      | <b>18.5</b> | <b>14.0</b> | <b>11.5</b> | <b>9.5</b> |
|                           | V/S (FT/MIN)     | 5100             | 3900        | 3100        | 2400        | 1900       |
|                           | KIAS             | 134              | 153         | 170         | 184         | 198        |



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Max Climb EPR

Based on engine bleed for packs on and anti-ice off

| TAT<br>(°C) | PRESSURE ALTITUDE (1000 FT)/SPEED (KIAS OR MACH) |      |      |      |      |      |      |      |      |
|-------------|--------------------------------------------------|------|------|------|------|------|------|------|------|
|             | 0                                                | 5    | 10   | 15   | 20   | 25   | 30   | 35   | 40   |
|             | 250                                              | 250  | 250  | 290  | 290  | 290  | 290  | .78  | .78  |
| 60          | 1.15                                             | 1.14 | 1.12 | 1.08 | 1.05 | 1.02 | 0.99 | 0.98 | 0.97 |
| 50          | 1.18                                             | 1.17 | 1.16 | 1.11 | 1.09 | 1.06 | 1.04 | 1.03 | 1.02 |
| 40          | 1.22                                             | 1.21 | 1.19 | 1.15 | 1.13 | 1.11 | 1.09 | 1.08 | 1.07 |
| 30          | 1.24                                             | 1.25 | 1.23 | 1.20 | 1.18 | 1.16 | 1.14 | 1.13 | 1.12 |
| 20          | 1.24                                             | 1.27 | 1.28 | 1.25 | 1.23 | 1.21 | 1.19 | 1.18 | 1.18 |
| 10          | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.29 | 1.27 | 1.26 | 1.25 | 1.24 |
| 0           | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.33 | 1.32 | 1.32 |
| -10         | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.39 | 1.41 | 1.41 |
| -20         | 1.24                                             | 1.27 | 1.30 | 1.29 | 1.32 | 1.35 | 1.39 | 1.48 | 1.50 |

EPR Adjustments for Engine Bleeds

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (1000 FT) |       |       |       |       |       |       |       |       |  |
|---------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                           | 0                           | 5     | 10    | 15    | 20    | 25    | 30    | 35    | 40    |  |
| PACKS OFF                 | 0.01                        | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  | 0.03  | 0.04  | 0.04  |  |
| ENGINE ANTI-ICE ON        | 0.00                        | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.04 | -0.05 | -0.07 |  |
| ENGINE & WING ANTI-ICE ON | -0.02                       | -0.02 | -0.06 | -0.06 | -0.06 | -0.07 | -0.08 | -0.10 | -0.13 |  |



757 Flight Crew Operations Manual

VREF (KIAS)

| WEIGHT<br>(1000 KG) | FLAPS |     |     |
|---------------------|-------|-----|-----|
|                     | 30    | 25  | 20  |
| 120                 | 157   | 158 | 167 |
| 110                 | 149   | 151 | 159 |
| 100                 | 140   | 142 | 151 |
| 90                  | 132   | 134 | 143 |
| 80                  | 124   | 126 | 135 |
| 70                  | 115   | 117 | 125 |
| 60                  | 106   | 108 | 116 |

**757 Flight Crew Operations Manual**

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757 Flight Crew Operations Manual

**Performance Inflight - QRH**  
**Advisory Information**

**Chapter PI-QRH**  
**Section 51**

**ADVISORY INFORMATION**

**Normal Configuration Landing Distance**

**Flaps 30**

**Dry Runway**

|                          | LANDING DISTANCE AND ADJUSTMENTS (FT) |                                               |                                 |                        |              |                     |            |                      |            |                                  |                          |           |
|--------------------------|---------------------------------------|-----------------------------------------------|---------------------------------|------------------------|--------------|---------------------|------------|----------------------|------------|----------------------------------|--------------------------|-----------|
|                          | REF<br>DIST                           | WT<br>ADJ                                     | ALT<br>ADJ                      | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | TEMP ADJ<br>PER 10°C |            | VREF<br>ADJ                      | REVERSE<br>THRUST<br>ADJ |           |
| BRAKING<br>CONFIGURATION | 86000 KG<br>LANDING<br>WEIGHT         | PER<br>5000 KG<br>ABOVE/<br>BELOW<br>86000 KG | PER<br>1000 FT<br>STD/<br>HIGH* | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | ABV<br>ISA           | BLW<br>ISA | PER<br>10 KTS<br>ABOVE<br>VREF30 | ONE<br>REV               | NO<br>REV |
| MAX MANUAL               | 2700                                  | +110/-100                                     | 60/70                           | -110                   | 380          | 40                  | -30        | 50                   | -50        | 210                              | 60                       | 130       |
| MAX AUTO                 | 4040                                  | +180/-180                                     | 90/120                          | -180                   | 570          | 50                  | -50        | 90                   | -90        | 310                              | 180                      | 360       |
| AUTOBRAKE 4              | 4360                                  | +210/-200                                     | 110/140                         | -210                   | 680          | 60                  | -60        | 110                  | -100       | 360                              | 190                      | 390       |
| AUTOBRAKE 3              | 4940                                  | +260/-260                                     | 140/180                         | -250                   | 850          | 90                  | -90        | 140                  | -130       | 410                              | 240                      | 470       |
| AUTOBRAKE 2              | 5280                                  | +320/-310                                     | 170/220                         | -290                   | 980          | 150                 | -150       | 160                  | -140       | 410                              | 540                      | 800       |
| AUTOBRAKE 1              | 5530                                  | +360/-320                                     | 190/270                         | -320                   | 1110         | 190                 | -170       | 170                  | -150       | 410                              | 960                      | 1450      |

**Good Reported Braking Action**

|             |      |           |         |      |     |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|-----|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 4050 | +180/-170 | 100/140 | -200 | 700 | 90  | -80  | 90  | -90  | 320 | 250 | 620  |
| MAX AUTO    | 4830 | +230/-220 | 120/160 | -230 | 790 | 100 | -90  | 120 | -100 | 360 | 410 | 1050 |
| AUTOBRAKE 4 | 5070 | +240/-240 | 130/160 | -250 | 840 | 90  | -80  | 130 | -130 | 410 | 280 | 770  |
| AUTOBRAKE 3 | 5680 | +300/-300 | 160/210 | -290 | 980 | 100 | -100 | 160 | -150 | 470 | 280 | 550  |

**Medium Reported Braking Action**

|             |      |           |         |      |      |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 5240 | +280/-240 | 150/210 | -300 | 1120 | 210 | -160 | 140 | -130 | 390 | 680 | 1890 |
| MAX AUTO    | 5530 | +300/-280 | 160/220 | -320 | 1150 | 220 | -180 | 150 | -130 | 390 | 850 | 2360 |
| AUTOBRAKE 4 | 5570 | +300/-280 | 160/220 | -320 | 1150 | 210 | -170 | 150 | -130 | 410 | 830 | 2320 |
| AUTOBRAKE 3 | 5960 | +320/-320 | 170/220 | -350 | 1220 | 180 | -170 | 160 | -150 | 470 | 530 | 1910 |

**Poor Reported Braking Action**

|             |      |           |         |      |      |     |      |     |      |     |      |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|------|------|
| MAX MANUAL  | 6460 | +370/-320 | 200/290 | -430 | 1690 | 450 | -300 | 170 | -150 | 440 | 1380 | 4430 |
| MAX AUTO    | 6460 | +380/-360 | 210/290 | -460 | 1700 | 450 | -320 | 180 | -150 | 430 | 1520 | 4830 |
| AUTOBRAKE 4 | 6460 | +380/-360 | 210/290 | -460 | 1700 | 450 | -320 | 180 | -150 | 440 | 1520 | 4830 |
| AUTOBRAKE 3 | 6590 | +380/-360 | 200/290 | -460 | 1710 | 430 | -310 | 180 | -160 | 470 | 1380 | 4690 |

Reference distance is for sea level, standard day, no wind or slope, VREF30 approach speed and 2 engine reverse thrust.

Max Manual braking data valid for auto speedbrakes. For manual speedbrakes, increase reference landing distance by 310 ft.

Autobrake data valid for both auto and manual speedbrakes.

Distance for GOOD, MEDIUM, and POOR are increased by 15%.

Includes distance from 50 ft above threshold (1000 ft of unfactored air distance).

\*For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply the HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Normal Configuration Landing Distance

##### Flaps 25

##### Dry Runway

|                          | LANDING DISTANCE AND ADJUSTMENTS (FT) |                                               |                                 |                        |              |                     |            |                      |            |                                  |                          |           |
|--------------------------|---------------------------------------|-----------------------------------------------|---------------------------------|------------------------|--------------|---------------------|------------|----------------------|------------|----------------------------------|--------------------------|-----------|
|                          | REF<br>DIST                           | WT<br>ADJ                                     | ALT<br>ADJ                      | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | TEMP ADJ<br>PER 10°C |            | VREF<br>ADJ                      | REVERSE<br>THRUST<br>ADJ |           |
| BRAKING<br>CONFIGURATION | 86000 KG<br>LANDING<br>WEIGHT         | PER<br>5000 KG<br>ABOVE/<br>BELOW<br>86000 KG | PER<br>1000 FT<br>STD/<br>HIGH* | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | ABV<br>ISA           | BLW<br>ISA | PER<br>10 KTS<br>ABOVE<br>VREF25 | ONE<br>REV               | NO<br>REV |
| MAX MANUAL               | 2730                                  | +100/-100                                     | 60/80                           | -110                   | 390          | 40                  | -30        | 60                   | -50        | 210                              | 60                       | 140       |
| MAX AUTO                 | 4170                                  | +180/-180                                     | 100/130                         | -180                   | 580          | 50                  | -50        | 100                  | -90        | 320                              | 190                      | 400       |
| AUTOBRAKE 4              | 4510                                  | +210/-210                                     | 110/150                         | -210                   | 690          | 60                  | -60        | 120                  | -110       | 380                              | 210                      | 430       |
| AUTOBRAKE 3              | 5120                                  | +260/-260                                     | 140/190                         | -260                   | 860          | 90                  | -100       | 150                  | -130       | 430                              | 270                      | 530       |
| AUTOBRAKE 2              | 5460                                  | +320/-320                                     | 180/240                         | -300                   | 1000         | 160                 | -160       | 180                  | -150       | 430                              | 610                      | 900       |
| AUTOBRAKE 1              | 5710                                  | +360/-330                                     | 200/280                         | -330                   | 1120         | 200                 | -180       | 190                  | -150       | 430                              | 1070                     | 1600      |

#### Good Reported Braking Action

|             |      |           |         |      |     |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|-----|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 4120 | +180/-170 | 100/140 | -200 | 700 | 90  | -80  | 90  | -90  | 320 | 260 | 670  |
| MAX AUTO    | 4960 | +230/-220 | 120/160 | -240 | 790 | 100 | -90  | 120 | -120 | 370 | 440 | 1140 |
| AUTOBRAKE 4 | 5240 | +240/-240 | 130/170 | -250 | 850 | 90  | -90  | 140 | -130 | 440 | 290 | 830  |
| AUTOBRAKE 3 | 5890 | +300/-300 | 160/220 | -300 | 990 | 100 | -120 | 170 | -150 | 490 | 310 | 610  |

#### Medium Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |     |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|-----|------|
| MAX MANUAL  | 5360 | +280/-240 | 150/220 | -300 | 1130 | 210 | -170 | 140 | -130 | 400 | 740 | 2080 |
| MAX AUTO    | 5680 | +300/-280 | 160/230 | -330 | 1160 | 220 | -180 | 160 | -140 | 400 | 930 | 2610 |
| AUTOBRAKE 4 | 5720 | +290/-280 | 160/230 | -330 | 1160 | 210 | -170 | 150 | -140 | 440 | 890 | 2560 |
| AUTOBRAKE 3 | 6150 | +320/-320 | 170/230 | -360 | 1240 | 200 | -170 | 170 | -160 | 490 | 580 | 2120 |

#### Poor Reported Braking Action

|             |      |           |         |      |      |     |      |     |      |     |      |      |
|-------------|------|-----------|---------|------|------|-----|------|-----|------|-----|------|------|
| MAX MANUAL  | 6640 | +370/-330 | 200/290 | -430 | 1710 | 460 | -310 | 180 | -160 | 450 | 1490 | 4970 |
| MAX AUTO    | 6640 | +380/-360 | 210/300 | -460 | 1710 | 460 | -330 | 200 | -160 | 450 | 1660 | 5440 |
| AUTOBRAKE 4 | 6640 | +380/-360 | 210/300 | -460 | 1710 | 460 | -330 | 200 | -160 | 450 | 1640 | 5430 |
| AUTOBRAKE 3 | 6800 | +380/-360 | 210/290 | -470 | 1740 | 440 | -310 | 200 | -160 | 490 | 1480 | 5280 |

Reference distance is for sea level, standard day, no wind or slope, VREF25 approach speed and 2 engine reverse thrust.

Max Manual braking data valid for auto speedbrakes. For manual speedbrakes, increase reference landing distance by 310 ft.

Autobrake data valid for both auto and manual speedbrakes.

Distance for GOOD, MEDIUM, and POOR are increased by 15%.

Includes distance from 50 ft above threshold (1000 ft of unfactored air distance).

\*For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply the HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

Non-Normal Configuration Landing Distance  
Dry Runway

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 3545                                                        | 60/-55                                                  | 85/120                                            | -150                   | 535          | 75                  | -65        | 400                                                  |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 4060                                                        | 75/-65                                                  | 95/140                                            | -195                   | 730          | 90                  | -75        | 320                                                  |
| FLAPS UP                                                                    | VREF30+50 | 3645                                                        | 140/-55                                                 | 100/160                                           | -150                   | 585          | 55                  | -50        | 285                                                  |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 2735                                                        | 50/-40                                                  | 60/80                                             | -110                   | 400          | 40                  | -35        | 235                                                  |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 3245                                                        | 55/-50                                                  | 70/100                                            | -135                   | 475          | 50                  | -45        | 310                                                  |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 3515                                                        | 55/-55                                                  | 80/110                                            | -140                   | 490          | 55                  | -50        | 310                                                  |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 3295                                                        | 60/-55                                                  | 80/120                                            | -145                   | 515          | 75                  | -65        | 355                                                  |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 3925                                                        | 65/-55                                                  | 95/130                                            | -155                   | 530          | 65                  | -60        | 360                                                  |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 4065                                                        | 70/-65                                                  | 110/155                                           | -170                   | 585          | 100                 | -85        | 425                                                  |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 5585                                                        | 95/-80                                                  | 155/245                                           | -240                   | 815          | 220                 | -175       | 755                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Dry Runway**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 2870                                                        | 55/-45                                                  | 60/75                                             | -115                   | 395          | 35                  | -35        | 220                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 3330                                                        | 85/-50                                                  | 80/105                                            | -125                   | 430          | 45                  | -40        | 230                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 3550                                                        | 105/-55                                                 | 85/130                                            | -130                   | 445          | 45                  | -45        | 235                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 2915                                                        | 65/-45                                                  | 65/85                                             | -115                   | 450          | 40                  | -35        | 235                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 3355                                                        | 95/-50                                                  | 80/105                                            | -135                   | 505          | 50                  | -45        | 265                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 3235                                                        | 100/-45                                                 | 75/100                                            | -135                   | 495          | 45                  | -40        | 245                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 3445                                                        | 120/-50                                                 | 80/125                                            | -140                   | 525          | 50                  | -45        | 255                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 2855                                                        | 60/-40                                                  | 65/80                                             | -110                   | 430          | 35                  | -35        | 220                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Good Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 5175                                                        | 95/-80                                                  | 150/240                                           | -270                   | 965          | 255                 | -190       | 590                         |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 4840                                                        | 100/-90                                                 | 130/185                                           | -265                   | 1035         | 170                 | -135       | 365                         |
| FLAPS UP                                                                    | VREF30+50 | 4865                                                        | 90/-80                                                  | 140/190                                           | -200                   | 720          | 100                 | -90        | 285                         |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 3535                                                        | 70/-60                                                  | 90/125                                            | -170                   | 630          | 85                  | -75        | 300                         |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 4315                                                        | 85/-75                                                  | 115/170                                           | -215                   | 775          | 135                 | -110       | 415                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 4745                                                        | 85/-80                                                  | 130/190                                           | -225                   | 810          | 145                 | -120       | 420                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 4205                                                        | 90/-75                                                  | 120/175                                           | -210                   | 770          | 150                 | -120       | 440                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 5310                                                        | 95/-90                                                  | 150/225                                           | -245                   | 865          | 175                 | -140       | 480                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 5240                                                        | 100/-95                                                 | 155/240                                           | -245                   | 865          | 195                 | -160       | 520                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 7430                                                        | 125/-100                                                | 235/385                                           | -350                   | 1210         | 495                 | -355       | 980                         |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

**ADVISORY INFORMATION**

**Non-Normal Configuration Landing Distance**

**Good Reported Braking Action**

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 3740                                                        | 70/-65                                                  | 95/135                                            | -175                   | 625          | 85                  | -75        | 290                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 4350                                                        | 80/-75                                                  | 120/170                                           | -190                   | 670          | 95                  | -85        | 300                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 4680                                                        | 85/-80                                                  | 130/185                                           | -200                   | 695          | 100                 | -90        | 305                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 3965                                                        | 75/-70                                                  | 105/140                                           | -190                   | 685          | 110                 | -90        | 320                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 4575                                                        | 85/-80                                                  | 125/170                                           | -205                   | 740          | 125                 | -105       | 325                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 4270                                                        | 80/-70                                                  | 115/165                                           | -185                   | 680          | 90                  | -80        | 280                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 4555                                                        | 85/-75                                                  | 125/180                                           | -190                   | 700          | 95                  | -85        | 280                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 3735                                                        | 65/-60                                                  | 95/135                                            | -175                   | 640          | 85                  | -75        | 280                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Medium Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | 8520                                                        | 140/-95                                                 | 315/640                                           | -545                   | 2090         | 1210                | -650       | 830                         |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 5850                                                        | 130/-115                                                | 170/255                                           | -375                   | 1565         | 385                 | -255       | 410                         |
| FLAPS UP                                                                    | VREF30+50 | 6380                                                        | 130/-120                                                | 205/295                                           | -300                   | 1140         | 230                 | -185       | 360                         |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 4540                                                        | 100/-90                                                 | 135/190                                           | -255                   | 1005         | 195                 | -150       | 360                         |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 5920                                                        | 125/-105                                                | 185/305                                           | -350                   | 1360         | 380                 | -265       | 515                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 6600                                                        | 130/-120                                                | 210/345                                           | -375                   | 1425         | 420                 | -290       | 540                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 5880                                                        | 130/-110                                                | 195/325                                           | -355                   | 1365         | 415                 | -285       | 540                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 7350                                                        | 150/-130                                                | 245/395                                           | -400                   | 1500         | 475                 | -335       | 595                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 7390                                                        | 160/-135                                                | 260/420                                           | -405                   | 1515         | 525                 | -365       | 635                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | 13050                                                       | 185/-95                                                 | 510/1075                                          | -730                   | 2640         | 2455                | -1215      | 1420                        |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System Only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.

757 Flight Crew Operations Manual

ADVISORY INFORMATION

Non-Normal Configuration Landing Distance  
Medium Reported Braking Action

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 4870                                                        | 100/-95                                                 | 140/210                                           | -265                   | 990          | 185                 | -150       | 360                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 5630                                                        | 120/-105                                                | 170/245                                           | -285                   | 1050         | 205                 | -170       | 360                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 6090                                                        | 130/-115                                                | 195/280                                           | -295                   | 1085         | 215                 | -180       | 370                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 5470                                                        | 115/-105                                                | 160/230                                           | -305                   | 1155         | 285                 | -210       | 420                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 6270                                                        | 130/-120                                                | 190/270                                           | -325                   | 1220         | 310                 | -235       | 415                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 5590                                                        | 120/-105                                                | 175/250                                           | -280                   | 1080         | 210                 | -165       | 350                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 5940                                                        | 125/-110                                                | 185/270                                           | -290                   | 1105         | 220                 | -170       | 350                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 4860                                                        | 100/-95                                                 | 140/210                                           | -265                   | 1025         | 195                 | -150       | 350                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s).

Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

\*\*\* For landing distance at or below 8000 ft pressure altitude, apply the STD adjustment. For altitudes higher than 8000 ft, first apply the STD adjustment to derive a new reference landing distance for 8000 ft, then apply HIGH adjustment to this new reference distance.



## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

**Non-Normal Configuration Landing Distance**  
**Poor Reported Braking Action**

| LANDING CONFIGURATION                                                       | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                             |
|-----------------------------------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|-----------------------------|
|                                                                             |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED           |
|                                                                             |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL | PER 10 KTS<br>ABOVE<br>VREF |
| AIR-GROUND LOGIC IN AIR MODE                                                | VREF30    | >15000                                                      | -                                                       | -                                                 | -                      | -            | -                   | -          | -                           |
| ANTI-SKID SYSTEM INOP                                                       | VREF30    | 7445                                                        | 180/-155                                                | 235/335                                           | -600                   | 2865         | 2340                | -565       | 445                         |
| FLAPS UP                                                                    | VREF30+50 | 7865                                                        | 175/-160                                                | 275/400                                           | -425                   | 1720         | 515                 | -325       | 415                         |
| HYDRAULIC SYSTEM CENTER INOP                                                | VREF30    | 5580                                                        | 135/-115                                                | 175/265                                           | -370                   | 1545         | 445                 | -270       | 400                         |
| HYDRAULIC SYSTEM LEFT INOP                                                  | VREF30    | 8050                                                        | 170/-130                                                | 300/555                                           | -590                   | 2555         | 1645                | -615       | 590                         |
| HYDRAULIC SYSTEM LEFT INOP WITH LE SLAT OR TE FLAPS DISAGREE FOR FLAPS ≥ 20 | VREF20    | 9035                                                        | 180/-155                                                | 340/630                                           | -630                   | 2670         | 1790                | -680       | 635                         |
| HYDRAULIC SYSTEM RIGHT INOP                                                 | VREF30    | 8080                                                        | 175/-135                                                | 315/585                                           | -600                   | 2580         | 1740                | -650       | 610                         |
| HYDRAULIC SYSTEMS CENTER AND LEFT INOP FLAPS 20                             | VREF30+20 | 9945                                                        | 205/-170                                                | 380/705                                           | -665                   | 2775         | 1930                | -745       | 675                         |
| HYDRAULIC SYSTEMS CENTER AND RIGHT INOP FLAPS 20                            | VREF30+20 | 10085                                                       | 220/-175                                                | 405/750                                           | -675                   | 2805         | 2055                | -800       | 715                         |
| HYDRAULIC SYSTEM** LEFT & RIGHT INOP FLAPS 20                               | VREF30+20 | >15000                                                      | -                                                       | -                                                 | -                      | -            | -                   | -          | -                           |

\*Reference distance assumes sea level, standard day with no wind or slope.

\*\*Reserve Brake System only.

Assumes maximum manual braking and maximum reverse thrust when available on operating engine(s). Actual (unfactored) distances are shown.

Includes distance from 50 ft threshold (1000 ft of air distance).

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## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Non-Normal Configuration Landing Distance

#### Poor Reported Braking Action

| LANDING CONFIGURATION                            | VREF      | LANDING DISTANCE AND ADJUSTMENTS (FT)                       |                                                         |                                                   |                        |              |                     |            |                                                      |
|--------------------------------------------------|-----------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|------------------------|--------------|---------------------|------------|------------------------------------------------------|
|                                                  |           | REFERENCE DISTANCE*<br>FOR<br>86000 KG<br>LANDING<br>WEIGHT | WT ADJ<br>PER<br>2000 KG<br>ABOVE/<br>BELOW<br>86000 KG | ALTITUDE<br>ADJ PER<br>1000 FT<br>STD/HIGH<br>*** | WIND ADJ<br>PER 10 KTS |              | SLOPE ADJ<br>PER 1% |            | APPROACH<br>SPEED<br><br>PER 10 KTS<br>ABOVE<br>VREF |
|                                                  |           |                                                             |                                                         |                                                   | HEAD<br>WIND           | TAIL<br>WIND | DOWN<br>HILL        | UP<br>HILL |                                                      |
| LE SLAT<br>ASYMMETRY<br>FLAPS>20                 | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1510         | 410                 | -275       | 405                                                  |
| LE SLAT<br>ASYMMETRY<br>FLAPS = 20               | VREF30+30 | 6880                                                        | 160/-140                                                | 225/340                                           | -405                   | 1580         | 435                 | -300       | 400                                                  |
| LE SLAT<br>ASYMMETRY<br>5 ≤ FLAPS < 20           | VREF30+40 | 7480                                                        | 170/-155                                                | 255/370                                           | -420                   | 1625         | 455                 | -315       | 425                                                  |
| LE SLAT<br>DISAGREE                              | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |
| ONE ENGINE<br>INOP                               | VREF20    | 7155                                                        | 170/-155                                                | 230/335                                           | -460                   | 1845         | 720                 | -420       | 500                                                  |
| REVERSER<br>UNLOCK<br>FLAPS 20                   | VREF30+30 | 8105                                                        | 185/-170                                                | 270/380                                           | -485                   | 1925         | 760                 | -450       | 485                                                  |
| TRAILING EDGE<br>FLAP<br>ASYMMETRY<br>FLAPS ≥ 20 | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>5<FLAPS<20         | VREF30+30 | 6885                                                        | 160/-135                                                | 230/345                                           | -400                   | 1645         | 480                 | -300       | 405                                                  |
| TRAILING EDGE<br>ASYMMETRY<br>FLAPS ≤ 5          | VREF30+40 | 7295                                                        | 170/-145                                                | 250/365                                           | -410                   | 1675         | 490                 | -305       | 400                                                  |
| TRAILING EDGE<br>FLAP DISAGREE                   | VREF20    | 6010                                                        | 135/-125                                                | 190/285                                           | -380                   | 1580         | 455                 | -280       | 395                                                  |

\*Reference distance assumes sea level, standard day with no wind or slope.

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## 757 Flight Crew Operations Manual

## ADVISORY INFORMATION

## Recommended Brake Cooling Schedule

## Reference Brake Energy Per Brake (Millions of Foot Pounds)

|                     |             | BRAKES ON SPEED (KIAS) |      |      |      |      |      |           |      |      |      |      |      |           |      |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|---------------------|-------------|------------------------|------|------|------|------|------|-----------|------|------|------|------|------|-----------|------|------|------|------|------|-----------|---|----|---|---|----|-----------|---|----|--|--|--|-----------|--|--|--|--|--|
|                     |             | 80                     |      |      |      |      |      | 100       |      |      |      |      |      | 120       |      |      |      |      |      | 140       |   |    |   |   |    | 160       |   |    |  |  |  | 180       |  |  |  |  |  |
| WEIGHT<br>(1000 KG) | OAT<br>(°C) | PRESS ALT              |      |      |      |      |      | PRESS ALT |      |      |      |      |      | PRESS ALT |      |      |      |      |      | PRESS ALT |   |    |   |   |    | PRESS ALT |   |    |  |  |  | PRESS ALT |  |  |  |  |  |
|                     |             | 0                      | 5    | 10   | 0    | 5    | 10   | 0         | 5    | 10   | 0    | 5    | 10   | 0         | 5    | 10   | 0    | 5    | 10   | 0         | 5 | 10 | 0 | 5 | 10 | 0         | 5 | 10 |  |  |  |           |  |  |  |  |  |
| 120                 | 0           | 9.2                    | 10.9 | 12.7 | 14.1 | 16.8 | 19.6 | 19.8      | 23.9 | 27.9 | 26.3 | 31.7 | 37.1 | 33.1      | 39.8 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 9.5                    | 11.3 | 13.1 | 14.6 | 17.5 | 20.4 | 20.5      | 24.7 | 28.9 | 27.2 | 32.8 | 38.4 | 34.3      | 41.1 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 9.7                    | 11.5 | 13.4 | 14.8 | 17.8 | 20.7 | 20.9      | 25.2 | 29.4 | 27.7 | 33.4 | 39.0 | 34.9      | 41.8 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 9.8                    | 11.7 | 13.6 | 15.1 | 18.1 | 21.1 | 21.2      | 25.6 | 29.9 | 28.1 | 33.9 | 39.7 | 35.5      | 42.5 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 10.1                   | 12.0 | 14.0 | 15.5 | 18.6 | 21.7 | 21.8      | 26.3 | 30.8 | 29.0 | 34.9 | 40.9 | 36.5      | 43.8 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 10.3                   | 12.3 | 14.2 | 15.8 | 19.0 | 22.2 | 22.3      | 26.9 | 31.6 | 29.7 | 35.8 | 41.9 | 37.4      | 44.9 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 10.4                   | 12.4 | 14.4 | 16.0 | 19.3 | 22.5 | 22.7      | 27.4 | 32.1 | 30.2 | 36.5 | 42.8 | 38.2      | 45.9 |      |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
| 110                 | 0           | 8.5                    | 10.1 | 11.7 | 13.0 | 15.5 | 18.1 | 18.2      | 21.9 | 25.7 | 24.1 | 29.1 | 34.1 | 30.5      | 36.7 | 42.9 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 8.8                    | 10.5 | 12.1 | 13.4 | 16.1 | 18.7 | 18.9      | 22.7 | 26.6 | 25.0 | 30.2 | 35.3 | 31.6      | 38.0 | 44.4 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 9.0                    | 10.6 | 12.3 | 13.7 | 16.4 | 19.1 | 19.2      | 23.1 | 27.1 | 25.4 | 30.7 | 35.9 | 32.1      | 38.6 | 45.1 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 9.1                    | 10.8 | 12.6 | 13.9 | 16.7 | 19.4 | 19.6      | 23.5 | 27.5 | 25.9 | 31.2 | 36.5 | 32.7      | 39.3 | 45.9 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 9.3                    | 11.1 | 12.9 | 14.3 | 17.1 | 20.0 | 20.1      | 24.2 | 28.3 | 26.6 | 32.1 | 37.6 | 33.6      | 40.4 | 47.2 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 9.5                    | 11.3 | 13.2 | 14.6 | 17.5 | 20.4 | 20.6      | 24.8 | 29.0 | 27.2 | 32.9 | 38.5 | 34.5      | 41.4 | 48.4 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 9.6                    | 11.4 | 13.3 | 14.8 | 17.8 | 20.7 | 20.9      | 25.2 | 29.5 | 27.7 | 33.5 | 39.3 | 35.1      | 42.3 | 49.5 |      |      |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
| 100                 | 0           | 7.8                    | 9.3  | 10.7 | 11.9 | 14.2 | 16.5 | 16.6      | 20.0 | 23.4 | 22.0 | 26.5 | 31.1 | 27.8      | 33.5 | 39.2 | 33.9 | 40.7 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 8.1                    | 9.6  | 11.1 | 12.3 | 14.7 | 17.1 | 17.2      | 20.7 | 24.2 | 22.8 | 27.5 | 32.2 | 28.8      | 34.7 | 40.6 | 35.1 | 42.1 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 8.2                    | 9.8  | 11.3 | 12.5 | 15.0 | 17.5 | 17.6      | 21.1 | 24.7 | 23.2 | 28.0 | 32.7 | 29.3      | 35.3 | 41.3 | 35.7 | 42.8 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 8.4                    | 10.0 | 11.5 | 12.8 | 15.3 | 17.8 | 17.9      | 21.5 | 25.1 | 23.6 | 28.4 | 33.3 | 29.8      | 35.9 | 42.0 | 36.3 | 43.5 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 8.6                    | 10.2 | 11.8 | 13.1 | 15.7 | 18.3 | 18.4      | 22.1 | 25.8 | 24.3 | 29.3 | 34.3 | 30.7      | 36.9 | 43.2 | 37.4 | 44.8 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 8.7                    | 10.4 | 12.1 | 13.4 | 16.0 | 18.7 | 18.8      | 22.6 | 26.4 | 24.8 | 30.0 | 35.1 | 31.4      | 37.9 | 44.3 | 38.3 | 45.9 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 8.8                    | 10.5 | 12.2 | 13.5 | 16.2 | 18.9 | 19.1      | 23.0 | 26.9 | 25.2 | 30.5 | 35.8 | 32.0      | 38.6 | 45.2 | 39.1 | 46.9 |      |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
| 90                  | 0           | 7.1                    | 8.5  | 9.8  | 10.8 | 12.9 | 15.0 | 15.1      | 18.1 | 21.1 | 19.8 | 23.9 | 28.0 | 25.0      | 30.2 | 35.4 | 30.6 | 36.8 | 43.0 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 7.4                    | 8.8  | 10.1 | 11.2 | 13.4 | 15.5 | 15.6      | 18.7 | 21.9 | 20.5 | 24.8 | 29.0 | 25.9      | 31.3 | 36.7 | 31.7 | 38.1 | 44.5 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 7.5                    | 8.9  | 10.3 | 11.4 | 13.6 | 15.8 | 15.9      | 19.1 | 22.3 | 20.9 | 25.2 | 29.5 | 26.4      | 31.8 | 37.3 | 32.2 | 38.7 | 45.2 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 7.7                    | 9.1  | 10.5 | 11.6 | 13.9 | 16.1 | 16.2      | 19.4 | 22.6 | 21.3 | 25.6 | 30.0 | 26.9      | 32.4 | 37.9 | 32.8 | 39.4 | 46.0 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 7.9                    | 9.3  | 10.8 | 11.9 | 14.2 | 16.6 | 16.6      | 20.0 | 23.3 | 21.9 | 26.4 | 30.9 | 27.6      | 33.3 | 39.0 | 33.7 | 40.5 | 47.3 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 8.0                    | 9.5  | 11.0 | 12.1 | 14.5 | 16.9 | 17.0      | 20.4 | 23.8 | 22.4 | 27.0 | 31.6 | 28.3      | 34.1 | 40.0 | 34.6 | 41.6 | 48.6 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 8.0                    | 9.6  | 11.1 | 12.3 | 14.7 | 17.1 | 17.2      | 20.7 | 24.2 | 22.7 | 27.5 | 32.2 | 28.8      | 34.8 | 40.8 | 35.2 | 42.4 | 49.6 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
| 80                  | 0           | 6.5                    | 7.7  | 8.8  | 9.7  | 11.6 | 13.5 | 13.5      | 16.1 | 18.8 | 17.7 | 21.2 | 24.8 | 22.2      | 26.8 | 31.4 | 27.1 | 32.7 | 38.3 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 6.7                    | 7.9  | 9.2  | 10.1 | 12.0 | 13.9 | 14.0      | 16.7 | 19.5 | 18.3 | 22.0 | 25.7 | 23.0      | 27.8 | 32.5 | 28.1 | 33.9 | 39.6 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 6.8                    | 8.1  | 9.3  | 10.3 | 12.2 | 14.2 | 14.2      | 17.0 | 19.9 | 18.6 | 22.4 | 26.2 | 23.4      | 28.3 | 33.1 | 28.6 | 34.4 | 40.3 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 6.9                    | 8.2  | 9.5  | 10.4 | 12.4 | 14.4 | 14.5      | 17.3 | 20.2 | 18.9 | 22.8 | 26.6 | 23.8      | 28.8 | 33.7 | 29.1 | 35.0 | 41.0 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 7.1                    | 8.4  | 9.7  | 10.7 | 12.8 | 14.9 | 14.9      | 17.8 | 20.8 | 19.5 | 23.5 | 27.4 | 24.5      | 29.6 | 34.7 | 29.9 | 36.1 | 42.2 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 7.2                    | 8.6  | 9.9  | 10.9 | 13.0 | 15.2 | 15.2      | 18.2 | 21.2 | 19.9 | 24.0 | 28.1 | 25.1      | 30.3 | 35.5 | 30.6 | 36.9 | 43.2 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 7.2                    | 8.6  | 10.0 | 11.0 | 13.2 | 15.4 | 15.4      | 18.5 | 21.6 | 20.2 | 24.4 | 28.6 | 25.5      | 30.9 | 36.2 | 31.2 | 37.7 | 44.1 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
| 70                  | 0           | 5.8                    | 6.8  | 7.9  | 8.6  | 10.3 | 11.9 | 11.9      | 14.2 | 16.5 | 15.5 | 18.6 | 21.7 | 19.4      | 23.3 | 27.3 | 23.5 | 28.4 | 33.2 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 10          | 6.0                    | 7.1  | 8.2  | 9.0  | 10.6 | 12.3 | 12.3      | 14.7 | 17.1 | 16.0 | 19.2 | 22.5 | 20.1      | 24.2 | 28.3 | 24.4 | 29.4 | 34.4 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 15          | 6.1                    | 7.2  | 8.3  | 9.1  | 10.8 | 12.6 | 12.5      | 15.0 | 17.4 | 16.3 | 19.6 | 22.9 | 20.4      | 24.6 | 28.8 | 24.8 | 29.9 | 35.0 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 20          | 6.2                    | 7.3  | 8.5  | 9.3  | 11.0 | 12.8 | 12.8      | 15.2 | 17.7 | 16.6 | 19.9 | 23.3 | 20.8      | 25.0 | 29.3 | 25.2 | 30.4 | 35.6 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 30          | 6.4                    | 7.5  | 8.7  | 9.5  | 11.3 | 13.1 | 13.1      | 15.7 | 18.3 | 17.1 | 20.5 | 23.9 | 21.4      | 25.7 | 30.1 | 26.0 | 31.3 | 36.7 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 40          | 6.5                    | 7.6  | 8.8  | 9.7  | 11.5 | 13.4 | 13.4      | 16.0 | 18.6 | 17.4 | 21.0 | 24.5 | 21.8      | 26.3 | 30.8 | 26.6 | 32.1 | 37.6 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |
|                     | 50          | 6.5                    | 7.7  | 8.9  | 9.8  | 11.7 | 13.6 | 13.5      | 16.2 | 18.9 | 17.7 | 21.3 | 24.9 | 22.2      | 26.8 | 31.4 | 27.0 | 32.7 | 38.3 |           |   |    |   |   |    |           |   |    |  |  |  |           |  |  |  |  |  |

To correct for wind, enter table with the brakes on speed minus one half the headwind or plus 1.5 times the tailwind. If ground speed is used for brakes on speed, ignore wind and enter table with sea level, 15°C.

## 757 Flight Crew Operations Manual

### ADVISORY INFORMATION

#### Recommended Brake Cooling Schedule

Adjusted Brake Energy Per Brake (Millions of Foot Pounds)

No Reverse Thrust

|         |             | REFERENCE BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |      |      |      |      |      |      |      |      |      |      |
|---------|-------------|------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| EVENT   |             | 10                                                         | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| LANDING | RTO MAX MAN | 10                                                         | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|         | MAX MAN     | 9.2                                                        | 11.2 | 13.1 | 15.0 | 17.0 | 18.9 | 20.9 | 22.8 | 24.7 | 26.7 | 28.6 |
|         | MAX AUTO    | 8.9                                                        | 10.8 | 12.6 | 14.4 | 16.3 | 18.1 | 19.9 | 21.7 | 23.5 | 25.3 | 27.2 |
|         | AUTOBRAKE 4 | 8.8                                                        | 10.6 | 12.3 | 14.0 | 15.7 | 17.4 | 19.1 | 20.8 | 22.5 | 24.2 | 26.0 |
|         | AUTOBRAKE 3 | 8.7                                                        | 10.4 | 12.0 | 13.7 | 15.3 | 16.9 | 18.4 | 20.0 | 21.6 | 23.2 | 24.8 |
|         | AUTOBRAKE 2 | 8.6                                                        | 10.2 | 11.7 | 13.2 | 14.7 | 16.2 | 17.7 | 19.1 | 20.6 | 22.0 | 23.5 |
|         | AUTOBRAKE 1 | 8.4                                                        | 9.8  | 11.3 | 12.6 | 14.0 | 15.3 | 16.6 | 17.8 | 19.1 | 20.4 | 21.7 |

#### Two Engine Reverse

|         |             | REFERENCE BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |     |      |      |      |      |      |      |      |      |      |
|---------|-------------|------------------------------------------------------------|-----|------|------|------|------|------|------|------|------|------|
| EVENT   |             | 10                                                         | 12  | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| LANDING | RTO MAX MAN | 10                                                         | 12  | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|         | MAX MAN     | 7.6                                                        | 9.2 | 10.8 | 12.5 | 14.2 | 15.9 | 17.6 | 19.3 | 21.0 | 22.6 | 24.2 |
|         | MAX AUTO    | 5.0                                                        | 6.3 | 7.6  | 8.9  | 10.2 | 11.5 | 12.9 | 14.2 | 15.6 | 16.9 | 18.3 |
|         | AUTOBRAKE 4 | 3.4                                                        | 4.3 | 5.3  | 6.2  | 7.2  | 8.2  | 9.2  | 10.2 | 11.3 | 12.3 | 13.5 |
|         | AUTOBRAKE 3 | 2.4                                                        | 3.0 | 3.6  | 4.2  | 4.8  | 5.5  | 6.2  | 6.9  | 7.7  | 8.4  | 9.3  |
|         | AUTOBRAKE 2 | 1.9                                                        | 2.2 | 2.5  | 2.9  | 3.2  | 3.6  | 4.0  | 4.5  | 4.9  | 5.4  | 5.9  |
|         | AUTOBRAKE 1 | 1.5                                                        | 1.7 | 1.9  | 2.1  | 2.3  | 2.5  | 2.8  | 3.0  | 3.2  | 3.5  | 3.7  |

#### Cooling Time (Minutes)

|                       |                         | ADJUSTED BRAKE ENERGY PER BRAKE (MILLIONS OF FOOT POUNDS) |    |    |    |    |    |    |          |                        |  |
|-----------------------|-------------------------|-----------------------------------------------------------|----|----|----|----|----|----|----------|------------------------|--|
|                       |                         | 8 & BELOW                                                 | 9  | 10 | 12 | 14 | 16 | 17 | 18 TO 27 | 28 & ABOVE             |  |
| INFLIGHT<br>GEAR DOWN | NO SPECIAL<br>PROCEDURE |                                                           | 1  | 2  | 4  | 5  | 7  | 7  | CAUTION  | FUSE PLUG<br>MELT ZONE |  |
| GROUND                | REQUIRED                |                                                           | 10 | 20 | 38 | 51 | 62 | 66 |          |                        |  |
| BTMS                  | UP TO 2                 |                                                           | 2  | 2  | 3  | 3  | 4  | 5  |          |                        |  |

Observe maximum quick turnaround limit.

Table shows energy per brake added by a single stop with all brakes operating. Energy is assumed to be equally distributed among the operating brakes. Total energy is the sum of residual energy plus energy added.

Add 0.65 million foot pounds per brake for each taxi mile.

For one brake deactivated, increase brake energy by 15 percent.

When in caution zone, wheel fuse plugs may melt. Delay takeoff and inspect after one hour. If overheat occurs after takeoff, extend gear soon for at least 8 minutes.

When in fuse plug melt zone, clear runway immediately. Unless required, do not set parking brake. Do not attempt to taxi for one hour. Tire, wheel and brake replacement may be required. If overheat occurs after takeoff, extend gear soon for at least 12 minutes.

Brake temperature monitor system (BTMS) indication on EICAS may be used to 10 to 15 minutes after airplane has come to a complete stop, or inflight with gear retracted, to determine recommended cooling schedule.



**Performance Inflight - QRH**  
**Engine Inoperative**

**Chapter PI-QRH**  
**Section 52**

**ENGINE INOP**

**Initial Max Continuous EPR**

**Based on engine bleed for one pack on**

| PRESSURE<br>ALTITUDE (FT) |               | CRUISE MACH NUMBER |          |          |
|---------------------------|---------------|--------------------|----------|----------|
|                           |               | .72                | .76      | .80      |
| 41000                     | EPR           | 1.62               | 1.59     | 1.54     |
|                           | MAX TAT (SAT) | -22(-46)           | -20(-46) | -17(-46) |
|                           | EPR CORR      | 0.12               | 0.12     | 0.12     |
| 39000                     | EPR           | 1.62               | 1.61     | 1.56     |
|                           | MAX TAT (SAT) | -20(-44)           | -20(-46) | -17(-46) |
|                           | EPR CORR      | 0.13               | 0.13     | 0.13     |
| 37000                     | EPR           | 1.62               | 1.62     | 1.58     |
|                           | MAX TAT (SAT) | -18(-42)           | -19(-45) | -17(-46) |
|                           | EPR CORR      | 0.14               | 0.14     | 0.14     |
| 35000                     | EPR           | 1.62               | 1.62     | 1.57     |
|                           | MAX TAT (SAT) | -17(-41)           | -17(-43) | -15(-44) |
|                           | EPR CORR      | 0.13               | 0.13     | 0.13     |
| 33000                     | EPR           | 1.62               | 1.59     | 1.53     |
|                           | MAX TAT (SAT) | -15(-39)           | -13(-40) | -11(-41) |
|                           | EPR CORR      | 0.12               | 0.12     | 0.12     |
| 31000                     | EPR           | 1.60               | 1.55     | 1.50     |
|                           | MAX TAT (SAT) | -12(-36)           | -9(-36)  | -6(-36)  |
|                           | EPR CORR      | 0.12               | 0.12     | 0.12     |

**Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.**

## ENGINE INOP

### Max Continuous EPR

#### 41000 FT to 22000 FT Pressure Altitudes

Based on engine bleed for one pack on and anti-ice off

| PRESSURE ALTITUDE<br>(FT) |          | KIAS |      |      |      |      | MACH NUMBER |      |      |      |      |      |
|---------------------------|----------|------|------|------|------|------|-------------|------|------|------|------|------|
|                           |          | 180  | 200  | 220  | 240  | 260  | .70         | .72  | .74  | .76  | .78  | .80  |
| 41000                     | EPR      |      | 1.62 | 1.60 | 1.53 | 1.49 | 1.62        | 1.62 | 1.62 | 1.59 | 1.57 | 1.54 |
|                           | MAX TAT  |      | -21  | -21  | -17  | -12  | -21         | -22  | -22  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 39000                     | EPR      |      | 1.62 | 1.62 | 1.59 | 1.53 | 1.62        | 1.62 | 1.62 | 1.61 | 1.59 | 1.56 |
|                           | MAX TAT  |      | -19  | -20  | -19  | -15  | -20         | -20  | -20  | -20  | -19  | -17  |
|                           | EPR CORR |      | 0.13 | 0.13 | 0.13 | 0.13 | 0.13        | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| 37000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.58 | 1.62        | 1.62 | 1.62 | 1.62 | 1.61 | 1.58 |
|                           | MAX TAT  |      | -16  | -18  | -19  | -17  | -18         | -18  | -19  | -19  | -19  | -17  |
|                           | EPR CORR |      | 0.14 | 0.14 | 0.14 | 0.14 | 0.14        | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| 35000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.61 | 1.62        | 1.62 | 1.62 | 1.62 | 1.60 | 1.57 |
|                           | MAX TAT  |      | -14  | -15  | -17  | -17  | -16         | -17  | -17  | -17  | -16  | -15  |
|                           | EPR CORR |      | 0.13 | 0.13 | 0.13 | 0.13 | 0.13        | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| 33000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.61 | 1.62        | 1.62 | 1.61 | 1.59 | 1.56 | 1.53 |
|                           | MAX TAT  |      | -12  | -12  | -14  | -15  | -14         | -15  | -15  | -13  | -12  | -11  |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 31000                     | EPR      |      | 1.62 | 1.62 | 1.62 | 1.62 | 1.62        | 1.60 | 1.58 | 1.55 | 1.53 | 1.50 |
|                           | MAX TAT  |      | -10  | -10  | -11  | -13  | -13         | -12  | -10  | -9   | -8   | -6   |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 29000                     | EPR      |      | 1.61 | 1.62 | 1.62 | 1.62 | 1.59        | 1.57 | 1.55 | 1.52 | 1.50 | 1.48 |
|                           | MAX TAT  |      | -8   | -8   | -9   | -10  | -9          | -7   | -6   | -5   | -3   | -2   |
|                           | EPR CORR |      | 0.12 | 0.12 | 0.12 | 0.12 | 0.12        | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| 27000                     | EPR      | 1.61 | 1.61 | 1.62 | 1.62 | 1.62 | 1.57        | 1.54 | 1.52 | 1.50 | 1.48 | 1.45 |
|                           | MAX TAT  | -13  | -7   | -6   | -6   | -7   | -5          | -3   | -2   | 0    | 1    | 3    |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| 25000                     | EPR      | 1.62 | 1.61 | 1.61 | 1.62 | 1.62 | 1.54        | 1.52 | 1.50 | 1.48 | 1.46 | 1.44 |
|                           | MAX TAT  | -13  | -6   | -4   | -4   | -4   | 0           | 1    | 3    | 4    | 6    | 7    |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| 22000                     | EPR      | 1.61 | 1.61 | 1.61 | 1.61 | 1.62 | 1.51        | 1.49 | 1.47 | 1.45 | 1.43 |      |
|                           | MAX TAT  | -10  | -6   | -1   | -1   | -1   | 6           | 8    | 9    | 11   | 12   |      |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 | 0.11 | 0.11 |      |

Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.

### EPR Adjustments for Engine Bleed

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (FT) |       |       |       |       |       |       |
|---------------------------|------------------------|-------|-------|-------|-------|-------|-------|
|                           | 0                      | 8000  | 8001  | 10000 | 20000 | 30000 | 40000 |
| PACKS OFF                 | 0.01                   | 0.01  | 0.01  | 0.01  | 0.02  | 0.03  | 0.04  |
| ENGINE ANTI-ICE ON        | 0.00                   | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.07 |
| ENGINE & WING ANTI-ICE ON | -0.02                  | -0.02 | -0.05 | -0.06 | -0.06 | -0.08 | -0.13 |

## 757 Flight Crew Operations Manual

**ENGINE INOP****Max Continuous EPR****20000 FT to Sea Level Pressure Altitudes****Based on engine bleed for one pack on and anti-ice off**

| PRESSURE ALTITUDE<br>(FT) |          | KIAS |      |      |      |      | MACH NUMBER |      |      |     |     |     |
|---------------------------|----------|------|------|------|------|------|-------------|------|------|-----|-----|-----|
|                           |          | 180  | 200  | 220  | 240  | 260  | .70         | .72  | .74  | .76 | .78 | .80 |
| 20000                     | EPR      | 1.59 | 1.62 | 1.61 | 1.61 | 1.61 | 1.49        | 1.47 | 1.45 |     |     |     |
|                           | MAX TAT  | -6   | -6   | -1   | 1    | 2    | 11          | 12   | 14   |     |     |     |
|                           | EPR CORR | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11        | 0.11 | 0.11 |     |     |     |
| 18000                     | EPR      | 1.57 | 1.58 | 1.60 | 1.60 | 1.58 | 1.45        | 1.43 |      |     |     |     |
|                           | MAX TAT  | -3   | -1   | 1    | 3    | 5    | 15          | 17   |      |     |     |     |
|                           | EPR CORR | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10        | 0.10 |      |     |     |     |
| 16000                     | EPR      | 1.55 | 1.55 | 1.56 | 1.56 | 1.55 | 1.41        |      |      |     |     |     |
|                           | MAX TAT  | 0    | 2    | 4    | 6    | 8    | 19          |      |      |     |     |     |
|                           | EPR CORR | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10        |      |      |     |     |     |
| 14000                     | EPR      | 1.53 | 1.52 | 1.53 | 1.52 | 1.52 |             |      |      |     |     |     |
|                           | MAX TAT  | 4    | 6    | 7    | 9    | 11   |             |      |      |     |     |     |
|                           | EPR CORR | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |             |      |      |     |     |     |
| 12000                     | EPR      | 1.51 | 1.50 | 1.50 | 1.49 | 1.48 |             |      |      |     |     |     |
|                           | MAX TAT  | 8    | 9    | 11   | 12   | 14   |             |      |      |     |     |     |
|                           | EPR CORR | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |             |      |      |     |     |     |
| 10000                     | EPR      | 1.49 | 1.48 | 1.47 | 1.47 | 1.46 |             |      |      |     |     |     |
|                           | MAX TAT  | 11   | 13   | 14   | 16   | 18   |             |      |      |     |     |     |
|                           | EPR CORR | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |             |      |      |     |     |     |
| 5000                      | EPR      | 1.43 | 1.42 | 1.42 | 1.41 | 1.40 |             |      |      |     |     |     |
|                           | MAX TAT  | 20   | 21   | 23   | 24   | 26   |             |      |      |     |     |     |
|                           | EPR CORR | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |             |      |      |     |     |     |
| 1500                      | EPR      | 1.38 | 1.38 | 1.37 | 1.36 | 1.35 |             |      |      |     |     |     |
|                           | MAX TAT  | 27   | 28   | 29   | 30   | 32   |             |      |      |     |     |     |
|                           | EPR CORR | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |             |      |      |     |     |     |
| 0                         | EPR      | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 |             |      |      |     |     |     |
|                           | MAX TAT  | 29   | 30   | 32   | 33   | 34   |             |      |      |     |     |     |
|                           | EPR CORR | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |             |      |      |     |     |     |

Decrease EPR by the EPR CORR for every 10°C above the MAX TAT shown.

**EPR Adjustments for Engine Bleed**

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (FT) |       |       |       |       |       |       |
|---------------------------|------------------------|-------|-------|-------|-------|-------|-------|
|                           | 0                      | 8000  | 8001  | 10000 | 20000 | 30000 | 40000 |
| PACKS OFF                 | 0.01                   | 0.01  | 0.01  | 0.01  | 0.02  | 0.03  | 0.04  |
| ENGINE ANTI-ICE ON        | 0.00                   | 0.00  | -0.03 | -0.03 | -0.03 | -0.04 | -0.07 |
| ENGINE & WING ANTI-ICE ON | -0.02                  | -0.02 | -0.05 | -0.06 | -0.06 | -0.08 | -0.13 |

# ENGINE INOP

## MAX CONTINUOUS THRUST

### Driftdown Speed/Level Off Altitude

100 ft/min residual rate of climb

Includes APU fuel burn

| WEIGHT (1000 KG)       |              | OPTIMUM<br>DRIFTDOWN<br>SPEED<br>(KIAS) | LEVEL OFF ALTITUDE (FT) |            |            |
|------------------------|--------------|-----------------------------------------|-------------------------|------------|------------|
| START<br>DRIFT<br>DOWN | LEVEL<br>OFF |                                         | ISA + 10°C<br>& BELOW   | ISA + 15°C | ISA + 20°C |
| 120                    | 116          | 254                                     | 22200                   | 21300      | 20100      |
| 110                    | 106          | 243                                     | 24100                   | 23700      | 22500      |
| 100                    | 96           | 232                                     | 26100                   | 26000      | 25000      |
| 90                     | 87           | 221                                     | 28300                   | 28300      | 27800      |
| 80                     | 77           | 208                                     | 30800                   | 30800      | 30700      |
| 70                     | 67           | 195                                     | 33500                   | 33500      | 33400      |
| 60                     | 58           | 182                                     | 36500                   | 36400      | 36400      |



## 757 Flight Crew Operations Manual

**ENGINE INOP****MAX CONTINUOUS THRUST****Driftdown/LRC Cruise Range Capability**  
**Ground to Air Miles Conversion**

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 280                      | 260  | 242  | 226  | 212  | 200                        | 189                      | 179  | 171  | 163  | 155  |
| 558                      | 517  | 482  | 451  | 424  | 400                        | 379                      | 359  | 342  | 326  | 312  |
| 830                      | 771  | 720  | 675  | 635  | 600                        | 568                      | 540  | 514  | 491  | 470  |
| 1098                     | 1022 | 956  | 897  | 846  | 800                        | 759                      | 722  | 688  | 657  | 629  |
| 1364                     | 1271 | 1190 | 1119 | 1056 | 1000                       | 949                      | 904  | 862  | 824  | 789  |
| 1629                     | 1520 | 1425 | 1341 | 1267 | 1200                       | 1140                     | 1086 | 1036 | 991  | 950  |
| 1896                     | 1770 | 1661 | 1564 | 1477 | 1400                       | 1330                     | 1267 | 1210 | 1158 | 1110 |
| 2166                     | 2023 | 1897 | 1787 | 1688 | 1600                       | 1521                     | 1449 | 1383 | 1323 | 1269 |
| 2441                     | 2278 | 2136 | 2011 | 1900 | 1800                       | 1710                     | 1629 | 1555 | 1488 | 1426 |

**Driftdown/Cruise Fuel and Time**

| AIR DIST<br>(NM) | FUEL REQUIRED (1000 KG)                |      |      |      |      |      |      | TIME<br>(HR:MIN) |
|------------------|----------------------------------------|------|------|------|------|------|------|------------------|
|                  | WEIGHT AT START OF DRIFTDOWN (1000 KG) |      |      |      |      |      |      |                  |
|                  | 60                                     | 70   | 80   | 90   | 100  | 110  | 120  |                  |
| 200              | 1.1                                    | 1.1  | 1.3  | 1.4  | 1.5  | 1.7  | 1.8  | 0:34             |
| 400              | 2.2                                    | 2.5  | 2.8  | 3.1  | 3.4  | 3.8  | 4.1  | 1:07             |
| 600              | 3.3                                    | 3.8  | 4.2  | 4.7  | 5.2  | 5.7  | 6.1  | 1:38             |
| 800              | 4.4                                    | 5.0  | 5.6  | 6.3  | 6.9  | 7.5  | 8.2  | 2:09             |
| 1000             | 5.5                                    | 6.2  | 7.0  | 7.8  | 8.6  | 9.4  | 10.2 | 2:40             |
| 1200             | 6.5                                    | 7.4  | 8.4  | 9.4  | 10.3 | 11.2 | 12.1 | 3:10             |
| 1400             | 7.6                                    | 8.6  | 9.7  | 10.8 | 11.9 | 13.0 | 14.1 | 3:41             |
| 1600             | 8.6                                    | 9.8  | 11.0 | 12.3 | 13.5 | 14.8 | 16.0 | 4:12             |
| 1800             | 9.6                                    | 10.9 | 12.3 | 13.7 | 15.1 | 16.5 | 17.8 | 4:44             |

Includes APU fuel burn.

Driftdown at optimum driftdown speed and cruise at Long Range Cruise speed.

757 Flight Crew Operations Manual

**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Altitude Capability**

**100 ft/min residual rate of climb**

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 120                 | 18300                  | 16400      | 11600      |
| 115                 | 19800                  | 18100      | 15100      |
| 110                 | 21100                  | 19800      | 17600      |
| 105                 | 22300                  | 21100      | 19600      |
| 100                 | 23600                  | 22400      | 21100      |
| 95                  | 25000                  | 23800      | 22500      |
| 90                  | 26300                  | 25200      | 24000      |
| 85                  | 27700                  | 26700      | 25500      |
| 80                  | 29000                  | 28300      | 27000      |
| 75                  | 30400                  | 29900      | 28700      |
| 70                  | 31900                  | 31600      | 30500      |
| 65                  | 33300                  | 33200      | 32400      |
| 60                  | 34800                  | 34800      | 34400      |

With engine anti-ice on, decrease altitude capability by 1800 ft.

With engine and wing anti-ice on, decrease altitude capability by 8800 ft.

## 757 Flight Crew Operations Manual

**ENGINE INOP****MAX CONTINUOUS THRUST****Long Range Cruise Control**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|------|
|                     |        | 10                          | 15   | 17   | 19   | 21   | 23   | 25   | 27   | 29   |
| 120                 | EPR    | 1.25                        | 1.34 | 1.39 | 1.47 |      |      |      |      |      |
|                     | MACH   | .589                        | .617 | .633 | .654 |      |      |      |      |      |
|                     | KIAS   | 327                         | 313  | 309  | 307  |      |      |      |      |      |
|                     | FF/ENG | 4428                        | 4192 | 4196 | 4270 |      |      |      |      |      |
| 110                 | EPR    | 1.22                        | 1.30 | 1.34 | 1.39 | 1.47 |      |      |      |      |
|                     | MACH   | .572                        | .606 | .616 | .632 | .653 |      |      |      |      |
|                     | KIAS   | 318                         | 307  | 300  | 296  | 295  |      |      |      |      |
|                     | FF/ENG | 4086                        | 3898 | 3832 | 3831 | 3903 |      |      |      |      |
| 100                 | EPR    | 1.19                        | 1.27 | 1.30 | 1.34 | 1.39 | 1.47 |      |      |      |
|                     | MACH   | .550                        | .592 | .604 | .614 | .629 | .650 |      |      |      |
|                     | KIAS   | 305                         | 300  | 294  | 288  | 284  | 282  |      |      |      |
|                     | FF/ENG | 3712                        | 3616 | 3544 | 3477 | 3470 | 3536 |      |      |      |
| 90                  | EPR    | 1.16                        | 1.23 | 1.26 | 1.29 | 1.33 | 1.38 | 1.46 | 1.57 |      |
|                     | MACH   | .518                        | .572 | .588 | .601 | .611 | .625 | .645 | .671 |      |
|                     | KIAS   | 287                         | 289  | 286  | 282  | 275  | 270  | 268  | 268  |      |
|                     | FF/ENG | 3313                        | 3290 | 3256 | 3195 | 3131 | 3112 | 3161 | 3265 |      |
| 80                  | EPR    | 1.13                        | 1.19 | 1.22 | 1.25 | 1.28 | 1.32 | 1.37 | 1.44 | 1.54 |
|                     | MACH   | .481                        | .543 | .563 | .581 | .596 | .607 | .619 | .637 | .662 |
|                     | KIAS   | 266                         | 274  | 274  | 272  | 268  | 262  | 257  | 254  | 253  |
|                     | FF/ENG | 2879                        | 2920 | 2915 | 2897 | 2851 | 2795 | 2759 | 2787 | 2865 |
| 70                  | EPR    | 1.11                        | 1.15 | 1.18 | 1.21 | 1.24 | 1.27 | 1.31 | 1.35 | 1.41 |
|                     | MACH   | .455                        | .501 | .527 | .551 | .571 | .588 | .602 | .612 | .627 |
|                     | KIAS   | 252                         | 252  | 255  | 257  | 256  | 254  | 249  | 243  | 239  |
|                     | FF/ENG | 2549                        | 2512 | 2536 | 2538 | 2537 | 2512 | 2469 | 2422 | 2416 |
| 60                  | EPR    | 1.09                        | 1.12 | 1.13 | 1.16 | 1.18 | 1.22 | 1.25 | 1.29 | 1.33 |
|                     | MACH   | .429                        | .462 | .478 | .504 | .530 | .555 | .575 | .592 | .605 |
|                     | KIAS   | 237                         | 232  | 231  | 234  | 237  | 239  | 237  | 235  | 230  |
|                     | FF/ENG | 2237                        | 2135 | 2119 | 2143 | 2165 | 2169 | 2167 | 2137 | 2097 |

757 Flight Crew Operations Manual

# ENGINE INOP

## MAX CONTINUOUS THRUST

### Long Range Cruise Diversion Fuel and Time

#### Ground to Air Miles Conversion

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |      |      |      |      |
|--------------------------|------|------|------|------|----------------------------|--------------------------|------|------|------|------|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |      |      |      |      |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40   | 60   | 80   | 100  |
| 289                      | 266  | 245  | 228  | 213  | 200                        | 190                      | 181  | 173  | 165  | 158  |
| 578                      | 532  | 490  | 456  | 427  | 400                        | 380                      | 362  | 346  | 331  | 318  |
| 869                      | 800  | 738  | 686  | 640  | 600                        | 571                      | 544  | 519  | 497  | 477  |
| 1162                     | 1068 | 985  | 914  | 854  | 800                        | 761                      | 725  | 692  | 662  | 635  |
| 1458                     | 1339 | 1234 | 1145 | 1068 | 1000                       | 951                      | 906  | 865  | 828  | 794  |
| 1755                     | 1610 | 1483 | 1375 | 1283 | 1200                       | 1141                     | 1087 | 1038 | 993  | 952  |
| 2054                     | 1884 | 1733 | 1606 | 1497 | 1400                       | 1331                     | 1268 | 1210 | 1157 | 1110 |
| 2355                     | 2158 | 1983 | 1837 | 1712 | 1600                       | 1521                     | 1449 | 1383 | 1322 | 1268 |
| 2657                     | 2433 | 2235 | 2069 | 1927 | 1800                       | 1711                     | 1629 | 1554 | 1486 | 1425 |

#### Reference Fuel and Time Required at Check Point

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 10                          |                  | 14                |                  | 18                |                  | 22                |                  | 26                |                  |
|                     | FUEL<br>(1000 KG)           | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) |
| 200                 | 1.9                         | 0:41             | 1.7               | 0:40             | 1.5               | 0:39             | 1.3               | 0:38             | 1.2               | 0:37             |
| 400                 | 4.0                         | 1:18             | 3.6               | 1:14             | 3.3               | 1:11             | 3.0               | 1:10             | 2.9               | 1:08             |
| 600                 | 6.0                         | 1:56             | 5.5               | 1:49             | 5.0               | 1:44             | 4.7               | 1:42             | 4.5               | 1:39             |
| 800                 | 8.0                         | 2:34             | 7.4               | 2:24             | 6.8               | 2:18             | 6.3               | 2:15             | 6.1               | 2:10             |
| 1000                | 10.0                        | 3:13             | 9.2               | 2:59             | 8.5               | 2:51             | 7.9               | 2:47             | 7.6               | 2:41             |
| 1200                | 11.9                        | 3:52             | 11.0              | 3:35             | 10.2              | 3:25             | 9.5               | 3:20             | 9.2               | 3:13             |
| 1400                | 13.9                        | 4:32             | 12.9              | 4:11             | 11.9              | 3:59             | 11.1              | 3:52             | 10.7              | 3:45             |
| 1600                | 15.8                        | 5:12             | 14.6              | 4:48             | 13.6              | 4:33             | 12.7              | 4:25             | 12.2              | 4:17             |
| 1800                | 17.6                        | 5:53             | 16.4              | 5:26             | 15.2              | 5:07             | 14.2              | 4:58             | 13.6              | 4:49             |

#### Fuel Required Adjustment (1000 KG)

| REFERENCE FUEL REQUIRED<br>(1000 KG) | WEIGHT AT CHECK POINT (1000 KG) |      |     |     |     |     |
|--------------------------------------|---------------------------------|------|-----|-----|-----|-----|
|                                      | 70                              | 80   | 90  | 100 | 110 | 120 |
| 2                                    | -0.2                            | -0.1 | 0.0 | 0.1 | 0.3 | 0.4 |
| 4                                    | -0.4                            | -0.2 | 0.0 | 0.3 | 0.7 | 0.9 |
| 6                                    | -0.6                            | -0.3 | 0.0 | 0.5 | 1.0 | 1.5 |
| 8                                    | -0.8                            | -0.4 | 0.0 | 0.7 | 1.4 | 2.1 |
| 10                                   | -1.1                            | -0.5 | 0.0 | 0.9 | 1.8 | 2.6 |
| 12                                   | -1.3                            | -0.7 | 0.0 | 1.1 | 2.1 | 3.2 |
| 14                                   | -1.5                            | -0.8 | 0.0 | 1.3 | 2.5 | 3.7 |
| 16                                   | -1.7                            | -0.9 | 0.0 | 1.4 | 2.9 | 4.3 |
| 18                                   | -1.9                            | -1.0 | 0.0 | 1.6 | 3.3 | 4.9 |
| 20                                   | -2.1                            | -1.1 | 0.0 | 1.8 | 3.6 | 5.4 |
| 22                                   | -2.4                            | -1.2 | 0.0 | 1.9 | 4.0 | 6.0 |
| 24                                   | -2.6                            | -1.3 | 0.0 | 2.1 | 4.4 | 6.6 |

Includes APU fuel burn.

## 757 Flight Crew Operations Manual

**ENGINE INOP**  
**MAX CONTINUOUS THRUST****Holding  
Flaps Up**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |       |       |       |       |
|---------------------|--------|------------------------|------|-------|-------|-------|-------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 | 20000 | 25000 | 30000 | 35000 |
| 120                 | EPR    | 1.14                   | 1.17 | 1.23  | 1.31  | 1.45  |       |       |       |
|                     | KIAS   | 260                    | 261  | 262   | 264   | 266   |       |       |       |
|                     | FF/ENG | 3790                   | 3780 | 3780  | 3760  | 3900  |       |       |       |
| 110                 | EPR    | 1.12                   | 1.15 | 1.20  | 1.27  | 1.38  |       |       |       |
|                     | KIAS   | 249                    | 250  | 251   | 252   | 254   |       |       |       |
|                     | FF/ENG | 3470                   | 3460 | 3440  | 3430  | 3470  |       |       |       |
| 100                 | EPR    | 1.11                   | 1.13 | 1.17  | 1.23  | 1.33  | 1.50  |       |       |
|                     | KIAS   | 237                    | 238  | 239   | 241   | 242   | 244   |       |       |
|                     | FF/ENG | 3180                   | 3130 | 3120  | 3090  | 3100  | 3290  |       |       |
| 90                  | EPR    | 1.09                   | 1.11 | 1.15  | 1.20  | 1.28  | 1.41  |       |       |
|                     | KIAS   | 225                    | 225  | 227   | 228   | 229   | 231   |       |       |
|                     | FF/ENG | 2910                   | 2830 | 2800  | 2760  | 2770  | 2830  |       |       |
| 80                  | EPR    | 1.08                   | 1.10 | 1.13  | 1.17  | 1.23  | 1.33  | 1.52  |       |
|                     | KIAS   | 212                    | 213  | 213   | 215   | 216   | 217   | 219   |       |
|                     | FF/ENG | 2600                   | 2560 | 2480  | 2440  | 2440  | 2460  | 2610  |       |
| 70                  | EPR    | 1.07                   | 1.08 | 1.11  | 1.14  | 1.19  | 1.27  | 1.40  |       |
|                     | KIAS   | 197                    | 198  | 199   | 200   | 201   | 203   | 204   |       |
|                     | FF/ENG | 2290                   | 2260 | 2180  | 2130  | 2120  | 2140  | 2170  |       |
| 60                  | EPR    | 1.06                   | 1.07 | 1.09  | 1.12  | 1.15  | 1.22  | 1.31  | 1.48  |
|                     | KIAS   | 185                    | 185  | 185   | 185   | 186   | 187   | 188   | 190   |
|                     | FF/ENG | 2000                   | 1970 | 1890  | 1820  | 1810  | 1810  | 1820  | 1900  |

This table includes 5% additional fuel for holding in a racetrack pattern.

Intentionally  
Blank



# Performance Inflight - QRH

## Gear Down

# Chapter PI-QRH

## Section 53

### GEAR DOWN

#### 210 KIAS Max Climb EPR

Based on engine bleed for packs on and anti-ice off

| TAT<br>(°C) | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | 0                           | 5    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | 32   | 34   |
| 55          | 1.18                        | 1.17 | 1.16 | 1.16 | 1.15 | 1.14 | 1.14 | 1.13 | 1.11 | 1.10 | 1.09 | 1.07 | 1.06 | 1.04 | 1.03 |
| 50          | 1.19                        | 1.19 | 1.18 | 1.18 | 1.17 | 1.16 | 1.15 | 1.14 | 1.13 | 1.12 | 1.11 | 1.09 | 1.08 | 1.06 | 1.05 |
| 45          | 1.21                        | 1.21 | 1.20 | 1.19 | 1.19 | 1.18 | 1.17 | 1.16 | 1.15 | 1.14 | 1.12 | 1.11 | 1.10 | 1.08 | 1.07 |
| 40          | 1.23                        | 1.22 | 1.21 | 1.21 | 1.20 | 1.20 | 1.19 | 1.18 | 1.17 | 1.16 | 1.14 | 1.13 | 1.12 | 1.10 | 1.09 |
| 35          | 1.25                        | 1.24 | 1.23 | 1.23 | 1.22 | 1.22 | 1.21 | 1.20 | 1.19 | 1.18 | 1.17 | 1.15 | 1.14 | 1.12 | 1.11 |
| 30          | 1.26                        | 1.26 | 1.25 | 1.25 | 1.24 | 1.24 | 1.23 | 1.22 | 1.21 | 1.20 | 1.19 | 1.18 | 1.16 | 1.15 | 1.14 |
| 25          | 1.26                        | 1.29 | 1.28 | 1.27 | 1.27 | 1.26 | 1.25 | 1.25 | 1.24 | 1.22 | 1.21 | 1.20 | 1.19 | 1.17 | 1.16 |
| 20          | 1.26                        | 1.30 | 1.30 | 1.30 | 1.29 | 1.29 | 1.28 | 1.27 | 1.26 | 1.25 | 1.24 | 1.23 | 1.21 | 1.20 | 1.19 |
| 15          | 1.26                        | 1.30 | 1.33 | 1.33 | 1.32 | 1.31 | 1.31 | 1.30 | 1.29 | 1.28 | 1.27 | 1.25 | 1.24 | 1.23 | 1.22 |
| 10          | 1.26                        | 1.30 | 1.34 | 1.35 | 1.35 | 1.34 | 1.34 | 1.33 | 1.32 | 1.31 | 1.30 | 1.28 | 1.27 | 1.26 | 1.25 |
| 5           | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.38 | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 | 1.30 | 1.29 | 1.28 |
| 0           | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.40 | 1.39 | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 |
| -5          | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.42 | 1.41 | 1.40 | 1.39 | 1.38 | 1.37 | 1.36 |
| -10         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.45 | 1.44 | 1.43 | 1.42 | 1.41 |
| -15         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.49 | 1.48 | 1.47 | 1.47 |
| -20         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.54 | 1.53 |
| -25         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.56 | 1.57 |
| -30         | 1.26                        | 1.30 | 1.34 | 1.36 | 1.37 | 1.39 | 1.40 | 1.42 | 1.44 | 1.46 | 1.48 | 1.50 | 1.53 | 1.56 | 1.57 |

#### EPR Adjustments for Engine Bleeds

| BLEED<br>CONFIGURATION    | PRESSURE ALTITUDE (1000 FT) |       |       |       |       |       |       |       |       |       |       |       |       |  |
|---------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                           | 0                           | 5     | 10    | 12    | 16    | 18    | 22    | 24    | 26    | 28    | 30    | 32    | 34    |  |
| PACKS OFF                 | 0.01                        | 0.01  | 0.01  | 0.01  | 0.01  | 0.02  | 0.02  | 0.02  | 0.03  | 0.03  | 0.03  | 0.04  | 0.04  |  |
| ENGINE ANTI-ICE ON        | 0.00                        | 0.00  | -0.03 | -0.03 | -0.03 | -0.03 | -0.03 | -0.04 | -0.04 | -0.04 | -0.04 | -0.05 | -0.05 |  |
| ENGINE & WING ANTI-ICE ON | -0.02                       | -0.02 | -0.05 | -0.06 | -0.06 | -0.06 | -0.06 | -0.07 | -0.07 | -0.08 | -0.08 | -0.09 | -0.10 |  |

## 757 Flight Crew Operations Manual

## GEAR DOWN

## Long Range Cruise Altitude Capability

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 120                 | 15800                  | 14000      | 11300      |
| 115                 | 17600                  | 15600      | 13500      |
| 110                 | 19500                  | 17400      | 15300      |
| 105                 | 21600                  | 19300      | 17300      |
| 100                 | 23900                  | 21200      | 19300      |
| 95                  | 26400                  | 23300      | 21200      |
| 90                  | 28800                  | 25700      | 23200      |
| 85                  | 31100                  | 28300      | 25400      |
| 80                  | 33100                  | 31100      | 27900      |
| 75                  | 34500                  | 33600      | 31000      |
| 70                  | 35900                  | 35700      | 33700      |
| 65                  | 37100                  | 37100      | 35900      |
| 60                  | 38500                  | 38300      | 37200      |



## 757 Flight Crew Operations Manual

**GEAR DOWN****Long Range Cruise Control**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|------|------|------|
|                     |        | 10                          | 15   | 17   | 19   | 21   | 23   | 25   | 27   | 29   | 31   |
| 120                 | EPR    | 1.18                        | 1.25 |      |      |      |      |      |      |      |      |
|                     | MACH   | .454                        | .498 |      |      |      |      |      |      |      |      |
|                     | KIAS   | 253                         | 253  |      |      |      |      |      |      |      |      |
|                     | FF/ENG | 3163                        | 3134 |      |      |      |      |      |      |      |      |
| 110                 | EPR    | 1.16                        | 1.22 | 1.25 | 1.29 |      |      |      |      |      |      |
|                     | MACH   | .437                        | .476 | .497 | .520 |      |      |      |      |      |      |
|                     | KIAS   | 243                         | 242  | 243  | 245  |      |      |      |      |      |      |
|                     | FF/ENG | 2893                        | 2832 | 2851 | 2883 |      |      |      |      |      |      |
| 100                 | EPR    | 1.14                        | 1.19 | 1.21 | 1.25 | 1.29 | 1.33 |      |      |      |      |
|                     | MACH   | .418                        | .457 | .473 | .493 | .517 | .538 |      |      |      |      |
|                     | KIAS   | 233                         | 232  | 231  | 232  | 234  | 234  |      |      |      |      |
|                     | FF/ENG | 2623                        | 2574 | 2563 | 2568 | 2601 | 2605 |      |      |      |      |
| 90                  | EPR    | 1.12                        | 1.16 | 1.18 | 1.21 | 1.24 | 1.28 | 1.32 | 1.37 |      |      |
|                     | MACH   | .398                        | .436 | .452 | .469 | .487 | .511 | .534 | .552 |      |      |
|                     | KIAS   | 222                         | 221  | 220  | 220  | 220  | 222  | 222  | 220  |      |      |
|                     | FF/ENG | 2362                        | 2311 | 2305 | 2290 | 2290 | 2323 | 2332 | 2322 |      |      |
| 80                  | EPR    | 1.10                        | 1.14 | 1.15 | 1.17 | 1.20 | 1.23 | 1.27 | 1.31 | 1.36 | 1.42 |
|                     | MACH   | .380                        | .413 | .429 | .445 | .462 | .479 | .502 | .527 | .546 | .565 |
|                     | KIAS   | 211                         | 209  | 209  | 208  | 208  | 207  | 208  | 210  | 209  | 207  |
|                     | FF/ENG | 2126                        | 2049 | 2041 | 2034 | 2026 | 2019 | 2040 | 2059 | 2054 | 2047 |
| 70                  | EPR    | 1.09                        | 1.11 | 1.13 | 1.14 | 1.16 | 1.19 | 1.21 | 1.25 | 1.29 | 1.34 |
|                     | MACH   | .360                        | .389 | .403 | .419 | .435 | .452 | .470 | .490 | .515 | .538 |
|                     | KIAS   | 200                         | 197  | 196  | 196  | 195  | 195  | 194  | 194  | 196  | 196  |
|                     | FF/ENG | 1897                        | 1801 | 1782 | 1773 | 1768 | 1765 | 1757 | 1759 | 1782 | 1777 |
| 60                  | EPR    | 1.07                        | 1.09 | 1.10 | 1.12 | 1.13 | 1.15 | 1.18 | 1.20 | 1.24 | 1.27 |
|                     | MACH   | .335                        | .366 | .381 | .396 | .412 | .429 | .447 | .466 | .486 | .507 |
|                     | KIAS   | 186                         | 185  | 185  | 185  | 185  | 185  | 185  | 185  | 185  | 185  |
|                     | FF/ENG | 1648                        | 1580 | 1566 | 1554 | 1550 | 1564 | 1563 | 1563 | 1562 | 1542 |





757 Flight Crew Operations Manual

GEAR DOWN

Descent at VREF30+80

|                             |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| PRESSURE ALTITUDE (1000 FT) | 5  | 10 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 |
| DISTANCE (NM)               | 13 | 23 | 33 | 37 | 41 | 45 | 49 | 53 | 57 | 61 | 65 | 70 | 74 |
| TIME (MINUTES)              | 7  | 9  | 12 | 13 | 13 | 14 | 15 | 16 | 17 | 17 | 18 | 19 | 20 |



757 Flight Crew Operations Manual

GEAR DOWN

Holding  
Flaps Up

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |       |       |       |       |
|---------------------|--------|------------------------|------|-------|-------|-------|-------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 | 20000 | 25000 | 30000 | 35000 |
| 120                 | EPR    | 1.11                   | 1.13 | 1.17  | 1.23  |       |       |       |       |
|                     | KIAS   | 237                    | 237  | 237   | 237   |       |       |       |       |
|                     | FF/ENG | 3130                   | 3080 | 3060  | 3030  |       |       |       |       |
| 110                 | EPR    | 1.09                   | 1.11 | 1.15  | 1.20  | 1.29  |       |       |       |
|                     | KIAS   | 229                    | 229  | 229   | 229   | 229   |       |       |       |
|                     | FF/ENG | 2920                   | 2850 | 2820  | 2780  | 2800  |       |       |       |
| 100                 | EPR    | 1.08                   | 1.10 | 1.13  | 1.18  | 1.25  | 1.36  |       |       |
|                     | KIAS   | 221                    | 221  | 221   | 221   | 221   | 221   |       |       |
|                     | FF/ENG | 2700                   | 2640 | 2570  | 2540  | 2540  | 2570  |       |       |
| 90                  | EPR    | 1.07                   | 1.09 | 1.12  | 1.15  | 1.21  | 1.30  |       |       |
|                     | KIAS   | 212                    | 212  | 212   | 212   | 212   | 212   |       |       |
|                     | FF/ENG | 2470                   | 2430 | 2340  | 2300  | 2300  | 2310  |       |       |
| 80                  | EPR    | 1.06                   | 1.08 | 1.10  | 1.13  | 1.18  | 1.26  | 1.38  |       |
|                     | KIAS   | 203                    | 203  | 203   | 203   | 203   | 203   | 203   |       |
|                     | FF/ENG | 2250                   | 2220 | 2130  | 2080  | 2070  | 2070  | 2090  |       |
| 70                  | EPR    | 1.05                   | 1.06 | 1.08  | 1.11  | 1.15  | 1.21  | 1.31  | 1.48  |
|                     | KIAS   | 194                    | 194  | 194   | 194   | 194   | 194   | 194   | 194   |
|                     | FF/ENG | 2040                   | 2000 | 1920  | 1860  | 1840  | 1840  | 1840  | 1910  |
| 60                  | EPR    | 1.04                   | 1.05 | 1.07  | 1.09  | 1.13  | 1.18  | 1.25  | 1.37  |
|                     | KIAS   | 185                    | 185  | 185   | 185   | 185   | 185   | 185   | 185   |
|                     | FF/ENG | 1820                   | 1790 | 1720  | 1660  | 1630  | 1640  | 1640  | 1630  |

This table includes 5% additional fuel for holding in a racetrack pattern.



Performance Inflight - QRH

Chapter PI-QRH

Gear Down, Engine Inop

Section 54

GEAR DOWN

ENGINE INOP

MAX CONTINUOUS THRUST

Driftdown Speed/Level Off Altitude

100 ft/min residual rate of climb

Includes APU fuel burn

| WEIGHT (1000 KG)   |              | OPTIMUM<br>DRIFTDOWN<br>SPEED<br>(KIAS) | LEVEL OFF ALTITUDE (FT) |            |            |
|--------------------|--------------|-----------------------------------------|-------------------------|------------|------------|
| START<br>DRIFTDOWN | LEVEL<br>OFF |                                         | ISA + 10°C<br>& BELOW   | ISA + 15°C | ISA + 20°C |
| 110                | 104          | 227                                     | 6000                    | 2900       |            |
| 100                | 95           | 219                                     | 9800                    | 7900       | 5500       |
| 90                 | 85           | 210                                     | 13300                   | 11900      | 10100      |
| 80                 | 76           | 202                                     | 16800                   | 15600      | 14200      |
| 70                 | 67           | 193                                     | 20200                   | 19300      | 18100      |
| 60                 | 57           | 184                                     | 23100                   | 22500      | 21600      |



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**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Altitude Capability**  
**100 ft/min residual rate of climb**

| WEIGHT<br>(1000 KG) | PRESSURE ALTITUDE (FT) |            |            |
|---------------------|------------------------|------------|------------|
|                     | ISA + 10°C<br>& BELOW  | ISA + 15°C | ISA + 20°C |
| 100                 | 6300                   |            |            |
| 95                  | 8900                   | 6000       |            |
| 90                  | 11700                  | 9000       | 5400       |
| 85                  | 13600                  | 11800      | 9100       |
| 80                  | 15400                  | 14100      | 12200      |
| 75                  | 17300                  | 16000      | 14600      |
| 70                  | 19200                  | 18000      | 16600      |
| 65                  | 20900                  | 20100      | 18800      |
| 60                  | 22300                  | 21700      | 20700      |

757 Flight Crew Operations Manual

**GEAR DOWN**

**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Long Range Cruise Control**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (1000 FT) |      |      |      |      |      |      |
|---------------------|--------|-----------------------------|------|------|------|------|------|------|
|                     |        | 5                           | 7    | 9    | 11   | 13   | 15   | 17   |
| 100                 | EPR    | 1.37                        | 1.41 | 1.45 |      |      |      |      |
|                     | MACH   | .376                        | .387 | .395 |      |      |      |      |
|                     | KIAS   | 229                         | 228  | 224  |      |      |      |      |
|                     | FF/ENG | 5142                        | 5105 | 5043 |      |      |      |      |
| 90                  | EPR    | 1.32                        | 1.35 | 1.39 | 1.44 | 1.50 |      |      |
|                     | MACH   | .362                        | .372 | .383 | .393 | .403 |      |      |
|                     | KIAS   | 221                         | 218  | 217  | 215  | 212  |      |      |
|                     | FF/ENG | 4672                        | 4600 | 4567 | 4530 | 4538 |      |      |
| 80                  | EPR    | 1.27                        | 1.30 | 1.34 | 1.37 | 1.42 | 1.48 |      |
|                     | MACH   | .343                        | .355 | .366 | .377 | .388 | .402 |      |
|                     | KIAS   | 209                         | 209  | 207  | 206  | 204  | 203  |      |
|                     | FF/ENG | 4142                        | 4133 | 4079 | 4035 | 4007 | 4024 |      |
| 70                  | EPR    | 1.23                        | 1.25 | 1.28 | 1.32 | 1.35 | 1.40 | 1.46 |
|                     | MACH   | .322                        | .334 | .346 | .359 | .371 | .385 | .400 |
|                     | KIAS   | 196                         | 196  | 196  | 196  | 194  | 194  | 194  |
|                     | FF/ENG | 3609                        | 3593 | 3583 | 3567 | 3536 | 3515 | 3554 |
| 60                  | EPR    | 1.19                        | 1.21 | 1.24 | 1.26 | 1.29 | 1.33 | 1.37 |
|                     | MACH   | .304                        | .315 | .327 | .339 | .353 | .366 | .381 |
|                     | KIAS   | 185                         | 185  | 185  | 185  | 185  | 185  | 185  |
|                     | FF/ENG | 3157                        | 3143 | 3126 | 3112 | 3114 | 3076 | 3079 |

## 757 Flight Crew Operations Manual

## GEAR DOWN

## ENGINE INOP

### MAX CONTINUOUS THRUST

### Long Range Cruise Diversion Fuel and Time

### Ground to Air Miles Conversion

| AIR DISTANCE (NM)        |      |      |      |      | GROUND<br>DISTANCE<br>(NM) | AIR DISTANCE (NM)        |     |     |     |     |
|--------------------------|------|------|------|------|----------------------------|--------------------------|-----|-----|-----|-----|
| HEADWIND COMPONENT (KTS) |      |      |      |      |                            | TAILWIND COMPONENT (KTS) |     |     |     |     |
| 100                      | 80   | 60   | 40   | 20   |                            | 20                       | 40  | 60  | 80  | 100 |
| 171                      | 149  | 131  | 118  | 108  | 100                        | 93                       | 87  | 82  | 78  | 76  |
| 344                      | 302  | 267  | 240  | 219  | 200                        | 187                      | 175 | 165 | 156 | 148 |
| 519                      | 456  | 403  | 362  | 329  | 300                        | 281                      | 263 | 247 | 233 | 221 |
| 696                      | 611  | 538  | 483  | 438  | 400                        | 374                      | 350 | 329 | 311 | 295 |
| 874                      | 766  | 674  | 604  | 548  | 500                        | 467                      | 437 | 410 | 387 | 367 |
| 1053                     | 922  | 812  | 727  | 659  | 600                        | 560                      | 524 | 492 | 464 | 440 |
| 1235                     | 1080 | 949  | 849  | 769  | 700                        | 653                      | 610 | 573 | 540 | 512 |
| 1418                     | 1239 | 1087 | 971  | 879  | 800                        | 746                      | 697 | 654 | 617 | 585 |
| 1602                     | 1398 | 1226 | 1094 | 990  | 900                        | 839                      | 784 | 735 | 693 | 657 |
| 1788                     | 1559 | 1365 | 1217 | 1101 | 1000                       | 932                      | 871 | 817 | 769 | 729 |

### Reference Fuel and Time Required at Check Point

| AIR<br>DIST<br>(NM) | PRESSURE ALTITUDE (1000 FT) |                  |                   |                  |                   |                  |                   |                  |
|---------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                     | 6                           |                  | 10                |                  | 14                |                  | 18                |                  |
|                     | FUEL<br>(1000 KG)           | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) | FUEL<br>(1000 KG) | TIME<br>(HR:MIN) |
| 100                 | 1.9                         | 0:29             | 1.7               | 0:28             | 1.5               | 0:27             | 1.4               | 0:26             |
| 200                 | 3.8                         | 0:55             | 3.5               | 0:53             | 3.3               | 0:51             | 3.1               | 0:48             |
| 300                 | 5.8                         | 1:20             | 5.3               | 1:17             | 5.0               | 1:14             | 4.9               | 1:09             |
| 400                 | 7.7                         | 1:46             | 7.1               | 1:42             | 6.7               | 1:38             | 6.6               | 1:31             |
| 500                 | 9.6                         | 2:13             | 8.9               | 2:07             | 8.4               | 2:02             | 8.2               | 1:54             |
| 600                 | 11.5                        | 2:39             | 10.7              | 2:33             | 10.1              | 2:26             | 9.9               | 2:17             |
| 700                 | 13.3                        | 3:06             | 12.4              | 2:58             | 11.7              | 2:51             | 11.5              | 2:39             |
| 800                 | 15.2                        | 3:33             | 14.1              | 3:24             | 13.3              | 3:15             | 13.1              | 3:02             |
| 900                 | 17.0                        | 4:01             | 15.8              | 3:50             | 14.9              | 3:40             | 14.6              | 3:25             |
| 1000                | 18.8                        | 4:29             | 17.5              | 4:16             | 16.5              | 4:04             | 16.1              | 3:49             |

**Fuel Required Adjustment (1000 KG)**

| REFERENCE FUEL REQUIRED<br>(1000 KG) | WEIGHT AT CHECK POINT (1000 KG) |      |     |     |     |
|--------------------------------------|---------------------------------|------|-----|-----|-----|
|                                      | 70                              | 80   | 90  | 100 | 110 |
| 2                                    | -0.2                            | -0.1 | 0.0 | 0.2 | 0.5 |
| 4                                    | -0.5                            | -0.2 | 0.0 | 0.4 | 0.9 |
| 6                                    | -0.7                            | -0.3 | 0.0 | 0.6 | 1.4 |
| 8                                    | -1.0                            | -0.5 | 0.0 | 0.8 | 1.8 |
| 10                                   | -1.2                            | -0.6 | 0.0 | 1.0 | 2.2 |
| 12                                   | -1.4                            | -0.7 | 0.0 | 1.2 | 2.6 |
| 14                                   | -1.7                            | -0.8 | 0.0 | 1.4 | 3.0 |
| 16                                   | -1.9                            | -1.0 | 0.0 | 1.6 | 3.4 |
| 18                                   | -2.1                            | -1.1 | 0.0 | 1.8 | 3.8 |
| 20                                   | -2.4                            | -1.2 | 0.0 | 2.0 | 4.2 |

**Includes APU fuel burn.**





757 Flight Crew Operations Manual

**GEAR DOWN**  
**ENGINE INOP**

**MAX CONTINUOUS THRUST**

**Holding  
Flaps Up**

| WEIGHT<br>(1000 KG) |        | PRESSURE ALTITUDE (FT) |      |       |       |
|---------------------|--------|------------------------|------|-------|-------|
|                     |        | 1500                   | 5000 | 10000 | 15000 |
| 110                 | EPR    | 1.32                   | 1.40 |       |       |
|                     | KIAS   | 229                    | 229  |       |       |
|                     | FF/ENG | 5630                   | 5650 |       |       |
| 100                 | EPR    | 1.29                   | 1.35 |       |       |
|                     | KIAS   | 221                    | 221  |       |       |
|                     | FF/ENG | 5150                   | 5130 |       |       |
| 90                  | EPR    | 1.25                   | 1.30 | 1.40  |       |
|                     | KIAS   | 212                    | 212  | 212   |       |
|                     | FF/ENG | 4660                   | 4660 | 4660  |       |
| 80                  | EPR    | 1.22                   | 1.26 | 1.35  | 1.48  |
|                     | KIAS   | 203                    | 203  | 203   | 203   |
|                     | FF/ENG | 4220                   | 4190 | 4170  | 4230  |
| 70                  | EPR    | 1.19                   | 1.23 | 1.30  | 1.40  |
|                     | KIAS   | 194                    | 194  | 194   | 194   |
|                     | FF/ENG | 3770                   | 3750 | 3720  | 3690  |
| 60                  | EPR    | 1.16                   | 1.19 | 1.25  | 1.33  |
|                     | KIAS   | 185                    | 185  | 185   | 185   |
|                     | FF/ENG | 3330                   | 3310 | 3270  | 3230  |

This table includes 5% additional fuel for holding in a racetrack pattern.

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## Performance Inflight - QRH

## Chapter PI-QRH

### Text

### Section 55

## Introduction

This chapter contains information to supplement performance data from the Flight Management Computer (FMC). In addition, sufficient inflight data is provided to complete a flight with the FMC inoperative. In the event of conflict between data presented in this chapter and that contained in the approved Airplane Flight Manual, the Flight Manual shall always take precedence.

## General

### Flight with Unreliable Airspeed / Turbulent Air Penetration

Pitch attitude and average EPR information is provided for use in all phases of flight in the event of unreliable airspeed/Mach indications resulting from blocking or freezing of the pitot system. Loss of radome or turbulent air may also cause unreliable airspeed/Mach indications. The cruise table in this section may also be used for turbulent air penetration.

Pitch attitude is shown in bold type for emphasis since altitude and/or vertical speed indications may also be unreliable.

### Max Climb EPR

This table shows Max Climb EPR for a 250/290/.78 climb speed schedule, normal engine bleed for packs on and anti-ice off. Enter the table with airport pressure altitude and TAT and read EPR. EPR adjustments are shown for packs off and anti-ice operation.

### VREF

This table contains flaps 30, 25 and 20 reference speeds for a given weight.

## Advisory Information

### Normal Configuration Landing Distance

Tables are provided as advisory information for normal configuration landing distances on dry runways and slippery runways with good, medium, and poor reported braking action. Landing distances for slippery runways are 115% of the actual landing distances.

## 757 Flight Crew Operations Manual

To use these tables, determine the reference landing distance for the selected braking configuration. Then adjust the reference distance for landing weight, altitude, wind, slope, temperature, approach speed, and the number of operative thrust reversers to obtain the actual landing distance.

When landing on slippery runways or runways contaminated with ice, snow, slush, or standing water, the reported braking action must be considered. If the surface is affected by water, snow, or ice and the braking action is reported as "good", conditions should not be expected to be as good as on clean, dry runways. The value "good" is comparative and is intended to mean that airplanes should not experience braking or directional control difficulties when landing. The performance level used to calculate the "good" data is consistent with wet runway testing done on early Boeing jets. The performance level used to calculate "poor" data reflects runways covered with wet ice.

Use of the autobrake system commands the airplane to a constant deceleration rate. In some conditions, such as a runway with "poor" braking action, the airplane may not be able to achieve these deceleration rates. In these cases, runway slope and inoperative reversers influence the stopping distance. Since it cannot be determined quickly when this becomes a factor, it is conservative to add the effects of slope and inoperative reversers when using the autobrake system.

### Non-normal Configuration Landing Distance

Advisory information is provided to support non-normal configurations that affect the landing performance of the airplane. Landing distances and adjustments are provided for dry runways and runways with good, medium, and poor reported braking action.

Enter the table with the applicable non-normal configuration and read the normal approach speed. The reference landing distance is a reference distance from 50 ft above the threshold to stop based on a reference landing weight and speed at sea level, zero wind, and zero slope. Subsequent columns provide adjustments for off-reference landing weight, altitude, wind, slope, and speed conditions. Each adjustment is independently added to the reference landing distance. Landing distance includes the effects of max manual braking and reverse thrust.

### Recommended Brake Cooling Schedule

Advisory information is provided to assist in avoiding the problems associated with hot brakes. For normal operation, most landings are at weights below the AFM quick turnaround limit weight.

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Use of the recommended cooling schedule will help avoid brake overheat and fuse plug problems that could result from repeated landings at short time intervals or a rejected takeoff.

Enter the Recommended Brake Cooling Schedule table with the airplane weight and brakes on speed, adjusted for wind, at the appropriate temperature and altitude condition. Instructions for applying wind adjustments are included below the table. Linear interpolation may be used to obtain intermediate values. The resulting number is the reference brake energy per brake in millions of foot-pounds, and represents the amount of energy absorbed by each brake during a rejected takeoff

To determine the energy per brake absorbed during landing, enter the appropriate Adjusted Brake Energy Per Brake table (No Reverse Thrust or Two Engine Reverse) with the reference brake energy per brake and the type of braking used during landing (Max Manual, Max Auto, or Autobrake). The resulting number is the adjusted brake energy per brake and represents the energy absorbed in each brake during the landing.

The recommended cooling time is found in the final table by entering with the adjusted brake energy per brake or brake temperature monitor system (BTMS) indication on EICAS. Times are provided for ground cooling and inflight gear down cooling.

If brake temperature monitor indication on EICAS is available, the hottest brake indication 10 to 15 minutes after the airplane has come to a complete stop, or inflight with gear retracted, may be used to determine the recommended cooling schedule by entering at the bottom of the chart. The brake temperature light illuminates when the hottest brake is registering 5 on the EICAS indication and extinguishes as the hottest brake cools with an EICAS indication of 4.

---

## **Engine Inoperative**

### **Initial Max Continuous EPR**

The Initial Max Continuous EPR setting for use following an engine failure is shown. The table shows a range of Cruise Mach numbers to provide a target EPR setting at the start of driftdown. Also shown is the maximum TAT at which the limit EPR can be set. Once driftdown is established, the Max Continuous EPR table should be used to determine EPR for the given conditions.

## **Max Continuous EPR**

Power setting is based on one engine operating with one A/C pack operating and all anti-ice bleeds off. Enter the table with pressure altitude and IAS or Mach to read EPR.

It is desirable to maintain engine thrust level within the limits of the Max Cruise thrust rating. However, where thrust level in excess of Max Cruise rating is required, such as for meeting terrain clearance, ATC altitude assignments, or to attain maximum range capability, it is permissible to use the thrust needed up to the Max Continuous thrust rating. The Max Continuous thrust rating is intended primarily for emergency use at the discretion of the pilot and is the maximum thrust that may be used continuously.

## **Driftdown Speed/Level Off Altitude**

The table shows optimum driftdown speed as a function of cruise weight at start of driftdown. Also shown are the approximate weight and pressure altitude at which the airplane will level off considering 100 ft/min residual rate of climb.

The level off altitude is dependent on air temperature (ISA deviation).

## **Driftdown/LRC Range Capability**

This table shows the range capability from the start of driftdown. Driftdown is continued to level off altitude. As weight decreases due to fuel burn, the airplane is accelerated to Long Range Cruise speed. Cruise is continued at level off altitude and Long Range Cruise speed.

To determine fuel required, enter the Ground to Air Miles Conversion table with the desired ground distance and adjust for anticipated winds to obtain air distance to destination. Then enter the Driftdown/Cruise Fuel and Time table with air distance and weight at start of driftdown to determine fuel and time required. If altitudes other than the level off altitude are used, fuel and time required may be obtained by using the Engine Inoperative Long Range Cruise Enroute Fuel and Time table.

## **Long Range Cruise Altitude Capability**

The table shows the maximum altitude that can be maintained at a given weight and air temperature (ISA deviation), based on Long Range Cruise speed, Max Continuous thrust, and 100 ft/min residual rate of climb.

## **Long Range Cruise Control**

The table provides target EPR, engine inoperative Long Range Cruise Mach number, IAS and fuel flow for the airplane weight and pressure altitude. The fuel flow values in this table reflect single engine fuel burn.

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### Long Range Cruise Diversion Fuel and Time

Tables are provided for crews to determine the fuel and time required to proceed to an alternate airfield with one engine inoperative. The data is based on single engine Long Range Cruise speed and .78/290/250 descent. Enter with Air Distance as determined from the Ground to Air Miles Conversion table and read Fuel and Time required at the cruise pressure altitude. Adjust the fuel obtained for deviation from the reference weight at checkpoint as required by entering the Fuel Required Adjustment table with the fuel required for the reference weight and the actual weight at checkpoint.

### Holding

Target EPR, indicated airspeed and fuel flow per engine information is tabulated for holding with flaps up based on the FMC optimum holding speed schedule. This is the higher of the maximum endurance speed and the maneuvering speed. Small variations in airspeed will not appreciably affect the overall endurance time. Enter the table with weight and pressure altitude to read EPR, IAS and fuel flow per engine.

---

### Gear Down

This section contains performance for airplane operation with the landing gear extended for all phases of flight. The data is based on engine bleeds for normal air conditioning.

NOTE: The Flight Management Computer System (FMCS) does not contain special provisions for operation with landing gear extended. As a result, the FMCS will generate inaccurate enroute speed schedules, display non-conservative predictions of fuel burn, estimated time of arrival (ETA), maximum altitude, and compute overly shallow descent path. To obtain accurate ETA predictions, gear down cruise speed and altitude should be entered on the CLB and CRZ pages. Gear down cruise speed should also be entered on the DES page and a STEP SIZE of zero should be entered on the PERF INIT or CRZ page. Use of the VNAV during descent under these circumstances is not recommended.

Tables for gear down performance in this section are identical in format and used in the same manner as tables for the gear up configuration previously described.

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## Maneuvers Introduction

## Chapter Man Section 05

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### General

Non-Normal Maneuvers and Flight Patterns are included for training and review purposes.

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### Non-Normal Maneuvers

Flight crews are expected to do non-normal maneuvers from memory.

---

### Flight Patterns

Flight patterns show procedures for some all-engine and engine-inoperative situations.

Flight patterns do not include all procedural items but show required/recommended:

- configuration changes
- thrust changes
- Mode Control Panel (MCP) changes
- pitch mode and roll mode changes
- checklist calls.



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**Maneuvers****Chapter Man****Non-Normal Maneuvers****Section 1****Approach to Stall or Stall Recovery**

All recoveries from approach to stall should be done as if an actual stall has occurred.

Immediately do the following at the first indication of stall (buffet or stick shaker).

**Note:** Do not use flight director commands during the recovery.

| <b>Pilot Flying</b>                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Pilot Monitoring</b>                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>Initiate the recovery:<ul style="list-style-type: none"><li>Hold the control column firmly.</li><li>Disconnect autopilot and autothrottle.</li><li>Smoothly apply nose down elevator to reduce the angle of attack until buffet or stick shaker stops. Nose down stabilizer trim may be needed.*</li></ul></li></ul>                                                            | <ul style="list-style-type: none"><li>Monitor altitude and airspeed.</li><li>Verify all required actions have been done and call out any omissions.</li><li>Call out any trend toward terrain contact.</li></ul>                                         |
| <ul style="list-style-type: none"><li>Continue the recovery:<ul style="list-style-type: none"><li>Roll in the shortest direction to wings level if needed.**</li><li>Advance thrust levers as needed.</li><li>Retract the speedbrakes.</li><li>Do not change gear or flap configuration, except<ul style="list-style-type: none"><li>During liftoff, if flaps are up, call for flaps 1.</li></ul></li></ul></li></ul> | <ul style="list-style-type: none"><li>Monitor altitude and airspeed.</li><li>Verify all required actions have been done and call out any omissions.</li><li>Call out any trend toward terrain contact.</li><li>Set the FLAP lever as directed.</li></ul> |
| <ul style="list-style-type: none"><li>Complete the recovery:<ul style="list-style-type: none"><li>Check airspeed and adjust thrust as needed.</li><li>Establish pitch attitude.</li><li>Return to the desired flight path.</li></ul></li><li>Re-engage the autopilot and autothrottle if desired.</li></ul>                                                                                                           | <ul style="list-style-type: none"><li>Monitor altitude and airspeed.</li><li>Verify all required actions have been done and call out any omissions.</li><li>Call out any trend toward terrain contact.</li></ul>                                         |

---

**WARNING:** \*If the control column does not provide the needed response, stabilizer trim may be necessary. Excessive use of pitch trim may aggravate the condition, or may result in loss of control or in high structural loads.

**WARNING:** \*\*Excessive use of pitch trim or rudder may aggravate the condition, or may result in loss of control or in high structural loads.

---

## Pilot Induced Roll Oscillation

Pilot Induced Oscillations (PIO) are inadvertent, sustained oscillations of the airplane resulting from interactions between the aircraft and control inputs by the pilot. They are often associated with tasks where the pilot is attempting to precisely and quickly accomplish a flight maneuver (such as the final phase of landing). In a fully developed lateral PIO, pilot control wheel inputs will be out of phase with the airplane roll response.

Flight crews should be aware of the potential for pilot induced roll oscillations when using high rate, high magnitude, rapidly reversed control wheel inputs. This potential is increased when in landing configuration with gusty wind conditions. Pilot techniques that utilize abrupt and pulsing control inputs may also contribute to these events.

The following action should be accomplished immediately when either pilot recognizes that a PIO exists:

| Pilot Flying                                                                                                                     | Pilot Monitoring                                              |
|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| Announce the situation                                                                                                           |                                                               |
| Immediately stop lateral control wheel inputs until the airplane stabilizes                                                      | Verify appropriate pilot response                             |
| Initiate go-around if oscillations do not diminish or if the aircraft is not in a position from which a safe landing can be made | Recommend go-around if airplane is not stabilized for landing |

---

## **Rejected Takeoff**

The captain has the sole responsibility for the decision to reject the takeoff. The decision must be made in time to start the rejected takeoff maneuver by V1. If the decision is to reject the takeoff, the captain must clearly announce “REJECT,” immediately start the rejected takeoff maneuver, and assume control of the airplane. If the first officer is making the takeoff, the first officer must maintain control of the airplane until the captain makes a positive input to the controls.

Prior to 80 knots the takeoff should be rejected for any of the following:

- activation of the master caution
- system failure(s)
- unusual noise or vibration
- tire failure
- abnormally slow acceleration
- takeoff configuration warning
- fire or fire warning
- engine failure
- if a side window opens
- if the airplane is unsafe or unable to fly

### **VQ-BHR, VQ-BTO**

- predictive windshear warning

Above 80 knots and prior to V1, the takeoff should be rejected for any of the following:

- fire or fire warning
- engine failure
- if the airplane is unsafe or unable to fly.

### **VQ-BHR, VQ-BTO**

- predictive windshear warning

During the takeoff, the crew member observing the non-normal situation will immediately call it out as clearly as possible.

| Captain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | First Officer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Without delay:</p> <p>Simultaneously close the thrust levers, disengage the autothrottles, and apply maximum manual wheel brakes or verify operation of RTO autobrakes.</p> <p>If RTO autobrakes is selected, monitor system performance and apply manual wheel brakes if the autobrakes disarm or deceleration is not adequate.</p> <p>Raise SPEEDBRAKE lever.</p> <p>Apply reverse thrust up to the maximum amount consistent with conditions.</p> <p>Continue maximum braking until certain the airplane will stop on the runway.</p>                                                                                                                                                                                                                                                                              | <p>Verify actions as follows:</p> <p>Thrust levers closed.</p> <p>Autothrottle disengaged.</p> <p>Maximum brakes applied.</p> <p>Verify speedbrake lever UP and call "SPEEDBRAKES UP." If speedbrake lever not UP call "SPEEDBRAKES NOT UP."</p> <p>Reverse thrust applied. When both REV indications are green, call "REVERSERS NORMAL."</p> <p>If there is no REV indication(s) or the indication(s) stays amber, call "NO REVERSER LEFT ENGINE", or "NO REVERSER RIGHT ENGINE", or "NO REVERSERS".</p> <p>Call out any omitted action items.</p> |
| <p>Field length permitting:</p> <p>Initiate movement of the reverse thrust levers to reach the reverse idle detent by taxi speed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>Call out 60 knots.</p> <p>Communicate the reject decision to the control tower and appropriate crew members as soon as practical.</p>                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p>When the airplane is stopped, perform procedures as required.</p> <p>Review Brake Cooling Schedule for brake cooling time and precautions (refer to the Performance Inflight chapter).</p> <p>Consider the following:</p> <ul style="list-style-type: none"> <li>• The possibility of wheel fuse plugs melting</li> <li>• The need to clear the runway</li> <li>• The requirement for remote parking</li> <li>• Wind direction in case of fire</li> <li>• Alerting fire equipment</li> <li>• Not setting the parking brake unless passenger evacuation is necessary</li> <li>• Advising the ground crew of the hot brake hazard</li> <li>• Advising passengers of the need to remain seated or evacuate</li> <li>• Completion of Non-Normal checklist (if appropriate) for conditions which caused the RTO</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |



## Terrain Avoidance Ground Proximity Warning System (GPWS) Response

### Ground Proximity GPWS Caution

Accomplish the following maneuver for any of these aural alerts\*:

#### **VQ-BHR**

- CAUTION OBSTACLE

#### **VQ-BHR, VQ-BTO**

- CAUTION TERRAIN

#### **VQ-BKM**

- CAUTION TERRAIN
- TERRAIN
- DON'T SINK
- GLIDESLOPE
- SINK RATE
- TOO LOW FLAPS
- TOO LOW GEAR
- TOO LOW TERRAIN
- BANK ANGLE

| Pilot Flying                                           | Pilot Monitoring |
|--------------------------------------------------------|------------------|
| Correct the flight path or the airplane configuration. |                  |

The below glideslope deviation alert may be cancelled or inhibited for:

- localizer or backcourse approach
- circling approach from an ILS
- when conditions require a deliberate approach below glideslope
- unreliable glideslope signal.

#### **VQ-BHR**

**Note:** If an obstacle or terrain caution occurs when flying under daylight VMC, and positive visual verification is made that no obstacle or terrain hazard exists, the alert may be regarded as cautionary and the approach may be continued.

**VQ-BTO**

**Note:** If a terrain caution occurs when flying under daylight VMC, and positive visual verification is made that no terrain hazard exists, the alert may be regarded as cautionary and the approach may be continued.

**VQ-BKM**

**Note:** If a terrain caution occurs when flying under daylight VMC, and positive visual verification is made that no terrain hazard exists, the alert may be regarded as cautionary and the approach may be continued.

**Note:** \*As installed, some repeat.

**Ground Proximity GPWS Warning**

Accomplish the following maneuver for any of these conditions:

**VQ-BHR**

- activation of the “OBSTACLE OBSTACLE PULL UP” warning

**VQ-BHR, VQ-BTO**

- activation of the “TERRAIN TERRAIN PULL UP” warning

**VQ-BKM**

- activation of the “TERRAIN TERRAIN PULL UP” warning
- activation of the “PULL UP” warning
- other situations resulting in unacceptable flight toward terrain.

## 757 Flight Crew Operations Manual

| Pilot Flying                                                                                                                                                                                                                                                                                                                                                                                                         | Pilot Monitoring                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Disconnect autopilot.</li> <li>• Disconnect autothrottle.</li> <li>• Aggressively apply maximum* thrust.</li> <li>• Simultaneously roll wings level and rotate to an initial pitch attitude of 20°.</li> <li>• Retract speedbrakes.</li> <li>• If terrain remains a threat, continue rotation up to the pitch limit indicator or stick shaker or initial buffet.</li> </ul> | <ul style="list-style-type: none"> <li>• Verify maximum* thrust.</li> <li>• Verify all required actions have been completed and call out any omissions.</li> </ul>                                                                        |
| <ul style="list-style-type: none"> <li>• Do not change gear or flap configuration until terrain separation is assured.</li> <li>• Monitor radio altimeter for sustained or increasing terrain separation.</li> <li>• When clear of the terrain, slowly decrease pitch attitude and accelerate.</li> </ul>                                                                                                            | <ul style="list-style-type: none"> <li>• Monitor vertical speed and altitude (radio altitude for terrain clearance and barometric altitude for a minimum safe altitude).</li> <li>• Call out any trend toward terrain contact.</li> </ul> |

**Note:** Aft control column force increases as the airspeed decreases. In all cases, the pitch attitude that results in intermittent stick shaker or initial buffet is the upper pitch attitude limit. Flight at intermittent stick shaker may be required to obtain positive terrain separation. Smooth, steady control will avoid a pitch attitude overshoot and stall.

**Note:** Do not use flight director commands.

**Note:** \* Maximum thrust can be obtained by advancing the thrust levers to the takeoff or go-around limit. On airplanes with EEC's operating normally, the pilot may advance the thrust levers full forward. If terrain contact is imminent, advance thrust levers full forward.

### VQ-BHR

**Note:** If positive visual verification is made that no obstacle or terrain hazard exists when flying under daylight VMC conditions prior to an obstacle or terrain warning, the alert may be regarded as cautionary and the approach may be continued.

**VQ-BTO**

**Note:** If positive visual verification is made that no terrain hazard exists when flying under daylight VMC conditions prior to a terrain warning, the alert may be regarded as cautionary and the approach may be continued.

**VQ-BKM**

**Note:** If positive visual verification is made that no terrain hazard exists when flying under daylight VMC conditions prior to a terrain warning, the alert may be regarded as cautionary and the approach may be continued.

## Traffic Avoidance

The following is accomplished immediately by recall whenever a TCAS traffic advisory (TA) or resolution advisory (RA) occurs.

**WARNING:** Comply with the RA if there is a conflict between the RA and air traffic control.

**WARNING:** Once an RA has been issued, safe separation could be compromised if current vertical speed is changed, except as necessary to comply with the RA. This is because TCAS II-to-TCAS II coordination may be in progress with the intruder aircraft, and any change in vertical speed that does not comply with the RA may negate the effectiveness of the other aircraft's compliance with the RA.

**Note:** If stick shaker or initial buffet occurs during the maneuver, immediately accomplish the APPROACH TO STALL RECOVERY procedure.

**Note:** If high speed buffet occurs during the maneuver, relax pitch force as necessary to reduce buffet, but continue the maneuver.

### VQ-BBU through VQ-BKM

**Note:** Do not use flight director pitch commands until clear of conflict.

### VQ-BTO

**Note:** Do not use flight director commands until clear of conflict.

### For TA:

| Pilot Flying                                                                         | Pilot Monitoring |
|--------------------------------------------------------------------------------------|------------------|
| Look for traffic using traffic display as a guide. Call out any conflicting traffic. |                  |
| If traffic is sighted, maneuver if needed.                                           |                  |

**Note:** Maneuvers based solely on a TA may result in reduced separation and are not recommended.

### For RA, except a climb in landing configuration:

**WARNING:** A DESCEND (fly down) RA issued below 1,000 feet AGL should not be followed.

| Pilot Flying                                                                                                                                                                                                                                       | Pilot Monitoring |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| If maneuvering is required, disengage the autopilot and autothrottle. Smoothly adjust pitch and thrust to satisfy the RA command. Follow the planned lateral flight path unless visual contact with the conflicting traffic requires other action. |                  |
| Attempt to establish visual contact. Call out any conflicting traffic.                                                                                                                                                                             |                  |

### For a climb RA in landing configuration:

| Pilot Flying                                                                                                                                                                                                                                                                                          | Pilot Monitoring                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Disengage the autopilot and autothrottle. Advance thrust levers forward to ensure maximum thrust is attained and call for FLAPS 20. Smoothly adjust pitch to satisfy the RA command. Follow the planned lateral flight path unless visual contact with the conflicting traffic requires other action. | Verify maximum thrust set. Position flap lever to 20 detent.                                                    |
| Verify a positive rate of climb on the altimeter and call "GEAR UP."                                                                                                                                                                                                                                  | Verify a positive rate of climb on the altimeter and call "POSITIVE RATE."<br>Set the landing gear lever to UP. |
| Attempt to establish visual contact. Call out any conflicting traffic.                                                                                                                                                                                                                                |                                                                                                                 |

### Upset Recovery

An upset can generally be defined as unintentionally exceeding the following conditions:

- pitch attitude greater than 25 degrees nose up, or
- pitch attitude greater than 10 degrees nose down, or
- bank angle greater than 45 degrees, or
- within above parameters but flying at airspeeds inappropriate for the conditions.

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The following techniques represent a logical progression for recovering the airplane. The sequence of actions is for guidance only and represents a series of options to be considered and used depending on the situation. Not all the actions may be necessary once recovery is underway. If needed, use pitch trim sparingly. Careful use of rudder to aid roll control should be considered only if roll control is ineffective and the airplane is not stalled.

These techniques assume that the airplane is not stalled. A stalled condition can exist at any attitude and may be recognized by continuous stick shaker activation accompanied by one or more of the following:

- buffeting, which could be heavy at times
- lack of pitch authority and/or roll control
- inability to arrest descent rate.

If the airplane is stalled, recovery from the stall must be accomplished first by applying and maintaining nose down elevator until stall recovery is complete and stick shaker activation ceases.

### Nose High Recovery

| Pilot Flying                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Pilot Monitoring                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Recognize and confirm the situation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>• Disconnect autopilot and autothrottle.</li> <li>• Apply as much as full nose down elevator.</li> <li>• *Apply appropriate nose down stabilizer trim.</li> <li>• Reduce thrust.</li> <li>• *Roll (adjust bank angle) to obtain a nose down pitch rate.</li> <li>• Complete the recovery: <ul style="list-style-type: none"> <li>- when approaching the horizon, roll to wings level</li> <li>-check airspeed and adjust thrust</li> <li>-establish pitch attitude.</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Call out attitude, airspeed and altitude throughout the recovery.</li> <li>• Verify all required actions have been completed and call out any omissions.</li> </ul> |

## Nose Low Recovery

| Pilot Flying                                                                                                                                                                                                                                                                                                                                                                                                                                              | Pilot Monitoring                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Recognize and confirm the situation.</li></ul>                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                           |
| <ul style="list-style-type: none"><li>• Disconnect autopilot and autothrottle.</li><li>• Recover from stall, if required.</li><li>• *Roll in the shortest direction to wings level (unload and roll if bank angle is more than 90 degrees).</li><li>• Recover to level flight:<ul style="list-style-type: none"><li>- apply nose up elevator</li><li>- *apply nose up trim, if required</li><li>- adjust thrust and drag as required.</li></ul></li></ul> | <ul style="list-style-type: none"><li>• Call out attitude, airspeed and altitude throughout the recovery.</li><li>• Verify all required actions have been completed and call out any omissions.</li></ul> |

**WARNING: \* EXCESSIVE USE OF PITCH TRIM OR RUDDER MAY AGGRAVATE AN UPSET SITUATION OR MAY RESULT IN LOSS OF CONTROL AND/OR HIGH STRUCTURAL LOADS.**

## Windshear

### Predictive Windshear (PWS)

#### | VQ-BHR, VQ-BTO

### PWS Cautions

For predictive windshear caution alert: (“MONITOR RADAR DISPLAY” aural)

| Pilot Flying                                                                                   | Pilot Monitoring |
|------------------------------------------------------------------------------------------------|------------------|
| <ul style="list-style-type: none"><li>• Maneuver as required to avoid the windshear.</li></ul> |                  |

### PWS Warnings

Predictive windshear warning during takeoff roll: (“WINDSHEAR AHEAD, WINDSHEAR AHEAD” aural)

- Prior to V<sub>1</sub>, reject takeoff.
- After V<sub>1</sub>, perform the Windshear Escape Maneuver.

Predictive windshear warning during approach: (“GO-AROUND, WINDSHEAR AHEAD” aural)

- perform Windshear Escape Maneuver or, at pilot’s discretion, perform a normal go-around.



---

## **Windshear Indications**

The following are indications the airplane is encountering a windshear:

- Unacceptable flight path deviations; recognized as uncontrolled changes from normal steady state flight conditions below 1,000 feet AGL, in excess of any of the following:
  - 15 knots indicated airspeed
  - 500 FPM vertical speed
  - 5 degrees pitch attitude
  - 1 dot displacement from the glideslope
  - unusual thrust lever position for a significant period of time.
- Windshear Immediate-Alert Warning (two-tone siren followed by “WINDSHEAR, WINDSHEAR, WINDSHEAR”)

## **Windshear Encounter**

Windshear encountered during takeoff roll:

- If windshear is encountered prior to V<sub>1</sub>, there may not be sufficient runway remaining to stop if an RTO is initiated at V<sub>1</sub>. At VR, rotate at a normal rate toward a 15 degree pitch attitude. Once airborne, perform the Windshear Escape Maneuver.
- If windshear is encountered near the normal rotation speed and airspeed suddenly decreases, there may not be sufficient runway left to accelerate back to normal takeoff speed. If there is insufficient runway left to stop, initiate a normal rotation at least 2,000 feet before the end of the runway even if airspeed is low. Higher than normal attitudes may be required to lift off in the remaining runway. Ensure maximum thrust is set.

Windshear encountered in flight:

- perform the Windshear Escape Maneuver.

## Windshear Escape Maneuver With Flight Director Guidance

| Pilot Flying                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Pilot Monitoring                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>MANUAL FLIGHT</b></p> <ul style="list-style-type: none"> <li>• Disconnect autopilot.</li> <li>• Push either go-around switch.</li> <li>• Aggressively apply maximum* thrust.</li> <li>• Disconnect autothrottle.</li> <li>• Simultaneously roll wings level and rotate toward an initial pitch attitude of 15°.</li> <li>• Retract speedbrakes.</li> <li>• Follow flight director GA guidance (if available).</li> </ul> <p><b>AUTOMATIC FLIGHT</b></p> <ul style="list-style-type: none"> <li>• Press either go-around switch.**</li> <li>• Verify GA mode annunciation.</li> <li>• Verify thrust advances to GA power.</li> <li>• Retract speedbrakes.</li> <li>• Monitor system performance***.</li> </ul> | <ul style="list-style-type: none"> <li>• Verify maximum* thrust.</li> <li>• Verify all required actions have been completed and call out any omissions.</li> </ul>                                      |
| <ul style="list-style-type: none"> <li>• Do not change gear or flap configuration until windshear is no longer a factor.</li> <li>• Monitor vertical speed and altitude.</li> <li>• Do not attempt to regain lost airspeed until windshear is no longer a factor.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Monitor vertical speed and altitude.</li> <li>• Call out any trend toward terrain contact, descending flight path, or significant airspeed changes.</li> </ul> |

**Note:** Aft control column force increases as the airspeed decreases. In all cases, the pitch attitude that results in intermittent stick shaker or initial buffet is the upper pitch attitude limit. Flight at intermittent stick shaker may be required to obtain positive terrain separation. Smooth, steady control will avoid a pitch attitude overshoot and stall.

**Note:** \* Maximum thrust can be obtained by advancing the thrust levers to the takeoff or go-around limit. On airplanes with EEC's operating normally, the pilot may advance the thrust levers full forward. If terrain contact is imminent, advance thrust levers full forward.



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**Note:** \*\* If GA is not available, disconnect autopilot and autothrottle and fly manually.

**WARNING:** \*\*\* Severe windshear may exceed the performance capability of the AFDS. The pilot flying must be prepared to disconnect the autopilot and autothrottle and fly manually.

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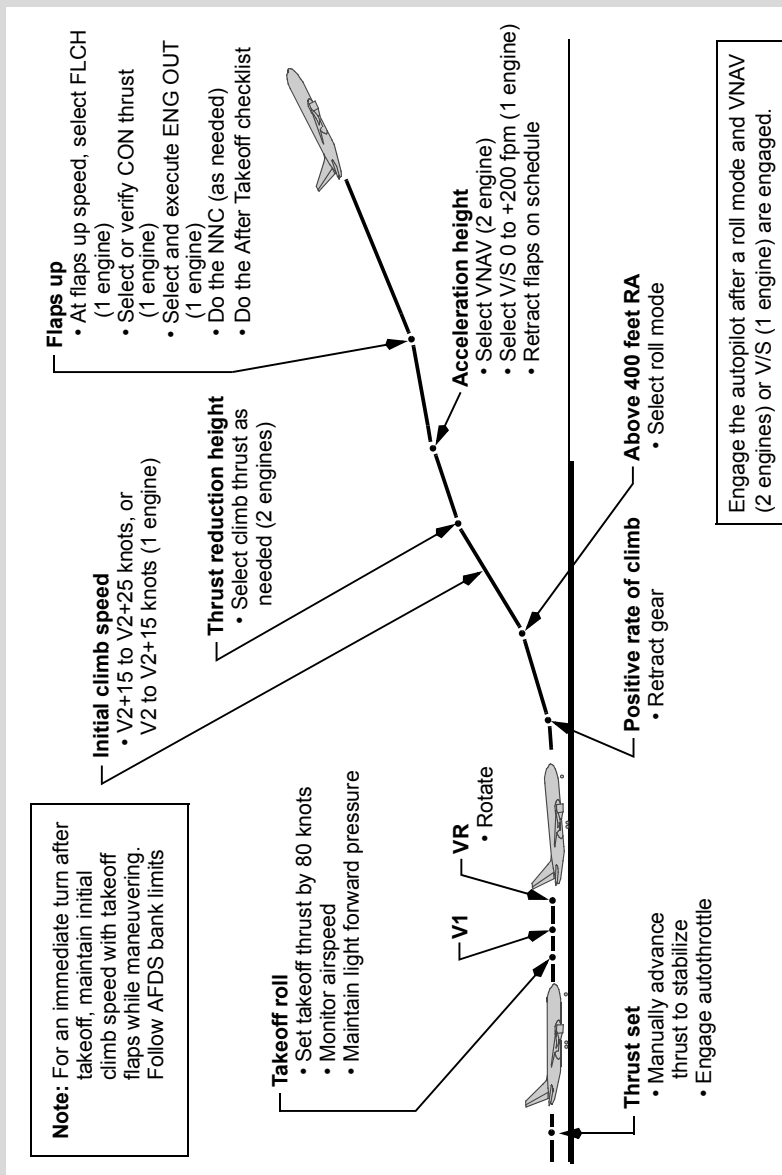
# Maneuvers

## Flight Patterns

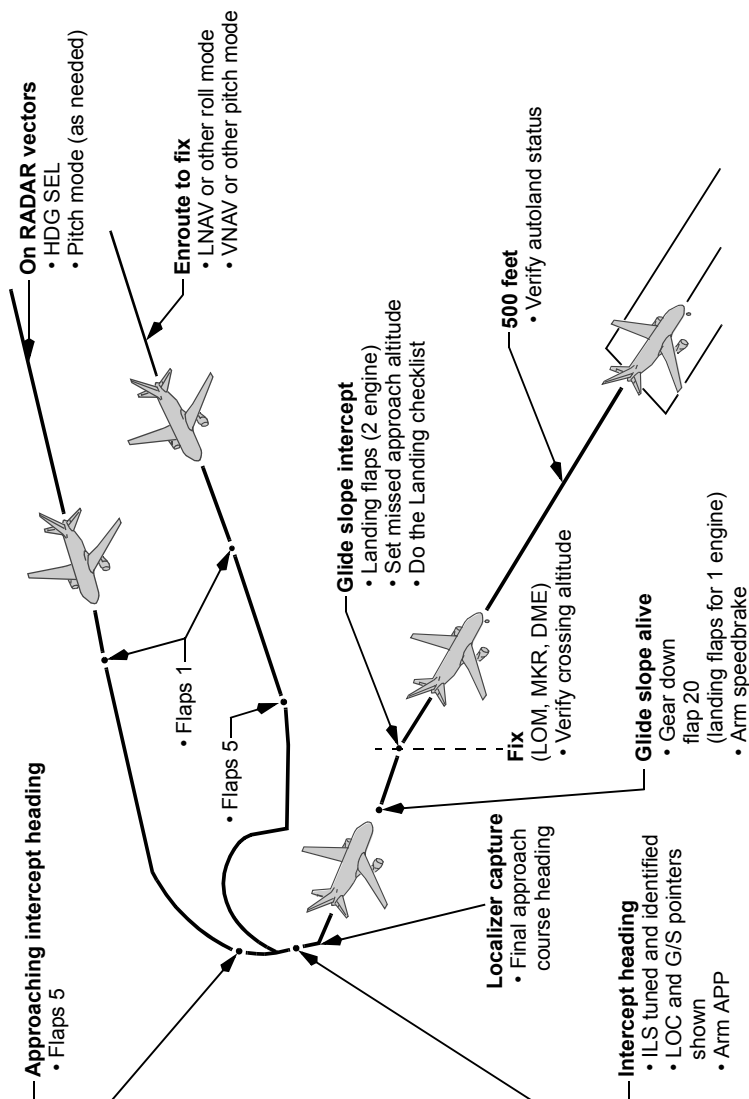
# Chapter Man

## Section 2

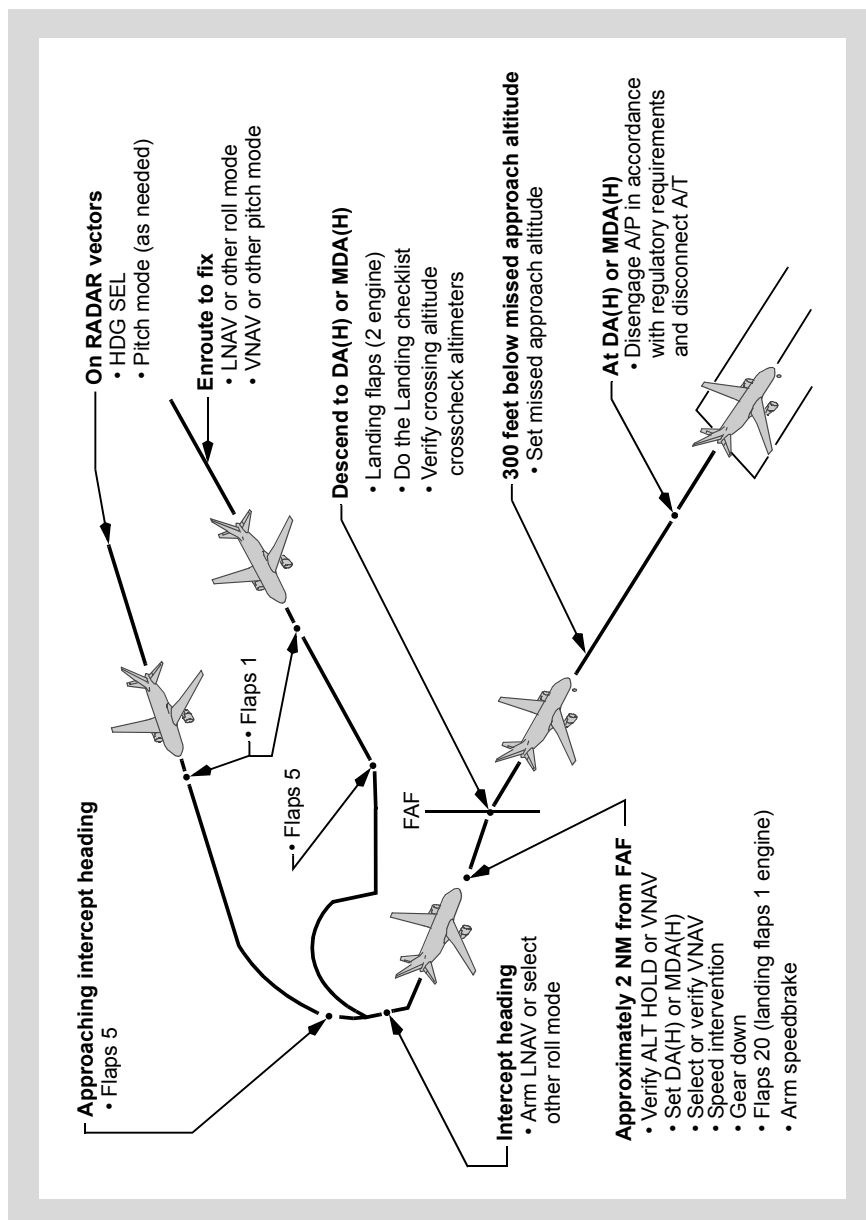
### Takeoff



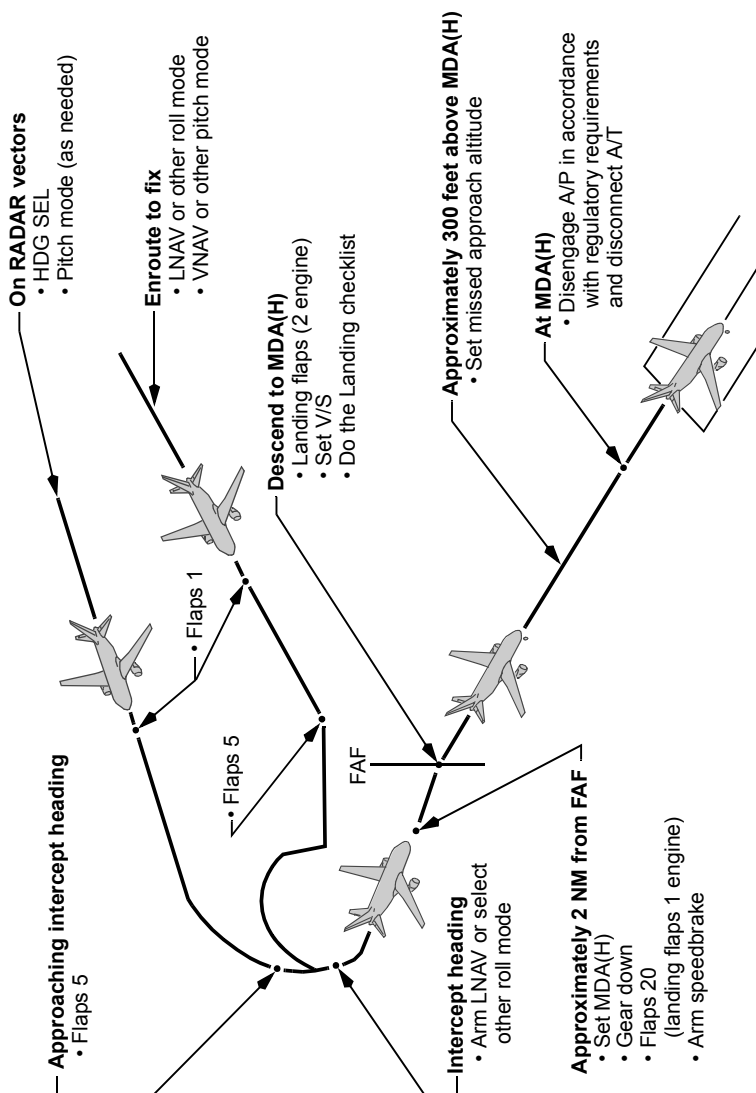
## ILS Approach



## Instrument Approach Using VNAV

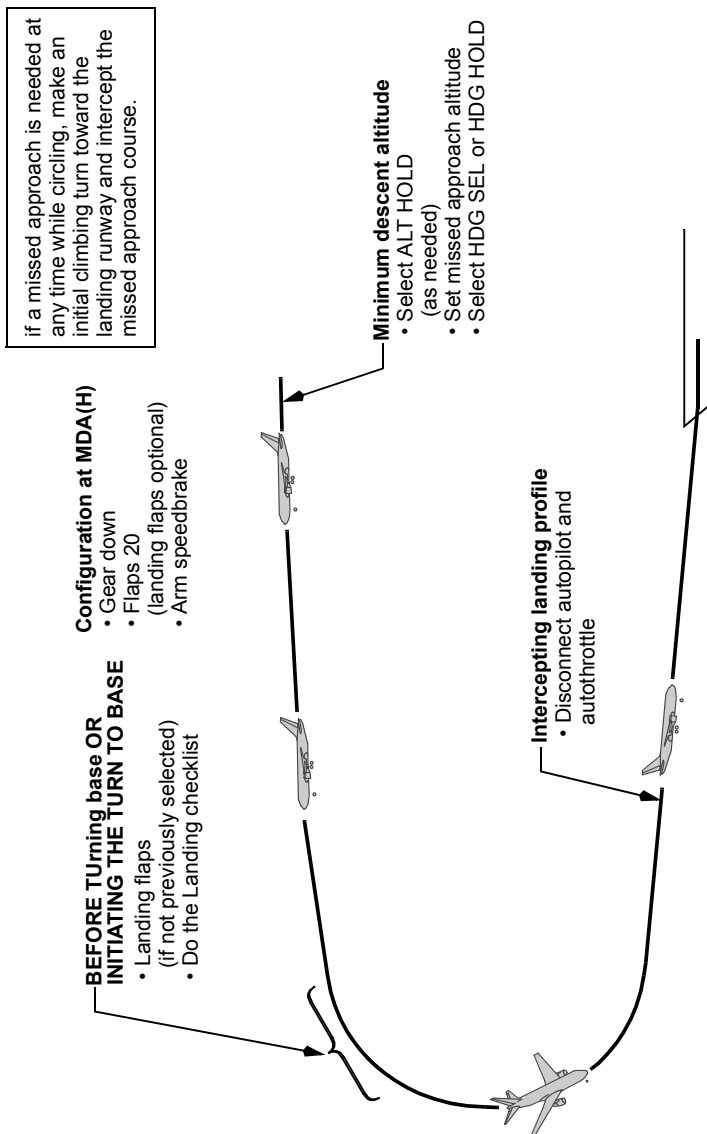


## Instrument Approach Using V/S

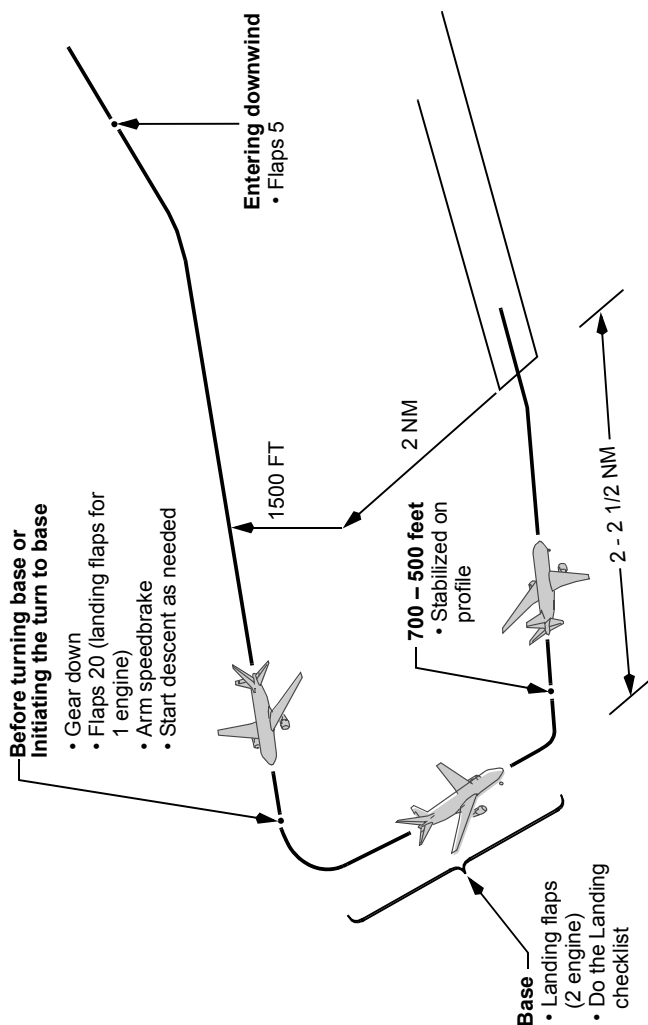




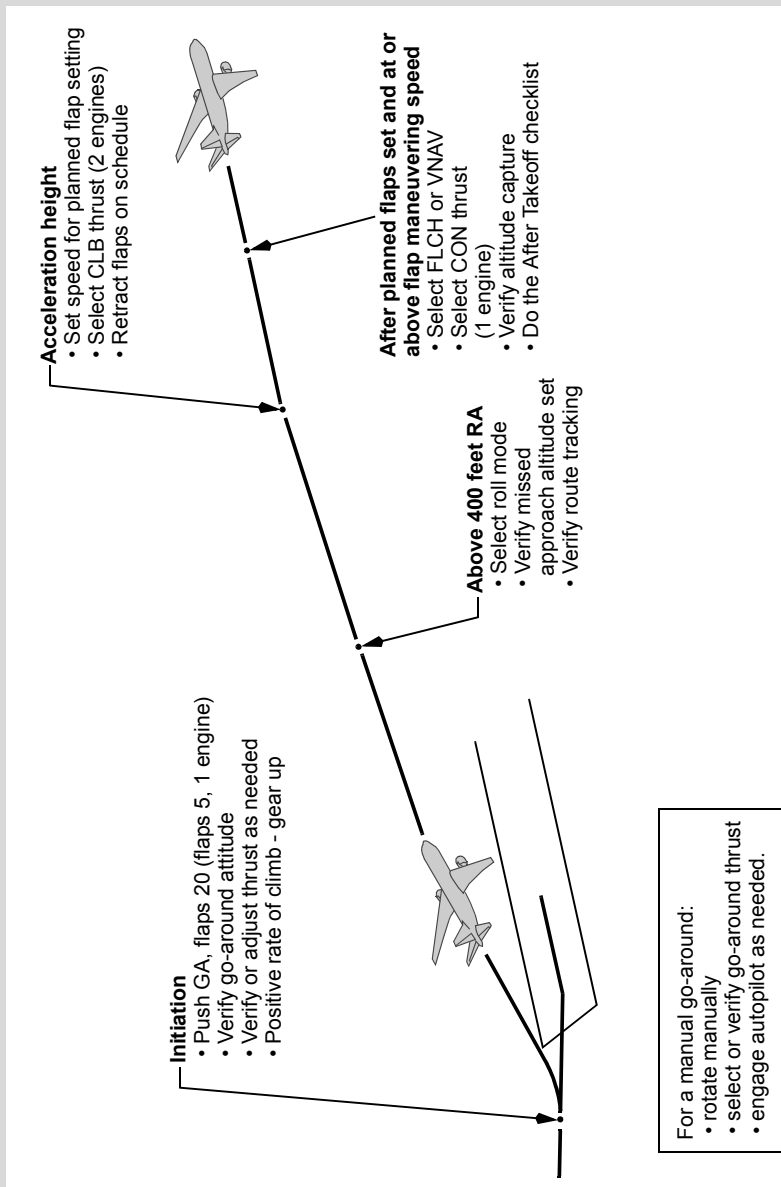
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## Visual Traffic Pattern



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## Checklist Instructions

## Chapter CI

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**Checklist Instructions**  
**Model Identification****Chapter CI**  
**Section ModID****General**

The airplanes listed in the table below are covered in the Quick Reference Handbook. The numbers are used to distinguish data peculiar to one or more, but not all of the airplanes. Where data applies to all airplanes listed, no reference is made to individual airplane numbers.

The table permits flight crew correlation of configuration differences by Registry Number in alpha/numeric order within an operator's fleet for airplanes covered in this manual. Configuration data reflects the airplane as delivered configuration and is updated for service bulletin incorporations in conformance with the policy stated in the introduction section of this chapter.

Registry number is supplied by the national regulatory agency. Serial and tabulation numbers are supplied by Boeing.

Revision changes to the table below, and the manual throughout, reflect the new registry number(s). The same changes are applicable to the Model ID table in the V1V2.

| <b>Registry Number</b> | <b>Serial Number</b> | <b>Tabulation Number</b> |
|------------------------|----------------------|--------------------------|
| VQ-BBU                 | 29442                | NT376                    |
| VQ-BHR                 | 30046                | NT346                    |
| VQ-BJK                 | 29380                | NT378                    |
| VQ-BKM                 | 27203                | NE301                    |
| VQ-BTO                 | 30338                | NT358                    |



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**Checklist Instructions**  
**Revision Record****Chapter CI**  
**Section RR****Revision Transmittal Letter**

To: All holders of Nord Wind Airlines 757 Flight Crew Operations Manual (FCOM), Boeing Document Number D632N001-55NRW.

Subject: Flight Crew Operations Manual Revision.

**CAUTION. Before inserting this FCOM revision check for the presence of the Evacuation Checklist. If the Evacuation Checklist is part of this QRH revision and does not have revision bars, this QRH has been completely reprinted for customer convenience due to the large number of changed pages.**

This revision reflects the most current information available to The Boeing Company 45 days before the subject revision date. The following revision highlights explain changes in this revision. General information below explains the use of revision bars to identify new or revised information.

**Revision Record**

| No. | Revision Date     | Date Filed |
|-----|-------------------|------------|
| 0   | June 4, 2010      |            |
| 2   | May 17, 2011      |            |
| 4   | November 16, 2011 |            |
| 6   | June 8, 2012      |            |
| 8   | May 16, 2013      |            |
| 10  | May 15, 2014      |            |

| No. | Revision Date     | Date Filed |
|-----|-------------------|------------|
| 1   | November 15, 2010 |            |
| 3   | June 3, 2011      |            |
| 5   | May 15, 2012      |            |
| 7   | November 13, 2012 |            |
| 9   | November 15, 2013 |            |
|     |                   |            |

**General**

The Boeing Company issues flight crew operations manual revisions to provide new or revised procedures and information. Formal revisions also incorporate appropriate information from previously issued flight crew operations manual bulletins.

The revision date is the approximate date the manual is mailed to the customer.

Formal revisions include a Transmittal Letter, a new Revision Record, Revision Highlights, and a current List of Effective Pages. Use the information on the new Revision Record and List of Effective Pages to verify the manual content.

Pages containing revised material have revision bars and highlights associated with the changed text or illustration. Revision bars associated with revised effectivity due to additions, deletions of airplanes or changes to previous registration numbers will not have highlights. Changes associated with redirect instructions will also have revision bars without highlights.

The record above should be completed by the person incorporating the revision into the manual.

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## Filing Instructions

Consult the List of Effective Pages (CI.LEP). Pages identified with an asterisk (\*) are either replacement pages or new (original) issue pages. Remove corresponding old pages and replace or add new pages. Remove pages that are marked DELETED; there are no replacement pages for deleted pages.

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## Revision Highlights

This section (CI.RR) replaces the existing section CI.RR in your manual.

Be careful when inserting changes not to throw away pages from the manual that are not replaced. Using the List of Effective Pages (CI.LEP) can help determine the correct content of the manual.

Throughout the manual, airplane effectivity may be updated to reflect coverage as listed on the Preface - Model Identification page, or to show service bulletin airplane effectivity. Highlights are not supplied.

This manual is published from a database; the text and illustrations are marked with configuration information. Occasionally, because the editors rearrange the database markers, or mark items with configuration information due to the addition of new database content, some customers may receive revision bars on content that appears to be unchanged. Pages may also be republished without revision bars due to slight changes in the flow of the document.

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## Chapter NNC - Non-Normal Checklists

### Section 1 - Airplane Gen., Emer. Equip., Doors, Windows

#### ELT ON

- 1.3 - Added procedure for airplanes with an emergency locator transmitter (ELT) installed.

### Section 5 - Communications, Datalink

#### DATALINK SYSTEM

- 5.1 - Moved ELT ON non-normal checklist to NNC.01 for cross model consistency.

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**Section 6 - Electrical****AC BUS OFF**

6.3 - Deleted all autopilots from the inoperative items list.

**Section 7 - Engines, APU****APU FAULT**

7.9 - Deleted information that complies with Operations Manual bulletin "APU Automatic Shutdown At High Altitude".

**Engine Failure or Shutdown**

7.11 - Deleted information for airplanes without TCAS.

**Section 8 - Fire Protection****ENGINE FIRE or Engine Severe Damage or Separation**

8.3 - Deleted information for airplanes without TCAS.

**Section 11 - Flight Management, Navigation****ATC FAULT**

11.1 - Added step to ensure continued SSR coverage.

**FMC FAIL**

11.3 - Deleted FMC FAIL procedure no longer applicable to fleet. Procedure was applicable to airplanes not equipped with alternate navigation capability (CDUs without a MENU function key).

**Section 12 - Fuel****Fuel Leak Engine**

12.4 - Added information for airplanes with fuel quantity indications in pounds.

12.7 - Deleted information for airplanes without TCAS.

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**Chapter PI-QRH - Performance Inflight - QRH****Section 10 - Table of Contents**

PI-QRH.TOC.10.1 - 757-200 PW2037 LB FAA TO EI was added as Section 10.

**Section 10 - General****General**

PI-QRH.10.1 - 757-200 PW2037 LB FAA TO EI was added as Section 10.

## **Section 20 - Table of Contents**

PI-QRH.TOC.20.1 - 757-200 PW2040 KG FAA EU-OPS EI was added as Section 20.

## **Section 20 - General**

### **General**

PI-QRH.20.1 - 757-200 PW2040 KG FAA EU-OPS EI was added as Section 20.

## **Section 30 - Table of Contents**

PI-QRH.TOC.30.1 - 757-200 PW2040 KG FAA EI was added as Section 30.

## **Section 30 - General**

### **General**

PI-QRH.30.1 - 757-200 PW2040 KG FAA EI was added as Section 30.

## **Section 40 - Table of Contents**

PI-QRH.TOC.40.1 - 757-200W PW2037 KG FAA EI EU-OPS moved from Section 20 to 40.

## **Section 40 - General**

### **General**

PI-QRH.40.1 - 757-200W PW2037 KG FAA EI EU-OPS moved from Section 20 to 40.

### **Flight With Unreliable Airspeed / Turbulent Air Penetration**

PI-QRH.40.2 - Unreliable Airspeed Terminal Area data have been updated. In addition, data for flaps up (gear up) are now provided and data for flaps 20 (gear up) are revised to (gear down).

PI-QRH.40.3 - Unreliable Airspeed Final Approach data have been updated. In addition, data for flaps 20 are now provided.

## **Section 50 - Table of Contents**

PI-QRH.TOC.50.1 - 757-200W PW2040 KG FAA EI EU-OPS moved from Section 30 to 50.

## **Section 50 - General**

### **General**

PI-QRH.50.1 - 757-200W PW2040 KG FAA EI EU-OPS moved from Section 30 to 50.



## 757 Flight Crew Operations Manual

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### Flight With Unreliable Airspeed / Turbulent Air Penetration

PI-QRH.50.2 - Unreliable Airspeed Terminal Area data have been updated. In addition, data for flaps up (gear up) are now provided and data for flaps 20 (gear up) are revised to (gear down).

PI-QRH.50.3 - Unreliable Airspeed Final Approach data have been updated. In addition, data for flaps 20 are now provided.

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## Chapter Man - Maneuvers

### Section 1 - Non-Normal Maneuvers

#### Ground Proximity GPWS Caution

Man.1.6 - Added note regarding terrain caution.

#### Ground Proximity GPWS Warning

Man.1.8 - Added note regarding obstacle or terrain warnings.

#### Traffic Avoidance

Man.1.9 - Added Non-Normal Maneuver information.

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## Chapter CI - Checklist Instructions

### Section ModID - Model Identification

CI.ModID.1 - Revised to add/change an airplane entry.



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**Preface****QRH List of Effective Pages****Chapter CI****Section LEP****Quick Reference Handbook****Quick Action Index**

\* QA.Index.1-2 May 15, 2014

**EICAS Messages (tab)**

\* EICAS.Index.1-10 May 15, 2014

**Unannounced (tab)**

Unann.Index.1-2 November 15, 2013

**Alphabetical (tab)**

\* Alpha.Index.1-16 May 15, 2014

**Normal Checklists (tab)**

NC.1 June 4, 2010  
NC.2 June 4, 2010  
NC.3 June 4, 2010  
NC.4 June 4, 2010

**0 Miscellaneous (tab)**

0.TOC.1-2 November 13, 2012  
0.1 November 16, 2011  
\* 0.2 May 15, 2014  
0.3 November 13, 2012  
0.4 June 4, 2010

**1 Airplane Gen., Emer. Equip., Doors, Windows (tab)**

\* 1.TOC.1-2 May 15, 2014  
1.1 November 15, 2013  
1.2 November 15, 2013  
\* 1.3 May 15, 2014  
\* 1.4 May 15, 2014  
1.5 June 3, 2011  
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1.9 June 3, 2011  
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1.11 June 3, 2011  
1.12 June 3, 2011  
1.13 November 16, 2011

1.14 November 16, 2011  
1.15 June 3, 2011  
1.16 June 3, 2011

**2 Air Systems (tab)**

2.TOC.1-2 November 15, 2010  
2.1 June 4, 2010  
2.2 November 15, 2013  
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2.4 June 4, 2010  
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2.16 May 16, 2013  
2.17 May 16, 2013  
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2.19 June 4, 2010  
2.20 June 4, 2010

**3 Anti-Ice, Rain (tab)**

3.TOC.1-2 June 8, 2012  
3.1 June 4, 2010  
\* 3.2 May 15, 2014  
3.3 November 15, 2010  
3.4 June 8, 2012  
3.5 November 13, 2012  
3.6 June 8, 2012  
3.7 November 16, 2011  
3.8 November 16, 2011  
3.9 November 16, 2011  
3.10 November 16, 2011

**4 Automatic Flight (tab)**

4.TOC.1-2 June 4, 2010  
4.1 June 4, 2010  
4.2 June 4, 2010

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| <b>5 Communications (tab)</b> |                   |                                |                   |
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| * 5.TOC.1-2                   | May 15, 2014      | 7.22                           | June 3, 2011      |
| * 5.1                         | May 15, 2014      | 7.23                           | June 3, 2011      |
| * 5.2                         | May 15, 2014      | 7.24                           | June 3, 2011      |
| <b>6 Electrical (tab)</b>     |                   | 7.25                           | May 16, 2013      |
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| * 6.3                         | May 15, 2014      | 7.29                           | June 3, 2011      |
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| * 6.5                         | May 15, 2014      | * 7.31                         | May 15, 2014      |
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| 6.13                          | June 4, 2010      | <b>8 Fire Protection (tab)</b> |                   |
| 6.14                          | June 4, 2010      | 8.TOC.1-2                      | May 15, 2012      |
| 6.15                          | June 4, 2010      | 8.1                            | June 4, 2010      |
| 6.16                          | June 4, 2010      | 8.2                            | November 15, 2013 |
| <b>7 Engines, APU (tab)</b>   |                   | * 8.3                          | May 15, 2014      |
| * 7.TOC.1-2                   | May 15, 2014      | 8.4                            | May 16, 2013      |
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| 7.18                          | November 15, 2013 | 9.TOC.1-2                      | June 8, 2012      |
| * 7.19                        | May 15, 2014      | 9.1                            | June 4, 2010      |
| * 7.20                        | May 15, 2014      | 9.2                            | November 16, 2011 |
| 7.21                          | November 15, 2013 | * 9.3                          | May 15, 2014      |
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| 9.5                                           | June 8, 2012      | * 12.5                       | May 15, 2014      |
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| 9.19                                          | November 16, 2011 | <b>13 Hydraulics (tab)</b>   |                   |
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| 9.26                                          | June 4, 2010      | 13.6                         | November 13, 2012 |
| <b>10 Flight Instruments, Displays (tab)</b>  |                   | 13.7                         | November 13, 2012 |
| * 10.TOC.1-2                                  | May 15, 2014      | 13.8                         | November 13, 2012 |
| 10.1                                          | June 4, 2010      | 13.9                         | November 13, 2012 |
| 10.2                                          | June 4, 2010      | 13.10                        | November 13, 2012 |
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| * 10.4                                        | May 15, 2014      | 13.12                        | November 13, 2012 |
| * 10.5                                        | May 15, 2014      | 13.13                        | November 13, 2012 |
| 10.6                                          | June 4, 2010      | 13.14                        | May 16, 2013      |
| <b>11 Flight Management, Navigation (tab)</b> |                   | 13.15                        | May 16, 2013      |
| * 11.TOC.1-2                                  | May 15, 2014      | 13.16                        | November 13, 2012 |
| * 11.1                                        | May 15, 2014      | 13.17                        | November 13, 2012 |
| * 11.2                                        | May 15, 2014      | 13.18                        | November 13, 2012 |
| * 11.3                                        | May 15, 2014      | 13.19                        | November 13, 2012 |
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| * 11.6                                        | May 15, 2014      | 13.22                        | November 13, 2012 |
| * 11.7-8                                      | Deleted           | 13.23                        | November 13, 2012 |
| <b>12 Fuel (tab)</b>                          |                   | 13.24                        | November 13, 2012 |
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| 14.4                                    | November 15, 2010 | * PI-QRH.22.1-10    | Deleted |
| 14.5                                    | November 15, 2010 | * PI-QRH.23.1-6     | Deleted |
| 14.6                                    | November 13, 2012 | * PI-QRH.24.1-6     | Deleted |
| 14.7                                    | June 8, 2012      | * PI-QRH.25.1-6     | Deleted |
| 14.8                                    | June 4, 2010      | * PI-QRH.TOC.30.1-2 | Deleted |
| 14.9                                    | June 4, 2010      | * PI-QRH.30.1-3     | Deleted |
| 14.10                                   | November 15, 2010 | * PI-QRH.30.4       | Deleted |
| 14.11                                   | November 15, 2013 | * PI-QRH.30.5-6     | Deleted |
| 14.12                                   | November 15, 2013 | * PI-QRH.31.1-10    | Deleted |
| * 14.13                                 | May 15, 2014      | * PI-QRH.31.11-12   | Deleted |
| 14.14                                   | November 15, 2013 | * PI-QRH.32.1-10    | Deleted |
| 14.15                                   | November 15, 2013 | * PI-QRH.33.1-6     | Deleted |
| 14.16                                   | November 15, 2013 | * PI-QRH.34.1-6     | Deleted |
| 14.17                                   | November 15, 2013 | * PI-QRH.35.1-6     | Deleted |
| 14.18                                   | November 15, 2013 |                     |         |
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| * 15.TOC.1-2                            | May 15, 2014      |                     |         |
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| OI.TOC.1-2                              | June 4, 2010      |                     |         |
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| <b>Performance Inflight - QRH (tab)</b> |                   |                     |         |
| * PI-QRH.TOC.1-2                        | May 15, 2014      |                     |         |
| * PI-QRH.TOC.10.1-2                     | Deleted           |                     |         |
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| * PI-QRH.10.4                           | Deleted           |                     |         |
| * PI-QRH.10.5-6                         | Deleted           |                     |         |
| * PI-QRH.11.1-10                        | Deleted           |                     |         |
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| * PI-QRH.15.1-6                         | Deleted           |                     |         |
| * PI-QRH.TOC.20.1-2                     | Deleted           |                     |         |
| * PI-QRH.20.1-3                         | Deleted           |                     |         |
| * PI-QRH.20.4                           | Deleted           |                     |         |
| * PI-QRH.20.5-6                         | Deleted           |                     |         |
| * PI-QRH.21.1-10                        | Deleted           |                     |         |
| * PI-QRH.21.11-12                       | Deleted           |                     |         |
| <b>757-200 PW2037 LB FAA TO EI</b>      |                   |                     |         |
| * PI-QRH.TOC.10.1-2                     | May 15, 2014      |                     |         |
| * PI-QRH.10.1                           | May 15, 2014      |                     |         |
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| * PI-QRH.13.1                           | May 15, 2014      |                     |         |
| * PI-QRH.13.2                           | May 15, 2014      |                     |         |

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| * PI-QRH.13.3                          | May 15, 2014 | * PI-QRH.23.1                   | May 15, 2014 |
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# Checklist Instructions

## Normal Checklists

# Chapter CI

## Section 1

### Introduction

This introduction gives guidelines for use of the Normal Checklist (NC).

The NC is organized by phase of flight.

The NC is used to verify that critical items have been done.

### Normal Checklist Operation

Normal checklists are used after doing all respective procedural items.

The following table shows which pilot calls for the checklist and which pilot reads the checklist. Both pilots visually verify that each item is in the needed configuration or that the step is done. The far right column shows which pilot gives the response. This is different than the normal procedures where the far right column can show which pilot does the step.

| Checklist      | Call         | Read             | Verify | Respond                |
|----------------|--------------|------------------|--------|------------------------|
| PREFLIGHT      | Captain      | First officer    | Both   | Area of responsibility |
| BEFORE START   | Captain      | First officer    | Both   | Area of responsibility |
| BEFORE TAXI    | Captain      | First officer    | Both   | Area of responsibility |
| BEFORE TAKEOFF | Pilot flying | Pilot monitoring | Both   | Pilot flying           |
| AFTER TAKEOFF  | Pilot flying | Pilot monitoring | Both   | Pilot monitoring       |
| DESCENT        | Pilot flying | Pilot monitoring | Both   | Area of responsibility |
| APPROACH       | Pilot flying | Pilot monitoring | Both   | Area of responsibility |
| LANDING        | Pilot flying | Pilot monitoring | Both   | Pilot flying           |
| SHUTDOWN       | Captain      | First officer    | Both   | Area of responsibility |
| SECURE         | Captain      | First officer    | Both   | Area of responsibility |

If the airplane configuration does not agree with the needed configuration:

- stop the checklist
- complete the respective procedure steps
- continue the checklist

If it becomes apparent that an entire procedure was not done:

- stop the checklist
- complete the entire procedure
- do the checklist from the start

Try to do checklists before or after high work load times. The crew may need to stop a checklist for a short time to do other tasks. If the interruption is short, continue the checklist with the next step. If a pilot is not sure where the checklist was stopped, do the checklist from the start. If the checklist is stopped for a long time, also do the checklist from the start.

After completion of each checklist, the pilot reading the checklist calls,  
"\_\_\_\_\_ CHECKLIST COMPLETE."

---

## Checklist Content

The checklist has the minimum items needed to operate the airplane safely.

Normal checklists have items that meet any of the following criteria:

- items essential to safety of flight that are not monitored by an alerting system, or
- items essential to safety of flight that are monitored by an alerting system but if not done, would likely result in a catastrophic event if the alerting system fails, or
- needed to meet regulatory requirements, or
- items needed to maintain fleet commonality between the 737, 747-400, 757, 767, and 777, or
- items that enhance safety of flight and are not monitored by an alerting system (for example the autobrake), or
- during shutdown and secure, items that could result in injury to personnel or damage to equipment if not done

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## Checklist Construction

When a checklist challenge does not end with “switch or lever”, then the challenge refers to system status. For example, “Landing Gear...Down”, refers to the status of the landing gear, not just the position of the lever.

When a checklist challenge ends with “switch or lever”, then the challenge refers to the position of the switch or lever. For example, “FUEL CONTROL switches...CUTOFF” refers to the position of the switches.





## Checklist Instructions

### Non-Normal Checklists

## Chapter CI

### Section 2

### Introduction

The non-normal checklists chapter contains checklists used by the flight crew to cope with non-normal situations. The checklists are grouped in sections which match the system description chapters in Volume 2.

Most checklists correspond to a light, alert, or EICAS alert message. In some cases, the master WARNING or master CAUTION, and miscellaneous lights also illuminate to indicate the non-normal condition. These lights, alerts, and EICAS alert messages indicate a non-normal condition and are the cues to select and do the associated checklist.

Checklists without a light, alert, or EICAS alert message (such as Ditching Preparation) are called unannunciated checklists. Most unannunciated checklists are in the associated system section. For example, Fuel Leak Engine is in section 12, Fuel. Unannunciated checklists with no associated system are in section 0, Miscellaneous.

All checklists have condition statements. The condition statement briefly describes the situation that caused the light, alert, or EICAS alert message. Unannunciated checklists also have condition statements to help in understanding the reason for the checklist.

Some checklists have objective statements. The objective statement briefly describes the expected result of doing the checklist or briefly describes the reason for steps in the checklist.

Checklists can have both memory and reference items. Memory items are critical steps that must be done before reading the checklist. The last memory item is followed by a dashed horizontal line. Reference items are actions to be done while reading the checklist.

Some checklists have additional information at the end of the checklist. The additional information provides data the crew may wish to consider. The additional information does not need to be read.

Checklists that need a quick response are listed in the Quick Action Index. In each system section, Quick Action Index checklists are listed first, followed by checklists that are not in the Quick Action Index. The titles of Quick Action Index checklists are printed in **bold** type. Checklist titles in upper case (such as AUTOBRAKES) are annunciated by a light, alert, or EICAS alert message. Checklist titles in upper and lower case (such as Window Damage) are not annunciated.

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## Non-Normal Checklist Operation

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Non-normal checklists start with steps to correct the situation. If needed, information for planning the rest of the flight is included. When special items are needed to configure the airplane for landing, the items are included in the Deferred Items section of the checklist. Flight patterns for some non-normal situations are located in the Maneuvers chapter and show the sequence of configuration changes.

While every attempt is made to supply needed non-normal checklists, it is not possible to develop checklists for all conceivable situations. In some smoke, fire or fumes situations, the flight crew may need to move between the Smoke, Fire or Fumes checklist and the Smoke or Fumes Removal checklist. In some multiple failure situations, the flight crew may need to combine the elements of more than one checklist. In all situations, the captain must assess the situation and use good judgment to determine the safest course of action.

It should be noted that, in determining the safest course of action, troubleshooting, i.e., taking steps beyond published non-normal checklist steps, may cause further loss of system function or system failure. Troubleshooting should only be considered when completion of the published non-normal checklist results in an unacceptable situation.

There are some situations where the flight crew must land at the nearest suitable airport. These situations include, but are not limited to, conditions where:

- the non-normal checklist includes the item "Plan to land at the nearest suitable airport."
- fire or smoke continues
- only one AC power source remains (engine or APU generator)
- any other situation determined by the flight crew to have a significant adverse effect on safety if the flight is continued.

It must be stressed that for smoke that continues or a fire that cannot be positively confirmed to be completely extinguished, the earliest possible descent, landing, and evacuation must be done.

If a smoke, fire or fumes situation becomes uncontrollable, the flight crew should consider an immediate landing. Immediate landing implies immediate diversion to a runway. However, in a severe situation, the flight crew should consider an overweight landing, a tailwind landing, an off-airport landing, or a ditching.

Checklists directing an engine shutdown must be evaluated by the captain to determine whether an actual shutdown or operation at reduced thrust is the safest course of action. Consideration must be given to the probable effects of running the engine at reduced thrust.

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There are no non-normal checklists for the loss of an engine indication or automatic display of the secondary engine indications. Continue normal engine operation unless an EICAS alert message shows or a limit is exceeded.

Non-normal checklists also assume:

- During engine start and before takeoff, the associated non-normal checklist is done if a light, alert, or EICAS alert message is shown or a non-normal situation is identified. After completion of the checklist, the Dispatch Deviations Guide or operator equivalent is consulted to determine if Minimum Equipment List dispatch relief is available.
- System controls are in the normal configuration for the phase of flight before the start of the non-normal checklist.
- If the master WARNING or master CAUTION, and miscellaneous lights illuminate, all related amber and red lights are reviewed to assist in recognizing the cause(s) of the alert.
- Aural alerts are silenced and the system is reset by the flight crew as soon as the cause of the alert is recognized.
- The EICAS message list is canceled after all checklists are complete or on hold so that future messages are more noticeable.
- The EMERGENCY position of the oxygen regulator is used when needed to supply positive pressure in the masks and goggles to remove contaminants. The 100% position of the oxygen regulator is used when positive pressure is not needed; but contamination of the flight deck air exists. The Normal position of the oxygen regulator is used if prolonged use is needed and the situation allows. Normal boom microphone operation is restored when oxygen is no longer in use.
- Indicator lights are tested to verify suspected faults.
- Flight crew reset of a tripped fuel pump circuit breaker is prohibited. In flight, reset of any other tripped circuit breaker is not recommended. However, these other tripped circuit breakers may be reset once, after a short cooling period (approximately 2 minutes), if in the judgment of the captain, the situation resulting from the circuit breaker trip has a significant adverse effect on safety. On the ground, flight crew reset of any other tripped circuit breaker should only be done after maintenance has determined that it is safe to reset the circuit breaker.
- Flight crew cycling (pulling and resetting) of circuit breakers to clear a non-normal condition is not recommended, unless directed by a non-normal checklist.
- When a non-normal checklist directs the flight crew to attempt only one reset of a switch per flight, a second reset of the switch should not be done until maintenance has cleared the malfunction.

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## Non-Normal Checklist Use

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If a checklist or a step in a checklist is not applicable to all airplanes, airplane effectivity information is included in the checklist. Airplane effectivity can be listed by airplane number, registry number, serial number or tabulation number. If a checklist is applicable to some but not all airplanes, airplane effectivity is centered below the checklist title. If a step in a checklist is applicable to some but not all airplanes, airplane effectivity is included above the step. If a checklist or a step in a checklist is applicable to all airplanes, airplane effectivity information is not included.

Non-normal checklist use starts when the airplane flight path and configuration are correctly established. Only a few situations need an immediate response (such as CABIN ALTITUDE or Rapid Depressurization). Usually, time is available to assess the situation before corrective action is started. All actions must then be coordinated under the captain's supervision and done in a deliberate, systematic manner. Flight path control must never be compromised.

When a non-normal situation occurs, at the direction of the pilot flying, both crewmembers do all memory items in their areas of responsibility without delay.

The pilot flying calls for the checklist when:

- the flight path is under control
- the airplane is not in a critical phase of flight (such as takeoff or landing)
- all memory items are complete.

The pilot monitoring reads aloud:

- the checklist title
- messages (if applicable)
- as much of the condition statement as needed to verify that the correct checklist has been selected
- as much of the objective statement (if applicable) as needed to understand the expected result of doing the checklist.

The pilot flying does not need to repeat this information but must acknowledge that the information was heard and understood.

For checklists with memory items, the pilot monitoring first verifies that each memory item has been done. The checklist is normally read aloud during this verification. The pilot flying does not need to respond except for items that are not in agreement with the checklist. The item numbers do not need to be read.

Non-memory items are called reference items. The pilot monitoring reads aloud the reference items, including:

- the precaution (if any)
- the response or action
- any amplifying information.

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The pilot flying does not need to repeat this information but must acknowledge that the information was heard and understood. The item numbers do not need to be read.

The word "Confirm" is added to checklist items when both crewmembers must verbally agree before action is taken. During an inflight non-normal situation, verbal confirmation is required for:

- an engine thrust lever
- a fuel control switch
- an engine or APU fire switch, or a cargo fire arm switch
- a generator drive disconnect switch.

This does not apply to the Dual Engine Failure checklist.

With the airplane stationary on the ground:

- the captain and the first officer take action based on preflight and postflight areas of responsibility.

With the airplane in flight or in motion on the ground:

- the pilot flying and the pilot monitoring take action based on each crewmember's areas of responsibility.

After moving the control, the crewmember taking the action also states the checklist response.

The pilot flying may also direct reference checklists to be done by memory if no hazard is created by such action, or if the situation does not allow reference to the checklist.

Checklists include an Inoperative Items table only when the condition of the items is needed for planning the rest of the flight and the condition is not indicated by a light, alert, or EICAS alert message. The inoperative items, including the consequences (if any), are read aloud by the pilot monitoring. The pilot flying does not need to repeat this information but must acknowledge that the information was heard and understood.

Consequential EICAS alert messages can show as a result of a primary failure condition (such as RUDDER RATIO as a result of HYDRAULIC SYSTEM PRESSURE (L Only)) or as a result of doing a non-normal checklist (such as L PACK OFF or R PACK OFF as a result of doing the Smoke, Fire or Fumes checklist). The flight crew should do the checklists for consequential EICAS alert messages, unless the statement "Do not accomplish the following checklists:" is included. All consequential EICAS alert messages may not show while doing the primary checklist, depending on operational circumstances.

After completion of the non-normal checklist, normal procedures are used to configure the airplane for each phase of flight.

When there are no deferred items, the DESCENT, APPROACH and LANDING normal checklists are used to verify that the configuration is correct for each phase of flight.

When there are deferred items, the non-normal checklist will include the item "**Checklist Complete Except Deferred Items.**" The pilot flying is to be made aware when there are deferred items. These items are included in the Deferred Items section of the checklist and may be delayed until the usual point during descent, approach or landing.

The deferred items are read aloud by the pilot monitoring. The pilot flying or the pilot monitoring takes action based on each crewmember's area of responsibility. After moving the control, the crewmember taking the action also states the response.

When there are deferred items, the Deferred Items section of the non-normal checklist will include the Descent, Approach and Landing normal checklists. These checklists should be used instead of the usual DESCENT, APPROACH and LANDING normal checklists. If a normal checklist item is changed as a result of the non-normal situation, the changed response is printed in **bold** type. The pilot flying or the pilot monitoring responds to the deferred normal checklist items based on each crewmember's area of responsibility. However, during the deferred Landing normal checklist, the pilot flying responds to all deferred normal checklist items.

Each checklist has a checklist complete symbol at the end. The following symbol indicates that the checklist is complete:



The checklist complete symbol can also be in the body of the checklist. This only occurs when a checklist divides into two or more paths. Each path can have a checklist complete symbol at the end. The flight crew does not need to continue reading the checklist after the checklist complete symbol.

After completion of each non-normal checklist, the pilot monitoring states "\_\_\_\_ CHECKLIST COMPLETE."

Additional information at the end of the checklist is not required to be read.

The flight crew must be aware that checklists cannot be created for all conceivable situations and are not intended to replace good judgment. In some situations, at the captain's discretion, deviation from a checklist may be needed.

## Non-Normal Checklist Legend

### Redirection Symbol



The redirection symbol is used in two ways:

- In the Table of Contents of a system section, to direct the flight crew to a different system section.
- In a non-normal checklist, with the word "Go to", to direct the flight crew to a different checklist or to a different step in the current checklist.

### Separator Symbol



The separator symbol is used in two ways:

- In the Table of Contents of a system section, to separate the Quick Action Index checklists from the checklists that are not in the Quick Action Index.
- In a non-normal checklist, to separate the memory items from the reference items.

### Task Divider Symbol

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The task divider symbol is used to indicate the end of one task and the beginning of another task.

### Decision Symbol

Choose one:



The decision symbol is used to identify possible choices.

### Precaution Symbol



The precaution symbol is used to identify information the flight crew must consider before taking the action.

Intentionally  
Blank





**Evacuation Checklist is on the  
reverse side of this page.**



Evacuation

Condition: Evacuation is needed.

- 1 Parking brake . . . . . Set C
- 2 Cabin altitude MODE SELECT . . . . . MAN F/O
- 3 CABIN ALTITUDE  
MANUAL control . . . . . Hold in CLIMB until  
the outflow valve indication  
shows fully open to  
depressurize the plane F/O
- 4 FUEL CONTROL  
switches (both) . . . . . CUTOFF C
- 5 Advise the cabin to evacuate. C
- 6 Advise the tower. F/O
- 7 Engine and APU  
fire switches (all) . . . . . Override and pull F/O
- 8 If an engine or APU fire warning occurs:  
Related fire  
switch . . . . . Rotate to the stop and  
hold for 1 second F/O

