

	TAKEOFF		2.02.12	P 1
	MTOW CALCULATION (TEMP. ENTRY)		SEQ 100	REV 19

DETERMINATION OF MAXIMUM TAKEOFF WEIGHT AND SPEEDS

DIRECT CHART READING

The takeoff chart is computed for a given runway under a set of conditions, which are :

- OAT
- Wind
- Configuration
- QNH, air conditioning, anti ice...

Two configurations are produced on the chart. This enables the crew to select that giving the highest permissible takeoff weight. In case of equivalent performance, retain the configuration giving the best aft body clearance, i.e. the highest flap setting.

For a given configuration, enter the chart with the OAT and wind value to determine the maximum permissible weight. For an OAT or wind value not presented on the chart, interpolate between two consecutive temperature rows and/or two consecutive wind columns. Conservative OAT or wind values can also be considered. No extrapolation is allowed.

CORRECTIONS DUE TO DIFFERENT TAKEOFF CONDITIONS

Retain the maximum takeoff weight, associated configuration and speeds from above.

For conditions different from those of the chart, apply relevant corrections.

CONSERVATIVE CORRECTIONS FOR QNH AND BLEEDS FROM FCOM 2.02.24 p 1

Corrections are given for QNH $\neq$ 1013 hPa, air conditioning ON, anti ice ON.

1. For the given wind and temperature conditions, read the maximum takeoff weight (choose the configuration giving the highest weight).
2. Apply the published weight correction(s) to the maximum takeoff weight (for each correction) to determine the maximum permissible takeoff weight.
3. Read the speeds associated with the maximum permissible takeoff weight by entering the chart with the retained configuration and wind value.

Example 1

TO BE ISSUED LATER

	TAKEOFF MTOW CALCULATION (TEMP. ENTRY)		2.02.12	P 2
			SEQ 100	REV 19

Example (Cont'd)

TO BE ISSUED LATER

CORRECTIONS FOR WET OR CONTAMINATED RUNWAYS FROM FCOM 2.04.10

(Refer to FCOM 2.04.10)

CORRECTIONS PRODUCED ON THE RTOW CHART (SEE EXAMPLE ON 2.02.10 P6)

A description of this correction is given on 2.02.10 P3. The list of corrections is not exhaustive, however the most commonly used corrections are wet runway, QNH, air conditioning and/or anti ice. A maximum of three corrections can be produced on one chart.

To apply the corrections, proceed as follows :

1. Enter the chart with given OAT and wind to determine the maximum takeoff weight before correction.
2. Apply the first correction :

If OAT is less than or equal to TVMC (line 3), apply ΔW correction from line 1 and $\Delta V1/\Delta VR/\Delta V2$ corrections from line 2.

Else, (for OAT greater than TVMC), apply ΔW correction from line 3 and $\Delta V1/\Delta VR/\Delta V2$ corrections from line 4.

3. To combine a second (and third, as applicable) correction :

If OAT is less than or equal to TVMC (line 3), apply ΔW correction from line 1 and $\Delta V1/\Delta VR/\Delta V2$ corrections from line 2.

Check that the resulting speeds are higher than the minimum speeds displayed on the RTOW chart and that V2 is higher than the VMU limited speed (FCOM 2.02.25).

If OAT is higher than TVMC (line3) or if the above speed check is not fulfilled, apply ΔW correction from line 3 and $\Delta V1/\Delta VR/\Delta V2$ corrections from line 4. No speed check is required.

Note : – QNH correction is given for ± 10 hPa. It is allowed to extrapolate linearly for greater QNH deviation.

- When using a takeoff chart with failure cases, it is not allowed to combine two failure cases.
- Corrections from the chart must be applied from top to bottom, i.e. in the RTOW on 2.02.10 p6, apply the wet correction first.
- If asterisk or dotted lines appear in the correction boxes, refer to more conservative corrections provided in the FCOM.
- No speed check is required for the first correction. However, if the first influence correction follows a conservative FCOM correction, a speed check is required.

TAKEOFF		2.02.12	P 3
MTOW CALCULATION (TEMP. ENTRY)		SEQ 100	REV 19

Example 2

To be issued later

 A340-600 <i>Flight Crew Operating Manual</i>	TAKEOFF		2.02.12	P 4
	MTOW CALCULATION (TEMP. ENTRY)		SEQ 100	REV 19

COMBINING CORRECTIONS FROM FCOM AND CHART

Proceed as follows :

1. Enter the chart with selected configuration, OAT and wind to read the maximum takeoff weight.
2. Apply corrections from FCOM to determine an intermediate weight. Interpolate associated speeds for intermediate weight in the same column (same wind and configuration).
3. Apply corrections from RTOW chart as explained above.

Example 3

To be issued later

	TAKEOFF		2.02.12	P 5
	MTOW CALCULATION (TEMP. ENTRY)		SEQ 100	REV 19

Example (Cont'd)

TO BE ISSUED LATER

VMU CHECK

On 2.02.25 are given the V2 limited by VMU/VMCA values per configuration. For each pressure altitude and weight combination, two speed values are given. The first value applies to all temperatures less than or equal to ISA + 15. The second value applies to ISA + 40. For a temperature between ISA + 15 and ISA + 40, interpolate linearly between the two given speeds.

The speeds in the tables are checked for VMCA limitation.

Note : *The minimum V2 speed due to VMCA is given on the RTOW chart.*

EXTRAPOLATION

For a takeoff weight lower than those displayed on the chart, associated speeds are calculated as follows :

1. For given configuration and wind, note the speeds associated with the takeoff weight in the row displaying the highest permissible temperature.
2. Apply speed corrections provided at the bottom of the RTOW chart to V1, VR and V2 limited to the minimum speeds.

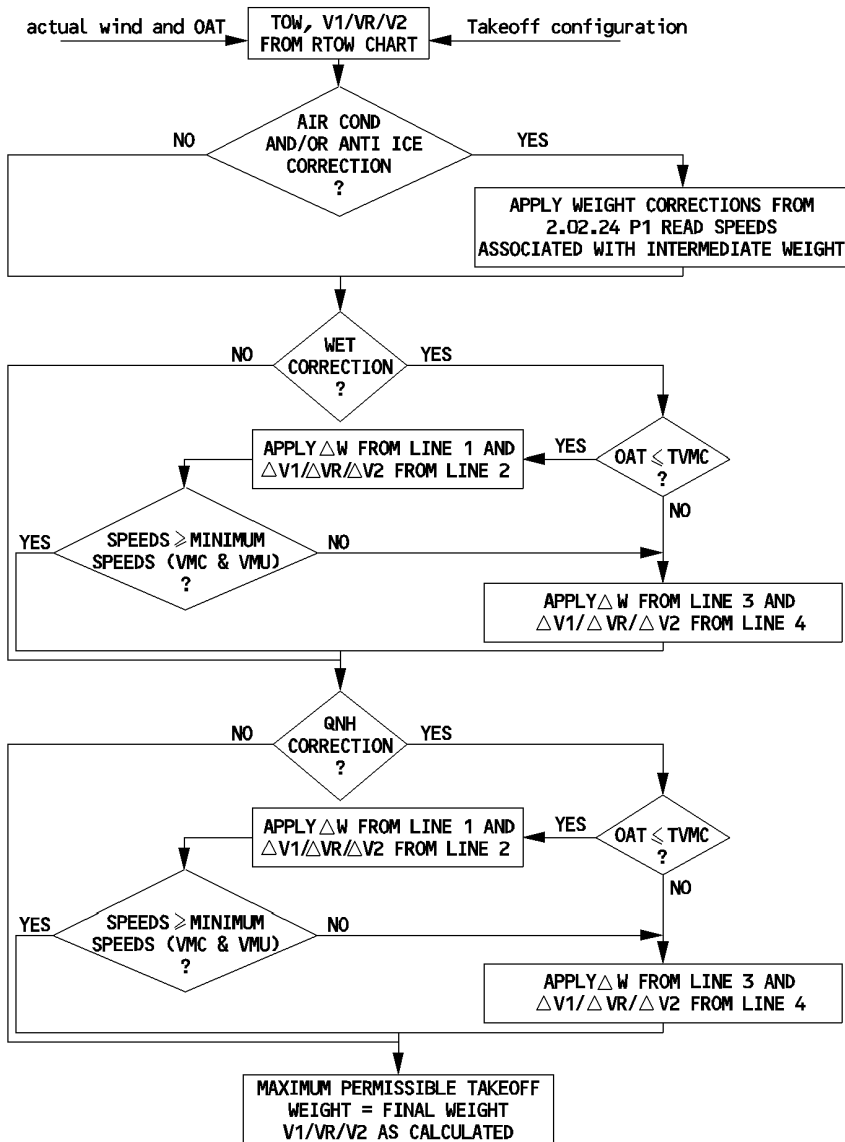
MAXIMUM STRUCTURAL TAKEOFF WEIGHT

The maximum structural takeoff weight is a weight limitation depending on the aircraft. This limitation is provided in the Flight Manual and in the chapter limitation of the FCOM3.

Compare the maximum structural takeoff weight to the maximum permissible takeoff weight computed for given conditions and retain the lower of the two values.

SUMMARY

The following flow diagram gives the different steps to follow.



FFCS-02-0212-006-A001AA