
Subject: Change to Terrain Avoidance Procedures

Note: This bulletin supersedes FB 16-11: Change to Terrain Avoidance Procedures, dated September 6, 2016. Changes and/or updates are denoted by revision bars.

Introduction

In response to recent FOQA and ASAP reports, a change to Terrain Avoidance procedures is required. Data has shown that pilots, operating in day visual conditions, have not adjusted their flight paths when receiving a Terrain Caution or Terrain Warning. Three FOQA events have occurred in the last 30 days.

The most recent event occurred 20 miles from the airport, in mountainous terrain, within minutes of official sunset. FOQA data showed height above terrain to be 670 ft AGL. An aural warning PULL UP sounded continuously for 10 seconds with no adjustment to flight path or go-around.

Procedure

Pilots are now required to:

- Immediately adjust the flight path or initiate a go-around to correct any GPWS Caution.
- Immediately accomplish the Terrain Avoidance Maneuver for any GPWS Warning, e. g., PULL UP.

The daylight VMC exception notes in the FCTM that currently permit a crew to disregard GPWS Cautions or Warnings if he determines that no threat exists are being removed. The new FCTM guidance is on the following pages.

Terrain Avoidance Maneuvers

Ground Proximity Caution

Accomplish the following maneuver for any of these aural alerts:

Pilot Flying	Pilot Monitoring
Immediately adjust the flight path or initiate a go-around.	

- SINK RATE
- TERRAIN AHEAD
- DON'T SINK
- TOO LOW FLAPS
- TOO LOW GEAR
- TOO LOW TERRAIN
- GLIDESLOPE
- TERRAIN

A319/320

- TERRAIN AHEAD
- OBSTACLE AHEAD

A321

- CAUTION TERRAIN
- CAUTION OBSTACLE
- TOO LOW TERRAIN

The below glideslope deviation alert may be canceled or inhibited for:

- localizer or LDA without glideslope approach
- circling approach from an ILS
- when conditions require a deliberate approach below glideslope
- unreliable glideslope signal.

Ground Proximity Warning

The Ground Proximity Warning System (GPWS) PULL UP Warning occurs when an unsafe distance or closure rate is detected with terrain below the aircraft. The Enhanced Ground Proximity Warning System (EGPWS)/look-ahead terrain alerting also provides an aural warning when an unsafe distance is detected from terrain ahead of the aircraft. If either of these occur, immediately accomplish the Terrain Avoidance maneuver.

Do not attempt to engage the autopilot and/or autothrust until terrain clearance is assured.

Accomplish the following maneuver for any of these conditions:

- activation of any PULL UP warning

A319/320

- activation of TERRAIN AHEAD, PULL UP warning
- activation of OBSTACLE AHEAD, PULL UP warning

A321

- activation of TERRAIN TERRAIN, PULL UP warning
- activation of OBSTACLE OBSTACLE, PULL UP warning
- activation of AVOID TERRAIN warning
- activation of AVOID OBSTACLE warning

A319/320/321

- other situations resulting in unacceptable flight toward terrain.

Pilot Flying	Pilot Monitoring
• Disconnect autopilot. • Pitch up using full back stick. • Disregard the flight directors. CAUTION: Use caution when in degraded flight control law, stall protection is lost. • Advance the thrust levers to their forward limit (TOGA). • Ensure speedbrakes are retracted. • Level the wings. CAUTION: Bank may be adjusted to avoid the terrain displayed on the ND for a TERRAIN AHEAD warning only.	• Verify maximum thrust. • Verify all required actions have been completed and call out any omissions. • Verify speedbrakes are retracted.
• Do not change gear or flap configuration until terrain separation is assured. • Monitor radio altimeter for sustained or increasing terrain separation. • When terrain clearance is assured, return the thrust levers to the CL detent and restore the autoflight systems as desired. If the GPWS recovery occurred at flaps 1 or greater, the FMS will be in the go-around phase.	• Monitor vertical speed and altitude (radio altitude for terrain clearance and barometric altitude for a minimum safe altitude). • Call out any trend toward terrain contact. • Call out "ALPHA FLOOR" if alpha floor activates.

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