



U.S. Department
of Transportation
**Federal Aviation
Administration**

SAFO

Safety Alert for Operators

SAFO 15004
DATE: 3/10/15

Flight Standards Service
Washington, DC

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO.

Subject: Scenario-Based Go-Around Training

Purpose: This SAFO encourages air carriers to incorporate scenario-based go-around training into pilot training curricula.

Background: The Commercial Aviation Safety Team (CAST) is a voluntary organization made up of government agencies, air carriers, manufacturers and aviation labor organizations dedicated to reducing the commercial aviation accident rate and associated fatality risk. CAST conducted an in-depth study of numerous loss-of-control accidents and incidents. Four of those events occurred during the go-around phase of flight and were either due to a speed decay leading to a stall or a significant nose down input, likely as a reaction to pilots encountering the somatogravic illusion. Based on this accident and incident analysis, CAST determined scenario-based go-around training would be an improvement to air carrier pilot training.

Discussion: The somatogravic illusion is a vestibular illusion which is experienced during high accelerations/decelerations when a pilot has no clear visual reference. Pilots often experience the combination of rapid acceleration and reduced/no visual cues (i.e. instrument meteorological conditions (IMC) and/or night flying). When pilots are unable to utilize their visual system to resolve the ambiguity, the brain uses the signals it is receiving and interprets them as a 'tilt'. The net result is a tilt back (i.e. pitching up) sensation under acceleration, and a tilting forward (i.e. pitching down) sensation under deceleration. The Federal Aviation Administration (FAA) agrees with CAST and encourages air carriers to incorporate the following elements into go-around procedures and training:

- 1) **Ground Training.** Possibility of encountering the somatogravic illusion during go-around and its potential consequences.
- 2) **Flight Training.** Go-around maneuvers in realistic scenarios in the following conditions:
 - From various stages of the approach, including configurations other than final landing configuration;

- From visual approaches followed by loss of visual references;
- With extreme pitch trim configuration, such as nose up trim resulting from flight at speeds below approach speed with the autopilot engaged;
- In low-weight configuration with all engines at go-around thrust;
- After the initial touchdown, such as from a bounced or long landing; and
- With air traffic control (ATC) clearance change just after go-around is initiated.

Recommended Action: Directors of operations, directors of training, and training center managers should review the information in this SAFO and revise the go-around procedures and training as appropriate.

Contact: Questions or comments regarding this SAFO should be directed to the Air Transportation Division, AFS-200, at (202) 267-8166.