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.