

FFS

Continuing Qualification

Regular Recurrent

Day 1

Airports used for Training

- Minneapolis-St. Paul, Minnesota (KMSP)
- Reno, Nevada (KRNO)

CAST (Critical Aircraft Situational Training) Maneuvers

- PRM (Precision Monitored Approach)
- Unusual Attitudes
- GPWS (Ground Proximity Warning System) maneuvers

Selected Event Training

- VNAV Approach
- Oxygen Mask/Smoke Goggles Training
- Engine Failure During second segment of climb

▲ DELTA AIR LINES		# Of Pages →
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0412-20254 Sticker 7/92

OVERVIEW

Three Simulator Days

- Day 1 - No jeopardy training in CAST, PRM breakouts, VNAV approaches, new O₂ mask, Reno engine failure. (This is the 6-month visit training day for ER pilots, designated CQ6 on simulator schedules).
- Day 2 - No jeopardy training in non-precision approaches, CAT I, II, III, missed approaches, landing with flap malfunction, RTO, V₁ cut, manually flown engine out approach and landing, and SPOT.
- Day 3 - Oral evaluation, walk around slides, Maneuvers Validation and LOE with Captain as pilot flying.

CAST - Critical Aircraft Situation Training

New category of our training which includes upset recoveries, GPWS recoveries, and windshear recoveries.

Show the CAST video (About 14 Minutes)

- (1) Roll characteristics - Low AOA (max landing weight, flaps 5 on speed)
 - Rolls - rudder only, put hands on control column to aid pitch control (45° bank back and forth. Roll slowly, no overshoots.)
 - Rolls - aileron only (roll smoothly into 90° bank, roll out using max aileron deflection. Note nose drop and altitude loss.)
 - Rolls - aileron and coordinated rudder (roll smoothly into 90° bank, roll out using max aileron and coordinated rudder.)
- (2) Roll characteristics - High AOA (gear down, flaps 30 on speed)
 - Rolls - rudder only, put hands on control column to aid pitch control (45° bank back and forth. Roll slowly, no overshoots.)
 - Rolls - aileron only (roll smoothly into 90° bank, roll out using max aileron deflection. Note sluggish response.)
 - Rolls - aileron and coordinated rudder (roll smoothly into 90° bank, roll out using max aileron and coordinated rudder.)
- (3) Recovery from onset of accelerated stall (gear up, flaps 20 on speed)
 - The wrong way - Roll into 60° - 80° bank, allowing nose to drop 5°-10° below the horizon. Increase back pressure to get stick shaker. Now maintain back pressure, roll with max aileron and no rudder and recover to level flight. Note sluggish response.
 - The right way - Same entry to stick shaker. Now release back pressure, roll with max aileron and coordinated rudder and recover to level flight. Note quicker response.

544

Delta Airlines

NOTIFICATION
ON/IN/NO:

REGULAR RECURRENT

767 Training Manual

DAY

(4) Nose low recovery (gear up, flaps 20 on speed)

- Roll to 120° bank. When the nose passes 20° nose low, recover to level using full aileron and coordinated rudder to roll wings level, then smoothly pull the nose up to the horizon.

(5) Nose hi recovery (gear up, flaps 20)

- Pull the nose up to 40° and recover to level flight. Recovering to level flight from deck angles in excess of 25° may result in cabin injuries if aggressive elevator is used with the wings level. The recovery will be smoother if bank is increased, allowing the nose to drop while maintaining positive "g" on the aircraft.

(6) Pitch/Power characteristics demonstration (gear up, flaps 20)

- From level flight add max power with no forward pressure on control yoke. Observe nose pitch up caused by increased thrust (One per crew).

CFIT AVOIDANCE (Reference POM 28-306)

Recovery Procedures

EGPWS system test and operations - Review POM pages 24-204 & 205

ILS PRM BREAKOUTS

Show the video. (About 10 Minutes)

• PF Procedures

Autopilot -OFF

Turn - Comply with ATC, do not overbank

Altitude - comply with ATC, Climb or Descent to assigned altitude

Climbing Breakout

- Add power towards go-around power
- Maintain configuration

Descending Breakout

- No more than 1,000 FPM descent (This is very close to 0° on the ADI)
- No lower than the minimum vectoring altitude (This may be lower than the MSA)

Flight Director - Disregard

Call for Flight Directors Off

Maintain configuration until established on assigned heading and altitude.

Autothrottles - As desired. If ON, they will maintain the selected command bug speed.

April 1, 2000

CQ 1.

MANEUVERS28 - 30
1-29-9

AVOIDANCE AND ESCAPE MANEUVERS**TURBULENT AIR PENETRATION PROCEDURES**

- Limit speed to 290 knots/.78 Mach.
- Ignition on.
- Avoid making large pitch, roll, thrust or trim changes.

For severe turbulence

- Avoid severe turbulence if at all possible.
- Leave AP engaged if conditions permit.
- A/T may remain engaged until throttle movement is excessive.
- If severe turbulence cannot be avoided, buffet margin may be increased by descending approximately 4,000 feet below FMS optimum altitude.

Additional turbulent air penetration references
(PRM TRAINING GUIDE).

UNUSUAL ATTITUDE RECOVERY PROCEDURES

- PNF should back up recovery process, and assist with appropriate callouts (VSI, A/S and altitudes).
- Nose low recovery.
 - Reduce thrust.
 - Extend speedbrakes (if required to control airspeed).
 - Roll wings level in nearest direction to the horizon, then
 - Pitch the nose to level flight attitude. Avoid a rolling pullout.
- Nose high recovery.
 - Max thrust.
 - Pitch the nose to level flight attitude, and simultaneously
 - Roll wings level.
- Return to ATC assigned heading and altitude.

28 - 302
8-30-96

AVOIDANCE AND ESCAPE

MANEUVERS

STANDARD RECOVERY TECHNIQUE (SRT) PROCEDURES

Standard recovery technique will be used for stall recovery, windshear, and excessive sink rates below 1,000 feet AGL.

THRUST APPLICATION

- Select go-around.
- Aggressively apply maximum thrust (firewall).
- Disconnect autothrottle.

NOTE: This sequence is significant since selecting the go-around mode re-engages the autothrottle.

PITCH AND ROLL CONTROL

- Disengage the autopilot.
- Rotate toward a 15° nose up attitude and roll wings level.
 - Stop rotation if stick shaker or stall buffet is encountered.
 - Use the intermittent stick shaker as the upper control pressure limit.

NOTE: If ground contact becomes imminent, increase pitch attitude to stop descent, even if doing so causes a steady stick shaker.

- When ground contact is no longer a factor:
 - FD pitch bar may be followed.
- The PNF should call radio altitudes and trends, e.g., "200 FEET DESCENDING" or "100 FEET CLIMBING," etc.

AIRCRAFT CONFIGURATION

- Maintain configuration until ground contact is no longer a factor.

NOTE: If standard recovery technique is used during an approach, retracting to flaps 20 may be accomplished as long as prompt pitch and thrust application are made. Flaps 20 reduces drag but increases stall speed slightly.

- When recovery is complete, reduce thrust and accomplish a normal cleanup.