

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

N 8400.69

6/22/04
Cancellation
Date: 6/22/05

SUBJ: LOSS OF PITCH TRIM COMMAND ON EMBRAER MODEL EMB-135 AND EMB-145 SERIES AIRPLANES

1. PURPOSE. This notice is for principal operations inspectors (POI) of certificate holders who operate Embraer Model EMB-135 and EMB-145 series airplanes. It is to advise those inspectors and applicable certificate holders of Special Airworthiness Information Bulletin (SAIB) NM-04-55, dated March 8, 2004, published by the Federal Aviation Administration (FAA) Aircraft Certification Service (AIR). This SAIB provides information about the temporary loss of pitch trim command on EMB-135 and EMB-145 airplanes, the Service Bulletins (SB) Embraer has issued, and a temporary crew procedure for dual pitch trim inoperative – circuit breaker cycling.

2. DISTRIBUTION. This notice is distributed to the division level in the Flight Standards Service in Washington headquarters; to the branch level in the regional Flight Standards divisions; to the Flight Standards District Offices, and to the Regulatory Standards Division at the Mike Monroney Aeronautical Center. This notice is also distributed electronically to the division level in the Flight Standards Service in Washington headquarters and to all regional Flight Standards divisions and district offices. This information is also available on the FAA's Web site at: <http://www.faa.gov/avr/afs/notices/8400/N8400-69.doc>.

3. BACKGROUND.

a. The Departamento de Aviacao Civil (DAC), Brazil's airworthiness authority, notified the FAA that a service difficulty condition may exist on certain Embraer Model EMB-135 and EMB-145 series airplanes. The DAC advised that several operators have reported temporary loss of the pitch trim command during climbout after takeoff, which may result in significant difficulties controlling the airplane. Pitch trim command has also been lost in other phases of flight. The airplane was demonstrated during original certification to be controllable with the pitch trim system inoperative provided the flightcrew followed the airplane flight manual (AFM) procedure, "PITCH TRIM INOPERATIVE," located in the Emergency Procedure section. However, control column forces experienced during recent loss of pitch trim command incidents have proven to be of a severity that warrants prompt relief and, thus, the purpose of the interim procedures addressed by this notice.

b. Embraer has issued a number of SBs to modify the pitch trim system for the EMB-135 and EMB-145 series airplanes. These bulletins are listed in SAIB NM-04-55.

c. The SAIB advises owners and operators of Embraer EMB-135 and EMB-145 series airplanes of certain recommended actions that may prove to be significant to the continued airworthiness of the airplanes.

4. PROCEDURES.

a. Notwithstanding Notice 8400.65, Completion of Non-Normal Cockpit Checklist Procedures, dated May 3, 2004, the FAA highly recommends U.S. operators of the Embraer EMB-135 and EMB-145 series airplanes to follow the procedures in Appendix 1 of this notice if they experience a shutdown of both the primary and backup pitch trim.

b. Each U.S. airline should work with its controlling Flight Standards office to ensure the intent of these procedures is incorporated into their aircraft's flightcrew operating manual, or similar document, and into their training programs. This SAIB is applicable to all U.S. type-certificated EMB-135 and EMB-145 series airplanes that are affected by the Brazilian Airworthiness Directive; Embraer SBs relevant to the pitch trim system; and Notice of Proposed Rulemaking 2003-NM-97-AD. These temporary non-normal checklist procedures provide crews with a safe and immediate means of alleviating these in-flight situations if one occurs. These interim procedures should remain in effect until the aircraft are modified per the applicable SBs.

5. ACTION.

a. **Non-Air Transportation Oversight System (ATOS) Air Carriers.** POIs with oversight responsibility for air carriers that operate the EMB-135 or EMB-145 series airplane shall make the following known to the director of safety (DOS) of their respective part 121 certificate holder:

(1) SAIB NM-04-55, which addresses the temporary loss of pitch trim command on EMB-135 and EMB-145 series airplanes. This SAIB is available on the AIR Web site at: www.airweb.faa.gov, under Special Airworthiness Information Bulletins.

(2) DOSs should determine the impact of SAIB NM-04-55 and take appropriate action to implement necessary requirements on their operation.

b. **ATOS Air Carriers.** POIs with oversight responsibility for part 121 certificate holders that operate the EMB-135 or EMB-145 series airplane shall:

(1) Make SAIB NM-04-55 known to the certificate holder's DOS. This SAIB addresses the temporary loss of pitch trim command on EMB-135 and EMB-145 series airplanes and is available on the AIR Web site at: www.airweb.faa.gov, under Special Airworthiness Information Bulletins. DOSs should determine the impact of SAIB NM-04-55 and take appropriate action.

(2) Assess the air carrier's response to the SAIB. An air carrier's failure to implement appropriate action into its existing program could result in potential increased risk levels in several areas.

(3) Determine if additional surveillance is required or further action is necessary to address the potential increased risk levels. Possible additional actions may include retargeting the comprehensive surveillance plan to include accomplishing appropriate safety attribute inspections or element performance inspections, convening a system analysis team, or re-evaluating air carrier approvals or programs.

6. TRACKING.

a. Non-ATOS Air Carriers. Document the conveyance of the information contained in this notice for each air carrier affected:

- (1) Use Program Tracking and Reporting Subsystem (PTRS) code 1381.
- (2) Enter "N840069" (without the quotes) in the "National Use" field.
- (3) Once the above information has been provided to the air carrier, close out the PTRS.

b. ATOS Air Carriers. POIs will make an ATOS entry using the "Other Observation DOR" functionality to record the actions directed by SAIB NM-04-55.

- (1) Select System: 7.0 Technical Administration.
- (2) Select Subsystem: 7.2 Other Programs.
- (3) Select the appropriate air carrier from the drop-down menu.
- (4) Select "1381" from the "PTRS Activity Number" drop-down menu.
- (5) Enter the date the activity was started and completed.
- (6) Enter the location the activity was performed.
- (7) Enter "N840069" (without the quotes) in the "Local/Regional/National Use" field.
- (8) Use the "Comments" field to record any comments reflecting interaction with the air carrier and the air carrier's response to the recommendation.
- (9) Input any actions taken in the "Reporting Inspector Action Taken" field.
- (10) Select the "Save" button after all entries have been made.

7. DISPOSITION. This notice will not be incorporated into Order 8400.10, Air Transportation Operations Inspector's Handbook. Questions concerning this notice should be directed to the Air Transportation Division, AFS-200, at (202) 267-7731.

/s/ James J. Ballough
Director, Flight Standards Service

**EMBRAER EMB-135/145
Series Airplanes
TEMPORARY PROCEDURE
FOR
DUAL PITCH TRIM INOPERATIVE –
CIRCUIT BREAKER CYCLING**

IF BOTH PITCH TRIM SYSTEMS ARE INOPERATIVE:

Quick Disconnect Button PRESS AND HOLD
Pitch Trim Main SystemOFF
Pitch Trim Backup SystemOFF
Quick Disconnect ButtonRELEASE

NOTE: In case any affected Circuit Breaker (F11 or C24) is popped, a reset must not be performed.

At a safe altitude:

Pitch Trim Circuit Breaker (F11 and C24)PULL & RESET
Pitch Trim Backup SystemON
Backup Pitch Trim Switch.....CHECK SWITCH

NOTE: The Pitch Trim circuit breakers may only be pulled and reset once.

If Backup Pitch Trim command is reestablished, continue the flight with that Pitch Trim System.

NOTE: The Autopilot will not be available.

If pitch trim command is not reestablished:

Pitch Trim Backup SystemOFF
Pitch Trim Main SystemON
Main Pitch Trim Switches.....CHECK SWITCHES

If Main Pitch Trim command is reestablished, continue the flight with that Pitch Trim System.

If pitch trim command is not reestablished:

Quick Disconnect Button PRESS AND HOLD
Pitch Trim Main SystemOFF
Pitch Trim Backup SystemOFF
Quick Disconnect Button RELEASE

Consider landing at the nearest suitable airport in accordance with the FAA-approved Airplane Flight Manual procedures for pitch trim inoperative

ANOTHER TAKEOFF IS NOT PERMITTED UNTIL APPROPRIATE MAINTENANCE ACTION HAS BEEN ACCOMPLISHED.