

ORDER: 8300.10 and 8400.10

APPENDIX: 4

BULLETIN TYPE: Joint Flight Standards Information Bulletin (FSIB) for Airworthiness (FSAW) and Air Transportation (FSAT)

BULLETIN NUMBER: FSAW 94-23 and FSAT 94-08

BULLETIN TITLE: Analysis of an L-1011 Accident and Review of Maintenance and Quality Assurance Programs

EFFECTIVE DATE: 06-03-94

TRACKING NUMBER: NTSB 93-50 and 93-53

-----

1. PURPOSE. This bulletin provides information requesting Principal Operations (POI), Maintenance (PMI), and Avionics Inspectors (PAI) to review the circumstances of an L-1011 accident and then evaluate their operators' crew training and trend monitoring programs for adequacy.

2. BACKGROUND.

A. On July 30, 1992, an L-1011 aircraft experienced an aborted takeoff shortly after lift-off from John F. Kennedy International Airport in New York. A malfunction of the right side angle-of-attack sensor was not detectable during the pilot's preflight checks and did not trigger a fault light in the system's automatic monitoring system. This sensor had malfunctioned eight times prior to its installation on the accident airplane. It is believed that the chronic malfunction was not detected by the operator's reliability control program because calendar days since last shop visit rather than flight hours since last shop visit was used as the trend reporting standard.

B. During the investigation of this accident, it was found that a false stall warning stick-shaking occurred as the airplane lifted off the runway. The first officer, who was flying the aircraft, incorrectly perceived that the airplane was stalling and without proper coordination transferred control of the airplane to the captain, who then aborted the takeoff.

C. Although the pilots were trained in accordance with applicable company and FAA requirements, training inadequacies were found in flightcrew coordination; specifically, in transferring control of the airplane during take-off and in evaluating and reacting to unexpected anomalies, such as false stall warnings and over-speed warnings. In addition, the operator's procedures allowed flightcrews to initiate takeoffs without a pre-departure briefing. Thus, it had been determined that the flightcrew involved in this accident may not have been adequately prepared for effective crew coordination during abnormal circumstances.

3. ACTION. As a result of the L-1011 accident, inspectors should perform the following tasks:

A. PMI's and PAI's of FAR Part 121 and 135 operators should review their airlines' maintenance and quality assurance programs and take appropriate actions to verify that the trend-monitoring programs are structured to satisfactorily detect the following:

- Repetitive malfunctions in individual components
- Adverse trends that may be developing in component groups

NOTE: Flight hours since last shop visit, calendar days in service monitoring, or a combination of both should be used in order to identify chronic malfunctions.

B. Principal inspectors of FAR Part 121 and 135 operators should review the circumstances of the L-1011 accident and make the facts, conditions, and circumstances of the accident known to their appropriate airline operations, training, and maintenance personnel.

4. INQUIRIES. This FSIB was developed by AFS-330, Air Carrier Branch. For questions regarding this bulletin, contact AFS-510 at (703) 661-0333, extension 5019.

5. EXPIRATION DATE. This bulletin will expire on 12-30-94.

/s/

Frederick J. Leonelli