

FROM: THE BOEING COMPANY
TO: MOM [MESSAGE NUMBER: MOM-MOM-09-0063-01B] 04-Mar-2009 05:29:01
AM US PACIFIC TIME
Multi Operator Message

This message is sent to all 737-100,-200,-300,-400,-500,-600,-700,-800,-900,-BBJ customers and to respective Boeing Field Service bases, Regional Directors, the Air Transport Association, International Air Transport Association, and Airline Resident Representatives.

SERVICE REQUEST ID: 1-1228079803

ACCOUNT: Boeing Correspondence (MOM)

DUE DATE: 10-Mar-2009

PRODUCT TYPE: Airplane

PRODUCT LINE: 737

PRODUCT: 737-100,-200,-300,-400,-500,-600,-700,-800,-900,-BBJ

ATA: 3400-00

SUBJECT: 737-800 TC-JGE Accident at Schiphol Airport, Amsterdam - 25 February 2009

REFERENCES:

/A/ 1-1222489391 Dated 25 February 2009

Reference /A/ provides Boeing's previous fleet communication on the subject event. The US NTSB, FAA, Boeing, the Turkish DGCA, the operator, the UK AAIB, and the French BEA continue to actively support the Dutch Safety Board's (DSB) investigation of this accident.

The DSB has released a statement on the progress of the investigation and has approved the release of the following information.

While the complex investigation is just beginning, certain facts have emerged from work completed thus far:

- To date, no evidence has been found of bird strike, engine or airframe icing, wake turbulence or windshear.**
- There was adequate fuel on board the airplane during the entire flight.**
- Both engines responded normally to throttle inputs during the entire flight.**
- The airplane responded normally to flight control inputs throughout the flight.**

The Digital Flight Data Recorder (DFDR) data indicates that the crew was using autopilot B and the autothrottle for an ILS (Instrument Landing System) approach to runway 18R at Amsterdam Schiphol airport. During the approach, the right Low Range Radio Altimeter (LRRA) was providing accurate data and the left LRRA was providing an erroneous reading of -7 to -8 feet. When descending through approximately 2000 feet the autothrottle, which uses the left radio altimeter data, transitioned to landing flare mode and retarded the throttles to the idle stop. The throttles remained at the idle stop for approximately 100 seconds during which time the

airspeed decreased to approximately 40 knots below the selected approach speed.

The two LRRA systems provide height above ground readings to several aircraft systems including the instrument displays, autothrottle, autopilots and configuration/ground proximity warning. If one LRRA provides erroneous altitude readings, typical flight deck effects, which require flight crew intervention whether or not accompanied by an LRRA fault flag, include:

- Large differences between displayed radio altitudes, including radio altitude readings of -8 feet in flight.
- Inability to engage both autopilots in dual channel APP (Approach) mode
- Unexpected removal of the Flight Director Command Bars during approach
- Unexpected Configuration Warnings during approach, go-around and initial climb after takeoff
- Premature FMA (Flight Mode Annunciation) indicating autothrottle RETARD mode during approach phase with the airplane above 27 feet AGL. There will also be corresponding throttle movement towards the idle stop. Additionally, the FMA will continue to indicate RETARD after the throttles have reached the idle stop

Boeing Recommended Action

- Boeing recommends operators inform flight crews of the above investigation details and the DSB interim report when it is released. In addition, crews should be reminded to carefully monitor primary flight instruments (airspeed, attitude etc.) and the FMA for autoflight modes. More information can be found in the Boeing 737 Flight Crew Training Manual and Flight Crew Operations Manual.

Operators who experience any of the flight deck effects described above should consult the troubleshooting instructions contained in the 737 Airplane Maintenance Manual. Further, 737-NG operators may wish to review 737NG-FTD-34-09001 which provides information specific for the 737-NG installation. Initial investigations suggest that a similar sequence of events and flight deck indications are theoretically possible on the 737-100/-200/-300/-400/-500. Consequently the above recommendations also apply to earlier 737 models.