ANSV AGENZIA NAZIONALE
PER LA SICUREZZA DEL VOLO

Ref. 5882/INV/625/9/09
Roma, 24.9.2009

SAFETY RECOMMENDATION

To: Federal Aviation Administration
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Washington D.C. 20591
U.S.A.

European Aviation Safety Agency
Executive Director - Mr. Patrick Goudou
Postfach 10 12 53
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Cc: National Transportation Safety Board
Chairman - Ms. Deborah A.P. Hersman
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Aircraft Accident Investigation Board
Head - Mr. Johan Stranddorf
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Ente Nazionale per l'Aviazione Civile
President - Mr. Vito Riggio
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Subject: Boeing 737-700, registration marks OY-MRG. Serious incident occurred on June 13th 2009 at Firenze airport (LIRQ), Italy.

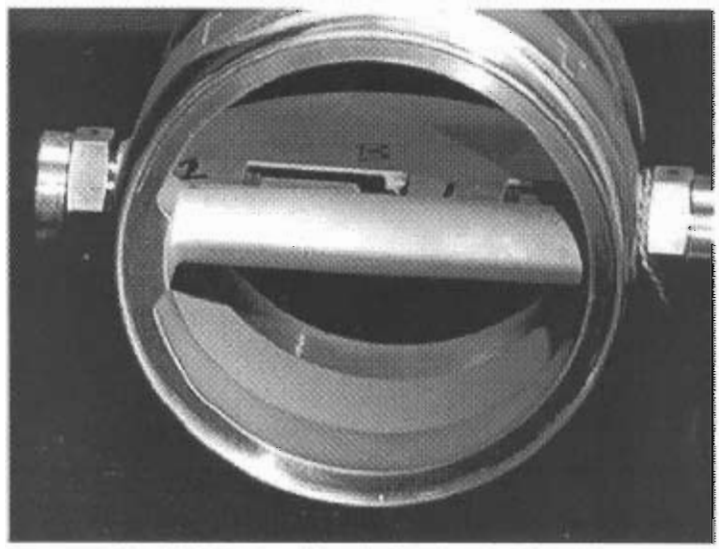
1. Synopsis.

On June 13th 2009, at 06.59 UTC, the aircraft B737-700 registerd OY-MRG powered with CFM56-7B22 engines experienced a flameout while crossing 2500 ft. on approach to Florence airport (LIRQ), Italy.

The crew decided for an in-flight restart of the engine and the aircraft was then safely landed on the destination airport.

As a result of the information subsequently collected from the Operator, ANSV finds out that the same Operator experienced, during taxi, another flameout on the same type of airplane equipped with same CFM56-7B22 engine model.

The root of the problem was identified in the bleed air check valve (P/N 3202222-1) stuck in the open position. The valve is designed to prevent reverse flow from 9th stage into the 5th stage of the High Pressure Compressor.



P/N 3202222-1 bleed air check valve.

The Operator, the 28th Jun 2009, released an internal communication called "Flight safety bulletin" announcing the decision to inspect within the next three days all the same fleet type airplanes powered with same CFM56-7B22 engines, furthermore the Operator instructed the flight crews to pay close attention at the engines EGT values especially at or near idle power.

2. Findings.

Questioned on the event by the NTSB, Boeing competent with engine accessories, published on their "Fleet team digest" dated 1st July 2009 the following.

1) In just over a year, the 737 NG fleet has experienced five engine shutdowns that were all caused by the 5th stage bleed air check valve stuck in the open or partially open position.
2) With the 5th stage bleed air check valve stuck in the open position, an engine compressor surge can occur as 9th stage bleed air backflows into the engine HPC 5th stage that typically occurs during an engine acceleration while at low power.
3) Boeing examined four 5th stage bleed air check valves of the five reported events and all four were found stuck in the open position due to fractured bushings in the valve flapper butterfly plates.

Furthermore considering that pending a final solution, as per interim action, Boeing suggests operators, if an inflight shutdown or ground rundown occurs, to perform FIM (Fault isolation manual) 71-05 task 805 which includes the removal of the valve, its visual examination for free movement, and if the visual inspection is not satisfactory, the installation of a new bleed air check valve.

3. Remarks.

Considered that an engine flameout in a twin engines aircraft is to be considered as a serious emergency that could lead to catastrophic consequences if the remaining engine suffers the same or a similar event.

Since no Boeing procedures are published to allow flight crews to identify and manage the event of an engine flameout due to a 5th stage air bleed check valve stuck in the open position and since the FIM task suggested by Boeing, if an inflight shutdown or ground rundown occurs, doesn't seem to be adequate from the side of a pro-active attitude in flight safety, the following is recommended.

4. Recommendations.

ANSV based on previous considerations, recommends Federal Aviation Administration (FAA) and European Aviation Safety Agency:

- to consider requesting Boeing to build-up a pro-active procedure allowing flight crews to identify and manage the event of CFM56-7B22 engines 5th stage bleed air check valve stuck in the open position (**ANSV-6/625-09/1/I/09**);

- to verify the on-going manufacturer investigation process on the involved P/N, in order to determine if the failure is associated with the design of the part or with a production deviation occurrence which affects a limited number of Serial numbers.
  Furthermore to ensure that the affected parts are replaced either if they are identified to belong to a specific batch or if is a fleet wide problem (**ANSV-7/625-09/2/I/09**).

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President