

Empire Airlines

**Supplemental Submission to the
National Transportation Safety Board**

For

Accident ID Number CEN09MA142

Lubbock, Texas (LBB)

January 27, 2009

March 30, 2011

**Empire Airlines, Inc.
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Introduction

Empire Airlines offers the National Transportation Safety Board this supplemental submission to emphasize facts of the accident and information revealed by the subsequent investigation we believe bear directly on the probable cause of the hull loss of Aerospatale Alenia ATR42-320 aircraft, registration N902FX on January 27, 2009. We do not represent this submission as a comprehensive summary of the contributing factors in the accident and are aware that other parties to the investigation offer other theories as to its cause.

Subsequent to the accident, Empire Airlines conducted its own analysis of the facts known at the time. Staff members representing Operations and Maintenance assembled and spent several days sorting through the information available to them in an attempt to identify deficiencies that may have contributed to the accident. Several of our assertions found later in this document are the result of Empire's own analysis. We hasten to add that the analysis Empire conducted was not and is not intended to usurp the NTSB's province to determine the cause of this accident. Rather, it was conducted to help the Company be a more active participant in the investigation process by offering information uncovered during our analysis.

We offer the Investigator-In-Charge and the rest of the NTSB investigative staff our thanks for their efforts to include us in the dissemination of information surrounding the accident.

Flap Malfunction

An accident chain generally begins with one event that sets it in motion. We believe the apparent flap asymmetry of the accident aircraft on approach to Lubbock, Texas was such an event. Without it, we believe it is unlikely the subsequent chain of events would have occurred nor resulted in an accident and hull loss. We are concerned that the technical investigation of the aircraft's remains and study of available digital readouts have not revealed the cause of the flap asymmetry. We may never be known what caused it. However, whether the result of a mechanical malfunction or caused by an accumulation of frozen contaminant, we believe this must be considered the genesis of the accident.

Hydraulic Fluid Anomaly

Empire is also concerned by the inconclusive results of the hydraulic fluid analysis conducted by the NTSB Materials Laboratory. It was reported early in the investigation by the Airworthiness Group Chairman that during an inspection of the flap actuator assemblies, one unit displayed a strange greenish crystalline deposit. This unit was shipped back to the Washington, DC for analysis by the Materials Laboratory. To date, we are not aware of any determination as to the nature of this unusual deposit. While this may not have played a role in the accident, it is disconcerting that the nature of this anomaly cannot be determined.

Cockpit Indication of Flap Asymmetry

As we explained in the introduction, Empire conducted its own analysis of the accident. A principal causal factor that became immediately evident was the lack of a flap asymmetry indication in the cockpit to alert the crew to the nature of the flap problem. Had this indication been provided as it is on later models of the ATR42 and all of the ATR72 aircraft, the captain of the aircraft would arguably not have felt it necessary to spend valuable time investigating the nature of the flap problem that had occurred.

Aircraft Certification

We are aware that the aircraft received its FAA certification as a result of a bilateral agreement with the DGAC of France. While the DGAC apparently concluded the manufacturer had provided an equivalent level of safety under 14 CFR § 25. 699 by limiting flap asymmetry to 10° of split, Empire contends the lack of an asymmetry indication left the crew confused as to the nature of the flap problem. A study conducted by the FAA revealed that only three aircraft have been certificated for operation without the benefit of a cockpit warning of flap anomalies. We believe the FAA should review the aircraft's certification and require it be equipped with a cockpit indication.

Following the Quick Reference Handbook

During the investigation, it was asked why the crew did not simply follow the Quick Reference Handbook. The QRH, as it is referred to, instructs the crew to first identify the nature of the problem and then follow the appropriate checklist. In this situation, the crew was unable to identify the nature of the anomaly with certainty. A cockpit indication would have rendered it unnecessary for the captain to spend time attempting to identify the problem and would have allowed him to immediately work with the first officer to fly the aircraft.

Stick-Pusher

Empire is concerned by the apparent configuration of the stick-pusher device provided to push the nose of the aircraft down in the event of an impending stall. We are told the stick-pusher in this aircraft is always active regardless of the aircraft's altitude. We are extremely surprised that the stick-pusher is not inhibited at an altitude of 500 feet above ground level as many are. The reason for inhibiting it seems obvious. To have the aircraft push over to a nose down attitude at less than 500 feet appears to guarantee impact with the ground and limits alternatives for recovery from a stall.

Simulator Testing

We question the validity of post-accident testing in the manufacturer's simulator for several reasons. First, assuming an accumulation of frozen precipitation on the airframe was any factor at all on the outcome of the accident we believe it is impossible to duplicate the flight as there is no way to quantify the effects of lift and drag in this dynamic situation. We would also point out that flying the simulator with full knowledge of the conditions you are attempting to duplicate is significantly different than flying the aircraft in adverse weather conditions in the dark of night.

Summary

We thank the Board for its consideration of our concerns expressed in this supplemental submission. Empire Airlines is dedicated to learning all we can from this experience in the hope of preventing any future accident.