

Automation under suspicion – case flight AF-447 Air France

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Abstract. The probes allow the pilot to control the aircraft speed was essential to the balance of the flight. Opinions of experts who claim that "the design of the plane would have exercised a not inconsiderable role in the occurrence of a disaster. " These messages revealed a series of important operating errors in a zone of turbulence, "making the plane uncontrollable, leading to a rapid depressurization device, according to these reports. A lawsuit in Toulouse and in Brazil aims to recognition of the liability of Air France and Airbus not insignificant role in the design and operation of the aircraft in the event of catastrophe. Opinions are taken from senior pilots that no commercial aviation training for certain situations abnormal flight that, if realized, could have influenced the pilots of the AF-447 to remove the plane's fatal dive show what experiments performed in simulators for military pilots, who are permanently subject to critical flight situations.

Keywords: processing information; human error; training

1. Introduction

The Air France flight from Rio de Janeiro to Paris that crashed in 2009 plummeted 38,000 ft in just three minutes and 30 seconds because pilots lost vital speed data, France's Bureau of Investigation and Analysis (BEA) said Friday. Pilots on the aircraft got conflicting air speeds in the minutes leading up to the crash, the interim reports states. The aircraft climbed to 38,000 ft when "the stall warning was triggered and the airplane stalled," the report says. Aviation experts are asking why the pilots responded to the stall by pulling the nose up instead of pushing it down to recover. Miles O'Brien, a pilot and aviation analyst, said: "You push down on the wheel to gain air speed, perhaps they (pilots) were getting information that the air speed was too high. Pulling the nose up will exacerbate an aerodynamic stall." The speed displayed on the left primary flight display were "inconsistent" with those on the integrated standby instrument system (ISIS), the report says. It was involving an Airbus 330-200 aircraft and crashed

into the Atlantic 200 aircraft and crashed into the Atlantic like saw at figure 1.*



Figure 1 – The Air France Airbus crashed (Authorized by PKIERZKOWSKI 070328 FGZCP CDG.jpg/thumb)

2. Contextualization

Preliminary data from investigations conducted by the failures of France showed that the aircraft speed sensors, known as Pitot probes, seem to have provided inconsistent readings and other systems may

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have stopped the plane. The probes allow the pilot to control the speed of the aircraft, a crucial element in the balance of the flight. The crash of the Air France flight AF447 on May 31, 2009, was due to pilot error and usual procedures. Preliminary analysis results of black boxes reads: "Airbus pilots were apparently distracted by speed indicators problems and did not react properly against other crucial elements of the flight, as the pressure setting the aircraft,". The figure 2 presents the black-box of the AF- 447.



Figure 2 – The rescued black-box of the Air France 447 flight.

But the group of lawyers Franco-Brazilian states that is based on a theory proposed by independent experts, "which tends to demonstrate that the design of the plane would have exercised a not inconsiderable role in the disaster." These messages revealed a number of important operational errors in a zone of turbulence, "making the plane uncontrollable and have led to a rapid depressurization of the unit," according to the report of these experts. This event would have caused "an escape of compressed air from the cockpit of the device, then the loss of the stabilizer wing, pulled under the effect of speed (900 km / h), and the breakdown of the movement limiter direction pointed to 2:10 a.m. (UTC abbreviation for Coordinated Universal Time) by ACARS messages," the statement added. According to these experts, the depressurization would have been so great and swift that would have caused an explosion, leading to a destruction of the aft fuselage of the plane. The figure 3 gives us a short idea of the destruction of the airplane.



Figure 3- the rescue of the fuselage of the AF- 447

The lawsuit filed in Toulouse and Brazil therefore seeks "recognition of the liability of Air France, while the carrier, and Airbus, with respect to non-negligible role of design and operation of the aircraft in the disaster. It seems that the cockpit crew was monitoring the changes in weather conditions and I changed the route of flight that the initial problem was the failure rate in the probes that led to a disconnection of the autopilot and the loss of protection systems associated with driving, and that the aircraft stalled at a high altitude" said Air France on Friday, July 12. According to the BEA report, the pilots had to deal with inconsistent statements of speeds on the panel. The fall lasted 3 minutes and 30 seconds. The agency says the crew tried to lift the "nose" of the aircraft, and Airbus remained at 35 degree.

3. Considerations

In finding for the confirmation arrives at the following conclusion. The pilots were focused on the flurry of messages warning of breakdowns, depending on the freezing of the pitot (meteorologist presents the conditions, based on actual data from satellites, the level and location it was in the aircraft).[1] Two commanders repeat the conditions and the simulator can solve the problem without stalling. According to the standardization Cmt tells the engine to accelerate to 85% power and take the 5th pitch of goats, at STANDBY. On Air France 447 they did not give

due attention and not sped up the engines manually. But they had intensive training and constant flight in these circumstances.

New facts established

At this stage of the investigation, in addition to the BEA report of 2 July and 17 December 2009, following the new facts were established:

- The composition of the crew was in accordance with the procedures of the operator.
- At the time of the event, the mass and center of gravity were within operational limits.
- At the time of the event, the two co-pilots were in the cabin and the captain of aircraft at rest, the latter returned to the cabin about 1 minute 30 seconds after removal of the autopilot.
- There was an inconsistency between the speed indicated on the left and indicated in the instrument of redemption (ISIS). It lasted less than a minute.
- After turning off the autopilot, the aircraft climbed to 38,000 feet, the loss alarm sounded and the plane came in loss.
- PF (Pilot that is flying the airplane) orders were primarily to raise the nose and the descent lasted 3 min 30 s, during which the aircraft remained in a state of loss. The incidence increased and remained above 35 degrees. The engines were running and always responded to the commands of the crew.
- The amounts are past attitude of 16.2 degrees nose high, scroll left and 5.3 degrees in the vertical velocity of -10,912 ft / min.

Civilians pilots has not part of their training of abnormal attitude. We know a fact I still remember that infamous "prevention screw" in the education of T-37 (Military training plane) mission scheduled in the training of students, when the instructors add 1h20min duration of the mission. Screw there, overall there is crappy, especially the new pilots.

Does the Attitude Indicator (Artificial Horizon for the Jurassic and laity) also crashed? Only in this way to understand this gives total disorientation. Some aircraft keeps the main tools, duplicate the main panel, to assure a safe alternative system in case of power outage. It is seen in figure 4 aircraft with these duplicate analog and digital devices.



Figure 4- This "Glass Display" have, in addition, the AI (Attitude Indicator) and a few other instruments, also permanent and analog-to-measure and safety

The FAA (Federation Aviation Administration) also reinforces the need for instruments Stand by Stand by ASI and ALT (altimeter and speedometer) are purely mechanical in a separate system. With these three instruments over the compass the plane has the primary instruments for the crew to fly the aircraft in an emergency situation of loss of electrical power or in case of loss like the af-447. If it not crashed, the plane was shot down we have a significant contribution of the pitot-static system [2].

References

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