

The Role of Maintenance Organisations in Aviation Safety

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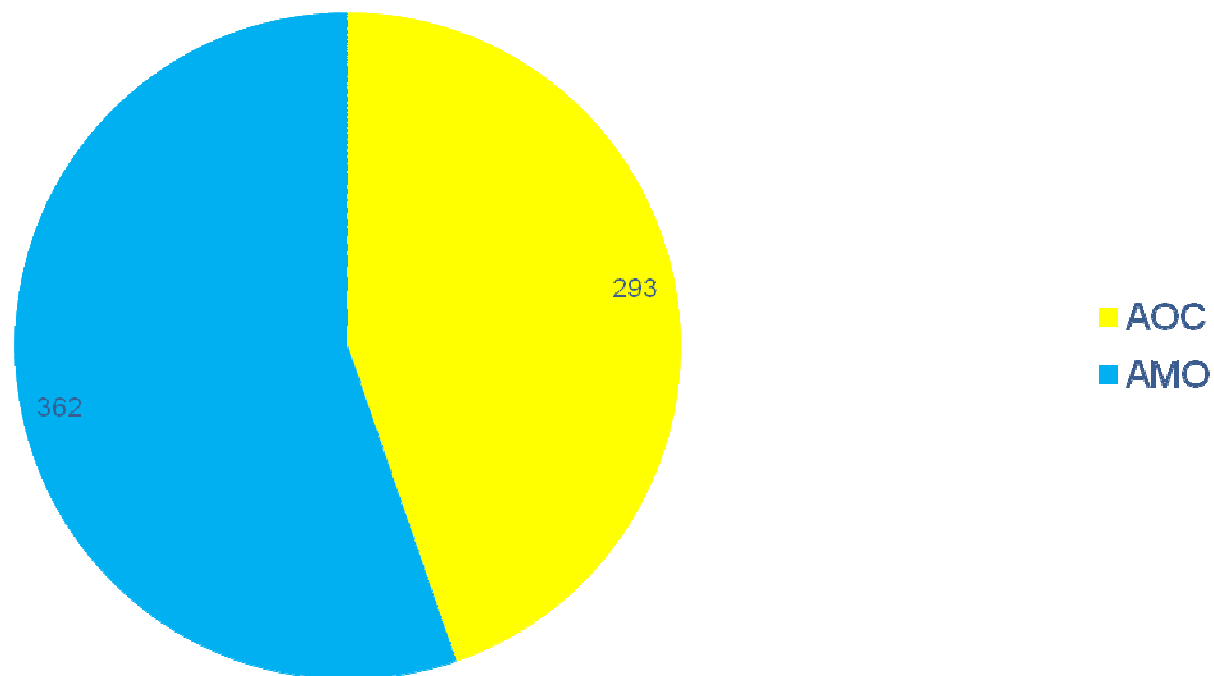
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Background on AMO

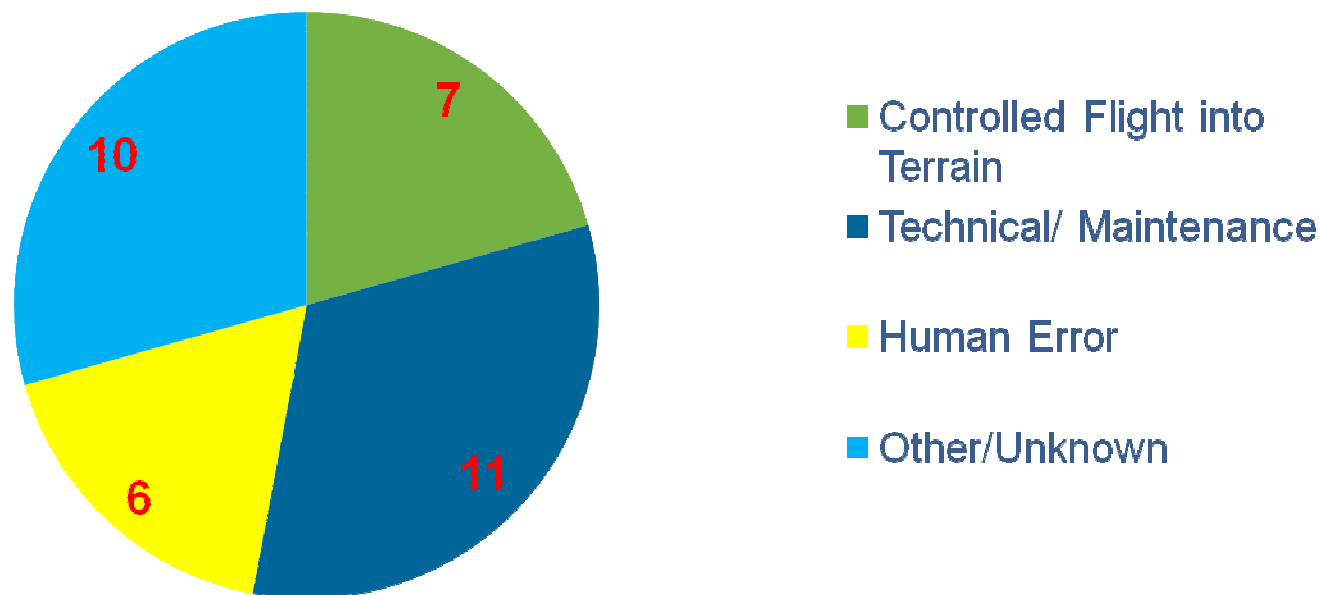
- When an aircraft is designed, every part has a schedule which indicates when it must be serviced or replaced.
- Because of the design philosophy of aircraft equipment, instruments and components, it is mandatory that preventative maintenance be performed by aircraft maintenance organisations for continued airworthiness.
- As much as an airline would like to keep the aircraft in the air, the aircraft need maintenance at the specified intervals by the aircraft manufacturers.

Background on AMO Cont...



Background on AMO Cont...

Global Airline Accident Analysis 2008 By IATA



FATAL AIRLINE CRASHES BY ACCIDENT CATEGORY/ MAIN CAUSAL FACTOR

Human factor in AMO

- It is widely accepted that most accidents result from human error. While it may be easy to dismiss these human errors as acts of carelessness or incompetence, recent research and accident investigation reports suggest that human error is merely the last link in the chain of events that leads to an accident.
- Increasingly, the aviation community is coming around to the notion that most accidents are “organisational” in nature where latent conditions combine with active failures to produce an accident.

The role of Alaskan Airline AMO on Flight 261 Accident

- The Alaskan Airline experienced economic down-turn in the early 1990s; its response was to slash costs on maintenance.
- The pressure on maintenance put the passengers' lives at risk, since aircraft were pushed out of maintenance too quickly, even though some of the aircraft were awaiting spares.
- The Alaskan Airline's AMO had to extend the screw jack intervals between services radically .
- One employee was fired by the Airline's AMO for reporting substandard maintenance performed by the Airline to the FAA.

NTSB's findings on the AMO

- Airline increased maintenance intervals for screw jack service by 400%.
- Out of a fleet of 32 aircraft, six (6) aircraft needed screw jack replacements and they were still in service.
- Engineers falsified records as they were pressurized by management.
- Engineers' recommendations were overruled by management.
- Some records were altered to show work done that was not done.

AMO as a critical safety net for accident prevention

- The failed horizontal stabilizer screw jack had neither redundancy or an alternate fail safe.
- After the accident, the screw jack could not be modified neither was a redundancy system introduced.
- The safe operation of the horizontal stabilizer screw jack solely depended on the performance of maintenance by the AMO.

Recommendations to AMO

- If most accidents are indeed organisational, it follows that organisations are best placed to control those factors that are known to lead to accidents.
- Senior Management of organisations to implement Safety Management System (SMS) with the commitment from the Accountable Executive (CEO).
- SACAA to participate randomly in heavy maintenance of aircraft wherever possible.

Conclusion

- Aircraft were not designed to eat grass but to fly.
- However, for them to fly they need to be maintained in line with the manufacturer's recommendations.
- If not properly maintained, the following will happen:
 - ❖ Accident,
 - ❖ Aircraft grounded by the SACAA, and
 - ❖ Then the aircraft will have no option but to eat grass.

Conclusion Cont...

- A comprehensive corporate approach to safety speaks to the need for aviation maintenance organisations to establish a safety philosophy, safety policies, and to describe its fundamental approach to managing safety in terms of planning, controlling, measuring performance and other related topics that permeate the entire organisation.
- "The entire industry is facing difficult times, and disputes are inevitable, but no-one should ever allow safety to become a bargaining chip." - Bill Voss.