FOQA/FDM Case Study 1

Stowing Takeoff Flap

Problem

When a new customer began Flight Data Monitoring (FDM), they immediately found 'Flap Altitude Exceeded' events were being reported. All events were validated by analysts from Flight Data Services (FDS). Every event was caused by late retraction of the takeoff flap. Some events showed flap retraction at a few hundred feet but two flights showed retraction at 16,000ft and 21,000ft, which was most unexpected.

Investigation

Introduction of FOQA/FDM had not caused these events so the Flight Safety Officer (FSO) could assume that they had been occurring for some time, and thus, began looking for a systematic cause. The FSO spoke with the aircrew from some of the flights and held detailed discussions on the operation of the flap controls.

It emerged that the non-handling pilot made the post-takeoff checks alone and the checks were often interrupted by other tasks such as operating the radios. The non-handling pilot would not always return to the checks, sometimes omitting part of the checklist and forgetting to raise the flap lever. In each case the climb progressed with the takeoff flap set until one of the pilots noticed the position of the lever.

The handling characteristic of the aircraft concerned were not significantly affected by the takeoff flap so the aerodynamic cues were weak and could go unnoticed by both pilots.

Solution

Having identified the weakness in the procedure, the Flight Safety Officer took two actions.

- The immediate action was to bring this to the attention of the aircrew by posting a notice in the crew room.
- The second action was to change the company Standard Operating Procedures (SOPs) to make all flight cockpit checks 'challenge and response'.

Since taking these actions this event has not happened again.

Conclusion

The FDS investigation and action provides a good example of non-punitive use of FDM to correct procedural errors that were going unnoticed.

FDS helps customers to identify safety issues in their operation and then achieve measurable reductions in event rate.

How will you improve flight safety in your operation?

Find out more

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