

CASE STUDY 10

TRIALLING FDM FOR THE BUSINESS JET USER

Flight data services were asked to participate in a one year trial to demonstrate both the safety and economic benefits of FDM to operators of business jets. This was achieved by a trial involving the fitting of three quick access recorders (QARs) to three aircraft which were below the 27,000 kg weight limit for which FDM is mandated from three different operators. Flight data services were selected to install the miniQAR on to the aircraft and provide analysis and results on the non-mandated aircraft.

The success of the trial would determine if there were to be a larger scale trial launched as part of a phase 2 project, during which the benefits of FDM data aggregation will be demonstrated to benchmark and identify trends which would feed in to individual operators' safety management systems.

The first stage was to collect data from aircraft. During the trial, 400 flights of data were collected from the trial aircraft proving that the aircraft could be modified to accept QARs.

INVESTIGATION

Although the purpose of the trial was to prove the feasibility of gathering data from this class of aircraft, the question that immediately followed was, were there any issues found? As with all operations new to FDM, different operators identified different issues, for example, low rotation rates at take-off occurred in one type while with another speedbrakes were used more often than expected. One enthusiastic approach led to a turn peaking at 60 degrees left wing low and 10 degrees nose down. The commander agreed this approach was "a little aggressive in its executive" and he would remember to "reduce the bank angle in future".

Although the trial was only run for a short period, there was one clear case of a safety event being identified and addressed during the course of this trial, specifically the event was high speed between 5000ft and 3000ft during the descent. The limit was set at 250kts to account for bird-strike speed limits, ATC needs and also operations in Class G Airspace.

CONCLUSION

The trial, demonstrated the practicality of gathering data from smaller corporate aircraft and as an added bonus, encouraging initial results were obtained from this programme. All three operators involved in the trial have gained a better understanding of their operation and all three are continuing to monitor their operations.

Some of the larger operators with previous experience of FDM recognised the value and potential for this safety tool to be applied to smaller operators and understood that, for this to be really effective, it had to be tied in with a data sharing mechanism to gain a greater depth of understanding and insight into the safety issues.

A second trial is now being planned to expand the available pool of data and explore the potential for statistical analysis of data across multiple operators.