



Old reliable

A defect a day takes the profit away. Can you afford not to have a maintenance reliability program?

Merran Williams

WHETHER you're operating Dash 8s or B747s, your priority is keeping aircraft out of the hangar and in the air. Establishing a maintenance reliability program that suits your operation is an effective way to reduce costs and keep the business running smoothly. A reliability program is a set of rules and practices for managing maintenance and controlling a maintenance program. The program detects maintenance problems and deter-

mines what is needed to fix them. All operators of transport category aircraft engaged in commercial operations in Australia are required to have one.

Reliability programs make flight operations safer by picking up problems that have the potential to lead to accidents. They enable operators to optimise maintenance schedule tasks when the aircraft is on the ground.

The aeroplanes in one fleet suffered systematic brake overheat problems. The reliability department discovered that the

maintenance manual did not require a brake bleed after the brakes were changed because the aircraft's brake line could not be easily accessed. The maintenance manual was revised to require a flushing procedure.

Another reliability program found the maintenance manual allowed too many repairs to the door seal of the operator's aircraft. The operator changed its procedures to ensure that the seal was replaced once it had been repaired a specified number of times. This reduced the number



defects. The analysis could also encompass workshop and overhaul facility findings, modification evaluations, staff training and service bulletins.

- A way to display and report data: Decide which employees will receive the reliability reports, the format of the reports and how often they will be published.

- Evaluation and review procedures: The program should contain procedures for monitoring and revising reliability standards or alert levels. Operational changes such as the acquisition of new aircraft types and staff changes could lead to changes to the reliability program.

Small aviation businesses can also benefit from the reliability monitoring concept by pooling their data with operators of the same type of aircraft to get enough information for effective analysis. CASA assesses whether pooling arrangements are adequate on a case-by-case basis, as too many variations between operators can distort the analysis.

Adapted from Civil Aviation Advisory Publication 42M-2, available at

www.casa.gov.au/avreg/rules/caap.htm

For more information about maintenance reliability programs, contact

Shamshad Quraishi on 131 757.

of pilot reports about door seal problems. At a minimum, a reliability program should have:

- Clearly defined responsibilities: Everyone involved in administering the reliability program should be aware of their roles and responsibilities.

- Clear definitions: The significant terms and definitions relating to the program should be clearly identified.

- An effective data collection system: Sources of information should be listed, as should procedures for transmitting, collecting and receiving the information. The type of information collected should relate to the objectives of the program.

- A way to monitor performance standards: Establishing reliability alert levels for important mechanical components can help engineers spot variations to normal behaviour. But be aware that alert levels can't be a substitute for minimum acceptable airworthiness levels.

- An effective data analysis system: This

could include comparing operational reliability with aircraft operated by other businesses, analysis and interpretation of trends, and evaluation of frequent

