The Value of **Defect Reporting**

An engine failure on the runway can have an entirely different outcome to the same engine failure at 500 feet. Reporting defects, even seemingly innocuous ones, can prevent a minor incident from becoming a major accident.

One of the requirements under Part 12 *Accidents, Incidents, and Statistics* is the reporting of defects.

A defect incident is described as one "involving failure or malfunction of an aircraft or aircraft component, whether found in flight or on the ground."

"A defect could be something found at scheduled maintenance, or something that came to light through an Airworthiness Directive or Service Bulletin. It could be structural or mechanical, or resulting from a maintenance programme failure where a part goes beyond its overhaul time," says Michael Campbell, CAA Team Leader Safety Data Management.

One defect that recently came to light was the failure of non-conforming small end bushings in some Lycoming engines.

"We saw two failures in close succession, and felt a trend may have been emerging," says Alan Thomson, Business Development Manager at Oceania Aviation.

"We saw signs of bronze deposits in one engine, which only increased after a ten hour re-release to service. In the other instance, we noticed a loud tapping noise in an engine, and found the conrod bushing had badly migrated."

Following this discovery, Oceania had discussions with both Lycoming and CAA Aviation Safety Adviser, John Keyzer.

These discussions, and subsequent defect reports from other participants, resulted in the issue of Continuing Airworthiness Notice 85-008 in New Zealand.

Lycoming issued their own Service Bulletin 632 addressing the problem.

"An issue might not seem important today, but could become important in three months, or in five years. If you don't tell us about it now, we can never do anything about it," says Michael.

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Reporting the Defect

Defects can be reported through the *Here and Now* app available from Google Play or Apple iTunes, with the online reporting tool at www.caa.govt.nz/report, or the CA005D form.

If you're unsure of the reporting requirements, you can always call the CAA on 0508 4 SAFETY (0508 472 338) with your queries before submitting a report.

"We find that if somebody is worried enough about an issue to call us, it's usually worth reporting," says Michael.

After a report is received, it is assessed and classified by the safety analysis team.

It could, for example, be classified as a major defect, which was the failure of a complete system, or a critical defect which had immediate risk to life and limb.

"From there," says Michael, "it is distributed to CAA operational groups and investigators, who decide whether they want to take further action."

CAA Intelligence, Risk and Safety Analysis Manager, Jack Stanton, encourages those submitting a defect report to include as much detail as they can.

"It's useful to receive a nice clear description of the fault, with information like the part number, serial number, and ATA chapter.

"Photographs of defects are worth a thousand words, but only if they're in focus. Often people will take a photograph but so closely it's hard to tell which part of the aircraft you're looking at."

While it is true that most directives about defects are firstly issued by the State of Design or manufacturer concerned, the CAA in New Zealand still collects data that can be used by those foreign agencies to build a better picture of the problem.

"If we're seeing a significant issue with a foreign part, we can also initiate action and contact the appropriate State of Design directly," says Jack.

The distribution of this information globally proves the value of defect reporting, but also shows that a reporting system is effective only when it is supported by the participants.

As Alan notes, "A good defect reporting system increases awareness. If we're seeing a trend emerging we should be alerting the whole industry, because knowledge is power." ■