

SECTION 13.1 DEFECT REPORTING AND AIRWORTHINESS NOTICES (ALL GROUPS)

13.1.1 INTRODUCTION

Defects develop in aircraft and these need to be corrected to ensure continued safe operation.

Repair of the defective item, even to an as new standard, may not prevent recurrence of the defect.

RAAus and CASA collect and use defect reports as a means of identifying trends in the design and maintenance reliability of aircraft and aircraft components. CASA and RAAus use and maintain their own data bases for this purpose. Advice of defects found, and action taken can assist fellow recreational pilots.

This section will:

- a) define a defect; and
- b) seek reports on defects found; and
- c) describe Airworthiness Notices and outline the administrative procedures that relate to defects and Airworthiness Notices.

13.1.2 DEFINITIONS

A defect is any fault in the design and construction of an aircraft, the function or qualitative characteristic of an item fitted to an aircraft which differs from the manufacturer's specification, the drawing or recognised standard of good workmanship for that item other than that classified as fair wear and tear within manufacturer's limits.

When a defect is found or where a maintenance schedule or flight manual is deficient, then a defect report must also be submitted.

13.1.3 PURPOSE OF REPORTING A DEFECT

The purpose of a Defect Report is to:

- a) permit the assessment of reports by RAAus to detect trends in the RAAus aircraft fleet and aeronautical products.
- b) permit timely airworthiness and safety oversight of RAAus listed aircraft.
- c) provide feedback to members, other affected ASAO's, CASA, aircraft manufacturers and the recreational aircraft industry to promote aircraft and product improvement.
- d) to inform improvement in design, manufacturing, and maintenance standards of recreational aircraft.

13.1.4 WHO IS RESPONSIBLE FOR SUBMITTING A DEFECT REPORT

- a) the aircraft owner.
- b) the registered aircraft operator.
- c) the pilot in command.
- d) the hirer.
- e) the maintainer.

13.1.5 DEFECT REPORT

Reports are collected by RAAus and maintained in a database. It is of benefit to both RAAus and the recreational aviation sector that information reported is accurate and relevant.

Also, Part 4B of CAR states that those who own, operate or maintain Australian aircraft must advise CASA of the existence of any:

- a) major defect related to an aircraft
- b) defect discovered while complying with an AD or a direction given by CASA
- c) defect in an aircraft or an aircraft component that if installed in an aircraft would affect its safety or result in a danger to person or property.

This obligation for defect reporting, with respect to a LWA aircraft transferred from the VH register to RAAus remains extant for Part 4B of CAR, even though the aircraft has been listed with RAAus.

Defect information may be:

- a) obtained to provide reliability statistics and trend monitoring of aircraft, engines, propellers, systems and components.
- b) shared with CASA other regulatory authorities and manufacturers.
- c) used as a basis for development or review of an Airworthiness Notice (AN).
- d) used for the development of other advisory publications, such as Airworthiness Bulletins and educational material.
- e) used for other appropriate safety purposes.

NOTE: An Airworthiness Notice is a notice issued by the HAM to RAAus aircraft owners / operators and other interested persons, advising them of a known defect or deficiency and rectification action.

RAAus and CASA does not provide a written response for each defect report that is received and does not investigate in every case. Nonetheless, RAAus in accordance with CASR 103.125 requires operators and maintainers to submit safety related defect reports and will contact the affected parties if more information is required.

13.1.6 EXAMPLES OF REPORTABLE DEFECTS

Listed below are some representative examples of reportable defects. The list is not exhaustive and may vary depending on the type of aircraft and aircraft systems. In all cases the person responsible for reporting defects must assess the safety effect of the defect in relation to the aircraft and operation. If the safety assessment shows the defect is not a major defect or is not required elsewhere in this manual to be reported, then a defect report is not required. If there is any doubt about whether a defect is a reportable defect, seek advice from the HAM or AHAM:

- a) fire, smoke, toxic or noxious fumes inside the aircraft.
- b) an engine exhaust system failure which causes damage during flight to the engine, adjacent structure, equipment, or parts.
- c) contained or uncontained engine failure.
- d) in-flight commanded or uncommanded engine shutdown.
- e) inability to feather or unfeather a propeller, to shut-down an engine or to control thrust, or inflight propeller loss.
- f) serious malfunction of flight controls.
- g) fuel system malfunction affecting fuel supply and distribution.
- h) significant contamination or leakage of fuel, oil, or other fluids.
- i) landing gear failing to extend or retract, or uncommanded opening or closing of landing gear doors during flight.
- j) brake system defects that result in inability or reduction in ability to brake when the aircraft is in motion on the ground (e.g., the defect results in braking performance significantly below expected minimum performance limits).

- k) serious cracks or corrosion in the primary aircraft structure.
- l) separation of any part of an aircraft, which may become a hazard to the aircraft or persons.
- m) failures in digital computer-based equipment and systems, categorised as critical or essential would cause or contribute to a failure of a system function resulting in a hazardous condition for the aircraft.

13.1.7 WHEN TO SUBMIT A DEFECT REPORT

All items fitted to or associated with an RAAus aircraft operation that exhibit faults which meet the definition in Subsection 5 are to have defect reports prepared;

Any member can submit a defect report, which must be submitted to RAAus through the Occurrence Management System, or relevantly through the CASA Defect Reporting System (DRS) for a LWA.

13.1.8 CONTENT OF DEFECT REPORTS

The following information is included in the report:

- a) Aircraft registration,
- b) make, model and serial number.
- c) The component and/or location of the item on the aircraft is to be specified;
- d) Name and description of the defect (include sketches and photographs if possible);
- e) History of use of the item including age, hours operated, conditions of use and of storage;
- f) Item's manufacturer;
- g) What corrective action was taken; and
- h) Any recommended inspection, replacement, or repair actions for other operators.

13.1.9 DEFECT REPORT AND AIRWORTHINESS NOTICE ADMINISTRATIVE PROCEDURES

Once the defect report is submitted through the Occurrence Management System the originator will be sent a confirmation of receipt advice.

Defect reports will be given a reference number for the originators record and all reports will be reviewed by the RAAus HAM.

Every defect report will be reviewed by the RAAus HAM and one or more of the following actions may be taken:

- a) A summary of the defect and its outcome are made available on the RAAus website within the member portal.
- b) An Airworthiness Notice will be prepared. Samples are available on the RAAus website www.raa.asn.au under Safety – Technical – Airworthiness. Due to the wide nature of possible subjects, individual Airworthiness Notice format may vary but will generally follow the format of Topic – Background Discussion – Action Required. Airworthiness Notices may be published in "Sport Pilot" magazine. Depending on the significance of the defect, copies of Airworthiness Notices may also be forwarded by the HAM to all RAAus registered owners of the aircraft type by mail or via email.
- c) The rectification action specified in the AD, AN or SB is to be undertaken or arranged to be undertaken by aircraft owners by an appropriately authorised person within the period specified in the AD, AN or SB.
- d) For LSA Aircraft, each owner/ operator shall be responsible for notifying the manufacturer of any safety of flight issue or significant service difficulty upon discovery.
- e) Aircraft and aircraft component manufacturers may be advised of the defect or deficiency and requested to undertake rectification action and advise all known owners of the affected aircraft or component.