
AIRWORTHINESS DIRECTIVE

On the commencement date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below repeals Airworthiness Directive (AD) AD/GENERAL/87 and issues the following AD under subregulation 39.001 (1) of CASR 1998 and subsection 33 (3) of the *Acts Interpretation Act 1901*. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct an unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Aircraft - General

AD/GENERAL/87
Amdt 1

Primary Flight Control
Cable Terminals - Detailed Visual
Inspections

20/2017

Applicability: All fixed wing aircraft fitted with primary flight control cable assemblies using swaged terminal fittings specified to have been manufactured from SAE-AISI 303Se or SAE-AISI 304 stainless steel if the cable terminal fittings have 15 years or more time in service (TIS).

Cable terminal fittings with unknown TIS are assumed for the purpose of this airworthiness directive (AD) to have more than 15 years TIS.

This AD is not applicable to aircraft that:

- (a) are over 5700 kg MTOW, or
- (b) have in their approved scheduled maintenance tasks, detailed inspections on cable terminal fittings that are at least equivalent to Requirement 1 of this AD.

Note 1: Primary Flight Controls means: For control of the aircraft around the pitch, roll and yaw axis. This AD is not applicable to 'secondary' flight controls such as trim cable or flap cable assemblies.

- Requirement:**
1. Inspect cable terminal fittings as follows:
 - a. Prepare each cable terminal for inspection by:
 - i. removing rubber sleeves, tape or any coverings on the stainless steel swaged terminals (see Note 2).
 - ii. cleaning the surface of the terminal fittings as necessary to remove any contaminants on the surface prior to their inspection.
 - b. Examine the entire exposed surface of each cable terminal fitting using a 10X magnifier or borescope, looking for any corrosion, pitting or cracking on the terminal fitting.
 2. Repeat the inspection detailed in Requirement 1 (b) at the intervals mentioned in the Compliance section of this AD.
 3. Replace any cable assembly which is found to have any evidence of pitting corrosion, or cracking on the cable terminal fitting.
 4. Report to CASA any defects found during compliance with this AD via the Defect Reporting System.

Aircraft - General

AD/GENERAL/87 Amdt 1 (continued)

Note 2: Removal of lock-wire/safety clips may be required to perform the detailed inspection adequately. Certain methods of locking such as lock-wire which is wrapped (spiral) around the terminal should be removed. The requirement for the disassembly of the turnbuckle is at the discretion of the maintainer.

Note 3: Additional guidance, background and references are provided in CASA Airworthiness Bulletin 27-001, ATSB report AE-2012-028 and FAA SAIB CE-02-05R1.

Compliance: **For requirement 1:** Initial Inspection for cables with 15 years or more TIS, or unknown TIS at the effective date of this AD - Before 1 November 2018.

For requirement 2: At intervals not to exceed 12 months.

Note 4: Where the existing manufacturer's maintenance schedule has a cable inspection interval that is different from 12 months, this interval is acceptable for compliance with this AD providing that the detailed inspection task is considered to be the equivalent to the requirements of this AD.

Requirement 3: Before further flight after the performance of requirement 1 or 2.

Requirement 4: Within two working days of the discovery of the defect.

Note 5: Where a cable assembly has been previously replaced and with a logbook entry documenting the replacement, this relieves the repetitive inspection of this AD, for that cable only, until such time as that cable assembly has been in service for 15 years.

This AD commences on 1 November 2017.

Background: Following multiple reports of cable terminal failures, CASA undertook industry consultation via Notice of Proposed Rule Making (NPRM) 1303 MS Proposed Airworthiness Directive to Mandate Inspection or Retirement of Control Cable Assemblies with Terminals Manufactured from SAE – AISI 303 Se Stainless Steel in 2014.

As a result of industry feedback received in response to NPRM 1303 MS, CASA issued AD/GENERAL/87 Primary Flight Control Cable Assembly Retirement mandating retirement of control cable assemblies manufactured with terminal fittings made from SAE-AISI 303 Se Stainless Steel with 15 years or more TIS before 1 January 2018.

Subsequent input from industry as a result of the release of AD/GENERAL/87, as well as additional investigation and risk analysis undertaken by CASA, resulted in CASA issuing PAD/GENERAL/87 Amdt 1 Primary Flight Control Cable Terminals - Detailed Visual Inspections on 31 May 2017. The PAD provided the rationale for enhanced inspection of primary flight control cables rather than mandatory retirement life, offering an acceptable level of safety at a lower material cost to industry.

Industry feedback to PAD/GENERAL/87 Amdt 1 has been incorporated into the actions detailed in this AD which now require a thorough inspection of the cable terminal fittings that have more than 15 years TIS.

Aircraft - General

AD/GENERAL/87 Amdt 1 (continued)

The original issue of this AD became effective on 13 January 2015.



Christopher De Luis
Delegate of the Civil Aviation Safety Authority
29 September 2017