



GLIDING NEW ZEALAND INCORPORATED

ADVISORY CIRCULAR
AC 3-14

**REQUIREMENTS for ACCEPTABLE
TECHNICAL DATA (ATD)**

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1 Introduction

This Advisory Circular provides guidance on the requirements for Acceptable Technical Data (ATD):

- What is major work and what constitutes ATD.
- When it is necessary to have ATD and other required data available.
- Where the relevant ATD and other required data may be found.
- Inspection & ATD conformity certification for major modification & major repair work.

2 What is Major Work and What Constitutes ATD

- 2.1 For advice on determining whether modification or repair work is major or not, see Section C of CAA AC 43-9 Modifications, Repairs and the Form CAA 337. Also see Attachment 1 definitions of major modifications & repairs
- 2.2 Essentially, ATD is the data required to enable the GNZ engineer to carry out modification and repair work in an acceptable manner. The data may only be used if it is approved, or is acceptable to the Director of Civil Aviation – CAR Part 21 Appendix D lists generic ATD (and is reproduced as Attachment 2 to this AC). To get other ATD approved, see CAA AC 43-9 Modifications, Repairs and the Form CAA 337.

3 When it is Necessary to Have ATD and Other Required Data Available

- 3.1 All modification and repair work on gliders that are operating under CAR Part 104 must be carried out in accordance with ATD as defined in CAR Part 21 (see 2.2 above). Additionally, the GNZ engineer must not certify a glider or glider component for release-to-service after the performance of a major modification or a major repair unless the work has been certified for conformity with the relevant ATD. It goes without saying, therefore, that the ATD must be available to the engineer before the work begins.
- 3.2 Routine inspections and owner/operator maintenance on gliders must be carried out in accordance with the GNZ MOAP. Some MOAP data is not strictly ATD as defined in CAR Part 21 – for the purposes of this AC it is called “required data”.

4 Where the Relevant ATD and Other Required Data May be Found

For the performance of:

- 4.1 Daily Inspection (DI) and Duplicate Checks after Rigging: The required data is the TECH 19 Daily Inspection & Tech Log (yellow-covered “DI Book) and GNZ AC 3-01 Glider Daily Inspection (reference MOAP Section 2-7, subsection 7).
- 4.2 Owner/Operator Maintenance: The required data is the MOAP Appendix 3-C and pages 4 & 5 of the DI Book.
- 4.3 Minor Modifications & Repairs: This is GNZ engineer work that could not potentially affect the safety of an aircraft or its occupants as a result of its embodiment (ie it is not major work – see 2.1 above). ATD for such work can generally be found in manufacturer’s maintenance manuals or generic manuals such as “Petite Plastic Plane Patch Primer” or FAA AC 43.13-1B. In the case of installation of instruments or equipment, the particular manufacturer’s installation instructions generally form the ATD. For radio, transponder, FLARM or electrical system installations – see CAA AC 43-14 for the ATD.

- 4.4 Supplemental Inspection and Annual Inspection: The required data is the TECH 22 Maintenance Schedule (check GNZ web site for latest issue) plus the following:
- *DI Book* – check the pages listing minor faults, major defects and owner/operator maintenance. Check that owner/operator maintenance has been signed for and that major defects are properly written up in the glider logbook.
 - *Glider logbook* – all hours and number of flights must be completely up to date. Check logbook entries for work done – engineers need to ensure that they don't end up signing for work done outside their supervision or not done by them.
 - *Glider Flight Manual* – check that it is the current issue (see CAA web site and manufacturer's web site). Also check that any Supplement required as a result of embodiment of a major modification is included in the Flight Manual.
 - *Glider Maintenance Manual* – check that it is the current issue (see manufacturer's web site). If the aircraft is a motor glider, a current version of the Engine & Propeller Maintenance Manual will also be required.
 - *Airworthiness Directives (ADs)* – check the CAA web site for ADs issued since the last inspection. Also look for updates to previous ADs, which are indicated by 'a', 'b', 'c' etc appended to the AD number.
 - *Written work list from the glider owner* – this is advisable so that expectations are clear for both parties.

4.5 Major Repair and/or Modification: The GNZ Class 4 engineer requires this work, to be certified for conformity with the ATD (see section 5 below). Typically, the following will be needed by the engineer before starting the job:

- *Repair scheme or modification drawings, Technical Notes etc* – these will provide any necessary dimensional data, material specifications, embodiment procedures etc – this is the ATD and will be identified on the CAA Form 337.
- *Material Release Notes* – a CAA Form One Authorised Release Certificate or equivalent for each batch or lot number pertaining to materials and parts to be used (eg resins, glue, cloth fibre, rovings, wood, plywood, metal tubing etc). Note that a release note is not required for paint or for a "Standard Part" – see Attachment 1 for definition. Further advice on acceptability of parts can be found in CAA AC 00-1.
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- *Written instructions from the glider owner* – this is advisable so that expectations are clear for both parties.

4.6 Review of Airworthiness: This is a condition and conformity inspection by an IA-G[§] checking to ensure that the glider has been maintained properly, checking for conformity against the glider's type certificate and checking that no unapproved modifications are installed. The IA-G will therefore need the data as in 4.4 & 4.5 above, plus the Type Certificate Data Sheet (TCDS).

[§] IA-G means Inspection Authorisation – Glider. IA-G certificates are issued by GNZ in accordance with Section 3-4 of the GNZ MOAP. The holder of an IA certificate issued by the Director under CAR Part 66 may exercise the same privileges as an AI-G.

5 Inspection & ATD Conformity Certification for Major Modification & Major Repair Work (includes fabric recovering and gel-coat or PU refinishing)

A form CAA 337 must be completed, with the inspection and conformity certification made by an IA-G. The IA-G must:

- Inspect the glider before any major repair work is commenced and determine if the data intended to be used is ATD (see the form CAA 337 with reference to paragraph 2 above).
- If deemed necessary by the IA-G, conduct progress inspections on the repair work. (In the case of gel-coat or PU refinishing, refer to GNZ AC 3-08 for further advice.)
- Inspect the glider after completion of the major modification or major repair work to ensure that the work has been carried out in accordance with the ATD and to an acceptable standard of workmanship.
- Ensure a Flight Manual supplement is added to the Flight Manual if the modification requires this.
- Ensure that a proper logbook entry has been made, that weight & balance forms have been properly completed, and the cockpit weight placard has been updated as necessary.
- Certify conformity on the form CAA 337.

6 CAA References

CAR Part 1	Definitions and Abbreviations
CAR Part 21	Certification of Products and Parts
CAR Part 43	General Maintenance Rules
CAR Part 66	Aircraft Maintenance Personnel Licensing
AC 00-1	Acceptability of parts
AC 43-1	Aircraft maintenance
AC 43-9	Modifications, repairs, and the form CAA 337
AC 43-14	Avionics, installations – Acceptable technical data

Appendix 1 Definitions from CAR Part 1

Major modification means a modification that could potentially affect the safety of an aircraft or its occupants where, as a result of its embodiment, one or more of the following incidents may occur:

- (1) structural collapse:
- (2) loss of control:
- (3) failure of motive power:
- (4) unintentional operation of, or inability to operate, any systems or equipment essential to the safety or operational function of the aircraft:
- (5) incapacitating injury to any occupant:
- (6) unacceptable unserviceability or maintainability:

Major repair means a repair that could potentially affect the safety of an aircraft or its occupants where, as a result of its embodiment, one or more of the following incidents may occur:

- (1) structural collapse:
- (2) loss of control:
- (3) failure of motive power:
- (4) unintentional operation of, or inability to operate, any systems or equipment essential to the safety or operational function of the aircraft:
- (5) incapacitating injury to any occupant:
- (6) unacceptable unserviceability or maintainability:

Standard part means an aeronautical product that conforms to an aeronautical specification that is published in one of the following series and includes design, material, manufacture, and identification requirements:

- (1) Air Force-Navy Aeronautical Standard (AN):
- (2) American National Standards Institute (ANSI):
- (3) Australian Standards (AS):
- (4) British Standards, Aircraft Series (BS):
- (5) Military Standards (MS):
- (6) Military Specifications (MIL-SPEC):
- (7) National Aerospace Standards (NAS):
- (8) New Zealand Standards (NZS):
- (9) SAE Aerospace standard (AS):
- (10) Society of Automotive Engineers (SAE):

Appendix 2 Generic ATD – CAR Part 21 Appendix D

(a) Subject to paragraph (b), the following are acceptable technical data:

- (1) a type certificate data sheet:
- (2) a foreign type certificate data sheet used for the issue of a type acceptance certificate:
- (3) type design data for a type certificated product:
- (4) design change data that supports a design change approved by the means specified in rule 21.73:
- (5) data approved by the Director under rule 21.505:
- (6) data provided by the Director in an Advisory Circular:
- (7) an airworthiness directive that gives a specific instruction for modification or repair:
- (8) a supplemental type certificate issued by the following:
 - (i) the Federal Aviation Administration of the United States of America:
 - (ii) the Civil Aviation Safety Authority of Australia:
 - (iii) Transport Canada:
- (9) supplemental type approvals issued by Transport Canada:
- (10) data giving a specific instruction for modification or repair contained in a maintenance manual, repair manual, overhaul manual, instruction for continued airworthiness, service bulletin, or an equivalent provided by the manufacturer of the product for which it is to be used and which is listed in the type certificate, or by reference in the type acceptance certificate:
- (11) AC43.13-1B, issued by the Federal Aviation Administration of the United States of America:
- (12) data included in and specific to the category of an airworthiness certificate.

(b) The technical data listed in paragraph (a) are acceptable if—

- (1) the data is appropriate to the product, component, or appliance, and is directly applicable to the work being carried out; and
- (2) for a foreign supplemental type certificate or supplemental type approval—
 - (i) a complete new flight manual is not introduced; and
 - (ii) the aircraft type is not re-designated; and
 - (iii) the data is supplemental to the particular type certificate accepted by the Director and that type certificate is referenced on the supplemental type certificate or supplemental type approval; and
- (3) the installer has the written permission of the holder of the supplemental type certificate or supplemental type approval to install the STC; and
- (4) data provided by the manufacturer of a component does not conflict with data provided by the manufacturer of the product or assembly of which the component is to form a part.