



Islamic Republic of Afghanistan
Civil Aviation Authority

MAJOR MODIFICATIONS AND REPAIRS APPROVAL

Afghanistan Civil Aviation Directive
(CAD)

CAD-AIR-014.1

Airworthiness

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Revision 1

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Civil Aviation Authority

Approved:



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0 Administration and Control

The following list contains key abbreviations used in this document, as well as others likely to be in common use in the respective area.

0.1 Abbreviations

AMO..... Approved Maintenance Organization
AIP Aeronautical Information Publication
IS Implementation Standard
SRM..... Structural Repair Manual



0.2 Record of Revision

The table below provides a record of amendments.

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1 Purpose

This Directive is issued to provide guidance to inspectors when assessing an application of a major modification or major repair for approval.



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2 Related Regulations

Afghan Civil Aviation Regulations:

- PART 1— General Policies, Procedures, and Definitions, Chapter 1.5 Definitions, Major Repairs
- PART 5—Airworthiness, Chapter 5.6 Maintenance and Inspection Records and Entries,
 - IS: 5.6.1.1 Content, Form and Disposition of Records for Maintenance, Preventive Maintenance, Rebuilding and Alteration of Aircraft and Life Limited Parts
- PART 6— Approved Maintenance Organization



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3 Guidance

3.1 General

- 3.1.1 A major modification or repairs to an aircraft are normally accomplished in accordance with design data approved by the State of Design and accepted by the Authority.
- 3.1.2 Major modifications and repairs design are prepared only by persons duly authorized with knowledge of the design principles embodied in the aircraft type being modified or repaired.
- 3.1.3 It is required that the analysis and test reports from the original type certification of the aeronautical product are provided for verification that the modification or repair is compatible with all other design changes installed on that aircraft.
- 3.1.4 The effects of any potential incompatibilities between the proposed design change and any known existing or reasonably foreseeable modifications or repairs information to correct airworthiness deficiencies discovered in service which relate to the design change should be documented and submitted to facilitate the approval analysis.
- 3.1.5 There should be a provision to notify the Authority immediately when during the course of incorporation or operation an unsafe condition related to the design change is found.

3.2 Application for Approval of Major Modifications and Repairs

The application for major modification and/or repair is made by submitting in duplicate a dully completed original Authority's prescribed application Form: for approval of major modifications and/or repairs.

3.3 Acceptance of the Application

- 3.3.1 Ensure application has been made using the prescribed application form submitted in duplicate. The following modification or repair documents should be attached:
 - a) Detailed description of the proposed modification or repair;
 - b) A master documentation list detailing the individual drawings and specifications which define the modification or repair;
 - c) Drawings and instructions necessary for incorporation of the modification or repair;
 - d) Testing procedures or methods to meet certification and operating rules, such as flammability, carbon monoxide, and noise requirements
 - e) Test procedures that are appropriate to the modification or repair and to verify that the modification or repair meets applicable certification requirements.
 - f) Detailed design standards, to ensure that the operator has considered all applicable design requirements and acceptance engineering reports including ex-



pected test results to be used in determining the compliance of the modified or repaired product.

- g) A record of the change in mass and moment arm when the modification or repair is installed in the aeronautical product;
- h) A record of the change in electrical load when the modification or repair is installed in an aircraft;
- i) Supplements to:
- j) The approved flight manual
- k) Maintenance instructions;
- l) Instructions for continuing airworthiness
- m) Repair instructions.
- n) Any other factors that may affect safety or airworthiness;

3.4 Application and Documents Evaluation

3.4.1 General

The major modification or repair documents submitted must be in accordance with the aircraft design data approved by the state of design.

Note: *Repairs designed in accordance with the manufacturers Structural Repair Manual (SRM) approved by the airworthiness authority of the State of Design may be accepted because such manuals are considered to be in accordance with approved type certificate data.*

3.4.2 Evaluate Application to ensure that:

- a) The description of the proposed modification or repair correctly and accurately describes the modification or repair.
- b) Documents are complete and if not advice applicant what additional information is needed.
- c) The applicant has conducted and submitted an acceptable conformity evaluation statement that ensures the proposed modification or repair will not impact the airworthiness of the aircraft.
- d) There is proof that the modification or repair is compatible with previously approved modification or repairs.

3.4.3 Study the application document and verify that:-

- a) The proposed modification or repair has no unsafe features;
- b) The applicant has met the requirements for the provision of engineering data and documentation from the State of Design; and
- c) The applicant is authorized or has stated a competent AMO to perform the modification or repair.



3.5 Approval

- 3.5.1 Approval of major modifications and repairs is signified by signing the approval section of the application forms. One copy is returned to the applicant the other is retained by the Authority for records.
- 3.5.2 If the modification or repair documentation as required has not been submitted, the approval process is stopped and the person responsible for safety oversight is informed and the applicant is notified in writing the reasons for suspension or denial.
- 3.5.3 The applicant can be given opportunity to make corrections as necessary and re-submit the application.



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Appendix I NIL (No Item Listed)

No appendices in this document.



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