



Advisory Circular

AC66-2.32

Revision 2 (2)

Aircraft Maintenance Engineer Licence— Certificate of Inspection Authorisation (Subject 025)

14 December 2021

General

Civil Aviation Authority (CAA) advisory circulars (ACs) contain information about standards, practices, and procedures that the Director has found to be an acceptable means of compliance with the associated rule.

Consideration will be given to other methods of compliance that may be presented to the Director. When new standards, practices, or procedures are found to be acceptable they will be added to the appropriate AC.

Purpose

This AC describes an acceptable means of compliance for creating syllabus content for written examinations that will cover all facets for certificates of inspection authorisation.

Related Rules

This AC relates specifically to Civil Aviation Rule Part 66 Subpart E – Certificate of Inspection Authorisation.

Change Notice

Subject to “Memorandum for Technical Cooperation” between the CAA of Mongolia and New Zealand on mutual cooperation in implementation of the International Civil Aviation Organization Resolution of Global Rule Harmonization, which urges States to promote global harmonization of national rules, dated 6th of May, 1999, Mongolian Civil Aviation Safety Regulation has been reconciled to the Civil Aviation Regulation of New Zealand.

Amendment 164 of Annex 1 to the Chicago Convention on International Civil Aviation urges flight crew members, ATC personnel and aircraft maintenance engineers to comply with the language proficiency requirements; and

Under Article 14 of the Civil Aviation Law of Mongolia 1999, “Use of foreign language in civil aviation” the AC has been released in English version only, in order to prevent any mistranslation and misuse of the aviation safety related documents.

Revision 2 amends the source material references and provides greater detail in subject matter requirements for the Certificate of Inspection Authorisation (IA).

Version History

The version history is outlined below:

Revision No.	Effective Date	Summary of Changes
1	05.Feb.2016	Revision 1 of this AC is based on NZ AC66-2.32 Rev.1 released on 04.Feb.2014.
2	14.Dec.2021	Amends the source material references and provides greater detail on subject matter requirements for the Certificate of IA

TABLE OF CONTENTS

Eligibility requirements4

Knowledge Levels4

Subject 025 Inspection Authorisation5

Eligibility requirements

Rule 66.203(b)(4) requires an applicant for a certificate of inspection authorisation to have passed a written examination conducted by the holder of a maintenance training organisation certificate or a restricted maintenance training organisation certificate or by the Director.

These written examinations should comply with the syllabus contained in this AC.

Knowledge Levels

This syllabus provides for the subject material covered in the certificate of IA written examinations.

Each topic within the syllabus has a level number which provides an indication of the degree or level of knowledge required. There are three level numbers, and they are defined as follows:

Level 1: A familiarisation with the principal elements of the subject

Objectives: The applicant should be:

- 1) familiar with the basic elements of the subject
- 2) able to give simple descriptions of the whole subject, using common words and examples
- 3) able to use typical terms.

Level 2: A general knowledge of the theoretical and practical aspects of the subject

An ability to apply the knowledge.

Objectives: The applicant must be able to:

- 1) understand the theoretical fundamentals of the subject
- 2) give a general description of the subject using, as appropriate, typical examples
- 3) use mathematical formulae in conjunction with physical laws describing the subject
- 4) read and understand sketches, drawings and schematics describing the subject
- 5) apply his/her knowledge in a practical manner using detailed procedures

Level 3: A detailed knowledge of the theoretical and practical aspects of the subject.

A capacity to combine and apply the separate elements of knowledge in a logical and comprehensive manner.

Objectives: The applicant must:

- 1) know the theory of the subject and the interrelationships with other subjects
- 2) be able to give a detailed description of the subject using theoretical fundamentals and specific examples
- 3) understand and be able to use mathematical formulae related to the subject
- 4) be able to read, understand and prepare sketches, simple drawings and schematics describing the subject
- 5) be able to apply his/her knowledge in a practical manner using manufacturer's instructions
- 6) be able to interpret results and measurements from various sources and apply corrective action where appropriate.

Subject 025 Inspection Authorisation

Resource study material	
1.	Civil Aviation Act 1999
2.	Civil Aviation Rules as specified under topic code
3.	Civil Aviation ACs as specified under topic code
4.	Airworthiness Directives
5.	IA Course Study Guide and Notes

	Area of study and background reading	Level	Syllabus content
1.	INSPECTION AUTHORISATION <ul style="list-style-type: none"> • Rule Part 66 Subpart E • AC66-1, Aircraft Maintenance Engineer Licence - General • Civil Aviation Act 1999 • AC43-9, • Modifications, Repairs, and the CAA337 	3	Describe the eligibility requirements and qualifications needed to gain a Certificate of IA Determine when and how a Certificate of IA may be awarded
		3	Describe the Privileges for a Certificate of IA holder with regards to: <ul style="list-style-type: none"> i. Mechanical IA and ii. Avionic IA Explain the limitations for Certificate of IA holders with regards to: <ul style="list-style-type: none"> i. Mechanical IA and ii. Avionic IA
		3	Explain the conditions, validity and expiry periods for the Certificate of IA
		3	Explain recent experience including currency requirements for Certificate of IA holders Detail the record of experience requirements
		3	State the conditions necessary to exercise the privileges for Certificate of IA holders

	Area of study and background reading	Level	Syllabus content
2.	<p>AIRWORTHINESS</p> <ul style="list-style-type: none"> • CAR interpretation summary • Part 21 • Rule Part 43 subpart D, F & G • Rule Part 91 subpart F & G • Part 115 • Part 121 • Part 125 • Part 135 • Part 133 • All Part 21 ACs • UK CAA CAP 562 	2	Describe the aircraft certification life cycle
		3	<p>Explain the meaning for an airworthy condition</p> <p>Explain who are responsible for and why with regards to maintaining Aircraft Airworthiness</p> <p>State the rule parts detailing the requirements for maintaining an aircraft in an airworthy condition</p>
		3	<p>Describe the different types and categories for airworthiness certificates including requirements for the issue of the certificate</p> <p>Explain the limitations for each type and category airworthiness certificate</p> <p>Explain the affects to airworthiness certificates with regards to circumstances such as:</p> <ul style="list-style-type: none"> i. during inspections, and ii. special flight permit/s
		1	Describe the certification Procedures for Products and Parts and be able to locate and identify required information
		3	<p>Explain the purpose of the Type Certificate including searching and identifying State of Design Type Certificates</p> <p>Explain Type Certificate holder responsibilities include expiring certificates and deleted certificates</p> <p>Explain how the type certificate determines and affects airworthiness</p> <p>Detail the information required on Type Certificates</p> <p>Explain the reason for Type Acceptance Certificate</p> <p>Describe the information included in Type Acceptance Reports</p>
3	<p>Explain the reason for Type Certificate Data Sheets (TCDS) include:</p> <ul style="list-style-type: none"> i. information to maintain products and parts 		

	Area of study and background reading	Level	Syllabus content
			ii. searching and identifying where specific information may be found Understand how TCDS information is used with regards to acceptable technical data
		2	Detail the information found on FAA TCDS
		2	Detail the information found on UK TCDS Identify status and support for UK TCDS
		3	Explain the purpose of Supplemental Type Certificates (STC) Describe the responsibilities for an STC owner, the STC installer, and the operator of an installed STC Describe the limitations and advantages for an STC
3.	REVIEW OF AIRWORTHINESS <ul style="list-style-type: none"> • CAR interpretation summary • Part 21 • Part 39 • Part 43 • Part 47 • Part 66 • Part 91 • Part 119 • Part 135 • AC21-4, Special Category – Amateur-build Aircraft Airworthiness Certificates • All Part 43 ACs 	3	Explain the operator requirements and responsibilities with regards to the review of airworthiness Detail the review of airworthiness tolerance for different due time and completion date scenarios
		2	Describe the means and requirements for aircraft identification
		2	Determine and describe the requirements of modification and repair status for each category airworthiness certificate
		3	Explain the relationship between the Type Certificate, conformity Inspections, and acceptable technical data Identify the maintenance compliance documentation Identify the aircraft conformity inspection documentation Determine which maintenance activities, repairs and modifications require conformity inspections State the aircraft types not requiring Type Certificate conformity inspections

	Area of study and background reading	Level	Syllabus content
	<ul style="list-style-type: none"> • ACs in the 91 series, including: <ul style="list-style-type: none"> ○ AC91-6, Aircraft Technical Log 		<p>Explain the relationship between repairs and acceptable technical data</p> <p>Describe the requirements for aircraft registration markings</p>
	<ul style="list-style-type: none"> ○ AC91-12, Aircraft Maintenance Programs ○ AC91-14, Light Aircraft Maintenance Programs - Aeroplanes ○ AC91-18, Aircraft Software Configuration Management 	3	<p>Explain the purpose of the Airworthiness Directive (AD)</p> <p>Describe the process for identifying ADs with regard aircraft and products</p> <p>Explain the process for repetitive ADs</p> <p>State AD tolerance and latitudes and when they may be applied</p> <p>Understand the inter-relationship between ADs, Type Certificates, STC, maintenance programs, Service Bulletins (letters etc), and records</p> <p>Explain the Alternative Means of Compliance (AMOC)</p>
	<ul style="list-style-type: none"> ○ AC91-19, Piston Engine TBO Mixed Agricultural and Other Operations 	3	<p>Describe the rules and certification requirements for logbook and technical log entries and Review of Airworthiness</p> <p>Describe the requirements and process for Amateur built aircraft with regards to the review of airworthiness and logbook review</p>
	<ul style="list-style-type: none"> • AC21-11 & AC91-23, Electrical Load Analysis • The CAA 337 form • CAN 05-002 	3	<p>Describe the process and requirements for Maintenance Records with regards to:</p> <ol style="list-style-type: none"> i. Maintenance due ii. Release to service iii. ADs, SBs iv. Modification & repairs v. Duplicate inspections <p>Detail the process and limitations for applying a review of airworthiness tolerance</p>
		3	<p>Explain the Part 91 Inspections and Extensions allowance</p>
		3	<p>Describe the different types of Inspections and airworthiness limitations including</p>

	Area of study and background reading	Level	Syllabus content
			<ul style="list-style-type: none"> i. Annual ii. Progressive/ phase/ zonal iii. 100 hourly iv. Regulatory v. Out of Phase <p>Describe the limitations and requirements for Time Between Overhaul (TBO) and component finite life maintenance</p>
		3	<p>State where the Approved Maintenance Programs may be found and identified</p> <p>Explain an escalation program</p> <p>Describe the requirements for a temporary escalation</p> <p>Explain the OMEL arrangement</p>
		3	<p>Determine by calculation Weight and Balance information</p> <p>State the definition for:</p> <ul style="list-style-type: none"> i. Empty Weight ii. Empty Weight Centre of Gravity iii. Unusable Fuel iv. Undrainable Fuel <p>Demonstrate use of the Form CAA2102 and CAA2173</p> <p>Relate the interdependence for weight and balance with the Flight Manual and Type Certificate data sheet</p>
		2	<p>Explain the Flight Manual relationship between the Type Certificate, Type Acceptance Report, airworthiness certificate category and STCs</p> <p>Describe the contents of a Flight Manual and supplements</p> <p>Relate the operator's responsibility with regard the Flight Manual and supplements</p>

	Area of study and background reading	Level	Syllabus content
		2	With regards to the review of airworthiness, relate the requirements with regards to aircraft equipment lists IE Part 91 Subpart F including inoperative and role equipment and ICAs
		2	Relate the requirements with regard the Manufacturer's Service Information including airworthiness limitations, SBs, service letters and the like when linked to the manufacturer's inspection schedule and/or Type Certificate
		3	Detail what is involved with a review of airworthiness Aircraft Condition Inspection
		3	Explain the IA responsibilities to the aircraft owner with regards to the review of airworthiness Include defects, completion period and reportin
4.	<ul style="list-style-type: none"> • MAJOR REPAIRS AND MODIFICATIONS • CAR interpretation summary • Part 21 • Part 43 • AC00-5, Parts Documentation-CAA Form One-Authorised Release Certificate • AC21-5, Approval of modifications covering aircraft ferry fuel systems and overweight operation • AC21-8, Design Changes 	3	State the definition for <ol style="list-style-type: none"> i. Design Change ii. Maintenance iii. Major Repair iv. Major Modification v. Technical Data Explain how to determine if and when a modification/repair is major
		3	Describe how aircraft and type certified products can be changed Explain the modification or repair process
		3	Explain the certification of conformity process include what is required, when inspections are carried out and documentation needed Explain who and when can perform the certification of conformity, including: <ol style="list-style-type: none"> i. Manufacturer ii. Part 145 and Part 146 organisations iii. Avionic IA certificate holder iv. Mechanical IA certificate holder

	Area of study and background reading	Level	Syllabus content
	Supplemental Type Certificate		Describe the certification of conformity recording requirements
	<ul style="list-style-type: none"> • AC21-11 & AC91-23 - Electrical Load Analysis • AC43-9 • AC43-14, Aircraft maintenance • CAA 337 	3	<p>Describe the two-fold purpose of CAA Form 337</p> <p>Detail what kind of modification/repair requires the CAA Form 337</p> <p>Describe the contents of the CAA Form 337</p> <p>Explain who is responsible and what is required to fill in each section of the CAA Form 337</p> <p>Describe the responsibilities of the completed CAA Form 337 with regards to:</p> <ol style="list-style-type: none"> i. Part 146 Design Organisations ii. Conformity signee/s iii. Persons certifying release-to-service
		3	<p>Explain the difference between Acceptable and Approved Technical Data</p> <p>Identify international and CAA Acceptable and Approved Technical Data</p> <p>Explain the data approval process include who can and who cannot approve technical data</p> <p>Describe how proprietary information is handled</p> <p>Describe the differences between one-aircraft-only approval and an approval for duplication</p>
5.	<p>MISCELLANEOUS ITEMS</p> <ul style="list-style-type: none"> • Part 12 • Part 19 <p><i>(Note: Part 19 is spread into relevant CAR. See CAA Website / Legislation & Regulations / Information / NZ Part 19 reference to MCAR)</i></p> <ul style="list-style-type: none"> • Part 21 • AC00-1, Acceptability of parts • AC12-1, Mandatory occurrence 	3	<p>List the particular requirements for a material, part or appliance to be eligible for installation, including the responsibilities for</p> <ol style="list-style-type: none"> i. Person performing maintenance ii. Operator iii. Part 145 organisation iv. Part 148 organisation <p>Describe the documentation requirements for Aircraft Parts</p> <p>Define the identification methods for acceptable and unacceptable parts</p>

	Area of study and background reading	Level	Syllabus content
	<ul style="list-style-type: none"> • notification and information • AC21-6, Identification of product and parts - Identification information, provision, and replacement • CAA Rule development process • Notices to proposed rule by webpage on the CAA website • Regulatory enforcement policy • Civil Aviation Act 1999 		<p>Explain the parts manufacturing approval (PMA) and STC PMA parts requirements and limitations</p> <p>Describe the traceability requirements for military parts</p>
		3	<p>Explain and describe the Mandatory Occurrence Reports in relation to defect incidents, aircraft systems and in-service defects</p> <p>Describe the investigation process and reports</p>
		1	<p>Explain the rule development and change process including:</p> <ul style="list-style-type: none"> i. Notices to proposed rule ii. Public submissions iii. Pending rule publication
		2	<p>State the information required for Data Plates on:</p> <ul style="list-style-type: none"> i. Aircraft ii. Engines iii. Propellers <p>Describe when Data Plates can be removed and reproduction requirements</p> <p>Detail the location requirements for Data Plates</p>
		2	<p>Describe the circumstances in which a CAA employee may gain access to records aircraft and facilities</p> <p>Describe the process following a formal investigation by CAA</p>
		2	<p>State when an operator must provide Aircraft Statistical Data</p>
6.		<p>FORMS</p> <ul style="list-style-type: none"> • Part 91 • AC00-1 	3
	<ul style="list-style-type: none"> • AC00-5 	3	<p>Describe the logbook requirements</p> <p>Detail instructions to complete logbook entries</p>

	Area of study and background reading	Level	Syllabus content
	<ul style="list-style-type: none">• AC43-3, Engine and propeller overhaul and testing• AC91-6, Aircraft technical log• CAA Form One & Two• CAA2101 Logbook• CAA006 Tech Log	3	<p>Explain the purpose of the Tech Log</p> <p>Explain the limitations of the Tech Log</p> <p>Describe the Tech Log requirements</p>

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