

Revision 2

xx XXXX 2021

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

#### General

Civil Aviation Authority 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

Revision 2 amends the source material references and provides greater detail on subject matter requirements for the Certificate of Inspection Authorisation (IA). ~~Revision 1 amends the reference to Annual Review of Airworthiness to the current term Review of Airworthiness.~~

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## Version History

### History Log

Revision No.	Effective Date	Summary of Changes
0	1 December 2008	The initial issue of this AC was created to contain, unchanged, all the information (resource study material, scope and outline syllabus) for Certificates of IA (Subject 025) previously promulgated in AC66-2.2.
1	14 February 2014	Amended the reference to Annual Review of Airworthiness to the current term Review of Airworthiness.
2	Xx xxxx 2021	Amends the source material references and provides greater detail on subject matter requirements for the Certificate of IA.

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## Eligibility requirements

Rule 66.203(b)(4) 66.203(4)(ii) requires an applicant for a Certificate of IA 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 conducted by the Director 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, defined as follows:

Level 1: General appreciation of principles and a broad understanding of the subject.

Level 2: Comprehension of principles and salient features. Simple relevant calculations may be required.

Level 3: Detailed knowledge of all aspects of the subject including relevant calculations.

## Subject 025 Inspection Authorisation

### Resource Study Material

1.	Civil Aviation Act 1990	
2.	Civil Aviation Rules and ACs 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	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
	<a href="#">Rule Part 66 Subpart E</a> <a href="#">AC66-1, Aircraft Maintenance Engineer Licence – General</a> <a href="#">Civil Aviation Act 1990</a> <a href="#">AC43-9, Modifications, Repairs, and the Form CAA337</a>	3	Describe the privileges for Certificate of IA holders with regards to: i. Mechanical IA and ii. Avionic IA  Explain the limitations for Certificate of IA holders with regards to: 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
2.	AIRWORTHINESS	2	Describe the aircraft certification life cycle
	<a href="#">Part 1 Definitions</a> <a href="#">Part 21</a>	3	Explain the meaning of an airworthy condition  Explain who is responsible for what and why with regards to maintaining Aircraft Airworthiness

	<a href="#">Rule Part 43 subpart D, F &amp; G</a>		State the Rule Parts detailing the requirements for maintaining an aircraft in an airworthy condition
	<a href="#">Rule Part 91 subpart F &amp; G</a> <a href="#">Part 115</a> <a href="#">Part 121</a> <a href="#">Part 125</a> <a href="#">Part 135</a> <a href="#">Part 133</a> <a href="#">All Part 21 ACs</a>	3	Describe the different types and categories for Airworthiness Certificates, including requirements for the issue of the certificate  Explain the limitations for each type and category Airworthiness Certificate  Explain the effects on Airworthiness Certificates with regards to circumstances such as: i. during inspections, and ii. special flight permit/s
	<a href="#">UK CAA CAP 562</a>	1 <del>3</del>	Describe the Certification Procedures for Products and Parts and be able to locate and identify required information
		3	Explain the purpose of the Type Certificate, including searching and identifying State of Design Type Certificates  Explain Type Certificate holder responsibilities, including expiring certificates and deleted certificates  Explain how the Type Certificate determines and affects airworthiness  Detail the information required on Type Certificates  Explain the reason for Type Acceptance Certificates  Describe the information included in Type Acceptance Reports
		3	Explain the reason for Type Certificate Data Sheets (TCDS), including: i. information to maintain products and parts, and 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)

			<p>Describe the responsibilities for an STC owner, the STC installer, and the operator of an installed STC</p> <p>Describe the limitations and advantages for an STC</p>
3.	<p>REVIEW OF AIRWORTHINESS</p> <p>Part 1 Definitions</p>	3	<p>Explain the operator requirements and responsibilities with regards to the review of airworthiness</p> <p>Detail the review of airworthiness tolerance for different due time and completion date scenarios</p>
	Part 21	2	Describe the means and requirements for aircraft identification
	<p><a href="#">Part 39</a></p> <p><a href="#">Part 43</a></p>	2	Determine and describe the requirements of modification and repair status for each category airworthiness certificate
	<p><a href="#">Part 47</a></p> <p><a href="#">Part 66</a></p> <p>Part 91</p> <p><a href="#">Part 119</a></p> <p>Part 135</p> <p><a href="#">AC21-4, Special Category-Amateur-Built Aircraft Airworthiness Certificates</a></p> <p><a href="#">All Part 43 ACs</a></p> <p><a href="#">ACs in the 91 series including:</a></p> <p><a href="#">AC91-6</a></p> <p><a href="#">AC91-12</a></p> <p><a href="#">AC91-14</a></p> <p><a href="#">AC91-18</a></p> <p><a href="#">AC91-19</a></p> <p><a href="#">AC91-23</a></p> <p><a href="#">CAA Form 337</a></p>	3	<p>Explain the relationship between the Type Certificate, conformity Inspections, and acceptable technical data</p> <p>Identify the maintenance compliance documentation</p> <p>Identify the aircraft conformity inspection documentation</p> <p>Determine which maintenance activities, repairs and modifications require conformity inspections</p> <p>State the aircraft types not requiring Type Certificate conformity inspections</p> <p>Explain the relationship between repairs and acceptable technical data</p> <p>Describe the requirements for aircraft registration markings</p>
		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 programmes, Service Bulletins (SBs) (letters etc), and records</p> <p>Explain the Alternative Means of Compliance (AMOC)</p>

	<p>Available at <a href="https://www.aviation.govt.nz/about-us/forms/">https://www.aviation.govt.nz/about-us/forms/</a></p> <p>CAN 05-002</p>	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>
		3	<p>Describe the process and requirements for Maintenance Records with regards to:</p> <ul style="list-style-type: none"> <li>i. Maintenance due</li> <li>ii. Release to service</li> <li>iii. ADs, SBs</li> <li>iv. Modification &amp; repairs</li> <li>v. Duplicate inspections</li> </ul> <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> <ul style="list-style-type: none"> <li>i. Annual</li> <li>ii. Progressive/ phase/ zonal</li> <li>iii. 100 hourly</li> <li>iv. Regulatory, and</li> <li>v. Out of Phase</li> </ul> <p>Describe the limitations and requirements for Time Between Overhaul (TBO) and component finite life maintenance</p>
		3	<p>State where the Approved Maintenance Programmes 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"> <li>i. Empty Weight</li> <li>ii. Empty Weight Centre of Gravity</li> <li>iii. Unusable Fuel</li> <li>iv. Undrainable Fuel</li> </ul> <p>Demonstrate use of the Forms 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 regards to the flight manual and supplements</p>
		2	<p>With regards to the review of airworthiness, relate the requirements with regards to aircraft equipment lists, Instruments and Equipment (IE) as outlined in Part 91 Subpart F, including inoperative and role equipment and Instructions for Continuing Airworthiness (ICAs)</p>
		2	<p>Relate the requirements with regards to the Manufacturers Service Information, including airworthiness limitations, SBs, service letters and the like, when linked to the manufacturer's inspection schedule and/or Type Certificate</p>
		3	<p>Detail what is involved with a review of airworthiness Aircraft Condition Inspection</p>
		3	<p>Explain the IA responsibilities to the aircraft owner with regards to the review of airworthiness. Include defects, completion period and reporting</p>
4.	<p>MAJOR REPAIRS AND MODIFICATIONS</p> <p>Part 1 <a href="#">Definitions</a></p> <p>Part 21</p> <p>Part 43</p> <p><a href="#">AC00-5, Parts Documentation-CAA Form One-Authorised Release Certificate</a></p> <p><a href="#">AC21-5, Approval of modifications covering aircraft ferry fuel systems and overweight operation</a></p> <p><a href="#">AC21-8, Design Changes - Supplemental Type Certificate</a></p>	3	<p>State the definition of:</p> <ol style="list-style-type: none"> <li>i. Design Change</li> <li>ii. Maintenance</li> <li>iii. Major Repair</li> <li>iv. Major Modification, and</li> <li>v. Technical Data</li> </ol> <p>Explain how to determine if and when a modification or repair is major</p>
		3	<p>Describe how aircraft and type certified products can be changed</p> <p>Explain the modification or repair process</p>
		3	<p>Explain the certification of conformity process, including what is required, when inspections are carried out and documentation needed</p> <p>Explain who and at what times can they perform the certification of conformity, including:</p> <ol style="list-style-type: none"> <li>i. Manufacturers</li> <li>ii. Part 145 and Part 146 organisations</li> <li>iii. Avionic IA certificate holders</li> <li>iv. Mechanical IA certificate holders</li> </ol>

	<a href="#">AC21-11-AC91-23, Electrical Load Analysis</a>		Describe the certification of conformity recording requirements
	<a href="#">AC43-9</a> <a href="#">AC43-14, Standard Design Changes - Acceptable Technical Data</a> <a href="#">CAA Form 337</a>	3	Describe the two-fold purpose of CAA Form 337  Detail what kind of modification/repair requires CAA Form 337  Describe the contents of CAA Form 337  Explain who is responsible and what is required to fill in each section of CAA Form 337  Describe the responsibilities of the completed CAA Form 337 with regards to: <ul style="list-style-type: none"> <li>i. Part 146 Design Organisations</li> <li>ii. Conformity signees</li> <li>iii. Persons certifying release-to-service</li> </ul>
		3	Explain the difference between Acceptable and Approved Technical Data  Identify international and CAA Acceptable and Approved Technical Data  Explain the data approval process, including who can and who cannot approve technical data  Describe how proprietary information is handled  Describe the differences between one-aircraft-only approval and an approval for duplication
5.	MISCELLANEOUS ITEMS  <a href="#">Part 12</a> <a href="#">Part 19</a> <a href="#">Part 21</a>  <a href="#">AC00-1, Acceptability of Parts</a>  <a href="#">AC12-1, Mandatory occurrence notification and information</a>  <a href="#">AC21-6, Identification of product and parts - Identification information, provision, and replacement</a>	3	List the particular requirements for a material, part or appliance to be eligible for installation, include the responsibilities for <ul style="list-style-type: none"> <li>i. Person performing maintenance</li> <li>ii. Operator</li> <li>iii. Part 145 organisation</li> <li>iv. Part 148 organisation</li> </ul> Describe the documentation requirements for Aircraft Parts  Define the identification methods for acceptable and unacceptable parts  Explain the parts manufacturing approval (PMA) and STC PMA parts requirements and limitations  Describe the traceability requirements for military parts
		3	Explain and describe the Mandatory Occurrence Reports in relation to defect incidents, aircraft systems and in-service defects

			Describe the investigation process and reports
	<p>CAA Rule development process</p> <p>Notice of Proposed Rule-making (NPRM)</p> <p>Regulatory enforcement policy</p> <p>Civil Aviation Act 1990</p>	1	<p>Explain the rule development and change process including:</p> <ul style="list-style-type: none"> <li>i. NPRMs</li> <li>ii. Public submissions</li> <li>iii. Pending rule publication</li> </ul>
		2	<p>State the information required for Data Plates on:</p> <ul style="list-style-type: none"> <li>i. Aircraft</li> <li>ii. Engines</li> <li>iii. Propellers</li> </ul> <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 a CAA employee may gain access to records aircraft and facilities</p> <p>Describe the process following a formal investigation by CAA</p>
		2	State when an operator must provide Aircraft Statistical Data
6.	FORMS Part 91	3	Describe the use for the CAA Form One & Form Two. Include the requirements and limitations for each
	AC00-1, AC00-5 AC43-3, AC91-6	3	<p>Describe the Logbook requirements</p> <p>Detail instructions to complete Logbook entries</p>
	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>