ADVISORY CIRCULAR
NUMBER 65-1

AIRCRAFT MAINTENANCE
ENGINEER LICENSING

Revision : 1
Date : 

REPUBLIC OF INDONESIA – MINISTRY OF TRANSPORTATION
DIRECTORATE GENERAL OF CIVIL AVIATION
DIRECTORATE OF AIRWORTHINESS CERTIFICATION
JAKARTA – INDONESIA
DEPARTEMEN PERHUBUNGAN
DIREKTORAT JENDERAL PERHUBUNGAN UDARA

PERATURAN DIREKTUR JENDERAL PERHUBUNGAN UDARA
NOMOR : SKEP\26 / D / 2008

TENTANG
ADVISORY CIRCULAR (AC) 65-1
LISSENSI AHLI PERAWATAN PESAWAT UDARA
(AIRCRAFT MAINTENANCE ENGINEER LICENSING)

DENGAN RAHMAT TUHAN YANG MAHA ESA
DIREKTUR JENDERAL PERHUBUNGAN UDARA,

Menimbang : a. bahwa sesuai dengan Keputusan Menteri Perhubungan Nomor KM 80 Tahun 2000 tentang Aircraft Maintenance Engineer Licences diperlukan petunjuk pelaksana untuk operator dalam memenuhi persyaratan;


2. Peraturan Pemerintah Nomor 3 Tahun 2001 tentang Keamanan dan Keselamatan Penerbangan (Lembaran Negara Tahun 2001 Nomor 9, Tambahan Lembaran Negara Nomor 4075);


4. Peraturan Presiden Nomor 10 Tahun 2005 tentang Unit Organisasi dan Tugas Eselon I Kementerian Negara Republik Indonesia sebagaimana telah diubah terakhir dengan Peraturan Presiden Nomor 17 Tahun 2007;


MEMUTUSKAN:

Menetapkan: PERATURAN DIREKTUR JENDERAL PERHUBUNGAN UDARA TENTANG ADVISORY CIRCULAR (AC) 65-1 LISENSI AHLI PERAWATAN PESAWAT UDARA (AIRCRAFT MAINTENANCE ENGINEER LICENSING).

Pasal 1

Advisory Circular (AC) 65-1 tentang Lisensi Perawatan Pesawat Udara (Aircraft Maintenance Engineer Licencing), sebagaimana tercantum dalam Lampiran Peraturan ini.

Pasal 2

Peraturan ini mulai berlaku pada tanggal ditetapkan.

Ditetapkan di: Jakarta
Pada tanggal: 21 Februari 2008

DIREKTUR JENDERAL PERHUBUNGAN UDARA
Ttd

BUDHI M SUYITNO
NIP. 120088924

SALINAN Peraturan ini disampaikan kepada:

1. Sekretaris Jenderal Departemen Perhubungan;
2. Inspektur Jenderal Departemen Perhubungan;
3. Sekretaris Direktorat Jenderal Perhubungan Udara;
4. Para Direktur di lingkungan Ditjen Hubud.

Salinan Sesuai dengan aslinya

KEPALA BAGIAN HUKUM
SESINTJEN HUBUD

RUDI RICHARDO
NIP. 120154783
PERATURAN DIREKTUR JENDERAL PERHUBUNGAN UDARA
NOMOR : SKEP/26/F/2008

TENTANG

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LISSENSI AHLI PERAWATAN PESAWAT UDARA
(AIRCRAFT MAINTENANCE ENGINEER LICENSING)

DENGAH RAHMAT TUHAN YANG MAHA ESA

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b. bahwa berdasarkan pertimbangan sebagaimana dimaksud dalam huruf a, maka perlu ditetapkan Advisory Circular 65-1 tentang Lisensi Perawatan Pesawat Udara, dengan Peraturan Direktur Jenderal Perhubungan Udara;

Mengingat : 1. Undang-undang Nomor 15 Tahun 1992 tentang Penerbangan (Lembaran Negara Tahun 1992 Nomor 53, Tambahan Lembaran Negara Nomor 3481);

2. Peraturan Pemerintah Nomor 3 Tahun 2001 tentang Keamanan dan Keselamatan Penerbangan (Lembaran Negara Tahun 2001 Nomor 9, Tambahan Lembaran Negara Nomor 4075);


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MEMUTUSKAN:

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Pasal 1

Advisory Circular (AC) 65-1 tentang Lisensi Perawatan Pesawat Udara (Aircraft Maintenance Engineer Licencing), sebagaimana tercantum dalam Lampiran Peraturan ini.

Pasal 2

Peraturan ini mulai berlaku pada tanggal ditetapkan.

Ditetapkan di: Jakarta
Pada tanggal: 21 Februari 2008

DIREKTUR JENDERAL PERHUBUNGAN UDARA

[Signature]

BUDHI M SUYITNO
NIP. 120 088 924

SALINAN Peraturan ini disampaikan kepada:

1. Sekretaris Jenderal Departemen Perhubungan;
2. Inspektur Jenderal Departemen Perhubungan;
3. Sekretaris Direktorat Jenderal Perhubungan Udara;
4. Para Direktur di lingkungan Ditjen Hubud.

#SKEP-ac 120-92/LIS/JANG8
FOREWORD

1. Purpose: CASR Part 65, Aircraft Maintenance Engineer Licensing, described the regulations relating to the issue and maintenance of licenses, ratings and certificates issued by the Director General. This Advisory Circular provides information about some of the regulations in part 65 and describes the policies of the DGCA in administering those regulations. Because some of the regulations are obvious in their application, not all regulations are detailed in this Circular.

2. References: This Advisory Circular is advisory only and should be used in accordance with the applicable regulations.

3. Revision: Revisions of this Advisory Circular will be approved by the Directorate General of Air Communications.

DIRECTOR GENERAL OF CIVIL AVIATION

T T D

BUDHI M. SUYITNO
NIP. 120088924

Salinan sesuai dengan aslinya
Kepala Bagian Hukum
Sesditjen Hubud

RUDI RICHARDO
NIP. 120 154 783
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APPENDIX 3 23
Category Demarcations
1. **Purpose**

This Advisory Circular (AC) provides information for persons seeking aircraft maintenance engineer licences, certificates and ratings. It amplifies the skill, knowledge and experience requirements of CASR Part 65 and prescribes acceptable means of compliance.

2. **Related Civil Aviation Safety Regulations (CASR)**

This AC related to CASR Part 65

3. **Background**

Persons certifying maintenance must be qualified in accordance with Annex 1 to the Convention on International Civil Aviation signed in Chicago in 1944.

CASR Part 65 prescribes regulations for the licensing of aircraft maintenance personnel in compliance with Annex 1 paragraph 4.2.

4. **Discussion**

This material is intended for holders or potential holders of a basic certificate, an aircraft maintenance engineer licence, a rating, or a certificate of maintenance approval.
General

Readers should refer to Part 65 for references to the regulation. Regulations numbers have been used here to identify paragraphs that relate to those regulations.

65.1 Applicability

Part 65 prescribes the specific requirements for the issue of aircraft maintenance engineer licences, ratings, and certificates of maintenance approval. The regulation Part also describes the privileges and limitations of these documents. You need to understand the regulation, this ac is only an explanatory document.

65.7 Application for licences, certificates and ratings

Applications for licences, ratings and certificates should be completed and forwarded to-

Personnel Licensing
Directorate of Airworthiness Certification
Sub Directorate Maintenance Control
Jalan Medan Merdeka Barat No.8 Lt.22
Jakarta – Pusat

The following application form are available from the address above----

Form DAC 65-001-Application for licence or certificate

Form DAC 65-002-Certificate of competency

The appropriate fees, as detailed in the Civil Aviation Charges Regulations, should be enclosed with the application. If practical experience details are required they should be as complete and detailed as possible to allow prompt assessment of the application.

You can obtain a copy of the Civil Aviation Charges Regulations from

Applicants for additional categories or ratings, should forward their existing licence or certificate with the application.

Inactive aviation documents

Licence or certificate holders that are no longer active in aircraft maintenance should advise the DGCA in writing. This is to reduce the cost of sending technical information to engineers and will assist the DGCA to prevent unnecessary publishing costs. It will also keep the name of inactive documents holders out of the Registry, which is available for public scrutiny. Inactive license or certificate holders are not required to return their documents to the DGCA unless the document has been requested to be surrendered, or it has been suspended or revoked.

65.9 Issue of licences, certificate and ratings

A list of licence group and type ratings is published as Appendix 1 to this circular
Licences may be issued in one or more categories. A list of the categories is published as Appendix 2 to this circular. Category demarcations are in Appendix 3.

This regulation requires the applicant to satisfy the Director General that the following requirements are met----

- **Fit and proper person test**

  Holder of an aviation documents must pass a fit and proper person test. Initial applicants for licences or certificates issued under this part will be required to complete a document that meets the requirements of this test.

  The criteria for the fit and proper person test is in section 10 of the Civil Aviation Act 1990. Section 11 of the Act defines the right of individuals, and requires a set procedures in case of adverse determinations.

- **Language test**

  The applicant’s ability to speak, read, and write either the Indonesian or English language will be assessed during the written and oral examinations carried out to qualify for the licence or certificate.

**Eligibility requirement**

These requirements, in Regulations 65.41, 65.53 and 65.63, relate to examinations and practical experience. The practical experiences requirements will be assessed from the experience log submitted by the applicant. Application form contain an area for experiences recording. You should include additional pages with the application form when the experiences record is extensive enough to require this section. Alternatively, you can submit a personal-experience log book. You may need log for each rating because the required practical experience has to be readily identifiable, to that rating, in the log.

**Interest of aviation safety**

The granting of licence or certificate must not be contrary to the interest of aviation safety. To satisfy this requirement the personal records of each applicant for a licence, or certificate, will be reviewed. The Director General can only review records that are in the possession of the DGCA. In cases where documented evidence satisfies the Director General that the issue of the licence or certificate is contrary to the interests of aviation safety the application will be declined.

In such cases the applicant will be notified of the circumstances, and be given an opportunity to defend his or her rights and reputation. The applicant also has the right to see any documents, about them, held by the DGCA.

**Foreign licences**

Applicants for the grant of licences, ratings, or certificates, issued on the basis of a current licence or certificate issued by a foreign Contracting State, should apply in
writing. The applicants should forward the true photocopy, and the appropriate fee to the DGCA.

The application will be assessed through confirmation to the foreign civil aviation authority who originally issued the licences, ratings, or certificates. The objectives of verification are as follows:

- To ensure that the licence or certificate has been issued by a Contracting State
- To ensure that the document is valid
- To determine the extent of rating coverage that may be granted

Without any confirmation from the foreign civil aviation authority who originally issued the licence, DGCA will not issued the licences, ratings, or certificates to the applicant.

Applicants will be required to complete a fit and proper person from DAC 003, and satisfy the Director General that the issue of the document is not contrary to the interests of safety. Once the assessment has been completed the applicant will be required to pass a written examination in Air Law and Airworthiness Requirements (Paper 001) and an oral examination (Oral 051) covering the person's understanding, and practical application, of the duties and responsibilities exercised by the holder of the licence or certificate.

65.11 Validity and renewal of licences and certificates

A licence is issued under Part 65 for the lifetime of the holder. It is, therefore, important that licence and certificate holders advise DGCA when they change their personal details, such as address or name. Licence and certificates of maintenance approval will need to be forwarded with applications for amendment, such as rating issue or renewal. Amended documents cannot be issued by DGCA until the original document has been received.

This return-of-documents requirement is to prevent the possibility that old licence documents may be mislaid by their owner and then used fraudulently by another person.

Certificates of maintenance approval, granted to the principal constructor of an amateur-built aircraft, may be issued for up to 5 years. Certificates of maintenance approval, granted for other purposes, may be issued for any period of up to 2 years. The period of issue will depend on the purpose for which the certificates has been issued. Where an approval is issued to allow practical experience to be gained it will be issued for the minimum time required for that experience.

Any licence, certificate of maintenance approval that has been suspended or revoked is to be forwarded to the Director General.

Lost or stolen documents

If a licence or certificate should become lost, or is stolen, the document may be replaced. You will need to pay the appropriate fee and produce written evidence that the loss, or theft, has been reported to local Police.
65.13 Certificate of competency

This regulation requires applicants for basic examinations to show that they have complied with the technical skill requirements of Part 65. When making application to attempt any of the examination listed in 65.53 of this AC a completed Form DAC 65–002 must also be enclosed. Applicants must complete section A and B of the form.

65.17 Examinations

This regulation requires you to produce written proof of identity for examinations that will lead to the issue of a licence, rating, or certificates issued under Part 65. Acceptable methods of proving identity include—

- Your passport
- Your Indonesia or foreign driver’s licence
- Your Indonesian or foreign pilot’s licence
- Your birth certificate
- Your DGCA or Airport Identity Card—or similar any document acceptable to an Examination Conducting Officer.

The pass mark for all written examinations is 70%. Applicants should ensure that they retain course certificates or examination result notices until the licences, rating, or certificate the examination or course relates to, has been issued. A photocopy of any course certificate should be attached to the application form before forwarding it to the DGCA. Course certificates may be issued by a manufacturer, foreign competent authority of a Contracting State to ICAO, or Part 147 approved training organization. Result notices issued by the Director General are not normally required to be submitted with a licence, rating or certificate application. Applicants should only forward these result notices when requested to do so.

Written examination passes are valid for the life time of the holder, except for the Air Law and Airworthiness Requirements examination (Paper 001) which is valid for 5 years. This means an applicant must apply and have the licence within 5 years of completing Paper 001. if an applicant fails to have the licence issued within 5 years of sitting the Paper 001, that subjected must be re-sat and passed. Before sitting the Oral Air Law and Airworthiness Requirements examination (oral 051) the applicant must have completed all written examinations required for the licence issue and have completed the required practical experience listed in 65.53(b).

Except for the oral examinations (oral 051) required by Regulations 65.41(c), written and oral examinations for licence, rating, and certificate issue may be attempted any number of times. If the oral examination (oral 051) is failed 3 times in succession a three-month stand down period will apply from the date of the last attempt to allow the candidate to review the subject material.

65.41 Aircraft maintenance engineer licence eligibility requirements

Knowledge requirements for licence and certificate holders are prescribed in Annex 1 to the Convention and repeated in Part 65 Appendix B.
1. An applicant for basic certificate or licence in any category must pass the following examinations:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Law and Airworthiness Requirements</td>
<td>001</td>
</tr>
<tr>
<td></td>
<td>Oral 051</td>
</tr>
<tr>
<td>Human Performance and Limitations</td>
<td>011</td>
</tr>
</tbody>
</table>

2. Additionally, applicants for licences and certificates in the airframe and engines categories must pass the following examinations:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Science and Aircraft General Knowledge</td>
<td>101</td>
</tr>
<tr>
<td>Aircraft Engineering</td>
<td>102</td>
</tr>
<tr>
<td>Aircraft Maintenance</td>
<td>103</td>
</tr>
</tbody>
</table>

Examinations in the 100 series are applicable to airframe and engine category applicants.

Examinations in the 200 series are applicable to electrical, instruments and radio applicants.

3. Depending upon the ratings sought, airframe and engine category applicants must also pass the following additional examinations:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressurized Aeroplanes</td>
<td>110</td>
</tr>
<tr>
<td>Helicopters</td>
<td>120</td>
</tr>
<tr>
<td>Piston Engines</td>
<td>130</td>
</tr>
<tr>
<td>Turbine Engines</td>
<td>140</td>
</tr>
</tbody>
</table>

Paper 130 and 140 depend upon the aspirations of the candidate. You only need to take one of them. Both subject must be taken if you want piston engine and turbine engine ratings.

4. Applicants for licences and certificates in the electrical, instruments and radio categories must pass the following examinations:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Science and Aircraft general knowledge (Avionics)</td>
<td>201</td>
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<tr>
<td>Avionic Engineering</td>
<td>202</td>
</tr>
<tr>
<td>Avionic Maintenance</td>
<td>203</td>
</tr>
</tbody>
</table>

5. Depending upon ratings sought, electrical, instruments and radio category applicants must also pass the following additional examinations:
6. Group ratings require the completion of rating examinations. Examinations for group ratings are:

<table>
<thead>
<tr>
<th>Airframe Group 1</th>
<th>Paper 111</th>
</tr>
</thead>
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<td>Airframe Group 2</td>
<td>Paper 112</td>
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<td>Airframe Group 3</td>
<td>Paper 113</td>
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<td>Airframe Group 4</td>
<td>Paper 114</td>
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<td>Airframe Group 5</td>
<td>Paper 121</td>
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<tr>
<td>Airframe Group 6</td>
<td>Paper 122</td>
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<tr>
<td>Engines Group 1</td>
<td>Paper 131</td>
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<tr>
<td>Engines Group 2</td>
<td>Paper 132</td>
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<tr>
<td>Electrical Group 1</td>
<td>Paper 211</td>
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<td>Instruments Group 1</td>
<td>Paper 221</td>
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<td>Instruments group 2</td>
<td>Paper 222</td>
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<td>Radio group 1</td>
<td>Paper 231</td>
</tr>
<tr>
<td>Radio Group 2</td>
<td>Paper 232</td>
</tr>
<tr>
<td>Radio Group 3</td>
<td>Paper 233</td>
</tr>
</tbody>
</table>

Examinations restricted to specific types may also be provided for the above groups, e.g. Paper 111 (C150) would be the examination for a Cessna 150 rating in the airframe category – Group 1.

Applicants for Group 2 engine ratings must hold Group 1 engine ratings.

Applicants for groups 7 electrical, instrument and radio ratings must have passed the appropriate Group 1, 2 and 3 ratings examinations.

Group 7 rating examinations will usually be conducted by a Part 147 approved training organization.

Practical experience requirements for basic certificate issue vary depending on the method by which the applicant has gained training---
• An engineer that has not undertaken any formal engineering training but has completed the required examinations through self-study methods will be required to complete 60 months of practical aviation engineering experiences.
• An engineer who has completed a traineeship in an aviation technical trade will be required to complete 48 months of practical aviation experience. This 48 months includes the time spent in formal technical training. The training could comprise a number of formal block courses or a continuous non-integrated training course.
• Engineers who have successfully completed a traineeship in an allied engineering trade require 36 months of aviation related practical experiences. This is in addition to any practical experiences gained when qualifying for the allied trade qualification. An allied trade is considered to be a technical trade similar in nature to aviation trades such as, automotive engineering, general engineering, electronic engineering.
• Engineers that undertake a course of training conducted by a certificated Part 147 organization will need to show 36 months of aviation related experience that include the time spent on integrated aviation training. The course will need to include supervised training and practical experience.

A periods of 24 months of practical experiences is required relating to the specific category being sought. For example, an applicant for a engine category is required to show 24 months of engine maintenance experience. The balance of the required experience may consist of experience in any of the other categories. A reduction in the required experience periods is granted to those engineers who have exercised the privileges of an aircraft maintenance engineer licence for 10 years or more. This permits the issue of an extra category provided 12 months practical experiences relating to the category can be documented.

Practical experience needs to be documented on Form DAC 65-002 and submitted with the application. Sections A and C of the form must be completed.

65.47 Privileges and limitations

To exercise the privileges of an aircraft maintenance engineer licence the holder must be appropriately rated. A list of ratings is include as Appendix 1 to this circular. The demarcations between each licence category are published as Appendix 3 to this circular.

Regulations 145.5 detailed the maintenance that must be carried out under the authority of, and according to the provision of, a maintenance organization certificate issued under Part 145. Aircraft and aircraft components maintained under that Part may only
be released to service by a person authorized to do so by the certificated maintenance organization. Rating covering aircraft and aircraft components that are required to be maintained by a Part 145 maintenance organization may be added to an aircraft maintenance engineer licence issued under Part 65.

These ratings do not release-to-service privileges.

This ratings—
- Are a method of indicating examinations and practical experience in a transportable manner.
- Are restricted to aircraft and component group and are listed in Part 65 Appendix A, and in Appendix 1 to this Circular.

In some cases, for example turbine engines in aircraft nor required to be maintained under Part 145, release to service privileges are available to type-rated licencees.

The privileges of the licence permit the holder to perform, or supervise, the maintenance of an aircraft, or an aircraft component, and to release that aircraft or component to service. Before exercising the privileges of an aircraft maintenance engineer licence the engineer must be familiar with the aircraft or aircraft component being maintained. The engineer should have a thorough knowledge of the appropriate maintenance manual, or other maintenance documentation, and understand the acceptable standards and practices requires by Part 43, the engineer should have practical experiences of the task to be performed, or of a task of similar nature.

65.53 AME ratings eligibility requirements

To be eligible for the grant of an aircraft maintenance engineer licence rating the applicant must hold either a basic certificate or current aircraft maintenance engineer licence and meet the practical experiences and examination requirements listed below.

Practical experiences

Six months practical experiences on the type or group of aircraft components, completed within the immediate three years before application, is required. Experience logs submitted with the rating application will be assessed for the appropriate experience. Only experience specific to the rating sought should be include in the log. For type ratings, a Practical Training Record book, or similar document, should be forwarded with the application. Typical acceptable practical experience should include—

For the airframe category
- Minimum of three periodic inspections, including avionic systems
- Minimum of two aircraft weighings, or weight and balance calculations for the first aeroplane and the first rotorcraft rating
- Rectification of defects and component changes including avionic components
- Compass compensation for the first rating
- Functional testing and servicing of aircraft systems
For the engine category

- Minimum of three periodic inspections
- Rectification of defects and components changes
- Functional testing and servicing of powerplant systems, including propulsion, engine ground running.

For the electrical category

- Periodic inspection and testing
- Defect analysis and rectification, including component changes
- Modification installation

For the instruments category

- Periodic inspection and testing
- Defect analysis and rectification, including component changes
- Modifications installation
- Compass compensation for the issue of the first rating

For the radio category

- Periodic inspection and testing
- Defect analysis and rectification, including component changes
- Modification installation
- Compass compensation for the issue of the first rating

Applicants for the component ratings should show six months of experience gained on the overhauls or repair of specific components. Where the rating applies to a group of components the experience log must show that the experience has been gained on a wide selection of components from within the category. If it is can not be demonstrated a restricted rating, or a certificate of maintenance approval, may be issued limiting the range of components types. For examples, restricted to alternators only. If insufficient experience is shown for a group rating and this is due to the inability of the applicant to be exposed to more than one type within a group, the applicant may apply to have that type issued as a restricted rating within a group.

Examinations and courses

Approved type-course pass credits remain valid for two years. If more than two years has expired since course completion, the validity of type-course credits may be reinstated if the holder can show continuous practical experience on the type since completion of the course. If continuous experiences has not been gained but significant recent experience has been undertaken the approved type course may be considered valid if an approved examination is passed. The type ratings listed in Part 65 Appendix A.2 require the completion of an approved course and oral technical examination.

The course and oral examination shall be conducted by a Part 147 training organization, or in the case of its own staff, a Part 145 maintenance organization. In exceptional cases where approved course are not available, and the provisioning of an oral or
written examination is Aircraft Maintenance Engineer License within the capabilities of DGCA, an examination may be conducted by DGCA.

Component type rating qualification may be met by either an approved course or rating examination. The type rating qualification is also dependent on the applicant passing the prerequisite examination that relates to the applicant passing the prerequisite examination that relates to the basic examinations detailed in 65.53. The examinations are:

<table>
<thead>
<tr>
<th>Mechanical Components</th>
<th>Paper 191</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avionics Components</td>
<td>Paper 291</td>
</tr>
</tbody>
</table>

Part 65 Appendix A.2 describe the aircraft and components for which only individuals ratings are granted. Those aircraft and components and their associated examinations

**Rating Examination Paper**

List as per the sample below

- Beech 58P  Paper 151
- Beech 60   Paper 152
- Beech C90 and E90  Paper 153

Components-Airframe (excluding helicopters dynamic components) 34 and 35
Components-Helicopters dynamic components 46 and 47
Components-Piston Engines 40 and 41
Components-Turbine Engines 42 and 43
Components-Propellers 44 and 45
Components-Electrical 50 and 51
Components-Instruments 52 and 53
Components-Radio or Radar 54 and 55

Should an approved course be available covering a specific rating group or individual aircraft in Group 7, that usually requires rating examinations, the applicant may qualify for the rating by successfully completing the approved course and meeting the practical experiences requirements.

*The course must be approved before you take it, otherwise your effort will be wasted.*

**65.63 Eligibility requirements – certificates of maintenance approval**

The certificate is issued to suitably qualified persons to permit the performance of maintenance and the release to service of aircraft or component within the restrictions annotated on the certificate. Certificate of maintenance approval are not issued as a replacement document for an aircraft maintenance engineer licence.
Restrictions may be placed on the certificate that include the limiting of privileges to specific inspection levels or specific components, or require the direct supervision by a fully qualified person. For the issue of a certificate of maintenance approval the Regulation requires the applicant to—

- Provide evidence of practical experience
- Hold a pass in acceptable examinations or an approved course, as appropriate.

Examination requirements may include the full suite examinations required for the issue of an aircraft maintenance engineer licence or they may be any lesser number the Director general may determine. This will depend on the extent of the privileges to be granted, the technical background of the applicant, and the extent of the applicants aviation related practical experience.

The minimum examination standard required for an unlicensed engineer is any one of—

- A successful pass of a composite examination covering the technical aspects of the certificate of maintenance approval coverage and Air Law and Airworthiness Requirements (Paper 001)
- An approved course covering the technical aspects and a pass in Air Law and Airworthiness Requirements examination (Paper 001). To gain the full practical experience required for a rating according to 66.155(1), an applicant may be eligible for issue of a certificate of maintenance approval. The prerequisite is that the examination or type-course requirements for the rating have been met and an acceptable level of practical experience required before the issue of a certificate of maintenance approval will vary, depending on the limitations to be applied to the certificate. The following should be considered when demonstrating adequate experience of an aircraft or component to gain certificate issue—

**General**

Experience levels should include periodic inspections, defect analysis and rectification, component replacement, servicing and functional testing.

**Supervision**

Performance of maintenance on the specific aircraft or component covered by the certificate of maintenance approval, whilst under the supervision of a fully qualified person being—

- A rated aircraft maintenance engineer
- An approved training organization
- A manufacturer's technical representative
- A foreign operator approved by the competent authority of that State—

May be acceptable as grounds for a reduced level of required practical experience for certificate issue. This supervision should be carried out on site during maintenance task, remote supervision is not acceptable.

**Similar existing rating coverage**

Evidence of limited experience on type, plus evidence of experience or a rating on similar aircraft components, for example. A turbine engine of an earlier model that has
the same basic technology but different components, may be acceptable grounds for a reduction in the required practical experience for certificate issue.

**New aircraft introduction**

Due to the introduction of a new type of aircraft or aircraft component new ratings have to be issued or gained. The necessary experience period is accommodated by the DGCA issuing certificates of maintenance approval in the interim.

When a certificates of maintenance approval is required, the individual, or organization, introducing the aircraft or aircraft component should submit a schedule of intended practical training to DGCA. This will be assessed for acceptable before commencement of the training.

**Workshop engineers**

Persons performing a limited range of specialist tasks, for which a licence rating is not appropriate, may qualify issue of a certificate of maintenance approval granting limited certification privileges. Examples of the limited range of specialist tasks for which this provision applies are:

Repetitive work in wheel and tyre bays, battery rooms etc
Special processes such as NDT, electro-plating, welding etc.
APPENDIX 1 – Categories and Ratings List

This appendix lists the aircraft and components assigned to each Category and rating.

There are five categories with the associated group rating numbers shown below---

Category Rating Group

Airframe 1 to 8
Engines 1,2,7 and 8
Electrical 1,7 and 8
Instrument 1,2,7, and 8
Radio 1,2,3, 7 and 8

Group 7 in each category relates exclusively to those aircraft and components for which the Director General will grant individual ratings only. All pressurized aeroplanes and turbine engines are in Group 7.

Group 8 relates exclusively to airframe, engine, electrical, instrument and radio components. Group 8 ratings will be granted to workshop engineers who meet Part 65 knowledge and experience requirements.

Each column of the remainder of this appendix shows a particular group rating number, a short description of the rating and then list the aircraft or aircraft components encompassed in that rating.
APPENDIX 2

Categories Described

Airframe Category

Airframe – Group 1
Metal stressed skin unpressurised commercially manufactured and amateur – built aeroplanes not exceeding 5700 kg MAUW and with fixed undercarriage---

List here types on Indonesia register as persample

Aerocammander 100
AESL/Victa Airtourer series
Beagle B121
Beech B19, 23 series & 77
Bolkow 208 series
Britten Norman BN-2 series
Cessna 150, 152, 170, 172, 177, 180, 182, 185 O-1 series excluding models, Piper PA-28 series, PA-32 series excluding retractable models, PA-36 series, & PA-38 series

Airframe – Group 2
Metal stressed skin unpressurised commercially and amateur-built aeroplanes other than Group 1---

List here types on Indonesian register as per sample

Aerocammander 500 series, & 680 series
Beech 24 series, V35 series, A36 series, 58, 95, 65 and 76 series, & 99 series
Cessna 172RG, 177RG 182 series, 210 series, 212 series, T303, 310 and 320 series, 337 series, 402 and 404 series, & A-37B
Douglas DC-3
Embraer EMB-110
Ted Smith Aerostar 600 series
Airframes – Group 3
Commercially manufactured and amateur-built aeroplanes with, principally, wooden, tubular, or fabric structure---

List here types on Indonesian register as per sample
Auster B8
Auster j series
Beagle A61 series, A109 series
Cessna 120
De Havilland DH60 series, DH82 series
DH83 series, DH89 series, & DH94 series
Percival Prexite & Proctor
Piper J, PA-18 series, PA-22 series, & PA-25 series
Pitts Special series
Taylorcraft BC series & 20

Airframe – Group 4
Commercially manufactured or Amateur-built aeroplanes constructed principally of fibre reinforced plastic (FRP), or similar material---

List here types on Indonesia register as per sample
Slingsby T61C Falcon & T67 Firefly

Airframe – Group 5
Piston-engine rotorcraft, including amateur-built, other than those included in group7---

List here types on Indonesia register as per sample
Brantly B2
Bell 47 and Kawasaki-Bell 47 series
Enstrom F-28, 280 series
Hughes 269 series
Hiller UH12E series except Soloy conversion
Robinson R22 series
Sikorsky S-55B

Airframe – Group 6
Turbine-engine helicopters other than those in group 7 for which only individual ratings are granted. Group 6 includes

List here types on Indonesia register as per sample
Aerospatiale AS350 series
Aerospatiale SA315
Bell 47 Soloy conversion
Bell 206 series  
Fairchild Hiller FH-1100  
Hiller UH12E Soloy conversion  
Hughes 369 series  
Kawasaki 369 series

Airframe – Group 7  
All pressurized aeroplanes

*List here types on Indonesia register as per sample*  
In the opinion of the Director General, the following helicopters do not warrant inclusion in group 6. Ratings are granted for specific types only—

*List here types on Indonesia register as per sample*

<table>
<thead>
<tr>
<th>Make</th>
<th>Model</th>
<th>Licence designator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospatiale</td>
<td>SA365N Dauphine II</td>
<td>SA365</td>
</tr>
<tr>
<td>Augusta</td>
<td>109 series</td>
<td>A109</td>
</tr>
<tr>
<td>Bell</td>
<td>204, 205, 212, &amp; UH-1 series</td>
<td>B212</td>
</tr>
<tr>
<td></td>
<td>214 St series</td>
<td></td>
</tr>
</tbody>
</table>

Airframe – Group 8  
Airframe components by type

Engine Category

Engine – Group 1  
Normally Aspirated piston engines—

*List here types on Indonesia register as per sample.*

All Teledyne Continental and Rolls Royce Continental normally aspirated piston engines  
De Havilland Gipsy 1, Gipsy Minor, Gipsy Major, Gipsy Six 1, Queen series except Queen 70, Blackburn Cirrus Minor & Cirrus Major  
All Avco Lycoming normally aspirated piston engine  
Pobjoy Niagara III  
Normally aspirated piston engines in amateur-built aircraft

Engine – Group 2  
Turbo-charged or supercharged piston engines—

*List here types on Indonesia register as per sample.*
Avco Lycoming TIO-540 series, TIO-541 series, LTIO-540 series, TO-360 and LTO-360 series. TVO-435 series, IGSO-540 series
Bristol Centaurus, Hercules 730 series
De Havilland Gipsy Queen 70
Pratt and whitney R-985 series, R-1340 series, R-1830 series, R-2000 series, R-2800 series
Teledyne Continental GTSIO-520 series

TSIO-520 series, TSIO-360 series, LTSIO-360
Wright R-1300, R-1820 series, R-2600 series

Engines – Group 7

Turbine engines

List here types on Indonesia register as per sample.

<table>
<thead>
<tr>
<th>Make</th>
<th>Model</th>
<th>Licence designator</th>
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</thead>
<tbody>
<tr>
<td>Allison</td>
<td>250 series</td>
<td>A250</td>
</tr>
<tr>
<td></td>
<td>501 series</td>
<td>A501</td>
</tr>
<tr>
<td>Bell</td>
<td>CF6 series</td>
<td>CF6</td>
</tr>
</tbody>
</table>

Engines – Group 8

Engines components, including propellers

Electrical Category

Electrical – Group 1

Electrical systems, other than those in Group 7 aeroplanes.

Group 7

Electrical system in Group 7 aeroplanes, by individual type ;

List here types on Indonesia register as per sample.
<table>
<thead>
<tr>
<th>Make</th>
<th>Model</th>
<th>Licence designator</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Aerospace</td>
<td>BAe 146 series</td>
<td>BAe 146ELEC</td>
</tr>
<tr>
<td>Boeing</td>
<td>737-100 and 200 series</td>
<td>B737ELEC</td>
</tr>
<tr>
<td></td>
<td>747-200 series</td>
<td>B747-2ELEC</td>
</tr>
<tr>
<td></td>
<td>747-400 series</td>
<td>B747-4ELEC</td>
</tr>
</tbody>
</table>

**Instrument Category**

**Instruments – Group 1**

General aircraft instrument system basic flight instruments systems, oxygen systems, cabin pressurization and air conditioning system, other than those fitted to Group 7 aeroplanes.

**Instruments – Group 2**

Autoflight and navigation systems including air data computer systems, servo driven instruments; Remote gyro systems including remote reading compasses; automatic flight control systems and inertial navigation system other than those fitted to Group 7 aeroplanes.

**Instruments – Group 7**

Specified integrated light system, which in the opinion of the director general, do not warrant inclusion in groups 1 or 2. Ratings are granted by individual systems only:

*List here types on Indonesia register as per sample.*

<table>
<thead>
<tr>
<th>Make</th>
<th>Model</th>
<th>Licence designator</th>
</tr>
</thead>
<tbody>
<tr>
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<td>BAe 146 series</td>
<td>BAe 146INST</td>
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<tr>
<td>Boeing</td>
<td>737-100 and 200 series</td>
<td>B737INST</td>
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<tr>
<td></td>
<td>747-200 series</td>
<td>B747-2INST</td>
</tr>
<tr>
<td></td>
<td>747-400 series</td>
<td>B747-4INST</td>
</tr>
</tbody>
</table>

**Instruments – group 8**

Instrument components
Radio – Group 1

Airborne communication systems including VHF, HF, CVR, audio and ELBA, excluding those in Group & aeroplanes

Radio – Group 2

Airborne navigation systems including ADF, VOR, ILS, VLF, OMEGA, and marker beacon, excluding those in Group 7 aeroplanes

Radio – Group 3

Airborne primary and secondary radar including weather radar, doppler, radio altimeter, DME, and transponder, excluding those in Group 7 aeroplanes

Radio – Group 7

Specified total aircraft radio installations which in the opinion of the Director General do not warrant inclusion Group 1, 2, or 3. Ratings are granted by individual aircraft systems only:

List here types on Indonesia register as per sample.

<table>
<thead>
<tr>
<th>Make</th>
<th>Model</th>
<th>Licence designator</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Aerospace</td>
<td>BAe 146 series</td>
<td>BAe 146RAD</td>
</tr>
<tr>
<td>Boeing</td>
<td>737-100 and 200 series</td>
<td>B737IRAD</td>
</tr>
<tr>
<td></td>
<td>747-200 series</td>
<td>B747-2IRAD</td>
</tr>
<tr>
<td></td>
<td>747-400 series</td>
<td>B747-4IRAD</td>
</tr>
</tbody>
</table>

Radio – Group 8

Radio components

Components – Rating Group 8

Ratings in Group 8 may also be issued as restricted ratings when the applicants cannot comply with the full requirements for training or experience. For example a restricted electrical components rating could appear on a licence or certificate as Alternators.

Group 8 ratings and their coverage are listed below---
Airframes-Rotary and fixed wing airframe components
Engines-Piston engines, turbine engines and propellers
Electrical-Electrical components
Instruments-Instrument components
Radio-radio and radar components

APPENDIX 3

Category Demarcations

1. To determine which parts of an aircraft are the responsibility of the various licence categories and ratings, the following demarcations apply. It is the responsibility of all certifying engineers to ensure that, where there is an overlap of responsibility with other licence categories, a holder of the appropriate licence is notified of the subsequent work required before the aircraft or aircraft component is returned to service.

Airframe category
Encompasses all parts of the aircraft other than those stated as being the responsibility of another licence. Encompasses the relevant parts of the categories and includes following---

(i) aircraft structure;
(ii) control surface;
(iii) control systems;
(iv) hydraulic systems;
(v) pneumatic systems;
(vi) pressurization system;
(vii) air conditioning systems;
(viii) oxygen systems;
(ix) de-icing and anti-icing systems;
(x) landing gear systems;
(xi) fuel and other liquid tanks and plumbing not forming part of the engine installation;
(xii) fire protection systems;
(xiii) cabin and cockpit furnishings;
(xiv) role equipment;
(xv) wind shield clear vision systems; and
(xvi) emergency equipment;
(xvii) rotor hubs and blade;
(xviii) transmissions and drive systems, excluding rotorcraft reduction gear boxes or power input coupling gear boxes provided by the engine manufacturer.
Engine category

Encompasses the following---

(i) engine and propeller;
(ii) engine mounting and firewalls;
(iii) engine exhaust systems, including thrust reversers, reheat, tail pipe assemblies and exhaust-type cabin heating unit;
(iv) components and items of equipment attached to or driven by the engine but excluding rotorcraft transmission and drive systems;
(v) engine controls, including variable intake, propeller, fuel, oil, anti-icing, de-icing, and other controls associated with engine operation;
(vi) ignition, fuel, oil, fire extinguisher, anti-icing and de-icing systems, and other systems associated with engine operation, but excluding fuel and water-methanol tanks and associated plumbing not forming a part of the engine installation;
(vii) compressor bleed air systems contained within the engine installation sections;
(viii) engine cowlings; and
(ix) auxiliary power unit.

Electrical category

Encompasses all parts of the aircraft electrical system including the following---

(i) all parts of the electrical power generation, supply, distribution, and control systems;
(ii) all other electrical systems and components associated with the electrical installation, excluding instruments and radio but including multiplex systems and EICAS; and
(iii) aircraft batteries

Instruments category

Encompasses all parts of the aircraft instrument system including the following---

(i) vacuum, pressure, and electrically operated instruments;
(ii) direct and remote reading magnetic compasses, including compensation;
(iii) gyro instruments;
(iv) automatic pilots, auto-flight control systems, and integrated flight control systems;
(v) oxygen systems;
(vi) flight data recorders;
(vii) inertial navigational systems;
(viii) cabin pressurization and air conditioning control system;
(ix) multiples systems;
(x) HICAS
(xi) EFIS
(xii) Flight director, air data computer systems;
(xiii) GPWS; and
(xiv) Instruments panels, shock mounts, bonding, cables, and looms

Radio category
Encompasses all parts of the aircraft radio system including the following---

(i) radio communications systems;
(ii) radio navigation systems;
(iii) audio intercommunication and passenger address-entertainment systems, and multiplex systems;
(iv) radar navigation and alerting systems;
(v) radio racks, shock mounts, bonding, cables, and looms
(vi) radio system instruments and power supplies;
(vii) GPWS; and
(viii) EFIS