



GOVERNMENT OF INDIA
OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION
OPP. SAFDURJUNG AIRPORT, NEW DELHI

CIVIL AVIATION REQUIREMENTS
SECTION 2 - AIRWORTHINESS
SERIES 'E', PART VIII
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EFFECTIVE: FORTHWITH

Subject : **Approval of Organisations - Category 'G' - Training Institutes.**

1. INTRODUCTION

1.1 This part of CAR deals with the approval of Training Institutes [under Rule 133B](#), for imparting ab-initio training to students in the field of Aircraft Maintenance Engineering for obtaining Basic licence [in the following streams](#), and prescribes the minimum requirements for grant of approval and its continuity :-

- (a) [Mechanical stream \(Fixed wing\)](#), comprising of Light Aeroplanes (LA), Heavy Aeroplanes (HA), Piston Engine (PE) and Jet Engine (JE).
- (b) [Mechanical stream \(Rotary wing\)](#), comprising of Rotary Wing Aircraft (RA), Piston Engine (PE), and Jet Engine (JE).
- (c) [Avionics stream](#), comprising of Electrical System (ES), Instrument System (IS) and Radio Navigation System (RN).

1.2 The period of training in the approved schools will be counted as maintenance experience for the purpose of computing total aeronautical experience to become eligible for appearing in the AME licence examinations.

1.3 Rule 61 stipulates that for grant of Aircraft Maintenance Engineer's (AME) licence, applicants who have passed a course from DGCA approved institutes will be granted one year relaxation in the total aeronautical maintenance experience required. It is, therefore, necessary that the approved institutes provide a high standard of training to their students.

2. OBJECTIVES OF TRAINING

The training course in the field of aircraft maintenance engineering is designed to give the students the following essentials, to enable them to pass the AME licence examination conducted by DGCA.

- (i) Knowledge of Aircraft Manual (India), Civil Aviation Requirements, Airworthiness Advisory Circulars etc.
- (ii) Theoretical and practical technical knowledge of design, construction, maintenance and operation of aircraft, engines, systems and aircraft materials used in construction of airframes, engines and accessories.
- (iii) Knowledge of workshop practices and skill in the use of various equipments, general and special tools used in aircraft maintenance;
- (iv) Knowledge of good maintenance practices, necessary judgment and competence required to assess the airworthiness of aircraft and its equipment.

3. APPLICATION FOR APPROVAL

- 3.1 The application on Form CA-182 along with its enclosures as detailed in **Annexure I** signed by the Accountable Manager for approval of the institute should be submitted to local airworthiness office.
- 3.2 The application should include a "Training Manual" and a certificate that the institute meets all the requirements laid down in this CAR.

4. REQUIREMENTS FOR APPROVAL

The institute shall comply with the following requirements before approval is granted. Part approval **in Mechanical or Avionics stream**, semester wise approval or provisional approval shall not be granted.

- 4.1 A report on the compliance of this CAR shall be submitted by the applicant to the local airworthiness office. On receipt of application, the institute will be inspected by representatives of concerned Regional Director of Airworthiness office and DGCA.
- 4.2 Personnel Requirements
 - 4.2.1 **Accountable Manager :-** The applicant shall nominate a suitable person wias
 - 4.2.2 Chief Instructor :- The institute should nominate suitable persons as Chief Instructor and Deputy Chief Instructor. The nominated persons shall be examined and approved, if found suitable by a duly constituted board of DGCA.
 - 4.2.2.1 Qualifications and experience

The Chief Instructor/ Deputy Chief Instructor shall have the following minimum

qualification and experience:

- (a) Basic licence (BAMEL) in a stream related to the scope of the approval, in at least two categories of Mechanical or Avionics streams; OR Degree in Engineering or equivalent qualification in the field of Aeronautical/ Mechanical/ Electrical/ Electronics engineering. He should also have passed Paper I of AME licence examination.
- (b) For Basic licence holders, five years practical experience in aviation industry out of which a minimum two years in the field of instruction. For engineering graduates, two years practical experience in aviation industry out of which a minimum of one year in the field of instruction.
- (c) For institutes seeking approval in both mechanical & avionics streams the Chief Instructor & Deputy Chief Instructor should together cover the entire scope of approval.

Note :- Experienced persons already functioning as Chief Instructor/ Dy. Chief Instructor/ Instructor may continue to exercise the privileges of their approval.

4.2.2 Instructors :- The institute will employ adequate number of qualified and experienced Instructors for imparting both theoretical and practical training to the students. The instructors will be approved by Chief Instructor. Instructors may be taken on contractual basis, in addition to the regular instructors. Instructors teaching Aviation subjects should be holders of BAMEL in the relevant category or experienced in the relevant stream. The DGCA may also require approval of other persons who are engaged in imparting workshop training.

4.2.2.1 Qualifications and experience

The Instructors should be duly qualified to undertake the instruction in the assigned subjects. The institute should have balanced staff of persons suitably qualified in all subjects listed in the syllabi. The instructors should have an aptitude for teaching and should be patient, enthusiastic and be able to keep discipline.

The instructors should have the following minimum qualifications:

- (a) Basic license (BAMEL) in any category, or
Degree in Engineering in Aeronautical/Mechanical/Electrical/Electronics engineering, or
Diploma in any of the above disciplines, or
Bachelor of science with Physics, Chemistry and Math.

- (b) **Two** years practical/instructional experience in aviation industry for holders of Engineering degree or BAMEL, and **Three** years practical/instructional experience in aviation industry for others.

Note: Instructors assigned to teach Air Law & Airworthiness requirements should have passed paper I of AME licence examination.

4.2.3. Quality Manager :- The applicant shall nominate a suitable person as Quality Manager with over all Responsibility of ensuring compliance with applicable regulation & provisions of the Institute training manual through regular internal audits & inspections. He should report the finding to the accountable manager and ensure rectification of the deficiencies.

4.3 The overall ratio of whole-time instructors to students shall **not be less than 1:30 per subject**. In general, a training school requires atleast two instructors for each range of subjects to ensure continuity of program in the event one instructor being absent. When circumstances permit the program can be made more interesting by having additional guest lecturers.

Institutes seeking approval in any stream shall employ the minimum instructors **per 30 students** as given below:

Airframe Instructor - 1

Powerplant Instructor - 1

Materials, Workshop Practices Instructor – 1

Electrical, Instrument and Radio Instructor - 1 each

Computer Instructor - 1

Workshop **Demonstrators** - 3

4.5. Duties and Responsibilities of Chief Instructor

4.4.1 The Chief Instructor shall be responsible to DGCA for the conduct of training in accordance with the **approved Training Manual and shall ensure that all the conditions** of approval are observed.

4.4.2 He shall ensure that appropriately qualified instructors are available in adequate number to cover specific subjects.

4.4.3 He shall ensure that each student admitted for the course possesses minimum qualifications and fulfills the criteria for admission as stipulated in the approved training manual. The medical standards of the students as required for an AME shall be ensured.

- 4.4.4 He shall ensure that the aircraft, engines, items of equipment, mock-ups and other training aids are kept in clean and serviceable condition for demonstration as part of the practical training.
- 4.4.5 He shall ensure that adequate quantity of reference books are available in the institute library. In addition, he shall ensure that each student is in possession of Aircraft Manual (India), Civil Aviation Requirements and other instructions and amendments thereof, issued by DGCA from time to time. The Chief Instructor shall also ensure that lesson plans and class room notes are prepared and issued to all students on various subjects. He shall also ensure that each student maintains his log book and shall certify the same.
- 4.4.6 He shall ensure that a high standard of instruction is maintained.
- 4.4.7 He shall be responsible for setting up question papers, conducting examinations, checking of papers, etc. and to conduct examinations of various semesters in a **time bound** and fair manner.
- 4.4.8 He shall ensure that records of proper attendance of each student are maintained.
- 4.4.9 He shall ensure that permanent record of all students admitted to the course and their progression through the various semesters of the course is maintained.
- 4.4.10 He shall be responsible for submitting reports on intakes and results of semester examinations to the local airworthiness Office.
- 4.4.11 He shall ensure that all eligible candidates appear in Paper I, II and III of DGCA licence examination, as applicable and shall forward their application to CEO. **He shall also issue photo identity card to all candidates issued with the computer No. by CEO.**
- 4.4.12 He shall maintain record of candidate's results of DGCA licence examinations and submit reports to the local Airworthiness office after each session.
- 4.4.13 He shall make arrangements for on the job training (OJT) for students and monitor the performance of students during their OJT. He shall ensure that the students maintain daily logbooks during this period.
- 4.4.14 **He shall issue the course completion certificate after successful completion of the course including the mandatory OJT.**
- 4.4.15 He shall ensure that security clearance of foreign students is duly obtained through DGCA before admitting them for the course.
- 4.4.16 He shall ensure that due facilities are provided to DGCA officers for inspection of the institute.

4.5 Requirements :

4.5.1 Facilities and Equipment Requirements :

- (a) The institute should preferably have its own premises, or premises taken on long term lease (ten years). The institute should be established in such areas where it is permitted by the local administrative authorities.
- (b) Adequate number of class rooms for theoretical classes shall be available. For initial approval, at least three class rooms, properly equipped with training aids must be available.
- (c) The class rooms shall be properly lighted, well ventilated, furnished and free from noise. The size of the rooms shall be appropriate to accommodate 30 number of students at a time. As a guide line each room should be at least of 40 Sq.Mts. area.
- (d) The institute should have hangar/adequate covered area to park the Aircraft/Helicopter for demonstration and for performing practical exercises on the aircraft.
- (e) The institute shall have well equipped workshops for the training of students in General Engineering and work shop practices. In addition separate areas should be allotted for demonstrating welding, NDT, sheet metal work, electrical work, composite material repairs etc. (Annexure__ to be referred).
- (f) The institute shall have well equipped workshops in Mechanical and Avionics fields, commensurate with the scope of approval sought (Annexure__ to be referred).
- (g) Each work shop should be equipped with tools/equipment, used for General Engineering and for specific jobs.

4.5.2 In the interest of maintaining high instructional standards and for establishing proper rapport between the students and the teacher, the number of students in a batch or class shall not exceed 30.

4.5.3 In one academic year, induction of only two batches is permitted. Each batch shall not have more than 30 students.

4.5.4 Institutes seeking approval in [Mechanical stream \(Fixed wing\)](#) and in [Avionics stream](#) should have at least one heavy/pressurized aeroplane complete with engines running, landing gear and most of the instruments and systems functioning.

4.5.5 Institutes seeking approval in ["Mechanical stream \(Rotary wing\)](#), should have at least one helicopter complete with engines running (without rotor turning), landing gear and most of the instruments and systems functioning. In case an institute seeks approval in [avionics stream](#) in addition to the [Mechanical stream \(Rotary wing\)](#) approval, it must possess a helicopter on which manufacturers avionics course is conducted or it should have a

separates aeroplane as specified in para 4.5.4.

- 4.5.6 The aeroplane/ helicopter need not have a valid C of A but should be complete and in running condition for imparting practical training. The institutes should also have system lay outs/ mock ups with aircraft components (not necessarily serviceable), sectioned components, components in disassembled conditions, functional diagrams, see-through models, as required in the subject syllabus and as detailed in the [Annexure to this CAR](#).
- 4.5.7 In addition to the facilities in 4.5.6, Institutes seeking approval [in any stream shall](#) make arrangements with approved aircraft maintenance organisation for practical demonstration of the complete aircraft/engines/relevant systems.
- 4.5.8 The institute shall have a library having a stock of books commensurate with the number of students. [One set of books per 10 students](#) should be procured by the institute for issue to the students as course text books. Adequate number of suggested reference books should also be made available in the library. The list of books recommended for the training school is given in Annexure 'IV'. The Library should be equipped with photocopier and sufficient numbers of computers with access to internet facility for students.
- 4.5.9 It is desirable that the institute should have OHP and [LCD projectors in each class room](#), for use by the trainees and instructors.
- 4.5.10 Sufficient training aids, demonstration equipment and study material should be available to facilitate complete comprehension of the instruction given. The detailed requirements are giving in [Annexure 'II'](#).
- 4.5.11 [Existing institutes/training establishments are required to comply with this CAR by 31st December 2008.](#)

4.6 On-Job Practical Training

For completion of the course, six months On the Job Training (OJT) shall be mandatory. For imparting practical training on aircraft maintenance to the trainees, facilities acceptable to DGCA must exist. The school shall make suitable arrangements with DGCA approved maintenance organisation having an airworthy aircraft/engine/relevant system engaged in major maintenance for practical on the job training at the end of the course. However, maintenance schedules carried out on the aircraft possessed by the institutes, which may not have valid C of A but having all systems operational is also acceptable for on the job training.

4.7 Preparation of Training Manual

The institute will prepare a Training Manual detailing the training policy and procedures which shall be approved by DGCA. The Training Manual should contain the information given in [Annexure 'III'](#) for reference.

5. QUALIFICATIONS FOR ADMISSION

5.1 For AME training course, the candidates shall have passed 10+2 class with average of 50% marks in Physics, Chemistry and Mathematics or shall have acquired a higher qualification.

5.2 The trainees shall be subjected to a medical examination before they are admitted to the training institute by a doctor possessing at least an MBBS degree. Candidates shall not have any physical disabilities or colour blindness, which may interfere in discharging the duties as an AME. (Refer Annexure ___)

6. PERIOD OF TRAINING

6.1 The period of training in the approved institute will be counted for the purpose of computing total aeronautical maintenance experience required for becoming eligible for appearing in the AME licence written examination.

6.2 The duration of the training as a combination of streams shall be as follows:

- (a) "LA, PE, HA & JE " Mechanical stream, (Fixed wing)-
Three & half years plus six months OJT
- (b) "RA, JE & PE " Mechanical stream, (Rotary wing)-
Three & half years plus six months OJT
- (c) "ES, IS & RN" Avionics stream-
Three & half years plus six months OJT

The initial seven semesters in training institute shall contain both theoretical and practical classes in equal proportion. The last semester shall be exclusively practical oriented and conducted in an approved maintenance organisation carrying out major maintenance of aircraft/engine etc.

During the entire period of training, each student shall maintain a log book indicating the practical training he has undergone. The log book shall be signed by an instructor of the institute or the QCM of the organisation where he has undergone the practical training.

6.3 The courses shall start in the month of July each year to ensure that the students are eligible for the October examination session of the following year. The list of admitted students in a batch should be forwarded to CEO for allotment of Computer number to the students.

6.4 The number of students in each batch shall commensurate with the infrastructure available and shall not exceed 30. However no institute

shall have more than two batches in combinations given in Para 6.2.

6.5 During any semester the practical training shall not be normally less than 50% of total training time. Any variation in period or scope of training will have prior approval of DGCA.

7. EXAMINATIONS

7.1 Semester Examination

7.1.1 After completing each semester the candidate shall be subjected to an examination. Before a candidate is allowed to appear for the examination, he should have been present for at least 80% of the training period. The examination shall be conducted semester-wise every six months.

7.1.2 Examinations papers shall be set, invigilated and checked by competent examiners designated by the Chief Instructor. Examinations shall be held at the end of each course/phase or each section of the course.

7.1.3 The examination papers shall be combination of quiz type and essay type questions.

7.1.4 Candidates who are successful in the semester examination shall be issued with a mark sheet by the school giving details of the marks obtained in each subject. After successful completion of the course, the school shall award a Certificate approved by DGCA.

7.1.5 The DGCA representative may at his discretion associate with the examination to ensure that the standard of questions and fair examination practices are followed.

7.1.6 To be declared successful in the course, the candidates must obtain a minimum 70% in each paper.

7.1.7 A candidate shall only be promoted to the next semester after he has successfully passed the previous semester.

7.1.8 The syllabus for various semesters of the Basic licence course shall be drafted to cover various modules of DGCA licensing system as given in CAR-66 (being proposed).

7.2 AME licence examination conducted by DGCA

7.2.1 AME licence examinations are conducted by DGCA three times in a calendar year i.e., in the months of February, June and October.

7.2.2 The eligibility of students to appear in AME licence examinations shall be as specified in CAR Section 2, Series L, Part II.

8. Maintenance of Records

8.1 The Chief Instructor shall ensure that the following records are kept :

- (a) The name and address of all trainees attending courses.
- (b) Progress records in respect of all students attending Basic licence course or type courses.
- (c) The commencement and conclusion dates of all courses run and copies of the syllabus approved at the time.
- (d) Examination results of all courses run.

8.2 Question and answer papers of each semester shall be preserved for a period of two years from the date of final examination

9. GRANT OF APPROVAL

9.1 Upon satisfactory compliance with the requirements given in this CAR and any other instructions issued by DGCA from time to time, a Certificate of Approval will be issued to the institute. Normally the validity of approval granted to the institute will be for one calendar year. The certificate should be displayed at prominent place and a copy kept in the training manual.

9.2 The approval granted to an institute shall be deemed to be suspended if, at any time, the institute does not meet the requirements stipulated above. In such case, the institute should immediately intimate the local airworthiness office and submit an action plan to ensure compliance with the requirements.

9.3 The certificate shall be surrendered when the institute is no longer approved.

9.4 The institute shall carry out an internal audit of their facilities and submit a report to local airworthiness office at least two months before the expiry of the approval. The local airworthiness office shall also conduct an inspection of the facilities of the institute to ensure compliance with this CAR before effecting renewal of the approval.

10. CONTINUANCE OF APPROVAL

10.1 Facilities, human resources, training and examination standards shall be maintained at standards not lower than those originally approved.

10.2 The institute shall carry out an internal audit of their facilities and submit a report to local airworthiness office at least two months before the expiry of the approval. The local airworthiness office shall also conduct an inspection of the facilities of the institute to ensure compliance with this CAR before effecting renewal of the approval.

- 10.3 Prior written permission shall be obtained from the Director General of Civil Aviation in respect of any material changes in the organisation.
- 10.4 Facilities shall be afforded to the representatives of DGCA to inspect the institute or attend any course for the purpose of monitoring the standard of training. A minimum of two months prior information shall be given to the Director General of Civil Aviation whenever new courses are started or existing approved courses are modified. DGCA may require any amendment to the content or duration of course.
- 10.5 The schools which consistently show poor results in terms of number of candidates passing in the DGCA licence examination shall not be allowed to intake fresh batches of students until the percentage of their candidates passing the DGCA licence examination improves.

(K. Gohain)
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