



GOVERNMENT OF INDIA
OFFICE OF DIRECTOR GENERAL OF CIVIL AVIATION
TECHNICAL CENTRE, OPP SAFDARJANG AIRPORT, NEW DELHI

**CIVIL AVIATION REQUIREMENTS
SECTION 2 - AIRWORTHINESS
SERIES R PART II
ISSUE IV, 4TH SEPTEMBER 2017**

EFFECTIVE: FORTHWITH

F No. 11-690/R-II/08-AI(2)

Subject: **Installation of Communication, Navigation, Radio and Radar Equipment.**

1. INTRODUCTION

Aircraft Rule 9 sub-rules 3 and rule 57 specify that every aircraft shall be fitted and equipped with radio apparatus as may be specified according to the use and circumstances under which the flight is to be conducted. CAR Section 8 Series O lays down the minimum radio equipment which are required to be installed on an aeroplane / helicopters engaged in commercial and general aviation operation. Further CAR Section 2 Series I Part II lays down the minimum radio equipment which is required to be installed on an aircraft for flying training organizations and aerial work operations

2. SCOPE

The radio equipment installed in aircraft registered in India shall:

- (i) be of the type appropriately approve.

Note: - In case the radio equipment is procured from outside India, the equipment should be approved by airworthiness authority of the country.

- (ii) be installed and operated with a licence issued under the Indian Telegraph Act of 1885 and the rules made thereunder as amended from time to time and in a manner approved by the DGCA,
- (iii) be maintained at all times in good order and condition as stipulated by the DGCA,
- (iv) be operated only by a person who holds an approved valid licence issued by the DGCA/Ministry of Communication,
- (v) not to be operated in flight unless it has been inspected and certified as being in proper working order by a person authorised by the DGCA.

Aircraft required to be equipped with radio equipment as above, shall not be flown, except in case of a test flight, unless the pilot in command has satisfied himself, prior to the commencement of the flight that the radio equipment fitted in the aircraft in accordance with these requirements has been inspected and certified in accordance with CAR Section 2, Series F, Part III and functioning normally.

2. **APPLICABILITY**

This part of the CAR describes the requirements to be complied with for installation of airborne communication, navigation, and radio and radar equipment.

3. **PROCEDURE**

Whenever it is desired to install new radio equipment on aircraft or existing avionic installation is required to be replaced, the following procedure is to be followed.

- 4.1 Any new avionic installation or replacement of existing installation shall be carried out after development of Supplemental Type Certificate (STC). The developed STC shall be accepted or approved by DGCA as appropriate.
- 4.2 Any new avionic installation or replacement of existing installation which are not covered by STC shall have prior approval of DGCA.
- 4.3 For grant of approval from DGCA proposal shall be made through local Airworthiness Office after ensuring the following.
 - a) The proposed equipment is of the approved type and is compatible with the existing system.
 - b) Necessary electrical power is available in the aircraft for the proposed equipment.
 - c) Required space is available at suitable location in the aircraft and proposed installation shall not affect the structural integrity of the aircraft.
 - d) C.G. should remain within the limits if proposed installation is carried out.
 - e) There is no radio interference due to installation of the new equipment which affect the performance of any other radio equipment installed in the aircraft.
 - f) Installation: The equipment installation should be such that the failure of any single unit required for communications, navigations or surveillance purposes or any combination thereof will not result in the failure of another unit required for communications, navigations or surveillance purposes.

- 4.4 After completion of proposed installation or replacement work testing of the system shall be accomplished only after obtaining short term aero mobile license for operating radio apparatus from WPC Wing of Ministry of Communications.
- 4.5 For obtaining the short term aeromobile license registered owner shall apply in quadruplicate on the prescribed form (available from WPC Wing, Ministry of Communication) along with a copy of Certificate of registration and requisite fee to the Wireless Advisor, Ministry of Communication through the local airworthiness office, who shall forward it to the DGCA. The Certificate of inspection is to be signed by an appropriately licensed AME indicating his license number on the application.
- 4.6 On receipt of the short term permit the operator shall complete all the installation checks including ground and flight tests as per the approved installation check schedule. The operator shall prepare the schedule of the above tests based on the guidelines contained in the BCAR Section R and FAA Advisory Circular AC 43-13 and forward it to the local Airworthiness office for approval. The flight tests referred to above shall be carried out to assess the range and performance of the new equipment in various altitudes of flight and to check the compatibility with other radio equipment installed in the aircraft.
- 4.7 On receipt of the installation check report vide 2.6 the aircraft shall be offered for inspection and communication check to the local airworthiness office.
- 4.8 After the satisfactory checks the operator should obtain the regular aeromobile license from the WPC Wing of the Ministry of Communication by applying in the prescribed form (Appendix 'A') through the local airworthiness office who will forward the same to the DGCA along with a communication check report.



(B. S. Bhullar)
Director General of Civil Aviation

Appendix 'A'

Application for Licence to establish, Maintain and Work Wireless Telegraphs in Aircraft Registered in India.

1. Name and Address of the applicant :
2. Particulars of the Aeromobile Licence, if any, already held :
3. Particulars of Aircraft in respect of which a licence is required.
 - a) Call Sign
 - b) Name and Type of Aircraft
 - c) Name of Owner
 - d) Passenger or Freight Aircraft
 - e) Normal Route
 - f) Place of Registry
(an attested copy of Certificate of Registration to be attached).
4. State whether the Radio Installation is provided in pursuance of statutory requirements or otherwise (i.e. compulsory fitted or non-compulsory fitted).
5. Nature of Service performed
6. Description of apparatus for which the licence is applied for:

A. Radio Communication Transmitters.

Manufacturers	Type rated power (Watts)	Output (khz)	Freq.	Range	Emission Freq. tolerance
<hr/>					
Main					
<hr/>					
Standby					
<hr/>					

Radio Communication Receivers.

Manufacturers	Type No.	Frequency Range (KHz)
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Main

Standby

B. Radio Navigation Apparatus

Manufacturers	Type No.	Frequency Range (KHz)
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i) Automatic Direction
Finder (ADF)

ii) Instrument Landing
System (ILS)

a) Localiser Receiver

b) Glidepath Receiver

c) Marker Receiver

iii) VOR Receiver

iv) DME Interrogator

v) ATC Transponder

vi) Weather Radar

vii) Radio Altimeter

viii) LORAN Receiver

ix)

x)

Certificate of Inspection
(Must be completed by a competent Wireless Telegraph Engineer)

It is certified that the Radio Apparatus detailed hereinbefore has been satisfactorily installed/ and the particulars given thereof are correct.

Signature of the Certifying Engineer

Dated

Name _____
(in Block Letters)

Designation (SEAL)

Address:

Declaration

I hereby solemnly declare and say that foregoing facts are true and correct and nothing is false therein and nothing material has been concealed therefrom. I also agree that in case any information given by me hereinbefore is found false at a later date, the licence, if granted will be cancelled.

I further solemnly give an undertaking that the apparatus described hereinbefore will be worked in accordance with the conditions of the licence and operators holding approval certificate of proficiency shall only be employed to work the said apparatus.

Place:

Signature of applicant

Dated:

Name _____

(in Block Letters)

Designation _____

Note : This application duly completed along with fees as required by PC, shall be forwarded to the Wireless Advisor to the Government of India, Ministry of Communications (through Director General of Civil Aviation, Technical Centre, Opp. Safdarjung Airport, New Delhi).