



सत्यमेव जयते

GOVERNMENT OF INDIA
OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION
TECHNICAL CENTRE, OPPOSITE SAFDRJUNG AIRPORT, NEW DELHI

CIVIL AVIATION REQUIREMENTS

SECTION 6 – DESIGN STANDARDS & TYPE CERTIFICATION

SERIES 'A', PART I

Issue I, 16th December, 2014

EFFECTIVE: FORTHWITH

F. No. 05-05/2014-AED

Subject: Requirements for validation of Type Certificate (TC) and Restricted Type Certificate (RTC) of Aeronautical Products (Aircraft, engine and propeller)

1. Introduction:

Rule 49B of 'the Aircraft Rules, 1937' empowers Director General of Civil Aviation (DGCA) to validate Type Certificate (TC) and Restricted Type Certificate (RTC) for aeronautical products, designed/ manufactured and type certified by the Certifying Authority (CA) of another country. This part of the Civil Aviation Requirements lays down the procedure and requirements for validation of TC and RTC, and also lays down the roles and responsibilities of the Validating Authority (VA) and Certifying Authority (CA) for validation activities and post-validation activities.

This Civil Aviation Requirement is issued under the provisions of Rule 3(4C), Rule 49B read in conjunction with Rule 133A of the Aircraft Rules, 1937.

2. Definitions and acronyms:

- a) Aeronautical product means any civil aircraft, aircraft engine and propeller;
- b) BASA-IPA means Bilateral Aviation Safety Agreement- Implementation Procedures for Airworthiness;
- c) CA means Certifying Authority, Civil Aviation Authority of issuance of TC/ RTC;
- d) VA means Validating Authority i.e. DGCA, India.

3. Applicability

3.1 DGCA shall validate the TC/ RTC of an aeronautical product, when:

- (a) the airworthiness codes of the CAA of a Contracting State are not harmonized with that of FAA/ EASA; or

- (b) an Indian organization intends to manufacture an aeronautical product in India under license agreement with the licensor that is type certificated by the CAA of other Contracting State; or
- (c) a design organization intends to integrate an aeronautical product viz. aircraft engine and/or propeller, certified by CAA of any Contracting State, on an aircraft for which application of TC/ RTC has been submitted to DGCA.

3.2 When the TC/RTC of an aeronautical product for which the airworthiness codes of the CAA of a Contracting State are in harmony with that of FAA/ EASA, DGCA shall consider acceptance of the TC/RTC as per CAR Section 6 Series 'A' Part II instead of validation.

4. Requirements

4.1 Type validation of an aeronautical product shall require Bilateral Aviation Safety Agreement-Implementation Procedures for Airworthiness (BASA-IPA) or Working Arrangement or Memorandum of Understanding (MOU) between DGCA and CAA of the State of Design. Such arrangements/agreements shall define roles and responsibilities of VA and CA including post-type validation activities.

4.2 The application shall be forwarded to DGCA through the Civil Aviation Authority of the State of Design.

4.3 The applicant shall furnish the requisite information in the appropriate Annexure as given in this CAR, to the Director, Aircraft Engineering Directorate (AED), DGCA, Opposite Safdarjung Airport, New Delhi 110003, along with requisite fees as per Rule 62 of the Aircraft Rules, 1937.

- a) Annexure I - For validation of Type Certificate/ Restricted Type Certificate of Airplane
- b) Annexure II - For validation of Type Certificate/ Restricted Type Certificate of Rotorcraft
- c) Annexure III - For validation of Type Certificate of Engine
- d) Annexure IV - For validation of Type Certificate of Propeller

Note: 1. All certificates and documents issued by the CAA should be in English language only.

2. Type validation of aeronautical product by AED of DGCA shall be from design view point only.

4.4 DGCA at its discretion, may ask any additional information/documentation/ clarification from the TC/ RTC holder as and when required.

4.5 Special conditions may be imposed on foreign TC/ RTC by DGCA in specific cases for safe operation of the aeronautical product in India.

4.6 The applicant shall arrange familiarization programme of adequate duration for DGCA (AED) officials, at their facility.

4.7 Service experience change:

4.7.1 Where the DGCA finds that an unsafe condition exists with respect to a design feature or characteristic of the validated aeronautical product, the Director General may issue necessary instruction specifying conditions and limitations including inspections for continued airworthiness or may altogether prohibit the use of the same till the unsafe conditions are corrected.

4.7.2 When design changes are considered necessary, the holder of the TC/ RTC shall submit appropriate design changes for approval of the DGCA. In addition, the TC/ RTC holder/CAA of the State of Design shall immediately inform the DGCA regarding information related to (a) change in design of the validated product, (b) changes/revisions to all applicable manuals, (c) continued airworthiness related information, (d) any other information deemed necessary from safety point of view.

4.8 Exceptions:

Notwithstanding the above requirements, DGCA may exempt/ waive/ reject any of the requirements spelt in this CAR, provided there is a genuine justification for doing so.

5. Validation of Type Certificate/ Restricted Type Certificate:

If the DGCA is satisfied that the aeronautical product conforms to the relevant acceptable standards in respect of design and performance (with such exceptions as may be permitted), the Director General may validate the TC/ RTC issued by the CAA of the State of Design in respect of the aeronautical product.

6. Cancellation, suspension or endorsement of validated TC/ RTC:

If at any point of time, DGCA finds that there is a reasonable ground to indicate that the safety of the aircraft is imperiled because of an unsafe condition developed in the product, the Director General may cancel, suspend or endorse the validated TC/ RTC or may incorporate any modification till the validated type certificate remains in force.

(Arun Kumar)
Director General of Civil Aviation

Annexure- I

Government of India Directorate General of Civil Aviation Aircraft Engineering Directorate	
<u>Application for validation of Type Certificate/ Restricted Type Certificate of Airplane</u>	
1. Name and Full address of the Type Certificate (TC)/ Restricted Type Certificate Holder (including e-mail, telephone and fax).	
2. Engineering description of airplane with illustrations	
3. Airplane model	
4. Aircraft Category	☐ Normal ☐ Transport ☐ Others
5. State of Design	
6. State of Manufacture	
7. TC/ RTC number & Year of type certification by state of design (Copy to be enclosed)	
8. TCDS (Copy to be enclosed)	
9. Type certification in other countries (if yes, enclose copies)	
10. Serial number eligible	
11. Certification basis	
12. Production basis	
13. Dimensions a. Wing span b. Wing aspect ratio c. Length overall d. Height overall e. Wheel track f. Wheel base g. Wing area	
14. Minimum crew	
15. Number of seats	
16. Type of engine	
17. Number of engines	
18. Engine limits	
19. ETOPS/EDTO certification basis, if applicable	
20. Propeller & propeller limits	
21. Fuel	
22. Fuel Capacity	
23. Oil	
24. Oil Capacity	
25. Airspeed limit	

a. Maximum operating speed b. Maneuvering speed c. Maximum flap extended speed d. Single engine minimum control speed e. Landing gear extended speed f. Demonstrated cross wind component	
26. Datum	
27. Leveling means	
28. C.G. range	
29. Weights in kg a. Maximum take-off weight b. Maximum landing weight c. Zero fuel weight d. Maximum taxiing weight	
30. Maximum Baggage	
31. Weight and Balance report	
32. Flight Manual	
33. Structural Repair Manual etc	
34. Control surface movements a. Wing flaps, b. Ailerons, c. Elevator, d. Trim tab e. Rudder	
35. Maximum operating altitude	
36. Maximum operating temperature	
37. Import requirements	
38. Operating manuals	
39. Airworthiness limitations	
40. All applicable Airworthiness Directives	
41. Service information & documents	
42. Maintenance Review Board (MRB) report and MMEL for aircraft type certificated in transport category	
43. Equipment	
44. Certification Compliance document/ Compliance matrix	
45. Flight test reports	
46. Supplemental Type Certificate, if applicable	
47. Compliance with special conditions such as novel or unusual design features in the aircraft and substantiation reports.	
48. Compliance documents related to high intensity radiation field (HIRF) effects.	
49. Operational capability from high altitude (>10000 feet) airports. This requirement is	

mandatory for pressurized transport category aircraft.	
50. Capability to operate at high ambient temperatures up to +50°C at sea level. Engine cooling test report during take-off/ landing phases of flight at Sea Level should be provided in support of operational capability.	
51. Compliance with Noise standard per ICAO guidelines	
52. Letter of intent from an Indian operator (stating the kind of operation the aircraft will be engaged to).	
53. Substantiation documents providing the basis for 'Equivalent Level of Safety Findings' and 'Exemptions'.	
54. Access to web portal for necessary documents for continued airworthiness support (user ID, Password, etc.).	
55. Details of fees paid in accordance with Rule 62 of Aircraft Rules 1937 through online web portal https://bharatkosh.gov.in (copy of Transaction Receipt to be enclosed)	
Declaration: I hereby declare that the particulars entered in this application and the appendices are true and correct to the best of my knowledge and belief. Date: _____ Signature of the applicant Designation _____	

Note:

Any application for TC/ RTC Validation not providing the above information/ documents, or if incomplete, shall be summarily rejected.

Government of India Directorate General of Civil Aviation Aircraft Engineering Directorate	
<u>Application for validation of Type Certificate/ Restricted Type Certificate of Rotorcraft</u>	
1. Name and Full address of the Type Certificate (TC)/ Restricted Type Certificate (RTC) Holder (including e-mail, telephone and fax).	
2. Engineering description of rotorcraft with illustrations	
3. Rotorcraft model	
4. Aircraft Category	☐ Normal ☐ Transport ☐ Others
5. State of Design	
6. State of Manufacture	
7. TC/ RTC number & Year of type certification by state of design (Copy to be enclosed)	
8. TCDS (Copy to be enclosed)	
9. Type certification in other countries (if yes, enclose copies)	
10. Serial number eligible	
11. Certification basis	
12. Production basis	
13. Dimensions a. Diameter of main rotor b. Main rotor blade chord c. Diameter of tail rotor d. Length overall e. Length of fuselage f. Height overall g. Wheel track h. Wheel base	
14. Minimum crew	
15. Number of seats	
16. Type of engine	
17. Number of engines	
18. Engine operating limits a. All engines operating b. One engine inoperative limits	
19. Rotor limits	Power off Power on
20. Fuel	
21. Fuel Capacity	
22. Oil	
23. Oil Capacity	

24. Airspeed limit	
25. Datum	
26. Leveling means	
27. C.G. range	
28. Maximum take-off weight in kg	
29. Maximum Baggage	
30. Weight and Balance report	
31. Flight Manual	
32. Structural Repair Manual etc	
33. Rotor blades and control movements	
34. Maximum operating altitude	
35. Maximum operating temperature	
36. Import requirements	
37. Operating manuals	
38. Airworthiness limitations	
39. All applicable Airworthiness Directives	
40. Service information & documents	
41. Maintenance Review Board (MRB) report and MMEL for aircraft type certificated in transport category	
42. Equipment	
43. Certification Compliance document/ Compliance matrix	
44. Flight test reports	
45. Supplemental Type Certificate, if applicable	
46. Compliance with special conditions such as novel or unusual design features in the aircraft and substantiation reports.	
47. Compliance documents related to high intensity radiation field (HIRF) effects.	
48. Operational capability from high altitude (>10000 feet) airports. This requirement is mandatory for pressurized transport category aircraft.	
49. Capability to operate at high ambient temperatures up to +50°C at sea level. Engine cooling test report during take-off/ landing phases of flight at Sea Level should be provided in support of operational capability.	
50. Compliance with Noise standard per ICAO guidelines	
51. Letter of intent from an Indian operator (stating the kind of operation the aircraft will be engaged to).	
52. Substantiation documents providing the basis for 'Equivalent Level of Safety Findings' and 'Exemptions'.	

53. Access to web portal for necessary documents for continued airworthiness support (user ID, Password, etc.).	
54. Details of fees paid in accordance with Rule 62 of Aircraft Rules 1937 through online web portal https://bharatkosh.gov.in (copy of Transaction Receipt to be enclosed)	
Declaration: I hereby declare that the particulars entered in this application and the appendices are true and correct to the best of my knowledge and belief. Date: _____ Signature of the applicant Designation	

Note:

Any application for TC/ RTC Validation not providing the above information/ documents, or if incomplete, shall be summarily rejected.

ANNEXURE III

Government of India Directorate General of Civil Aviation Aircraft Engineering Directorate	
<u>Application for validation of Type Certificate of Engine</u>	
1. Name and Full address of the Type Certificate (TC) Holder (including e-mail, telephone and fax).	
2. Engineering description of engine with illustrations	
3. Engine model	
4. Engine Type	☐ Reciprocating ☐ Turboprop ☒ Turbojet
5. State of Design	
6. State of Manufacture	
7. Type Certificate number & Year of type certification by state of design (Copy to be enclosed)	
8. TCDS (Copy to be enclosed)	
9. Type certification in other countries (if yes, enclose copies)	
10. Serial number eligible	
11. Certification basis	
12. Production basis	
13. General Dimensions	
14. Engine limits	
15. Fuel	
16. Oil	
17. Weights in kg	
18. Import requirements	
19. Operating manuals	
20. Airworthiness limitations	
21. All applicable Airworthiness Directives	
22. Service information & documents	
23. Certification Compliance document/ Compliance matrix	
24. Test reports	
25. Supplemental Type Certificate, if applicable	
26. Compliance with special conditions such as novel or unusual design features in the aircraft and substantiation reports.	
27. Compliance with Noise standard per ICAO guidelines	
28. Compliance with Emission standard per ICAO guidelines	

29. Capability to operate at high ambient temperatures up to +50°C at sea level. Engine cooling test report during take-off/ landing phases of flight at Sea Level should be provided in support of operational capability.	
30. Letter of intent from an Indian operator (stating the kind of operation the aircraft will be engaged to).	
31. Substantiation documents providing the basis for 'Equivalent Level of Safety Findings' and 'Exemptions'.	
32. Access to web portal for necessary documents for continued airworthiness support (user ID, Password, etc.).	
33. Details of fees paid in accordance with Rule 62 of Aircraft Rules 1937 through online web portal https://bharatkosh.gov.in (copy of Transaction Receipt to be enclosed)	
Declaration: I hereby declare that the particulars entered in this application and the appendices are true and correct to the best of my knowledge and belief. Date: _____ Signature of the applicant Designation	

Note:

Any application for TC Validation not providing the above information/ documents, or if incomplete, shall be summarily rejected.

ANNEXURE IV

Government of India Directorate General of Civil Aviation Aircraft Engineering Directorate	
<u>Application for validation of Type Certificate of Propeller</u>	
1. Name and Full address of the Type Certificate (TC) Holder (including e-mail, telephone and fax).	
2. Engineering description of propeller with illustrations	
3. Propeller model	
4. Propeller Type	
5. State of Design	
6. State of Manufacture	
7. Type Certificate number & Year of type certification by state of design (Copy to be enclosed)	
8. TCDS (Copy to be enclosed)	
9. Type certification in other countries (if yes, enclose copies)	
10. Serial number eligible	
11. Certification basis	
12. Production basis	
13. General Dimensions	
14. Weights in kg	
15. Import requirements	
16. Operating manuals	
17. Airworthiness limitations	
18. All applicable Airworthiness Directives	
19. Service information & documents	
20. Certification Compliance document/ Compliance matrix	
21. Test reports	
22. Supplemental Type Certificate, if applicable	
23. Letter of intent from an Indian operator (stating the kind of operation the aircraft will be engaged to).	
24. Substantiation documents providing the basis for 'Equivalent Level of Safety Findings' and 'Exemptions'.	
25. Access to web portal for necessary documents for continued airworthiness support (user ID, Password, etc.).	

26.. Details of fees paid in accordance with Rule 62 of Aircraft Rules 1937 through online web portal https://bharatkosh.gov.in (copy of Transaction Receipt to be enclosed)	
Declaration: I hereby declare that the particulars entered in this application and the appendices are true and correct to the best of my knowledge and belief. Date: _____ Signature of the applicant Designation _____	

Note:

Any application for TC Validation not providing the above information/ documents, or if incomplete, shall be summarily rejected.