



GOVERNMENT OF INDIA
OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION
TECHNICAL CENTRE, OPPOSITE SAFDARJUNG AIRPORT, NEW DELHI – 11 0 003

CIVIL AVIATION REQUIREMENTS
SECTION 8 – AIRCRAFT OPERATIONS
SERIES B PART I
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SUBJECT: SPECIFIC APPROVAL FOR CAT II/III OPERATIONS

1. INTRODUCTION

1.1 This Civil Aviation Requirement (CAR) lays down the structured approval process for CAT II and CAT III operations from an airworthiness, operations and maintenance point of view.

1.2 The objective is to ensure safe and standardised CAT II/III operations by Indian operators.

2. SCOPE AND APPLICABILITY

2.1 Applicable to all Indian commercial air transport operators intending to conduct CAT II and CAT III operations using aircraft types certified for LVO.

2.2 Commercial air transport operators intending to conduct Category II or Category III operations at foreign aerodromes shall obtain prior approval from the DGCA India for such operations. Thereafter, the operator shall submit all applicable documentation to the civil aviation authority of the State in which the aerodrome is located, in accordance with that State's regulations. CAT II/III Operations shall only commence upon acceptance or approval by the foreign State, where such acceptance is required. Compliance with the requirements of the foreign State shall be ensured in addition to maintaining conformity with the provisions of this CAR.

2.3 This CAR is to be read in conjunction with CAR 8/C/I All Weather Operations (AWO) for AWO training and checking requirements.

3. OPERATORS WITH EXISTING CAT II/III APPROVALS

3.1 Operators holding a valid DGCA approval for CAT II/III operations issued under the provisions of the CAR 8/B/I ISSUE II DATED 14TH JUNE 2023 shall continue to operate under that approval without any further action. However, such operators shall ensure compliance with Annex C, Annex D, Annex E, and Annex F of this CAR.

4. DEFINITIONS

1. Advanced aircraft. An aircraft with equipment in addition to that required for a basic aircraft for a given take-off, approach or landing operation.
2. Advisory vertical guidance. Vertical path deviation guidance indications provided as a non-essential aid to help pilots meet barometric altitude restrictions.
3. Aerodrome operating minima (AOM). The limits of usability of an aerodrome for:
 - a. take-off, expressed in terms of runway visual range (RVR) and/or visibility and, if necessary, cloud conditions;
 - b. landing in two-dimensional (2D) instrument approach operations, expressed in terms of VISIBILITY and/or RVR and minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions; and
 - c. landing in three-dimensional (3D) instrument approach operations, expressed in terms of VISIBILITY and/or RVR and decision altitude/height (DA/H) as appropriate to the type and/or category of the operation.
4. Aircraft state awareness synthetic vision system (ASA-SVS). A flight instrument display that combines the perspective view synthetic terrain depiction and overlaid primary flight display symbology.
5. Alert height. A height above the runway threshold (THR) based on the characteristics of the aircraft and its fail-operational landing system, above which a CAT III operation would be discontinued and a missed approach initiated if a failure occurred in one of the redundant parts of the landing system, or in the relevant ground equipment.
6. All-weather operations. Any surface movement, take-off, departure, approach or landing operations in conditions where visual reference is limited by weather conditions.
7. Alternate aerodrome. An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing. Alternate aerodromes include the following:
 8. Take-off alternate. An alternate aerodrome at which an aircraft can land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure.
 9. En-route alternate. An aerodrome at which an aircraft would be able to land after experiencing an abnormal or emergency condition while en-route.
 10. Destination alternate. An alternate aerodrome to which an aircraft may proceed should it become either impossible or inadvisable to land at the aerodrome of intended landing.

Note.— The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight.

11. Approach ban point. The point from which an instrument approach shall not be continued below 300 m (1000 ft) above the aerodrome elevation or into the final approach segment unless the reported VISIBILITY or controlling RVR is at or above the AOM.
12. Approved vertical guidance. Vertical guidance provided on instrument procedures where VNAV is required.

13. Automatic flight control system (AFCS) with coupled approach mode. An airborne system which provides automatic control of the flight path of the aircraft during approach.
14. Automatic landing system. The airborne system which provides automatic control of the aircraft during the approach and landing.
15. Basic aircraft. An aircraft which has the minimum equipment required to perform the intended take-off, approach or landing operation.
16. Categories of aeroplanes. The following five categories of aeroplanes have been established based on 1.3 times the stall speed in the landing configuration at maximum certificated landing mass:
Category A – less than 169 km/h (91 kt) IAS
Category B – 169 km/h (91 kt) or more but less than 224 km/h (121 kt) IAS
Category C – 224 km/h (121 kt) or more but less than 261 km/h (141 kt) IAS
Category D – 261 km/h (141 kt) or more but less than 307 km/h (166 kt) IAS
Category E – 307 km/h (166 kt) or more but less than 391 km/h (211 kt) IAS.
17. Ceiling. The height above the ground or water of the base of the lowest layer of cloud below 6 000 m (20,000 ft) covering more than half the sky.

Note.— The definition of ceiling may differ in some States.
18. Circling approach. An extension of an instrument approach procedure which provides for visual circling of the aerodrome prior to landing.
19. Combined vision system (CVS). A system to display images from a combination of an enhanced vision system (EVS) and a synthetic vision system (SVS).
20. Commercial air transport operation. An aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire.
21. Continuous descent final approach (CDFA). A technique, consistent with stabilized approach procedures, for flying the final approach segment (FAS) of an instrument non-precision approach (NPA) procedure as a continuous descent, without level-off, from an altitude/height at or above the final approach fix altitude/height to a point approximately 15 m (50 ft) above the landing runway threshold or the point where the flare manoeuvre begins for the type of aircraft flown; for the FAS of an NPA procedure followed by a circling approach, the CDFA technique applies until circling approach minima (circling OCA/H) or visual flight manoeuvre altitude/height are reached.
22. Converted meteorological visibility (CMV). A value (equivalent to an RVR) which is derived from the reported meteorological visibility.
23. Decision altitude (DA) or decision height (DH). A specified altitude or height in a 3D instrument approach operation at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

Note 1.— DA is referenced to mean sea level (MSL) and DH is referenced to the THR elevation or touchdown zone (TDZ) elevation as appropriate for the State of the Aerodrome.

Note 2.— The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position

and rate of change of position, in relation to the desired flight path. In CAT III operations with a DH the required visual reference is that specified for the particular procedure and operation.

Note 3. — For convenience where both expressions are used, they may be written in the form “decision altitude/height” and abbreviated “DA/H”.

24. Enhanced flight vision system (EFVS). An installed aircraft system using an electronic means to provide the flight crew with a real-time sensor-derived display of the external scene topography (the natural or artificial features of a place or region especially in a way to show their relative positions and elevation) through the use of imaging sensors.

25. Enhanced vision system (EVS). A system to display electronic real-time images of the actual external scene achieved through the use of image sensors.

Note.— EVS does not include night vision imaging system (NVIS).

26. Fail-operational automatic landing system. An automatic landing system is fail-operational if, in the event of a failure, the approach, flare and landing can be completed by the remaining part of the automatic system.

27. Fail-operational hybrid landing system. A system which consists of two or more independent landing systems and in the event of failure of one system, guidance or control is provided by the remaining system(s) to permit completion of the landing.

Note. — A fail-operational hybrid landing system may consist of a fail-passive automatic landing system with a monitored HUD which provides guidance to enable the pilot to complete the landing manually after failure of the automatic landing system.

28. Fail-passive automatic landing system. An automatic landing system is fail-passive if, in the event of a failure, there is no significant deviation of aircraft trim, flight path or attitude but the landing will not be completed automatically.

29. Final approach. That part of an instrument approach procedure which commences at the specified FAF or point, or where such a fix or point is not specified:

- a) at the end of the last procedure turn, base turn or inbound turn of a racetrack procedure, if specified; or
- b) at the point of interception of the last track specified in the approach procedure, and ends at a point in the vicinity of an aerodrome from which:
 - 1) a landing can be made; or
 - 2) a missed approach procedure is initiated.

30. Final approach segment (FAS). That segment of an instrument approach procedure in which alignment and descent for landing are accomplished.

31. Flight visibility. The visibility forward from the flight deck of an aircraft in flight.

32. Flight guidance system (FGS). The means available to the flight crew to manoeuvre the aircraft in a specific manner, either manually or automatically. It may include a number of components such as the autopilot, flight directors (F/D) and relevant display and annunciation elements.

33. GBAS landing system (GLS). An instrument approach operation that is based on GBAS.

34. Ground-based augmentation system (GBAS). An augmentation system to the Global Navigation Satellite System
35. (GNSS) in which the user receives augmentation information directly from a ground-based transmitter.
36. Head-up display (HUD) (or equivalent display (ED)). A transparent display system that presents flight information into the pilot's forward external field of view.
37. Head-up display approach and landing guidance system (HUDLS). An airborne instrument system which presents sufficient information and guidance in a specific area of the aircraft windshield, superimposed for a conformal view with the external visual scene, which permits the pilot to manoeuvre the aircraft manually by reference to that information and guidance alone to a level of performance and reliability that is acceptable for the category of operation concerned.
38. Hybrid system. Two or more systems that are combined and regarded as one system for performance and approval purposes.
- Note. — The component systems are normally approved as stand-alone systems.
39. ILS critical area. An area of defined dimensions about the localizer and glide path antennas where vehicles, including aircraft, are excluded during all ILS operations.
- Note. — The critical area is protected because the presence of vehicles and/or aircraft inside its boundaries will cause unacceptable disturbance to the ILS signal-in-space (SIS).
40. ILS sensitive area. An area extending beyond the critical area where the parking and/or movement of vehicles, including aircraft, is controlled to prevent the possibility of unacceptable interference to the ILS signal during ILS operations.
- Note. — The sensitive area is protected against interference caused by large moving objects outside the critical area but still normally within the airfield boundary.
41. Instrument approach operations. An approach and landing using instruments for navigation guidance based on an instrument approach procedure (IAP). There are two methods for executing instrument approach operations:
- a) a two-dimensional (2D) instrument approach operation, using lateral navigation (LNAV) guidance only; and
 - b) a three-dimensional (3D) instrument approach operation, using both LNAV and vertical navigation (VNAV) guidance.
- Note. — LNAV and VNAV guidance refers to guidance provided either by:
- c. a ground-based radio navigation aid; or
 - d. computer-generated navigation data from ground-based, space-based and self-contained navigation aids or a combination of these.
42. Instrument approach procedure (IAP). A series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply.
43. IAPs are classified as follows:

Non-precision approach (NPA) procedure. An instrument approach procedure designed for 2D instrument approach operations with DH at or above 75 m (250 ft).

Note. — NPA procedures may be flown using a continuous descent final approach (CDFA) technique.

CDFAs with advisory vertical guidance calculated by on-board equipment are considered 3D instrument approach operations. CDFAs with manual calculation of the required rate of descent are considered 2D instrument approach operations. For more information on CDFA refer to PANS-OPS (Doc 8168), Volume I, Part II, Section 5.

Approach procedure with vertical guidance (APV). A performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations with DH at or above 75 m (250 ft).

Precision approach (PA) procedure. An instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS CAT I) designed for 3D instrument approach operations.

44. Instrument flight rules (IFR). A set of rules governing the conduct of flight under instrument meteorological conditions.

Note. — IFR specifications are found in Chapter 5 of Annex 2 – Rules of the Air. IFR may be followed in both IMC and VMC.

45. Instrument meteorological conditions (IMC). Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.

Note. — The specified minima for VMC are contained in Chapter 4 of Annex 2.

46. Localizer performance (LP). The label to denote minima lines associated with the lateral element of APV-I performance on approach charts.

47. Localizer performance with vertical guidance (LPV). The label to denote minima lines associated with SBAS APV-I or SBAS Category I performance on approach charts.

48. Low-visibility operations (LVO). Approach operations in RVRs less than 550 m and/or with a DH less than 60 m (200 ft) or take-off operations in RVRs less than 400 m.

49. Low-visibility procedures (LVP). Specific procedures applied by an aerodrome for the purpose of ensuring safe operations during CAT II and III approach operations and/or low-visibility take-offs.

50. Minimum descent altitude (MDA) or minimum descent height (MDH). A specified altitude or height in a 2D instrument approach operation or circling approach operation below which descent must not be made without the required visual reference.

Note 1.— MDA is referenced to MSL and MDH is referenced to the aerodrome elevation or to the THR elevation if it is more than 2 m (7 ft) below the aerodrome elevation. A MDH for a circling approach is referenced to the aerodrome elevation.

Note 2.— The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In the case of a circling approach the required visual reference is the runway environment.

Note 3.— For convenience when both expressions are used they may be written in the form “minimum descent altitude/height” and abbreviated “MDA/H”.

51. Missed approach point (MAPt). The point in an instrument approach procedure at or before which the prescribed missed approach procedure must be initiated in order to ensure that the minimum obstacle clearance is not infringed.
52. Missed approach procedure. The procedure to be followed if the approach cannot be continued.
53. MLS critical area. An area of defined dimensions about the azimuth and elevation antennas where vehicles, including aircraft, are excluded during all microwave landing system (MLS) operations.

Note.— The critical area is protected because the presence of vehicles and/or aircraft inside its boundaries will cause unacceptable disturbance to the guidance signals.

54. MLS sensitive area. An area extending beyond the critical area where the parking and/or movement of vehicles, including aircraft, is controlled to prevent the possibility of unacceptable interference to the MLS signals during MLS operations.

Note.— The sensitive area provides protection against interference caused by large objects outside the critical area but still normally within the airfield boundary.

55. NOTAM. A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

Obstacle clearance altitude (OCA) or obstacle clearance height (OCH). The lowest altitude or the lowest height above the elevation of the relevant runway THR or the aerodrome elevation as applicable, used in establishing compliance with appropriate obstacle clearance criteria.

Note 1.— OCA is referenced to MSL and OCH is referenced to the THR elevation or in the case of NPA procedures to the aerodrome elevation or the THR elevation if it is more than 2 m (7 ft) below the aerodrome elevation. An OCH for a circling approach procedure is referenced to the aerodrome elevation.

Note 2.— For convenience when both expressions are used they may be written in the form “obstacle clearance altitude/height” and abbreviated “OCA/H”.

56. Obstacle-free zone (OFZ). The airspace above the inner approach surface, inner transitional surfaces, and balked landing surface and that portion of the strip bounded by these surfaces, which is not penetrated by any fixed obstacle other than a low-mass and frangible mounted one required for air navigation purposes.
57. Operational credit. A credit authorized for operations with an advanced aircraft enabling a lower aerodrome operating minimum than would normally be authorized for a basic aircraft, based upon the performance of advanced aircraft systems utilizing the available external infrastructure.
58. Performance-based aerodrome operating minimum (PBAOM). A lower aerodrome operating minimum, for a given take-off, approach or landing operation, than is available when using a basic aircraft.

Note 1.— The PBAOM is derived by considering the combined capabilities of the aircraft and available ground facilities.

Note 2.— PBAOM may be based on operational credits.

Note 3.— PBAOM are not limited to PBN operations.

59. Performance-based navigation (PBN). Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.

Note.— Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity and functionality needed for the proposed operation in the context of a particular airspace concept. Availability of GNSS SIS and/or some other NAVAID infrastructure is considered within the airspace concept in order to enable the navigation application.

60. Procedure turn. A manoeuvre in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track.

Note 1.— Procedure turns are designated “left” or “right” according to the direction of the initial turn.

Note 2.— Procedure turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual instrument approach procedure.

61. Required navigation performance (RNP). A statement of the navigation performance necessary for operation within a defined airspace.

Note.— Navigation performance and requirements are defined for a particular RNP type and/or application.

62. Runway-holding position. A designated position intended to protect a runway, an obstacle limitation surface, or an ILS/MLS critical and/or sensitive area at which taxiing aircraft and vehicles shall stop and hold, unless otherwise authorized by the aerodrome control tower.

Note.— In radiotelephony phraseologies, the expression “holding point” is used to designate the runway-holding position.

63. Runway visual range (RVR). The range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line.

64. Satellite-based augmentation system (SBAS). A wide coverage augmentation system in which the user receives augmentation information from a satellite-based sensor.

65. Special Approval Category I Operations (SA CAT I). A CAT I approach operation that has a DH not lower than 45 m (150 ft) and not less than RVR 400 m and which requires specific approval.

66. Special Approval Category II Operations (SA CAT II). A CAT II approach operation to a runway that does not fulfil all CAT II infrastructure requirements and which requires specific approval.

67. Stabilized approach. An approach which is flown in a controlled and appropriate manner in terms of configuration, energy and control of the flight path from a pre-determined point or altitude/height down to a point 15 m (50 ft) above the THR or the point where the flare manoeuvre is initiated, if higher.

68. State of Registry. The State on whose register the aircraft is entered.

69. State of the Aerodrome. The State in whose territory the aerodrome is located.

70. State of the Operator. The State in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence.
71. Surveillance radar. Radar equipment used to determine the position of an aircraft in range and azimuth.
72. Synthetic vision guidance system (SVGS). SVGS is a type of SVS which combines flight guidance display technology and high precision position assurance monitors.
73. Synthetic vision system (SVS). A system to display data-derived synthetic images of the external scene from the perspective of the flight deck.
74. Touchdown zone (TDZ). The portion of a runway, beyond the THR, where it is intended that landing aircraft first contact the runway.
75. Vertical navigation (VNAV). A method of navigation which permits aircraft operation on a vertical flight profile using altimetry sources, external flight path references, or a combination of these.
76. Visibility. For aeronautical purposes, it is the greater of:
- a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background;
 - b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background.
- Note 1.— The two distances have different values in air of a given extinction coefficient, and the latter b) varies with the background illumination. The former a) is represented by the meteorological optical range (MOR).
- Note. 2.— The definition applies to the observations of visibility in local routine and special reports, to the observations of prevailing and minimum visibility reported in METAR and SPECI and to the observations of ground VIS.
77. Visual approach. An approach by an IFR flight when either part or all of an IAP is not completed and the approach is executed by visual reference to terrain.
78. Visual flight rules (VFR). A set of rules governing the conduct of flight under VMC.
- Note.— VFR specifications are found in Chapter 4 of Annex 2.
79. Visual meteorological conditions (VMC). Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling equal to or better than specified minima.
- Note.— The specified minima for VMC are contained in Chapter 4 of Annex 2.
80. Visual segment surface (VSS). Vertically, the VSS originates at the runway THR height and has a slope of 1.12 degrees less than the promulgated approach procedure angle. The lateral surface of the VSS is defined in PANS-OPS, Volume II.

5. STRUCTURED AUTHORISATION PROCESS

5.1 To obtain a specific approval for CAT II/III Operations the operator shall demonstrate that:

- (a) for low-visibility approach operations the aircraft has been certified for the intended operations;
- (b) the flight crew members are competent to conduct the intended operation and a training and checking programme for the flight crew members and relevant personnel involved in the flight preparation has been established, in accordance with CAR 8/C/I
- (c) operating procedures for the intended operations have been established;
- (d) any relevant changes to the minimum equipment list (MEL) have been made;
- (e) any relevant changes to the maintenance programme have been made;
- (f) procedures have been established to ensure the suitability of aerodromes, including instrument flight procedures, for the intended operations, in accordance with relevant regulations;
- (g) for the intended operations, a safety assessment has been carried out, and performance indicators have been established to monitor the level of safety.
- (h) the operator shall have been in regular commercial air transport operations for a minimum period of 6 months preceding the date of application.

5.2 Approval Categories

Operators may be approved under the following categories:

1. CAT II
2. CAT III (Fail Passive)
3. CAT III (Fail Operational)

5.3 Phases of Approval

Approval shall be granted in 5 distinct phases:

5.3.1 Phase 1: Pre-Application

1. Submission of intent letter
2. Preliminary compliance (Annex A)

5.3.2 Phase 2: Formal Application

Operator must submit:

1. Formal Application (Annex B)
2. Detailed crew training/checking/recent experience syllabus
3. Aircraft equipment compliance checklist (Annex C)
4. MEL/CDL Checklist (Annex D)

5. Airport compatibility checklist (Annex E)
6. All maintenance related documents as listed in the CAR

5.3.3 Phase 3: Document Evaluation

The PM/POI or the designated FOI team shall:

1. Conduct completeness check:

- a) Ensure that all documents listed in Phase 2 are submitted in full, properly signed, paginated, and indexed.
- b) Confirm that each checklist (Annexes B–E) has appropriate cross-references to the AFM, MEL, OM (Operations Manual) and other relevant documents.

2. Evaluate the Crew Training Syllabus:

- a) Verify that the crew training syllabus is fully compliant with applicable DGCA Regulations, including those governing CAT II/III operational authorisation including initial and recurrent training, checking and recent experience requirements.

5.3.4 Phase 4: Demonstration and Inspection

The Demonstration and Inspection shall be conducted in a structured and phased manner. Operators shall not commence flight crew validations for CAT II or CAT III operations, unless the DOE has been satisfactorily approved by the DGCA.

Progression to the next DOE phase shall require review by the assigned Project Manager / Principle Operations Inspector (POI) and shall be conditional upon successful evaluation of reliability data, crew performance, and system functionality.

5.3.4.1 Demonstration Requirement

Based on the assessment of the Principal Operations Inspector (POI) and/or the Project Manager (PM), and subject to review by the Flight Standards Directorate (FS-FWA), the DGCA may mandate the conduct of one or more demonstrations to validate the operator's readiness for CAT II/III operations.

Such demonstrations shall be conducted under the observation of a DGCA-nominated Flight Operations Inspector (FOI).

The demonstration may be conducted in a classroom, full-flight simulator, actual aircraft, or a combination of these, as deemed appropriate by the POI/PM. The determination shall be based on:

- 1) The complexity of the operation being approved
- 2) The category of operation sought (CAT II / CAT III FP / CAT III FO)
- 3) The operator's prior experience and safety performance
- 4) Aircraft/system novelty or modifications

The primary objective of the demonstration(s) is to assess the operator's capability to safely and consistently conduct CAT II/III operations under operationally realistic or simulated conditions. The DGCA may also mandate the conduct of a Table Top Exercise/Operational Readiness Check as deemed necessary.

The demonstration shall include an assessment as given in Annex H/I/J as applicable.

Satisfactory completion of the mandated demonstration(s) shall be a prerequisite for the issuance or amendment of the operator's Operations Specifications (OPS Specs) for CAT II/III operations, where required by the DGCA.

5.3.5 Phase 5: Grant of Specific Approval and amendment/issuance of Operations Specifications (OPS Specs)

5.3.5.1 Upon satisfactory completion of all applicable requirements under this Civil Aviation Requirement and on the assessment of the compliance checklists, satisfactory outcomes of demonstrations (where required), and the recommendation of the Principal Operations Inspector (POI) / Project Manager, the Directorate General of Civil Aviation (DGCA) shall issue initial a Specific Approval and Operations Specifications (OPS Specs) for CAT II / CAT III operations as applicable.

5.3.5.2 The OPS Specs shall clearly specify the following parameters:

- a) The approved minima, including:
 - 1. Runway Visual Range (RVR);
 - 2. Decision Height (DH) or No DH if applicable;
 - 3. Alert Height (AH) or equivalent annunciation level.
- b) The aeroplanes authorised for such operations, identified by registration number.
- c) The type of operation authorised with the minimum authorised RVR and DH Minima:
 - 1. CAT II
 - 2. CAT III Fail-Passive (FP)
 - 3. CAT III Fail-Operational (FO)
- d) The aerodromes to be used
- e) Any limitations or conditions imposed by DGCA

6. AIRWORTHINESS AND MAINTENANCE REQUIREMENTS

Each operator seeking approval of aircraft for Cat II/III operations shall comply with the requirements in respect of Manuals, Instruments, Equipment and Maintenance. An applicant seeking approval for Cat II/III shall submit the application given in Annex L of this CAR along with CAR compliance and Cat II/III Operation compliance check list attached with Chapter 24 E of Airworthiness procedure Manual available at DGCA website <http://dgca.gov.in>. The details of the procedures/instructions and methodology for continued capability to adhere conditions laid down at the time of grant of approval shall be documented in Cat II/III manual for use by personnel involved in Cat II/III operation. Any amendment to the manual requires DGCA approval.

6.1 INSTRUMENTS AND EQUIPMENT

(a) General: The following checks need to be carried out within 6 months prior to submission of documents for approval of Cat II/III operations: (i) The ILS localizer and glide slope equipment shall have been bench checked according to the Manufacturer's stipulations.

(ii) The altimeters and the static pressure systems shall have been tested and inspected in accordance with the procedure given in Appendix B of this CAR or as per manufacturer's recommendations or any other equivalent procedure acceptable to DGCA.

(iii) All other instruments and items of equipment required for Cat II/III operations shall have been maintained/ bench checked as per manufacturer's requirements.

(b) Flight Control Guidance System: All components of flight control guidance system must have been approved for Cat II/III operations as applicable under type or supplemental type certification procedures. In addition, subsequent changes to make, model or design of these components must be approved by regulatory authority of the country of manufacture. Related systems or devices such must be approved in the same manner, if they are to be used for Cat II/III operations.

(c) Radio Altimeter: A radio altimeter must meet the performance criteria as specified in type or supplemental type certification and any subsequent amendments issued thereafter from time to time or manufacturer' requirements for Cat II/Cat III operations or any other procedure acceptable to DGCA.

(d) Modification: The operator shall ensure that any modification to systems and components approved for Cat II&III operations are not affected when incorporating software changes, service bulletins, etc. Any change to system, components shall have been approved by the manufacturer and the regulatory authority of the country of manufacture.

6.2 GENERAL REQUIREMENTS

(i) To be eligible for Cat II/III operation the specified airplane should have been certificated to the Airworthiness Standards of Transport Category aeroplanes by FAA or EASA or by any other regulator which is normally reflected by a statement in the approved Aeroplane Flight Manual (AFM) / Type Certificate Data Sheet (TCDS) or Supplemental Type Certificate (STC).

(ii) The aircraft shall be multi engine, duly equipped with the specified equipment/instruments landing system, which provides control of the aircraft during approach and landing. The aircraft shall have been certified for Cat II/III operations by the regulatory authority of the country of manufacture acceptable to DGCA.

(iii) Each aircraft intended to be operated for Cat II/III operations shall be identified by registration number, make and model of the aircraft and requires approval by DGCA for such operations.

(iv) The operator shall prepare a Cat II/III manual for each type of aircraft which may form part of the Continuing Airworthiness Management Exposition and shall require approval from DGCA. The manual shall contain the registration number, make and model of the aircraft to which it applies, detailed procedures, instructions, limitations and maintenance program to ensure continued serviceability, accuracy, reliability, characteristics in case of failures and degree of redundancy of the systems necessary for the Cat II/ Cat III operations and shall be approved by DGCA.

(v) The instruments and equipments required for Cat II/III operations for each type and model of the aircraft shall be listed by the operator in the manual prepared for obtaining DGCA approval for above operations.

(vi) The manual shall also contain a flight schedule for checking the performance of the aircraft in case the aircraft has not performed Cat II/III operations for a period of thirty days. Where aircraft OEM permits, the flight schedule may be replaced by a satisfactory ground check(s) which shall be included in the manual. Procedure for recording the results of the flight schedule/ ground check shall be laid down in the manual.

Note: Cat II/III system certification on most of the modern aeroplanes is maintained by performing a system ground check if permitted by the OEM. Some older generation aeroplanes still require operational flight check to confirm system operational suitability for continued Cat II/III operations.

6.3 MAINTENANCE REQUIREMENTS

The maintenance program shall ensure that the airborne equipment is maintained at an acceptable level of performance, reliability, and availability, consistent with the Maintenance planning documents / Maintenance Review Board (MRB) or equivalent requirements.

- (i) Maintenance of the aircraft shall be carried out by an approved firm holding required approval in accordance with the procedures, instructions and limitations contained in the manual specifically prepared by the operator for Cat II/ Cat III operations and approved by DGCA.
- (ii) The instruments & equipment required for Cat II/III operations shall have been inspected and maintained in accordance with the maintenance programme contained in the approved manual.
- (iii) The operator shall ensure that tests, bench checks, overhaul, snag rectification of instruments and equipment listed in the manual are carried out by persons holding current ratings. In case the work is carried out by an outside party the operator shall ensure that such outside party is also approved by the regulatory authority of the country / DGCA India to undertake such work.
- (iv) Each operator shall keep a current copy of the Manual prepared for Cat II or Cat III operations at its principal base of maintenance and night halt stations.

6.4 MAINTENANCE PROGRAM

The maintenance program developed by the operator must contain the following:

- a. A list of each instrument and item of equipment required for Cat II/III operations.
- b. A maintenance program that provides for the performance of inspections under sub paragraph (e) of this paragraph within three months after the date of the previous inspection. The inspection must be performed by licensed AMEs/approved personnel, except that each alternate inspection may be replaced by a functional flight check. This functional flight check must be performed by a pilot holding at least a Cat II/III pilot authorization for the type of aircraft checked.
- c. A maintenance program for the instrument and item of equipment as listed in (a) that provides for bench check every 12 months in case the manufacturer has not given any maintenance programme. However, in case the manufacturer has provided a maintenance programme, the same may be followed.
- d. A maintenance schedule that provides for the performance of a test and inspection of each static pressure system in accordance with Appendix. E of FAR Part 43 as given in Appendix B to this CAR or any equivalent method acceptable to DGCA within 12 calendar months after the date of the previous test and the inspection. However, in case the manufacturer has provided a scheduled maintenance programme, the same may be followed.
- e. The procedures for the performance of the periodic inspections and functional flight checks to determine the ability of each listed instrument and item of equipment specified in the manual of this CAR to perform as approved for Cat II or Cat III operations including a procedure for recording functional flight checks.

- f. A procedure for assuring that the pilot is informed of all defects in listed instruments and items of checks.
- g. A procedure for assuring that the condition of each listed instrument and item of equipment upon which maintenance is performed is at least equal to its Cat II or Cat III approval condition before it is returned to service for Cat II or Cat III operations.
- h. A procedure for an entry in the maintenance records that shows the date, airport indicating satisfactory Cat II & III approaches and reasons for each unsatisfactory Cat II/III operation because of a malfunction of a listed instrument or item of equipment. All such malfunctions shall be analysed and appropriate preventive action taken to avoid recurrence. The operator shall submit a monthly return to the regional office giving required data of number of satisfactory /unsatisfactory approaches made in each month and the total number of unscheduled removals of avionics components required for Cat II/III operations.
- i. Every operator shall establish a specific maintenance program in order to be able to check and demonstrate the full capability of the aircraft to perform Cat II/III operations. A reliability program shall be developed/ extended to monitor, track and control the maintenance status of the aircraft to achieve successful Cat II/III landings.
- j. The reliability program shall establish a specific procedure to govern maintenance capability of the operator to conduct Cat II/III operations in the following conditions:
- (i) Confirmed defect with corrective action carried out.
 - (ii) Unconfirmed defect but with corrective actions
 - (iii) Aircraft dispatch under MEL conditions.
 - (iv) Unable to correct defect and not under MEL conditions.
 - (v) Unable to perform the required test.
- k. Establish a procedure defining upgrading/downgrading capability so as to assist the dispatch of aircraft. The dispatch policy shall be based on the minimum equipment list (MEL) as it governs the basic criteria for operations. The dispatch criteria and status of aircraft must be recorded in the tech log/flight report book with reference to MEL. Any release of aircraft under MEL shall be intimated to the flight dispatch so that the flight crew is aware of the current aircraft status and its capability for CAT II/Cat III operations while accepting the aircraft.
- l. Whenever the aircraft is released under MEL a prominent placard shall be displayed in the cockpit and provisions for release of the aircraft under MEL to be strictly adhered to.

6.5 TEST EQUIPMENT AND STANDARDS:

The operators shall submit a program for maintenance/ calibrations of line (RAMP) test equipment, shop (bench) test equipment and listing of all primary and secondary standards utilised during maintenance / calibrations of such equipment which relates to Cat II/ Cat III operations. Tractability to a national standard or the manufacturer's calibration standards shall be maintained at all times. This shall be submitted to DGCA for determination of its adequacy. Emphasis be given to standards associated with ILS receivers, flight directors, autopilot couplers, auto throttles and altimeter systems and maintenance techniques and procedures of associated redundant systems.

7. OPERATING REQUIREMENTS

7.1 Operators shall develop and document comprehensive operational procedures and flight crew instructions for Low Visibility Operations (LVO) using CAT II/III operations.

These shall be included in the approved Operations Manual, and shall be compatible with:

- i. The applicable limitations and mandatory procedures specified in the Aeroplane Flight Manual (AFM);
- ii. The requirements of the Aircraft Rules, 1937;
- iii. All Civil Aviation Requirements (CARs); and
- iv. Instructions or guidelines issued by DGCA from time to time.

7.2 The documented procedures shall cover both normal and abnormal situations that may be encountered during LVO and shall include, at a minimum:

- i) Verification of satisfactory functioning of aircraft systems pre-departure and during flight;
- ii) The impact on operational minima due to the status of ground installations and airborne equipment;
- iii) Procedures for approach, flare, landing, rollout, and missed approach;
- iv) Actions to be taken in the event of equipment failures, warnings, or abnormal situations;
- v) Minimum visual references requirements to continue approach and landing operations;
- vi) Emphasis on correct seating and eye position of the flight crew; and
- vii) Contingency actions in case of deterioration of external visual references.

7.3 Operators shall establish detailed crew coordination procedures, including pre-take off and pre-approach briefings to ensure clarity in task assignment and crew roles. All flight crew members shall clearly understand their individual responsibilities.

7.4 The Operations Manual shall define monitoring procedures that assure adequate crew attention to:

- 1. Aircraft flight path;
- 2. Mode annunciations;
- 3. Alerts and failure warnings;
- 4. Adherence to Decision Height (DH) and Alert Height (AH);
- 5. Call-out responsibilities for failure recognition and escalation.

7.5 The operator shall prescribe cockpit reference bug settings and Decision Height callout responsibilities. Visual reference cues required at or before DH shall be clearly defined to support safe landing or go-around decisions.

7.6 For each runway authorised for CAT II/III operations, the operator shall ensure that Radio Altimeter (RA) readings used for AH or DH determination are accurate and reliable over the entire approach path. Adjustments to minima or approach procedures must be finalised before AH is reached.

7.7 Altitude/Height callouts shall be established for CAT II/III operations and shall be:

1. Manual (by flight crew); or
2. Automatic (via synthetic voice or flight guidance system);

7.8 Operational procedures shall include all acceptable aircraft configurations required for LVO, such as:

- i) Alternate Flap Settings approved for CAT II/III;
- ii) Use of alternate Automatic Flight Control System (AFCS) modes or configurations;
- iii) MEL/CDL provisions for inoperative systems (e.g., RA, air data, hydraulics, instrument switching, etc.);
- iv) Use of alternate or standby electrical/hydraulic power sources if mandated.

Flight crew and dispatchers shall be able to determine configuration acceptability prior to operation. The configurations and aircraft types eligible for CAT II/III shall be clearly identified.

7.9 A suitable airport surface depiction (e.g., airport diagram or moving map display) shall be provided to flight crews for use during LVO taxi operations.

7.10 The operator shall ensure that, before initiating CAT II/III approach:

- i) The PIC verifies that visual and non-visual aids are operational and meet required status;
- ii) LVPs have been confirmed as active by ATC.

7.11 The Operations Manual shall list the minimum airborne equipment that must be serviceable prior to departure for any intended LVO (CAT II/III approach), as per the AFM or any DGCA-approved document. The PIC shall ensure full compliance.

7.12 Dispatch procedures shall consider:

1. Forecast and current weather;
2. Runway and aerodrome conditions;
3. Status of navigation and visual aids (including NOTAMs);
4. Alternate selection;
5. Performance for missed approach;
6. Crew qualifications and MEL/CDL applicability;
7. Fuel planning.

7.13 All operating crew must possess valid authorisation for the LVO type (e.g., CAT II, CAT III(FP) / III(FO) with training and currency as per CAR 8/C/I and this CAR.

8. AIRPORT REQUIREMENTS

8.1 General

Airports used for CAT II or CAT III operations shall comply with ICAO Annex 14, the ICAO Manual of All Weather Operations, and all stipulations issued by DGCA.

8.2 Aerodrome Approval

An operator shall not use an airport for CAT II or CAT III operations unless that airport is approved for such operations.

8.3 Obstacle Environment

Given the very low visibility associated with CAT II and CAT III operations, each airfield shall meet stringent obstacle-clearance criteria to prevent any aircraft on approach, landing, or go-around from coming into contact with ground obstacles.

8.4 Instrument Landing System (ILS)

The ILS installation shall conform to the appropriate specifications contained in ICAO Annex 10, Volume I, Part I, Chapters 2 and 3, and shall be designed and operated in accordance with the guidance material contained in Attachment "C" to Part I of Annex 10.

8.5 Protection of ILS Signals

During CAT II and CAT III approaches, the ILS beams shall be protected from unacceptable disturbances within both the ILS critical area and the ILS sensitive area.

8.6 Runway Visual Range (RVR) Reporting

RVR reports shall be provided in increments of not more than 50 m when the RVR is less than 800 m, and not more than 25 m when the RVR is less than 150 m.

8.7 Maintenance of Visual Aids and ILS

A system of maintenance for visual aids shall be established to ensure the reliability of lighting and marking systems. A system of maintenance for ILS installations shall also be established, with regular ground and flight checks as stipulated. Users shall be advised as soon as possible of any degradations in ILS performance.

8.8 Secondary Power Supply

A secondary power supply for visual aids shall be provided with a maximum switch-over time as indicated in ICAO Annex 14.

8.9 Low Visibility Procedures (LVP)

CAT II and CAT III operations shall require special procedures for ATC and all aerodrome services. The aerodrome authority shall develop these procedures in accordance with CAR Section 8, Series C, Part I. The procedures shall include:

- a) procedures for ATC to be promptly informed of any degradations in ILS performance and to inform the pilot, if necessary;
- b) procedures for ATC to be promptly informed of any degradations in visual aids and to inform the pilot, if necessary;
- c) procedures for protection of the Obstacle Free Zone through control of ground movements;
- d) procedures for protection of the ILS critical and sensitive areas through control of ground movements and provision of adequate separation between two aircraft on approach, or one aircraft on approach and another taking off;
- e) procedures for meteorological services to enable ATC to promptly inform crews of changes in RVR;
- f) procedures for maintenance; and
- g) procedures for security.

9. VALIDITY AND CONTINUING OVERSIGHT

1. CAT II/III OPS Specs remain valid subject to continued compliance with all extant rules and requirements.
2. Operators must report any event of system failure or deviation during CAT II/III Operations.

10. FEES

Fees for CAT II & CAT III specific approval on first aircraft type with the operator shall be ₹10,000/- only.

FAIZ AHMED KIDWAI
DIRECTOR GENERAL OF CIVIL AVIATION

ANNEXES (MANDATORY ATTACHMENTS)

1. [Annex A: Pre-Application Information Checklist](#)
2. **Annex B:** Operator Formal Application Format
3. **Annex C:** Aircraft Equipment Compliance Checklist
4. **Annex D:** MEL/CDL Checklist
5. **Annex E:** Airport Compatibility and LVP Readiness Checklist
6. **Annex F:** Crew Qualification and Training Log
7. **Annex G:** DOE program
8. **Annex H:** CAT II / CAT III Demonstration Flight Assessment Checklist
9. **Annex I:** CAT II / CAT III Classroom Training Demonstration Assessment Checklist
10. **Annex J:** Sample form flight crew report on auto approach/ auto land operations
11. **Annex K:** Altimeter System Test And Inspection
12. **Annex L:** Maintenance Application

Note.— Each annex/checklist as applicable shall:

- a) be digitally submitted in searchable PDF format with bookmarks
- b) be signed by the nominated post-holders (Flight Operations, Flight Training, Maintenance, Airworthiness, as applicable)
- c) be prepared on a per-aircraft or per-crew basis as applicable
- d) be cross-referenced to MEL documents with correct reference numbers
- e) include supporting evidence such as AFM extracts, STCs, logbooks, or screenshots etc.
- f) be maintained and updated prior to any operational expansion (e.g. new aircraft or airport)
- g) be available for DGCA audit at any time

ANNEX A: PRE-APPLICATION

Operators must submit the following information to DGCA at the pre-application stage. This checklist applies to each category of CAT II/III operation intended to be undertaken.

S. No.	Information Item	Details to be Provided
1	Operator Name	Legal entity name and AOP/AOC number
2	Contact Details	Name, designation, email, phone number of the responsible official
3	Category of Approval Sought	Tick all that apply: CAT II / CAT III FP / CAT III FO
4	Proposed Start Date	Intended commencement date of CAT II/III operations
5	Aircraft Types & Registrations	List aircraft make, model, and registration numbers intended for use
6	Aerodromes Intended	ICAO codes of all aerodromes with intended LVO operations (CAT II/III)
7	Autoland System Type	System installed, certification basis (fail-passive/fail-operational)
8	Radio Altimeter Type	Manufacturer, model, interference protections employed
9	Ops Training Status	Brief status of crew training program development
10	MEL Compliance	Whether MEL includes CAT II/III-specific provisions and deferrals
11	AFM Certification Evidence	Attach AFM or OEM documentation certifying aircraft for LVO (CAT II/III)

ANNEX B: FORMAL APPLICATION

Each operator applying for CAT II/III approval must submit a **FORMAL APPLICATION** at the formal application stage, covering the following 13 sections:

Section No.	Title	Description
1	Cover Letter	Signed by the Accountable Manager stating the type of approval sought (CAT II, CAT III (FP/FO)) and intent to comply with all applicable Rules and Requirements/Guidance
2	Summary Statement	Overview of intended operations, number of aircraft, aerodromes, crew involved, and timeframe for commencement
3	Aircraft Data Sheet	Registration, type, serial number, AFM references, Autoland capability (Fail-Passive/Fail-Operational), HUD/SVS/EVS if any, and limitations from the AFM
4	System Description	Technical description of all relevant systems: ILS receivers, autopilot, FDs, RALT, FMA annunciation, autobrake, electrical/hydraulic redundancy and other relevant information
5	LVO Equipment List	List of all critical LVO equipment per aircraft; reference MEL/CDL items and confirm status as per (Annex C)
6	Crew Qualification Matrix	Table of all pilots proposed for CAT II/III ops with: Name, Employee ID, Rank, training status, approval category (CAT II/III(FP)/III(FO)) etc.
7	Training Program Summary	Abstract of the training syllabus submitted (initial, recurrent, upgrade, recent experience), with phases (Ground, FSTD, Aeroplane) etc.
8	Maintenance Compliance	Annex L
9	MEL Compliance Confirmation	Confirm whether MEL includes all LVO-impacting systems, and a cross-reference to Annex D (MEL/CDL Matrix)
10	AFM / OEM Certification Evidence	Copies of AFM sections certifying the aircraft type for LVO, approved minima, AH/DH/RVR requirements
11	Airport Compatibility Table	List of airports where operation is intended, with corresponding ILS category, RVR equipment, lighting status, LVP approval reference (cross-link to Annex E)
12	Safety Risk Assessment (SRA)	Brief description of SRA conducted for LVO including risk controls, SMS interface, event tracking
13	Checklist Cross-Reference Table	Completion status of Annex C, D, E and location within for each (e.g., "Annex C: Section 5 – Pg 23")

ANNEX C: AIRCRAFT EQUIPMENT COMPLIANCE CHECKLIST

This checklist must be completed **for each aircraft** proposed for CAT II/III operations. The list is representative and applicability of equipment may be assessed by the operator based on relevant documents.

S. No.	Equipment/System	Compliant	Remarks
1	Dual Flight Directors		
2	Dual Autopilot System (APP/FLARE/ROLLOUT modes)		
3	Dual Independent Radio Altimeters		
4	Dual ILS Receivers		
5	ILS Antennas (VOR/LOC/GS)		
6	Automatic Landing System (Fail-passive or Fail-operational)		
7	Flight Mode Annunciator (FMA)		
8	Primary Flight Display / EFIS		
9	Standby Instruments (Altimeter, AI, ASI)		
10	Autobrake System		
11	Windshear Warning System		
12	EGPWS / GPWS		
13	Weather Radar		
14	RVR Integration / Minima Display Capability		
15	Cockpit Voice Recorder (CVR)		
16	Flight Data Recorder (FDR)		
17	Electrical System Redundancy		
18	Hydraulic System Redundancy		
19	Cockpit Lighting (compatible with CAT II/III ops)		
20	HUD / EVS / SVS (if used to meet reduced minima)		
21	AFM Evidence of CAT II/III Certification		
22	OEM Approval Reference (STC/TCDS/AFM etc.)		

ANNEX D: MEL/CDL CHECKLIST

This checklist identifies LVO-critical systems and their dispatch implications under the Minimum Equipment List (MEL) or Configuration Deviation List (CDL). Operators must complete this checklist for each aircraft type in their fleet and submit it with the formal technical application.

The data mentioned below is representative and operators need to fill and submit the checklist based on the aircraft type and relevant documents thereof.

S. No.	System / Equipment	MEL/CDL Ref	Dispatch Permitted (Yes/No)	Conditions / Limitations / Remarks
1	Dual Autopilot System (APP, FLARE, ROLLOUT)			
2	Radio Altimeters – Both operational			
3	ILS Receivers – Dual			
4	Flight Mode Annunciator (FMA)			
5	Autobrake System			
6	HUD / EVS / SVS / CVS			
7	Primary Flight Display (PFD) / EFIS			
8	CVR / FDR			
9	Ground Proximity Warning System / EGPWS			
10	Windshear Warning / Detection			
11	Flare / Rollout Logic			
12	Electrical Power Redundancy			
13	Hydraulic Redundancy (all systems)			
14	ILS Antenna / Coupler			
15	EFIS Control Panels / Switching			
16	Autoland Annunciation System			
17	Weather Radar			
18	Internal Lighting (Flight Deck)			

ANNEX E: AIRPORT COMPATIBILITY AND CAT II/III READINESS CHECKLIST

Operators must complete this checklist for each aerodrome intended for CAT II/III operations.

S. No	Aerodrome Requirement	Compliant	Remarks / Reference Document
1.	Airport complies with ICAO Annex 14, ICAO DOC 9635 Manual of All Weather Operations, and DGCA regulations applicable to CAT II/III.		
2.	DGCA-approved CAT II/III certification in force for the specified runway(s).		
3.	ILS category installed for the runway (II / III FP/ III FO) identified.		
4.	ILS installation conforms to ICAO Annex 10, Vol I, Part I, Ch. 2 & 3 and Attachment "C" (design/operation).		
5.	ILS performance verification logs (ground/flight checks) available and current.		
6.	ILS critical and sensitive areas protected from unacceptable disturbances during CAT II/III approaches.		
7.	Runway centreline lighting installed and serviceable.		
8.	Runway touchdown-zone lighting installed and serviceable.		
9.	Stop-bar lights and runway guard lights installed and operational.		
10.	Taxi-route lighting suitable for LVO (SMGCS/route lighting) available and serviceable.		
11.	RVR equipment installed at touchdown (TDZ) point.		
12.	RVR equipment installed at runway midpoint.		
13.	RVR equipment installed at rollout (far end).		
14.	RVR reports issued in increments ≤ 50 m when RVR < 800 m, and ≤ 25 m when RVR < 150 m.		
15.	Visual-aids maintenance system ensures lighting/markings reliability; users advised promptly of any degradations.		
16.	ILS maintenance program includes regular ground and flight checks as stipulated.		
17.	Secondary power for visual aids provided; switch-over time meets ICAO Annex 14 maximum.		
18.	Aerodrome Low Visibility Procedures (LVP) Manual available and approved.		
19.	LVP activated at the appropriate RVR values per approved triggers.		
20.	NOTAM and AIP references for CAT II/III/LVP provided (current and applicable).		

21.	Operational safety risk assessment for LVO completed and available.		
22.	Procedures for ATC to be promptly informed of any ILS degradations, and for pilots to be informed where necessary.		
23.	Procedures for ATC to be promptly informed of any visual-aids degradations, and for pilots to be informed where necessary.		
24.	Procedures to protect the Obstacle-Free Zone (OFZ) via control of ground movements.		
25.	Procedures to protect ILS critical & sensitive areas via ground-movement control and adequate spacing between arrivals/departures.		
26.	Meteorological services procedures enable ATC to promptly inform crews of RVR changes.		
27.	Maintenance procedures applicable to LVP established.		
28.	Security procedures applicable to LVP established.		

ANNEX F: CREW QUALIFICATION AND TRAINING LOG TEMPLATE

This log must be **maintained and submitted per pilot** intended to be authorised for CAT II/III operations.

S. No.	Item	Details
1.	Pilot Name	Full legal name as per license
2.	Employee ID / Staff No.	Unique company ID
3.	License Number & Type	CPL/ATPL + license number
4.	License Validity	DD/MM/YYYY
5.	Medical Category & Validity	DGCA medical class and expiry date
6.	Aircraft Type Rating	Type endorsed (e.g., A320, B737, etc.)
7.	Current Base	Home base or assigned operating base
8.	LVO Approval Level Sought	CAT II / CAT III(FP) / CAT III(FO)
9.	Initial Ground Training Completed/Planned On	DD/MM/YYYY
10.	Simulator Training Details	Date, Sim Type (FFS Level) Device ID
11.	LVO-Specific Sim Check	Date / Result
12.	LVO Competency Check Date	Latest CAT II/III proficiency check
13.	Validity of CAT II/III Privileges	Until DD/MM/YYYY
14.	Signatures	Accountable Executive

ANNEX G: DEMONSTRATION & OPERATIONAL EVALUATION PROGRAM

DOE PROGRAM

1. INTRODUCTION

1.1 The Demonstration & Operational Evaluation (DOE) Program is an essential component of the operational approval process for Category II (CAT II) and Category III FP/FO (CAT III) operations. It provides an evidence-based framework for assessing an operator's readiness to conduct low visibility operations (LVO) in accordance with the safety objectives outlined in **ICAO Doc 9365** and the operational provisions of **Annex 6, Part I**.

1.2 The DOE process ensures that operators progressively build experience under representative lower visibility conditions, using certified aircraft and trained crew, prior to being granted authorisation for CAT II or CAT III operations. It is a structured and phased method of validation which includes:

1. Accumulation of operational landings under applicable weather minima;
2. Performance of flight operations under various actual / simulated RVR conditions;
3. Validation of aircraft equipment capability and system reliability;
4. Verification of crew competence under simulated and actual LVP conditions.

1.3 DOE requirements are differentiated based on:

1. The operator's existing authorisation (CAT I, CAT II, or CAT III),
2. Whether the aircraft and systems are new to the operator or previously validated,
3. Whether the operation intends to be conducted under **fail-passive** or **fail-operational** auto land criteria.
4. The experience of the operator with Low Visibility Operations

1.4 Upon successful completion of the DOE phases, the DGCA may grant CAT II or CAT III specific approval as part of the operator's Operations Specifications (OPS Specs), subject to verification of all submitted documents and DOE reports.

1.5 This DOE program must be completed for:

1. Each aircraft type proposed for CAT II/III operations
2. Each airport
3. And each set of minima (CAT II, CAT III fail-passive, CAT III fail-operational) being sought

1.6 The (DOE) program shall be conducted in a phased manner, and no operator shall initiate CAT III (FP or FO) validations unless CAT II operations have been successfully demonstrated unless exempted by DGCA based on equivalency.

1.7 Progression to the next DOE phase shall require review by the assigned Principal Operations Inspector (POI) and/or the Project Manager (PM) and shall be conditional upon successful evaluation of reliability data, crew performance, and system functionality.

1.8 During the DOE phase, the operator shall implement a structured reporting system to enable continual checks and periodic reviews until CAT II/III authorization, and maintain it for a period of at least 1 year thereafter to verify sustained performance. The system must log every approach whether successful or unsuccessful, with reasons for any discontinuation, and record any system component failures.

1.9 For CAT II, at minimum the program will differentiate successful from unsuccessful outcomes and collect a short flight-crew questionnaire for each actual/practice approach that was not successful, capturing: aerodrome/runway used;

weather; time;

reason for failure/aborted approach;

adequacy of speed control;

trim at AFCS disengagement;

AFCS compatibility;

flight-director and raw-data cues used;

and aircraft position relative to centreline and glide path when passing ~30 m (100 ft) RA.

(For CAT III, apply a similar but more stringent process and use recorded data to investigate any landing irregularity to root cause before continuation.)

1.10 During the evaluation period, the operator shall obtain a pilot report for every approach containing the data specified above, analyse these reports, and submit a consolidated summary to DGCA demonstrating that at least 95% of approaches conducted during this period were successful.

2. USE OF GIVEN TABLES FOR APPROVAL PATHWAYS

The following tables outline the progressive approval process for CAT II, CAT III Fail-Passive, and CAT III Fail-Operational operations based on operator experience, aircraft type, and equipment changes.

These tables are intended to provide a standardized method for evaluating operator readiness and system capability during CAT II/III approvals.

Each table defines the minimum requirements in terms of operational experience, demonstration periods, and associated meteorological minima that must be met prior to the issuance of final operations specifications.

NOTE: Operators shall refer **ONLY** to the table corresponding to the specific category of approval being sought i.e., CAT II, CAT III Fail-Passive, or CAT III Fail-Operational. Each table is independently structured and tailored to the operational, equipment, and experience requirements relevant to that specific category.

1. **Select the Applicable Table:**

- a) **Table 1:** Use when applying for **Final CAT II Approval**.
- b) **Table 2:** Use when applying for **Final CAT III Fail-Passive Approval**.
- c) **Table 3:** Use when applying for **Final CAT III Fail-Operational Approval**.

2. **Identify Operator Experience:**

- a) Determine whether the operator holds prior CAT I/II/III approval.
- b) Establish if the application pertains to a new aircraft type that the operator intends to seek approval on, existing type that the operator already operates, or new equipment introduction.

3. **Determine Required Compliance Path:**

- a) Refer to the applicable row in the applicable table corresponding to the operator's current experience and aircraft/equipment status.
- b) Note the required number of landings and applicable minima (CAT I, CAT II, or CAT III) for experience accumulation.
- c) Fulfil the specified **DOE Validation Phases** under the stated conditions (duration and minima).
 - i) **Phase 1:** Initial validation period to demonstrate stable operations under specified minima.
 - ii) **Phase 2:** Follow-up observation phase (if applicable) to validate operational consistency before final approval.

4. **Final Authorization:**

- a) Upon DGCA acceptance that the operator has prepared and submitted all required documents, procedures, maintenance and training programmes, and the designated flight crew are trained, checked, and approved for the intended CAT II/III minima—the Flight Standards Directorate shall issue **Interim Operations Specifications** authorizing DOE landings at the next applicable minima.
- b) These minima shall be published in the operator's Operations Specifications and shall not be reduced unless specifically approved by DGCA.
- c) Upon successful completion of the prescribed validations and landing experience, the operator may be granted final authorization for the corresponding DH (Decision Height) and RVR (Runway Visual Range) minima as indicated in the rightmost column.

1. REQUESTING FINAL CAT II APPROVAL

Current Operator Approval	CAT II Approval Sought on Aircraft with Operator	Required Landings / Actual Minima	DOE Validation Phase 1 (Demonstration Minima)	DOE Validation Phase 2 (Demonstration Minima)	Final Authorized DH/ RVR
CAT I	New Type / Existing Type/ New Equipment	100 landings / CAT I	6 Months / CAT II	None	DH (Not Lower Than)
CAT II	New Type	50 landings / CAT I	6 Months / CAT II	None	100 feet RVR (Not Lower Than)
	New Equipment	25 landings / CAT II	CAT II		
CAT III (FP/FO)	New Type	50 landings / CAT I	6 Months / CAT II	None	300m

2. REQUESTING FINAL CAT III FAIL-PASSIVE APPROVAL

Current Operator Approval	CAT III(FP) Approval Sought on Aircraft with Operator	Required Landings / Actual Minima	DOE Validation Phase 1 (Demonstration Minima)	DOE Validation Phase 2 (Demonstration Minima)	Final Authorized DH / RVR
CAT I	New Type/ Existing Type / New Equipment	100 landings / CAT I	3 months / CAT II	6 months / CAT III FP	DH (Not Lower Than) 50 feet RVR (Not Lower Than) 175m
CAT II	New Type	75 landings / CAT I	6 months / CAT II	3 months / CAT III	
	New Equipment	75 landings / CAT II	6 months / CAT III FP	None	
	Existing Type	50 landings / CAT II	3 months / CAT III FP	None	
CAT III (FP/FO)	New Type	100 landings / CAT I	3 months / CAT II	3 months / CAT III FP	

3. REQUESTING FINAL CAT III FAIL-OPERATIONAL APPROVAL

Current Operator Approval on Fleet	CAT III(FO) Approval Sought on Aircraft with Operator	Total Required Landings / Actual Minima	DOE Validation Phase 1 (Demonstration Minima)	DOE Validation Phase 2 (Demonstration Minima)	Final Authorized Lowest DH / RVR
CAT I	Existing Type / New Type/ New Equipment	100 landings / CAT I	6 months / CAT III FP*	3 months / CAT III FO	DH (Less Than) < 50 feet RVR (Not Lower Than) 50 m
CAT II	New Type	75 landings / CAT I	6 months / CAT III(FP)*	3 months / CAT III(FO)	
	Existing Type	50 landings / CAT II	3 months / CAT III FP	3 months / CAT III FO	
	New Equipment	75 landings / CAT II	3 months / CAT III FP	3 months / CAT III FO	
CAT III (FP)	New Type	100 landings / CAT I	3 months / CAT II	3 months / CAT III FO	
	Existing Type	50 landings / CAT III(FP)	3 months / CAT III (FO)	None	
	New Equipment	75 landings / CAT III(FP)	3 months / CAT III (FO)	None	
CAT III (FO)	New Type	100 landings / CAT I mins	3 months / CAT III FP*	3 months / CAT III FO	

3. CREDIT SYSTEM FOR DOE IN CAT II/III SPECIFIC APPROVAL

3.1 Purpose and Applicability

This credit system provides a structured and safety-assured mechanism by which operators may substitute part of the (DOE) landing requirement with equivalent operational, simulator, or validated historical experience.

This system shall apply to all Indian AOP/AOC holders seeking CAT II or CAT III operational approval, and must be used only with DGCA approval following documented justification.

3.2 Introduction to the DOE Credit System

3.2.1 The (DOE) Credit System enables operators to achieve CAT II and CAT III operational approval by leveraging equivalent operational experience, training activities, and validated data in lieu of completing the full number of in-service landings otherwise required. This system is designed to maintain the intent and integrity of the DOE process while introducing regulatory flexibility.

3.2.2 The credit system recognises that, under controlled and validated conditions, certain forms of prior experience or FSTD-based performance may provide an equivalent level of safety to actual line operations. Accordingly, operators may seek credit toward their DOE requirements based on data-supported reductions in required DOE landings based on the following:

1. Approved Full Flight Simulator (FSTD) sessions
2. Aircraft or fleet similarity within the same operator
3. Cross-operator data transfer, where permitted

3.2.3 All credits must be supported by verifiable data, and are subject to review and approval by the DGCA based on the specific aircraft type, configuration, operator maturity, and compliance history. The total number of DOE landings eligible for credit is capped with the intent of ensuring an equivalent level of operational safety.

3.2.4 The use of DOE credits does not exempt operators from the requirement to demonstrate:

1. Crew proficiency under low-visibility operations
2. Aircraft system reliability in simulated or monitored conditions
3. Compatibility with approved minima and RVR limits
4. Validated safety performance under the operator's Safety Management System (SMS).

3.2.5 Operators shall maintain a complete DOE Credit Justification, documenting:

1. The source and rationale for each credit claimed
2. Supporting records (e.g., simulator logs, prior DOE data and other relevant documents/records)
3. Authorisation letters where DOE data is shared or imported

3.3 Credit System Table

Credit Mechanism	Credit Equivalency	Eligibility Conditions	Approval Requirement
1. FSTD (Full Flight Simulator) Landings	Up to 50% of required in-service landings	FSTD must be Level C or D, qualified under DGCA or in line with ICAO 9625 Capable of simulating aircraft-specific CAT II/III LVO scenarios with failure modes and terrain.	Validation by DGCA. Simulator sessions must be traceable to approved training curriculum.
2. Line Landings from Other Aircraft in Same Operator's Fleet	Up to 40% if same aircraft type/design series	Aircraft must have common avionics, procedures, MELs, and SOPs; Performance data must show comparable LVO behaviour; SMS & reliability data must be aligned.	Requires submission of technical configuration comparison.
3. Cross-Operator DOE Data Sharing	Up to 25% if operational equivalency demonstrated	Aircraft type and LVO equipment must match SOPs must be aligned Shall be used when data is acquired from an operator already holding equivalent DGCA specific approval	Requires formal agreement, traceable records, and DGCA validation of data authenticity

3.4 CUMULATIVE CREDIT LIMIT FOR DOE SUBSTITUTION

3.4.1 The total number of landings credited under the DOE Credit System including FSTD-based experience, intra-fleet similarity, cross-operator data sharing, and type-variant demonstration equivalency shall not exceed 50% of the total in-service landing requirement for any phase of CAT II or CAT III DOE.

3.4.2 The remaining 50% or more of required landings must be conducted through actual line operations under representative meteorological and operational conditions, in accordance with the approved minima for the applicable category of operation.

3.4.3 The DGCA may reduce the maximum allowable credit percentage on a case-by-case basis, based on:

1. The operator's LVO experience maturity
2. Aircraft system reliability history
3. Training infrastructure
4. Safety Management System (SMS) performance
5. Results of past audits or demonstration flights

3.4.4 Under no circumstance shall the entire DOE requirement be fulfilled using credits alone.

3.5 RESTRICTIONS

1. Credits are not automatic and must be specifically approved by DGCA prior to use.
2. No credit substitution is permitted for aircraft with dissimilar automation logic or where major differences exist in MEL / CAT II/III procedures. / auto land configurations.
3. Fleet-level statistical inference is not allowed and DOE equivalency must be established per aircraft registration.

3.6 RECORDKEEPING AND AUDITABILITY

1. Credit-based DOE programs are subject to audit at any time by DGCA.
2. All documentation supporting each credit must be retained for as long as the operator is approved for CAT II/III operations.

3.7 VALIDATION PHASE RELIEF AND CASE BY CASE REDUCTION PROVISIONS

3.7.1 Validation Phase Relief

During the Validation Phase, an operator seeking CAT III (FO) authorization may request elimination of the interim restriction of DH and RVR, provided that operational credit is demonstrated through the use of airborne systems certified for lower minima operations. In such cases, the Operations Specifications shall clearly stipulate that all CAT III (FP) operations below applicable RVR shall be conducted with airborne equipment operating to CAT III (FO) standards.

3.7.2 Case-by-Case Reductions

Where completion of the required demonstrations is unreasonably delayed due to operational constraints including small-fleet limitations that prevent achieving the prescribed number of landings within the standard validation period, the DGCA may, on a case-by-case basis, authorize a reduction in the number of required landings and/or the demonstration duration. In determining such relief, the DGCA shall consider:

- i) The operator's prior experience with CAT I/II/III operations;
- ii) The number and type of aircraft in the fleet;
- iii) The demonstrated competence, experience, and training of flight crew and maintenance personnel for LVO;
- iv) The operator's compliance performance and oversight history;
- v) Any reduction shall be granted only where the operator demonstrates equivalent reliability and safety assurance through acceptable data, mitigations, and continued oversight;
- vi) The approval is liable for withdrawal if the operator's safety performance, compliance monitoring, or reporting does not remain at an acceptable level.

ANNEX H: CAT II / CAT III DEMONSTRATION FLIGHT ASSESSMENT CHECKLIST

Date	Operator	Aircraft Type	Aircraft Registration
Flight No.	Airport	Runway	Simulated Minima
PIC	ATPL	FOI	ATPL
Co-Pilot	CPL/ATPL	Reported Wx	

Category of Demonstration: ☐ CAT II ☐ CAT III Fail-Passive ☐ CAT III Fail-Operational

1. FLIGHT DISPATCH / PRE-FLIGHT PROCEDURES	STATUS	REMARKS
Weather forecast reviewed and within CAT II/III minima requirements	☐	
NOTAMs for aerodrome/runway facilities checked (ILS, RVR equipment, lighting, SMGCS)	☐	
MEL/CDL dispatch status verified — no inoperative items affecting CAT II/III capability.	☐	
Aircraft maintenance status reviewed (auto land/AFCS checks valid)	☐	
Fuel planning completed with CAT II/III alternate(s) and contingency fuel considered	☐	
ATC slot coordination and confirmation of Low Visibility Procedures (LVP) in force	☐	
Flight crew briefing conducted covering minima, roles, callouts, and abnormal scenarios	☐	
Operations Manual Part A/B and company dispatch release signed and available	☐	
2. FLIGHT CREW PERFORMANCE	STATUS	REMARKS
Standard callouts made at correct altitudes/heights	☐	
Monitoring of instruments and raw data effective	☐	
Decision-making consistent with SOPs	☐	
Proper engagement/use of Autopilot, Flight Director, HUD/HGS	☐	
Appropriate intervention during abnormal events	☐	
3. AIRCRAFT SYSTEM BEHAVIOUR		
Autopilot engaged/maintained through approach	☐	
Autoland sequence executed correctly (flare, touchdown, rollout)	☐	
Rollout control/guidance effective	☐	
System redundancy and reversion modes correctly annunciate	☐	
No un-commanded deviations or malfunctions	☐	
4. COMPLIANCE WITH MINIMA		
Correct DH/AH settings verified before approach	☐	
RVR values (TDZ, MID, END) recorded and within minima	☐	
Correct controlling RVR applied as per approval basis	☐	
Flight crew adhered to minima for approach continuation	☐	
5. SOP & DOCUMENTATION INTEGRATION		
SOPs followed as per OM Part A/B	☐	
QRH actions referenced where applicable	☐	

CIVIL AVIATION REQUIREMENTS
SERIES 'B' PART III

SECTION 8
DATE XX/XX/XXXX

MEL/CDL status reviewed — aircraft CAT II/III ready	☐	
LVP confirmation obtained from ATC	☐	
6. OPERATIONAL DISCIPLINE		
Stable approach criteria met (speed, configuration, glide path)	☐	
Correct flare technique demonstrated	☐	
Rollout maintained within ± 3 m of centreline	☐	
Missed approach procedures followed when required	☐	
7. COMMUNICATION & COORDINATION		
ATC clearances acknowledged correctly	☐	
Coordination with ground (e.g., LVP confirmation, SMGCS)	☐	
Crew cross-checks and callouts effective	☐	
8. RECORDING & POST-FLIGHT DATA		
FDR/CVR/QAR recording verified	☐	
Relevant flight parameters downloaded post-flight	☐	
Deviations or warnings documented for analysis	☐	
9. FAILURE & ABNORMAL RESPONSE		
Simulated/system-generated failures managed correctly	☐	
Crew initiated correct QRH / abnormal checklist actions	☐	
Go-around executed safely if required	☐	
10. OVERALL ASSESSMENT		
Flight conducted in representative low-visibility conditions	☐	
Crew demonstrated competence in CAT II/III operations	☐	
Aircraft and systems demonstrated compliance	☐	

Remarks/Observations:

Assessment Outcome: ☐ Satisfactory ☐ Unsatisfactory

PIC Name & Signature: _____

FOI Name & Signature: _____

ANNEX I: CAT II / CAT III DEMONSTRATION CLASSROOM TRAINING ASSESSMENT CHECKLIST

Date	Operator	Aircraft Type	Location
Type of Training (CAT II/III)	Name of GI	Duration	
FOI	ATPL		

S. No.	Requirement	Compliant	Remarks / Reference Document
1.	Syllabus & lesson plan provided; learning objectives align to CAT II/III authorisation.		
2.	Training scope matches operator approval (CAT II/III FP/FO as applicable)		
3.	Participant prerequisites verified (training/eligibility as applicable).		
4.	Attendance tracking demonstrated (sign-in / LMS); records/attendance etc.		
5.	Version control current (syllabus, slides, handouts show rev/date).		
6.	Assessment plan (written/oral), pass marks and remediation policy defined.		
7.	Linkage to approved Training & Checking Programme (OM A/B/D) documented.		
8.	Documentation integration: SOP, QRH, MEL/CDL, AFM etc		
9.	Agenda/pacing appropriate to content complexity; time management demonstrated.		
10.	Scenario-based learning used with decision gates and “what-if” branches.		
11.	Interactive techniques (Q&A, polls, group tasks etc) used effectively.		
12.	Visual/AV quality adequate; charts/minima tables technically accurate/readable.		
13.	Training media: slides, CBT/LMS, videos, mock-ups satisfactory		
14.	Instructor demonstrates type-specific knowledge relevant to attendees and type of training		
15.	CRM/TEM facilitation; standard callouts/phraseology		
16.	Misconceptions corrected accurately; focus maintained on safety-critical points.		
17.	Formative assessments used (mini-quizzes/case responses).		
18.	Summative test mapped to objectives; pass mark defined; question bank version-controlled.		

CIVIL AVIATION REQUIREMENTS
SERIES 'B' PART III

SECTION 8
DATE XX/XX/XXXX

19.	Remediation/retest policy explained and applied for unsuccessful candidates.		
20.	Attendance/LMS logs filed		
21.	Course completion endorsement/certificates issued (if applicable)		
22.	Materials/tests/results archived with rev/date		
23.	Post-course feedback collected and analysed; QA actions tracked		
24.	Training Content aligns with CAR 8/C/I and CAR 8/B/I requirements		
25.	Delivery modes used (classroom/CBT/virtual etc) are acceptable		
26.	Deviations/non-conformities recorded with corrective actions, owners, and due dates.		
27.	Classroom/AV facilities adequate; backups available.		
28.	Safety briefing		

Remarks/Observations:

Assessment Outcome: ☐ Satisfactory ☐ Unsatisfactory

GI Name & Signature: _____

FOI Name & Signature: _____

ANNEX J: SAMPLE FORM FOR FLIGHT CREW REPORT

**SAMPLE FORM FOR FLIGHT CREW REPORT ON AUTO-APPROACH
AND AUTO-LAND PERFORMANCE**

OPERATOR _____

1. SECTION I – Complete all items				
Aircraft Type	Aircraft Registration No.	Captain	Flight No.	Date
Airport	Runway	Conditions Cat I+ ☐ Cat II ☐ Cat III ☐	Wind Direction & Speed	ATC runway Protection provided ☐ Unknown or None ☐ Cat II
The Auto-Approach Auto-Land was: ☐ Satisfactory ☐ Unsatisfactory				
If unsatisfactory you must complete Section II Auto-Land Touchdown Zone is 900 feet to 2400 feet down the runway and within 27 feet of centerline.				
Record area of touch down with an 'X' on Runway Depiction				
2. SECTION II – Complete ONLY if Auto-Approach or Auto-Land was UN-SATISFACTORY.				
If the Approach was discontinued, it was due to: ☐ Airborne Equipment Failure ☐ Ground Facilities Difficulties ☐ ☐ ATC Instructions ☐ Other (Specify)				
LOCALIZER (Left/Right) GLIDESLOPE (High/Low)				
If the autopilot was disconnected the altitude was _____ ft MSL.				
Other Comments				

ANNEX K: ALTIMETER SYSTEM TEST AND INSPECTION

Each person performing the altimeter system tests and inspections shall comply with the following:

1. Static pressure system:

- i. Ensure freedom from entrapped moisture and restrictions.
- ii. Determine that leakage is within the tolerances established by the manufacturer or as per FAR 23.1325 / FAR 25.1325 or CS 23.1325 / CS 25.1325 whichever applicable.
- iii. Determine that the static port heater, if installed, is operative.
- iv. Ensure that no alterations or deformations of the airframe surface have been made that would affect the relationship between air pressure in the static pressure system and true ambient static air pressure for any flight condition

2. Altimeter:

2.1 Test by an appropriately rated repair facility in accordance with the following subparagraphs. Unless otherwise specified, each test for performance may be conducted with the instrument subjected to vibration. When tests are conducted with the temperature substantially different from ambient temperature of approximately 25°C, allowance shall be made for the variation from the specified condition.

(i) SCALE ERROR.

With the barometric pressure scale at 29.92 inches of mercury, the altimeter shall be subjected successively to pressures corresponding to the altitude specified in Table I up to the maximum normally expected operating altitude of the airplane in which the altimeter is to be installed. The reduction in pressure shall be made at a rate not in excess of 20,000 feet per minute to within approximately 2,000 feet of the test point. The test point shall be approached at a rate compatible with the test equipment. The altimeter shall be kept at the pressure corresponding to each test point for at least 1 minute, but not more than 10 minutes, before a reading is taken. The error at all test points must not exceed the tolerances specified in Table 1.

(ii) HYSTERESIS.

The hysteresis test shall begin not more than 15 minutes after altimeter's initial exposure to the pressure corresponding to the upper limit of the scale error test prescribed in subparagraph (i); and while the altimeter is at this pressure, the hysteresis test shall commence. Pressure shall be increased at a rate simulating a descent in altitude at the rate of 5,000 to 20,000 feet per minute until within 3,000 feet of the first test point (50 percent of maximum altitude). The test point shall then be approached at a rate of approximately 3,000 feet per minute. The altimeter shall be kept at this pressure for at least 5 minutes, but not more than 15 minutes, before the test reading is taken. After the reading has been taken, the pressure shall be increased further, in the same manner as before, until the pressure corresponding to the second test point (40 percent of maximum altitude) is reached. The altimeter shall be kept at this pressure for at least 1 minute, but not more than 10

minutes, before the test reading is taken. After the reading has been taken, the pressure shall be increased further, in the same manner as before, until atmospheric pressure is reached. The reading of the altimeter at either of the two test points shall not differ by more than the tolerance specified in Table II from the reading of the altimeter for the corresponding altitude recorded during the scale error test prescribed in paragraph 2.1 (i).

(iii) AFTER EFFECT

Not more than 5 minutes after the completion of the hysteresis test prescribed in paragraph (b)(ii), the reading of the altimeter (corrected for any change in atmospheric pressure) shall not differ from the original atmospheric pressure reading by more than the tolerance specified in Table II.

(v) FRICTION.

The altimeter shall be subjected to a steady rate of decrease of pressure approximating 750 feet per minute. At each altitude listed in Table III, the change in reading of the pointers after vibration shall not exceed the corresponding tolerance listed in Table III.

(vi) CASE LEAK.

The leakage of the altimeter case, when the pressure within it corresponds to an altitude of 18,000 feet; shall not change the altimeter reading by more than the tolerance shown in Table II during an interval of 1 minute.

(vii) BAROMETRIC SCALE ERROR

At constant atmospheric pressure, the barometric pressure scale shall be set at each of the pressures (falling within its range of adjustment) that are listed in Table IV, and shall cause the pointer to indicate the equivalent altitude difference shown in Table IV with a tolerance of 25 feet.

2.2 Altimeters which are of the air data computer type with associated computer systems, or which incorporate air data correction internally, may be tested in a manner and to specifications developed by the manufacturer which are acceptable to the DGCA.

3. Automatic Pressure Altitude Reporting Equipment and ATC
Transponder System Integration Test:

The test must be conducted by an appropriately rated person under the conditions specified in paragraph (a). Measure the automatic pressure altitude at the output of the installed ATC transponder when interrogated on Mode C at a sufficient number of test points to ensure that the altitude reporting equipment, altimeters, and ATC transponders perform their intended functions as installed in the aircraft. The difference between the automatic reporting output and the altitude displayed at the altimeter shall not exceed 125 feet.

4. Records:

Comply with the provisions of this chapter as to content, form, and disposition of the records. The person performing the altimeter tests shall record on the altimeter the date and maximum altitude to which the altimeter has been tested and the persons approving the airplane for return to service shall enter that data in the airplane log or other permanent record.

(Refer: FAR PART 43-7, 43-2)

TABLE I: ALTITUDE v/s PRESSURE

ALTITUDE (FEET)	EQUIVALENT PRESSURE (INCHES IN MERCURY)	TOLERANCE (FEET)
-1000	31.018	20
0	29.921	20
500	29.385	20
1,000	28.856	20
1,500	28.335	25
2,000	27.821	30
3,000	26.817	30
4,000	25.842	35
6,000	23.978	40
8,000	22.225	60
10,000	20.577	80
12,000	19.029	90
14,000	17.577	100
16,000	16.216	110
18,000	14.942	120
20,000	13.750	130
22,000	12.636	140
25,000	11.104	155
30,000	8.885	180
35,000	7.041	205
40,000	5.538	230
45,000	4.355	255
50,000	3.425	280

TABLE II- TEST TOLERANCES

Test	Tolerance feet
Case Leak Test	+100
Hysteresis Test	
First Test Point (50% of max altitude)	75
Second Test Point (40% of max altitude)	75
After Effect Test	30

TABLE III- FRICTION

Altitude (feet)	Tolerance (feet)
1000	+70
2000	70
3000	70
5000	70
10000	80
15000	90
20000	100
25000	120
30000	140
35000	160
40000	180
50000	250

TABLE IV- PRESSURE ALTITUDE DIFFERENCE

Pressure (inches of Hg)	Altitude difference (feet)
28.10	-1727
28.50	-1340
29.00	-863
29.50	-392
29.92	0
30.50	+531
30.90	+893
30.99	+974

ANNEX L: MAINTANENCE APPLICATION FORMAT

1. Name of the operator:
2. Aircraft type, model & Registration Number:
3. Whether certified for Cat II/Cat III operations (enclosed necessary documents)
4. Type of approval required: Cat II/Cat III
5. List of Equipment required for Cat II/Cat III operations:
6. Enclose copy of the manual for Cat II /Cat III operations:
7. Bench check status of the instruments and equipment required for Cat II/Cat III operations during last twelve months:
8. Training status of personnel for certifying Cat II/ Cat III instruments and equipment:

I hereby certify that the requirements as laid down in this CAR for obtaining maintenance approval for Cat II/Cat III operation, has been complied with.

Continuing Airworthiness Manager