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GOVERNMENT OF INDIA

OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION

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CIVIL AVIATION REQUIREMENT
SECTION 8 – AIRCRAFT OPERATIONS
SERIES F PART VII
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File No. DGCA-22024/13/2023-FSD

SUBJECT: FLIGHT CREW TRAINING AND QUALIFICATION REQUIREMENTS FOR SCHEDULED COMMUTER AND NON-SCHEDULED OPERATORS: SMALL AEROPLANES

1. INTRODUCTION

ICAO Annex 6 – Operation of Aircraft Part I contains standard and recommended practices (SARPs) for operation of commercial air transport which covers flight crew requirements. It is no longer considered necessary to differentiate between the SARPs for scheduled and non-scheduled operations. The Annex requires operators to establish and maintain approved ground and flight training programmes which commuter ensures that all flight crew members are adequately trained and qualified to perform their assigned duties.

2. APPLICABILITY

2.1 This CAR is applicable to scheduled commuter and non-scheduled operators with aeroplane maximum certified take off mass 5700 kg or less

2.2 This CAR lays down responsibilities of operators and flight crew towards training and qualification requirements to carry out operations and is consistent with Annex 6 and Aircraft Rules 1937.

2.3 This CAR is issued under the provisions of Rule 29C and Rule 133A of the Aircraft Rules, 1937

3. DEFINITIONS/TERMINOLOGY

3.1 ***Month.*** One month is considered as the period compassing consecutive days in the month of the Gregorian calendar e.g., 03 Feb to 02 Mar or 30 Dec to 29

Jan or 15 May to 14 Jun. Example of 6 months is 04 Jan to 03 Jul.

3.2 ***Year.*** One year consists of 12 consecutive months, e.g. 03 Feb 2015 to 02 Feb 2016 or 01 Jan 2016 to 31 Dec 2016

3.3 ***Base Training.*** Take-off and landing training carried out on the aircraft for the purpose of allowing flight crew to experience actual aircraft handling characteristics. This is carried out after completion of type rating simulator training. Base training can be replaced with ZFTT, if the entry experience requirements of ZFTT are met.

3.4 ***Proficiency Checks.*** Demonstration of skill conducted for continued exercise of privileges of license, ratings or approval as may be required.

3.5 ***Renewal (of license, rating or approval).*** The administrative action taken which renews the privileges of the license, rating or approval for a further specified period, consequent upon fulfilment of the applicable renewal requirements.

3.6 ***Re-qualification***. A generic term describing the training and checking requirements following an expiry of a qualification.

3.7 ***Revalidation (of qualification).*** The administrative action taken, within the period of validity of a qualification, which allows the holder to continue to exercise the privileges of that qualification for a further specified period, consequent upon fulfilment of the applicable revalidation.

3.8 ***Route Check.*** Demonstration of proficiency in normal line operations. A route check may be carried out for purposes such as fulfilling an annual line proficiency requirement, PIC upgrade, route/aerodrome qualification etc.

3.9 ***Route Sector.*** A flight comprising take-off, departure, cruise, arrival, approach and landing phases.

3.10 ***Skill Test.*** A demonstration of skill for initial issue/renewal of a license or rating as may be required.

3.11 ***Supervised Line Flying.*** Supervised line flying (SLF) is operating experience/flying done by a type rated flight crew member under supervision of a Check Pilot/Instructor/Examiner for the purpose of acquiring the specified experience prior to undertaking line operations which are unsupervised by a Check Pilot/Instructor/Examiner. SLF forms part of the training syllabus and may be specified in terms of experience of flying hours or sectors by an operator.

3.12 ***ZFTT (Zero flight time training).*** ZFTT refers to an approved training course carried out on a Level D simulator without the need for base training on completion of a type endorsement. For the purpose of this CAR, the minimum experience requirements for flight crew entering a ZFTT course are 500 hours on turbojet or turboprop aeroplanes.

4. COMPOSITION OF FLIGHT CREW

An operator shall ensure that:

4.1 The composition of the flight crew and the number of flight crew members at

no less than the minimum specified in the Aeroplane Flight Manual (AFM) and Certificate of Airworthiness (C of A);

4.2 The flight crew includes additional flight crew members when required by the type of operation, and is not reduced below the number specified in the approved Operations Manual

4.3 All flight crew members hold an applicable and valid license acceptable to DGCA and are suitably qualified and competent to conduct the duties assigned to them;

4.4 Procedures acceptable to DGCA are established, to prevent the crewing together of inexperienced flight crew members;

Note 1: Inexperienced crew members are those with less than 100 hours as released PIC/co-pilot individually on type.

Note 2: For aeroplanes permitted single pilot operations or turboprop aeroplanes with seating capacity less than 10 passengers Para 4.4 will not be applicable.

Note 3: For pilots engaged in single engine turbine aeroplane under scheduled commuter operators, the experience requirements are laid in para 14.

4.5 One pilot amongst the flight crew, qualified as a pilot-in-command (PIC) in accordance with the Aircraft Rules 1937, is designated as the PIC, and;

4.6 Initial operator's crew resource management (CRM) training shall be completed before commencing unsupervised line flying unless the crew member has previously completed an initial operator's CRM course.

4.7 The pilot operating single-engine aeroplane under the provisions of this CAR shall meet the following minimum requirements:

(a) <u>For Piston Engined Aeroplanes</u>

The pilot shall have a minimum of:

i. Total flying experience	-	500 hours
ii. Total PIC flying experience	-	200 hours
iii. Total flying experience on type	-	50 hours.
iv. Total PIC flying experience on type	-	25 hours
v. PIC flying experience in the last six months on type	-	10 hours.

(b) <u>For Turbine Engined Aeroplane</u>

The pilot shall have current instrument rating and a minimum of :

i. Total flying experience	-	700 hours
ii. Total PIC flying experience	-	300 hours
iii. Total instrument flying experience as PIC	-	100 hours
iv. Total PIC flying experience on type	-	50 hours

v. PIC flying experience in the last six months on type - 10 hours
vi. Total flying experience in night operations on the type - 10 hours

Note: The above requirements shall not apply for seaplane/amphibian operations. Pilot experience requirement for the sea plane/amphibian operations will be as per CAR Section 3 Series C Part IX and CAR Section 7 Series B Part XVI.

5. INITIAL OPERATOR'S CREW RESOURCE MANAGEMENT (CRM) TRAINING

5.1 When a flight crew member has not previously completed initial operator's crew resource management (CRM) training (either new employees or existing staff), then the operator shall ensure that the flight crew member completes an introductory CRM training course (refer Appendix 4).

5.2 If the flight crew member has not previously been trained in human factors then a theoretical course based on Human Performance and Limitations topics shall be included with the introductory operator's CRM training course.

5.3 Initial CRM course training shall be conducted by at least one approved CRM facilitator.

5.4 Initial CRM training is conducted in accordance with a detailed course syllabus included in the Operations Manual.

6. CONVERSION TRAINING AND CHECKING

6.1 An operator shall ensure that:

6.1.1 A flight crew member completes a Type Rating course which satisfies the requirements applicable to the issue of license/rating when changing from one type of aeroplane to another type for which a new type rating is required.;

6.1.2 A flight crew member completes an Operator's Conversion course before commencing unsupervised line flying;

(a) When changing to an aeroplane for which a new type or class rating is required; or

(b) When changing operator;

6.1.3 Conversion training is conducted by suitably qualified personnel in accordance with a detailed course syllabus included in the Operations Manual. The operator shall ensure that the personnel integrating elements of CRM into conversion training are suitably qualified;

6.1.4 The amount of training required by the operator's conversion course is determined after due note has been taken of the flight crew member's previous training as recorded in his/her training records;

6.1.5 The minimum standards of qualification and experience required of flight crew

members before undertaking conversion training are specified in the Operations Manual;

6.1.6 Each flight crew member undergoes the checks required by Para 9.2 (PPC) and the training and checks required by Para 9.4 (SEP) before commencing supervised line flying (SLF);

6.1.7 Once the aeroplane/FFS (full flight simulator) training phase of an operator's conversion course has been commenced, a flight crew member does not undertake flying duties on another type or class until the course is completed (except if authorized to fly more than one type of aeroplane) or terminated; and

6.1.8 Elements of CRM training are integrated into the conversion course (refer Appendix 4).

6.2 In the case of changing aeroplane type, the pilot's proficiency check may be combined with the type rating skill test.

6.3 The Operator's Conversion course and the Type Rating course may be combined.

6.4 A pilot, undertakes a zero flight time training (ZFTT) or base training shall be completed as :

6.4.1 6 take-offs and landings in a ZFTT simulator session within 45 days of the skill test and commence SLF thereafter as soon as possible but within three months of the skill test.

6.4.2 If SLF has not been commenced within three months of the skill test, the operator shall provide an additional ZFTT simulator session of 6 take-offs and landings prior to commencing SLF. For any subsequent gap in commencing SLF after the additional simulator session, the operator shall ensure that the pilot has completed 3 take-offs and landings in a ZFTT simulator session in the previous 60 days prior to commencing SLF.

6.4.3 A pilot not qualifying for ZFTT shall undergo additional 6 take-offs and landings (Base Training) for the gap in SLF if not commenced within three months of the skill test.

6.4.4 Undergo minimum training and checks as stipulated in Appendix 2 to this CAR.

6.4.5 Training and checking requirements related to operation of single engine turbine aeroplane for operations in Night and/or in IMC, Refer Appendix 2-A

6.5 For pilots changing an operator and already qualified in the same capacity (PIC or co-pilot) on the same aeroplane type, a minimum SLF of 2 sectors is required.

Note 1: For aeroplanes permitted single pilot operations or turboprop aeroplanes with seating capacity less than 10 passengers Para 6.5 will not be applicable

Note 2: Para 6.5 will not be applicable to PIC s or co-pilots qualified on same type if they have operated with the new operator under cross-utilisation arrangements or as a trainer in the previous 1 year.

Note 3: Pilots engaged in Single Engine Turbine under Schedule Commuter Operation shall be required to undergo two sector route familiarization with qualified pilots

7. DIFFERENCES TRAINING AND FAMILIARISATION TRAINING

7.1 An operator shall ensure that a flight crew member completes:

7.1.1 Differences training which requires additional knowledge and training on an appropriate training device or the aeroplane:

(a) When operating another variant of an aeroplane of the same type or another type of the same class currently operated; or
(b) When changing equipment and/or procedures on types or variants currently operated;

7.1.2 Familiarization training which requires the acquisition of additional knowledge:

(a) When operating another aeroplane of the same type or variant; or
(b) When changing equipment and/or procedures on types or variants currently operated.

7.2 The operator shall specify in the Operations Manual when such differences training or familiarization training is required and approved by DGCA.

8. DESIGNATION AS PIC

8.1 An operator shall ensure that for upgrade to PIC from co-pilot and for those joining as PICs:

8.1.1 A minimum level of experience, acceptable to the DGCA, is specified in the Operations Manual; and

8.1.2 For multi-crew operations, the pilot completes an appropriate command course.

8.2 The command course required by paragraph 8.1.2 above must be specified in the Operations Manual and include at least the following:

8.2.1 Ground refresher training;

8.2.2 PIC's legal/regulatory responsibilities;

8.2.3 Undergo minimum training and checks as stipulated in applicable CAR and approved training syllabus.

8.2.4 Elements of Crew Resource Management.

9. RECURRENT TRAINING AND CHECKING

9.1 General. An operator shall ensure that:

9.1.1 Each flight crew member undergoes recurrent training and checking and that all such training and checking is relevant to the type or variant of aeroplane on which the flight crew member operates;

9.1.2 A recurrent training and checking programme is established in the Operations Manual and approved by DGCA;

9.1.3 Recurrent training is conducted by the following personnel:

(a) Ground recurrent training — by suitably qualified and approved personnel;

(b) Aeroplane/FSTD training — by a SFI/Instructor for FSTD, Check Pilot/FIR (A)/Examiner for aeroplane;

(c) Safety and emergency procedures (SEP) training — by suitably qualified and approved personnel; and

(d) Crew resource management (CRM)

(e) Integration of CRM elements (refer Appendix 4) into all the phases of the recurrent training — by all the personnel conducting recurrent training. The operator shall ensure that all personnel conducting recurrent training are suitably qualified to integrate elements of CRM into this training;

(f) Modular CRM training — by combining CRM elements into modules and conducted by at least one CRM facilitator who may be assisted by experts in order to address specific areas;

9.1.4 Recurrent checking is conducted by the following personnel:

(a) Pilot's proficiency checks — by a Check Pilot/Examiner trained in CRM concepts and the assessment of CRM skills.

(b) Safety and emergency procedures checking — by suitably qualified personnel.

9.2 Pilot's proficiency check (PPC): An operator shall ensure that:

9.2.1 Each flight crew member undergoes PPC to demonstrate his/her competence in carrying out normal, abnormal and emergency procedures on each type or variant of a type of aeroplane. When an operator schedules flight crew on

several variants of the same type of aeroplane, the PPC for each variant can be combined. When an operator schedules flight crew on different types of aeroplanes with similar characteristics in terms of operating procedures, systems and handling, the PPC for each type shall be carried out separately without any credits for the other rated type; and

9.2.2 The check is conducted without external visual reference when the flight crew member will be required to operate under IFR;

9.2.3 *The Proficiency check shall be valid for a period of six month from the date of check.* PPC shall be performed twice within any period of one year. Any two such checks which are similar and which occur within a period of four consecutive months shall not alone satisfy this requirement. The period of validity shall commence from the date of expiry of previous validity provided that the check has been carried out within two months preceding the date of expiry. A PPC may be carried out on an aeroplane or a Level C/CG/D/DG simulator, however at least once in two years, it must be carried out in a Level C/CG/D/DG simulator.

Note 1: For aeroplanes with less than 5 qualified simulators globally, the operator may obtain approval from DGCA to carry out PPC in the aeroplane.

Note 2: For turboprop aeroplanes with seating capacity less than 10 passengers, Para 9.2 and 9.3 can be complied with PPC/IR done on aeroplane.

Note 3: For SET night and/or IMC operations refer appendix -2A.

9.3 Instrument rating (IR) check. An operator shall ensure that:

9.3.1 Each flight crew member undergoes IR checks to demonstrate his/her competence in carrying out normal, abnormal and emergency procedures under instrument conditions. An IR check for renewal of IR may be carried out on an aeroplane or Level C/CG/D/DG simulator. When an operator schedules flight crew on several variants of the same type of aeroplane, the IR check for each variant can be combined. When an operator schedules flight crew on different types of aeroplanes, the IR check for each type shall be carried out separately without any credits for each rated type; and

9.3.2 The check is conducted without external visual reference;

9.3.3 The period of validity of an instrument rating check shall be 12 months from the date of issue. IR shall be renewed for a further period of twelve months at a time from the date of expiry provided that the instrument rating flying test has been carried out within two months preceding the date of expiry and all other requirements for renewal are met.

9.4 Safety and emergency (SEP) procedures training and checking. An operator shall ensure that each flight crew member undergoes training and checking on the location and use of all safety and emergency equipment carried. The

period of validity of an SEP check shall be 12 months. If issued within the final three months of validity of a previous emergency and safety check, the period of validity shall extend from the date of issue until 12 months from the expiry date of that previous SEP check.

9.5 CRM. An operator shall ensure that:

9.5.1 Elements of CRM (refer Appendix 4) are integrated into all appropriate phases of the recurrent training, and;

9.5.2 Each flight crew member undergoes specific modular CRM training. All major topics of CRM training shall be covered over a period not exceeding three years;

9.6 Ground recurrent training. An operator shall ensure that each flight crew member undergoes ground and recurrent training at least every 12 months. If the training is conducted within three months prior to the expiry of the 12 months period, the next ground and refresher training must be completed within 12 months of the original expiry date of the previous ground and refresher training.

9.7 Aeroplane/FSTD training. An operator shall ensure that each flight crew member undergoes aeroplane/FSTD training at least every 12 months. If the training is conducted within three months prior to the expiry of the 12 months period, the next aeroplane/FSTD training must be completed within 12months of the original expiry date of the previous aeroplane/FSTD training.

9.8 Security Training. An operator shall ensure that each flight crew member undergoes aviation security (AVSEC) training at least every two years. If the training is conducted within three months prior to the expiry of the two years period, the next AVSEC training must be completed within two years of the original expiry date of the previous AVSEC training.

9.9 Dangerous goods regulations training. An operator shall ensure that each flight crew member undergoes dangerous goods regulations (DGR) training at least every two years. If the training is conducted within three months prior to the expiry of the two years period, the next DG training must be completed within two years of the original expiry date of the previous DG training.

10. PILOT QUALIFICATION TO OPERATE IN EITHER PILOT'S SEAT

10.1 An operator shall ensure that:

10.2 A pilot who may be assigned to operate in either pilot's seat completes appropriate training and checking; and

10.3 The training and checking programme is specified in the Operations Manual and approved by DGCA.

11. RECENT EXPERIENCE

11.1 An operator shall ensure that:

11.2 Recent experience for PIC and co-pilot. A PIC or co-pilot is not assigned to operate at the flight controls of a type or variant of a type of aeroplane during take-off and landing unless that pilot has operated the flight controls during at least three take-offs and landings within the preceding 90 days on the same type of aeroplane or in a flight simulator approved for the purpose.

11.3 When an operator schedules flight crew on several variants of the same type of aeroplane, the recent experience required in Para 11.2 for each variant can be combined. When an operator schedules flight crew on different types of aeroplanes with similar characteristics in terms of operating procedures, systems and handling, the recent experience required in Para 11.2 for each type shall be carried out separately without any credits for the other rated type.

12. ROUTE AND AERODROME COMPETENCE QUALIFICATION

12.1 An operator shall ensure:

12.2 A pilot is not utilized as PIC of an aeroplane on a route or route segment for which that pilot is not currently qualified until such pilot has complied with Para 12.3 and 12.4.

12.3 Each such pilot shall demonstrate to the operator an adequate knowledge of:

a) The route to be flown and the aerodromes which are to be used. This shall include knowledge of:

1) The terrain and minimum safe altitudes;
2) The seasonal meteorological conditions;
3) The meteorological, communication and air traffic facilities, services and procedures;
4) The search and rescue procedures; and
5) The navigational facilities and procedures, including any long-range navigation procedures, associated with the route along which the flight is to take place; and

b) Procedures applicable to flight paths over heavily populated areas and areas of high air traffic density, obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures, and applicable operating minima.

Note.— That portion of the demonstration relating to arrival, departure, holding and instrument approach procedures may be accomplished in an appropriate training device which is adequate for this purpose.

12.4 A PIC shall have made an actual approach into each aerodrome of landing on the route, accompanied by a pilot who is qualified for the aerodrome, as a

member of the flight crew or as an observer on the flight deck, unless:

a) The approach to the aerodrome is not over difficult terrain and the instrument approach procedures and aids available are similar to those with which the pilot is familiar, and a margin approved by the DGCA is added to the normal operating minima, or there is reasonable certainty that approach and landing can be made in visual meteorological conditions; or

b) The descent from the initial approach altitude can be made by day in visual meteorological conditions; or

c) The operator qualifies the pilot-in-command to land at the aerodrome concerned by means of an adequate pictorial presentation; or

d) The aerodrome concerned is adjacent to another aerodrome at which the PIC is currently qualified to land.

12.5 The operator shall maintain a record, sufficient to satisfy the DGCA of the qualification of the pilot and of the manner in which such qualification has been achieved.

12.6 An operator shall not continue to utilize a pilot as a PIC on a route or within an area specified by the operator and approved by the DGCA, within the preceding 12 months, that pilot has made at least one trip as a pilot member of the flight crew, or as a check pilot/instructor/examiner, or as an observer in the flight crew compartment:

a) Within that specified area; and

b) If appropriate, on any route where procedures associated with that route or with any aerodromes intended to be used for take-off or landing require the application of special skills or knowledge.

12.7 In the event that more than 12 months elapse in which a PIC has not made such a trip on a route in close proximity and over similar terrain, within such a specified area, route or aerodrome, and has not practiced such procedures in a training device which is adequate for this purpose, prior to again serving as a pilot-in-command within that area or on that route, that pilot must re- qualify in accordance with Para 12.3 and 12.4.

Note 1 – Refer Operations Circular 2 of 2012 Route and Aerodrome Competence Qualification.

Note 2 – Refer OC 04/2018 for SET night and/or IMC operations.

13. OPERATION ON MORE THAN ONE TYPE OR VARIANT

An operator shall ensure that a flight crew member does not operate on more than one type or variant unless the flight crew member is approved by DGCA.

14. FLIGHT CREW EXPERIENCE REQUIREMENTS FOR SCHEDULE COMMUTER –SET NIGHT AND/OR IMC OPERATIONS.

14.1 Single engine, turbine powered aero planes may be operated day/night, VFR/IFR weather conditions as per their certification and operating procedures stipulated in flight manual. Single engine piston airplanes shall not be operated at night or in Instrument Meteorological conditions.

14.2 **SET Day-VFR and DAY IMC operations**

PIC experience requirements:

a. Total flying experience – 1200 hours
b. Total PIC flying experience – 500 hours
c. Pilots shall be holder of current instrument rating
d. Total instrument flying experience as PIC – 100 hours which shall include 75 hours of actual or simulated instrument flight time on actual aircraft.
e. Total PIC flying experience on type – 100 hours (The 100 hours as pilot- in- command may be substituted by 200 hours operating experience as co-pilot within an established multi-pilot crew system for the pilot flying duties as prescribed in the approved operations manual)

Co-Pilot Experience/ Recency:

a. Pilot shall be holder of current instrument rating
b. Total instrument flying experience – 50 hours which shall include 25 hours of actual or simulated instrument flight time on actual aircraft.
c. Within the 6 calendar months preceding the month of the flight, the co-pilot should have performed and logged at least the following tasks and iterations in-flight in an airplane, in actual weather conditions, or under simulated instrument conditions using a view-limiting device:

- Six instrument approaches.
- Holding procedures and tasks; and
- Intercepting and tracking courses through the use of navigational electronic systems.

Note: A pilot may accomplish the requirements as mentioned in (c) above in an approved FFS/aircraft.

Line training and Route checks:

Operating crew shall undergo two sectors of SLF and one route check for the proposed route of night operations.

14.3 ***SET Night and Night IMC Operations***

PIC experience requirements:

a. Total flying experience – 1200 hours
b. Total PIC flying experience – 500 hours
c. Pilots shall be holder of current instrument rating
d. Total instrument flying experience as PIC – 100 hours which shall include 75 hours of actual or simulated instrument flight time on actual aircraft.
e. Total PIC flying experience on type – 100 hours (The 100 hours as pilot- in-command may be substituted by 200 hours operating experience as co-pilot within an established multi-pilot crew system for the pilot flying duties as prescribed in the approved operations manual)
f. 30 hours of night flight time

Co-Pilot Experience/ Recency:

a. Pilot shall be holder of current instrument rating
b. Total instrument flying experience – 50 hours which shall include 25 hours of actual or simulated instrument flight time on actual aircraft.
c. Within the 6 calendar months preceding the month of the flight, the co-pilot should have performed and logged at least the following tasks and iterations in-flight in an airplane, in actual weather conditions, or under simulated instrument conditions using a view-limiting device:

- Six instrument approaches.
- Holding procedures and tasks; and
- Intercepting and tracking courses through the use of navigational electronic systems.

Note: A pilot may accomplish the requirements as mentioned in (c) above in an approved FFS/aircraft.

Line training and Route checks:

Operating crew shall undergo two sectors of SLF and one route check for the proposed route of night operations.

15. TRAINING RECORDS

An operator shall:

15.1 Maintain records of all training, checking and qualification prescribed in this CAR which are undertaken by a flight crew member; and

15.2 Make the records of all conversion courses and recurrent training and

checking available, on request, to the flight crew member concerned.

15.3 Retain records for a period of 3 years from the date of training, checking and qualification which are undertaken by the flight crew member.

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Director General Civil Aviation

Appendix 1

OPERATOR'S CONVERSION COURSE

1. An operator's conversion course shall include:

   (a) Ground training and checking including aeroplane systems, technical and performance topics, normal, abnormal and emergency procedures;

   (b) Safety and emergency procedures training and checking which must be completed before aeroplane training commences;

   (c) Aeroplane/flight simulator training and checking; and

   (d) SLF and operator's line release route check.

   (1) Following completion of flight training and checking as part of the operator's conversion course, each flight crew member should operate a minimum number of sectors and/or flight hours.

   (2) The minimum flight sectors/hours should be specified in the operations manual and should be determined by the following:
   (i) Previous experience of the flight crew member;
   (ii) Complexity of the aircraft; and
   (iii) The type and area of operation.

   Note 1 SLF component, training and checking of sub para (c) and (d) will not be applicable for pilots qualified on type but changing an operator. However operator release check shall be applicable.

   Note 2: Sub para (c) and (d) will not be applicable to PIC or co-pilots qualified on same type if they have operated with the new operator under cross-utilisation arrangements or as a trainer in the previous 1 year.

2. The conversion course shall be conducted in the order set out in paragraph 1 above.

3. Elements of crew resource management shall be integrated into the conversion course and conducted by suitably qualified personnel.

4. When a flight crew member has not previously completed an operator's conversion course, the operator shall ensure that in addition to Para1 above, the flight crew member undergoes general first aid training (duration at least 1 hrs) and, if applicable, ditching procedures training using the equipment in water.

5. A pilot requiring Type Rating shall undergo syllabus for PIC/Co-pilot endorsement in accordance with CAR Section 7 Series B Part XVIII

RECURRENT TRAINING AND CHECKING — PILOTS

1. Recurrent training. Recurrent training shall comprise:

(a) Ground recurrent training;

(i) The ground recurrent training programme shall include:

(A) Aeroplane systems;

(B) Performance topics

(C) Operational procedures and requirements including ground de-/anti-icing and pilot incapacitation; and

(D) Accident/incident and occurrence review.

(E) Topics covering special operations as applicable to the operator approvals e.g. RVSM, NAT HLA, PBN, etc.

(ii) Knowledge of the ground recurrent training shall be verified by a questionnaire or other suitable methods.

(iii) Ground recurrent training may be conducted through “e-learning”, CBT etc. provided such method is approved by the DGCA.

(iv) The duration of annual ground recurrent training shall be based on minimum hours of training and evaluation for mandatory and specific modules depending upon the nature and scope of operations as specified in Appendix 7.

(b) Aeroplane/FSTD training;

(i) The aeroplane/FSTD training programme shall be established such that all major failures of aeroplane systems and associated procedures will have been covered in the preceding three-year period. It shall be ensured that crew coordination, support and PM duties are adequately trained to proficiency prior to recurrent checks.

(ii) When engine-out manoeuvres are carried out in an aeroplane, the engine failure shall be simulated in stabilized flight conditions.

(c) Safety and emergency procedures (SEP) training;

(i) The SEP training programme may be combined with safety and emergency equipment checking and shall be conducted in an aeroplane or a suitable alternative training device.

(ii) Every year the SEP training programme must include the following:

(A) Actual donning of a lifejacket where fitted;

(B) Actual donning of protective breathing equipment where fitted;

(C) Actual handling of fire extinguishers;

(D) Instruction on the location and use of all emergency and safety equipment carried on the aeroplane;

(E) Instruction on the location and use of all types of exits; and

(F) Security procedures.

(iii) Every three years the programme of training must include the following:

(A) Actual operation of all types of exits;

(B) Demonstration of the method used to operate a slide where fitted;

(C) Actual fire-fighting using equipment representative of that carried in the aeroplane on an actual or simulated fire except that, with Halon extinguishers, an alternative method acceptable to DGCA may be used;

(D) The effects of smoke in an enclosed area and actual use of all relevant equipment in a simulated smoke-filled environment;

(E) Actual handling of pyrotechnics, real or simulated, where fitted; and

(F) Demonstration in the use of the life-raft(s) where fitted.

(d) Crew resource management training

(i) Elements of CRM shall be integrated into all appropriate phases of recurrent training; and

(ii) A specific modular CRM training programme (Appendix 4) shall be established such that all major topics of CRM training are covered over a period not exceeding three years, as follows:

(A) Human error and reliability, error chain, error prevention and detection;

(B) Company safety culture, SOPs, organizational factors;

(C) Stress, stress management, fatigue and vigilance;

(D) Information acquisition and processing, situational awareness

workload Management, decision making;

(E) Communication and coordination inside and outside the cockpit;

(F) Leadership and team behaviour, synergy;

(G) Automation and philosophy of the use of automation (if relevant to the type);

(H) Specific type-related differences;

(I) Case based studies;

(J) Additional areas which warrant extra attention, as identified by the accident prevention and flight safety programme.

(iii) Operators shall establish procedures to update their CRM recurrent training programme. Revision of the Programme shall be conducted over a period not exceeding three years. The revision of the programme shall take into account the de-identified results of the CRM assessments of crews, and information identified by the accident prevention and flight safety programme.

2. Recurrent checking. Recurrent checking shall comprise:

(a) Pilot proficiency checks;

(i) Pilot proficiency checks shall include the maneuvers as stipulated in Appendix 5. It shall be ensured that all items in 3.4 of the form are completed in a 3 year checking cycle and all items in 3.6 of the form are completed in a 1 year checking cycle.

(ii) When engine out maneuvers are carried out in an aeroplane, the engine failure must be simulated in stabilized flight conditions.

(iii) The duration of PPC shall be at least 2 hrs as PF when conducted on the simulator or 1 hour on an aeroplane. PPC combined with IR maybe done within the same duration.

(b) SEP checks. The items to be checked shall be those for which training has been carried out in accordance with subparagraph 1 (c) above.

APPENDIX 2-A

REQUIREMENTS RELATED TO OPERATION OF SINGLE ENGINE TURBINE AEROPLANEOPERATIONS IN NIGHT AND/OR IMC

1. TRAINING & CHECKING

1.1 Training Programme

The operator's flight crew training and checking, must be established in accordance with applicable CARs and should incorporate the following elements:

(a) Conversion training:

Conversion training should be conducted in accordance with a syllabus devised for SET- Night AND/OR IMC.

i) Normal procedures:
   a) Anti-icing and de-icing systems operation.
   b) Navigation system procedures.
   c) Radar positioning and vectoring, when available.
   d) Use of radio altimeter; and
   e) Use of fuel control, displays interpretation.

ii) Abnormal procedures:
   a) Anti-icing and de-icing systems failures.
   b) Navigation system failures.
   c) Pressurization system failures.
   d) Electrical system failures; and
   e) Engine-out descent in simulated IMC; and

iii) Emergency procedures:
   a) Engine failure shortly after take-off.
   b) Fuel system failures (e.g., fuel starvation).
   c) Engine failure other than the above: recognition of failure, symptoms, type of failure, measures to be taken, and consequences.
   d) Depressurization; and
   e) Engine restart procedures:
   f) Choice of an aerodrome or landing site; and use of an area navigation system.
   g) Air traffic controller (ATCO) communications.
   h) Use of radar positioning and vectoring (when available).
   i) Use of radio altimeter; and
   j) Practice of the forced landing procedure until touchdown in simulated IMC, with zero thrust set, and operating with simulated emergency

electrical power.

(b) Conversion checking:

The following items should be checked following completion of the SET-IMC and/or Night operations conversion training as part of the proficiency check:

i) Conduct of the forced landing procedure until touchdown in simulated IMC, with zero thrust set, and operating with simulated emergency electrical power.
ii) Engine restart procedures.
iii) Depressurization following engine failure (where applicable); and
iv) Engine-out descent in simulated IMC.

(c) Recurrent Training and Checking

Recurrent training/checking for SET- IMC and/or Night operations should be included in the operator's recurrent training program as approved in the operations manual.

Additionally, Special emphasis during training to include:

A) Upset prevention and recovery training.
B) Pilot incapacitation
C) Dead reckoning navigation (navigation on limited available standby instruments)

(d) Use of FSTD (conversion training and checking)

Full flight simulator (FFS) should be used to carry out training and checking as prescribed above for SET –IMC and/or Night operations.

Note: PPCs for SET-IMC and/or Night operations should be conducted, in a suitable FFS mandatorily once in a 02 yearly cycle. All the mandatory emergency items shall be covered during PPC and annual recurrent training including landing at selected landing site.

PILOT QUALIFICATION TO OPERATE IN EITHER PILOT'S SEAT.

A- FOR MULTI ENGINE AIRCRAFT:

1. PICs whose duties also require them to operate in the right-hand seat and carry out the duties of co-pilot, or PICs required to conduct training or examining duties from the right-hand seat, shall complete additional training and checking as specified in the Operations Manual, concurrent with the pilot proficiency checks prescribed in this CAR. This additional training must include at least the following:

   (a) An engine failure during take-off;

   (b) A one engine inoperative approach and go-around; and

   (c) A one engine inoperative landing.

2. When engine-out manoeuvres are carried out in an aeroplane, the engine failure must be simulated in stabilized flight conditions.

3. When operating in the right-hand seat, the checks required for operating in the left-hand seat must, in addition, be valid and current.

4. The validity of RHS training shall be 12 months and may be combined with aeroplane/FSTD training.

5. The validity for the RHS check shall be 12 months.

6. RHS qualification is intended to qualify a PIC to carry out PF duties from RHS in the event of incapacitation of the LHS pilot besides PM duties. Trainers who are RHS current and qualified may however carry out PF duties from the RHS under normal circumstances.

B- FOR SINGLE ENGINE TURBINE

1. PICs whose duties also require them to operate in the right-hand seat and carry out the duties of co-pilot, or PICs required to conduct training or examining duties from the right-hand seat, shall complete additional training and checking as specified in the Operations Manual, concurrent with the pilot proficiency checks prescribed. This additional training must include at least the following:

   a. Conduct of the forced landing procedure until touchdown in simulated IMC, with zero thrust set, and operating with simulated emergency electrical power;

2. The validity of RHS training shall be 12 months and may be combined with aeroplane/FSTD training.

3. The validity for the RHS check shall be 12 months.

4. RHS qualification is intended to qualify a PIC to carry out PF duties from RHS in the event of incapacitation of the LHS pilot besides PM duties. Trainers who are RHS current and qualified may however carry out PF duties from the RHS under normal circumstances.

IMPLEMENTATION OF CRM

The following table indicates which elements of CRM should be included in each type of training:

<table>
<tr><th>Core Elements</th><th>Initial CRM Course
(duration 2 days)</th><th>Operator's conversion course when changing type</th><th>Operator's conversion course when changing operator</th><th>Command course</th><th>Recurrent training</th></tr>
<tr><td>Human error and reliability, error chain, error prevention and detection, human performance and limitations</td><td rowspan="9">In depth</td><td>In depth</td><td>Overview</td><td>Overview</td><td rowspan="9">Overview</td></tr>
<tr><td>Company safety culture, SOPs, organisational factors</td><td rowspan="3">Not required</td><td>In depth</td><td rowspan="6">In depth</td></tr>
<tr><td>Stress, stress management, fatigue & vigilance</td><td rowspan="4">Not required</td></tr>
<tr><td>Information acquisition and processing situation awareness, workload management</td><td rowspan="5">Overview</td></tr>
<tr><td>Decision making</td></tr>
<tr><td>Communication and co- ordination inside and outside the cockpit</td><td rowspan="2">Overview</td></tr>
<tr><td>Leadership and team behaviour synergy</td></tr>
<tr><td>Automation, philosophy of the use of automation (if relevant to the type)</td><td rowspan="2">As required</td><td rowspan="2">In depth</td><td>In depth</td><td rowspan="2">As required</td><td rowspan="2">As required</td></tr>
<tr><td>Specific type-related differences</td><td>Not required</td></tr>
<tr><td>Case based studies</td><td>In depth</td><td>In depth</td><td>In depth</td><td>In depth</td><td>As appropriate</td></tr>
</table>

Appendix 5

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	IR PPC Form for Commercial Aeroplanes with AUW 5700 kg's or less	Revision 1	01 Feb 17

OPERATOR:	TEST ON: AEROPLANE/ SIMULATOR	FSTD LEVEL: / LOCATION:	TEST DATE	TEST/FLIGHT TIME DURATION	TYPE OF TEST: SKILL TEST □ IR □ PPC □
AEROPLANE TYPE:	DAY/ NIGHT	AEROPLANE/FSTDREGISTRATION:	D D M M Y Y	ON/TAKE OFF	OFF/LANDING
PILOT UNDER CHECK:	LICENSE NUMBER:	EXAMINER/CHCEK PILOT:	AUTHORISATION/LICENSE NUMBER:		
CREW STATUS: TRAINEE/LICENSED PIC/CO-PILOT	SEAT OCCUPIED: LHS/RHS	*Note: For assessment enter "S" (Satisfactory) or "U" (Unsatisfactory). Items marked "#" to be completed only on Simulator. "M" is mandatory for skill test/PPC. "IR" is mandatory for instrument rating. Any engine-out exercises or items marked # conducted on aeroplane are to be simulated only through touch drills.*			

	EXERCISE	S/U
1	**FLIGHT PREPARATION**	
1.1	Performance calculation	
1.2	Aeroplane external visual inspection; location of each item and purpose of inspection	
1.3	Cockpit inspection	
1.4 **M**	Use of checklists prior to starting engines, starting procedures, radio and navigation	
1.5	Taxying in compliance with ATC or instructions of Examiner	
1.6 **M**	Pre-flight checks	
2	**TAKE-OFF(s)**	
2.1	Normal take offs with different flap settings.	
2.2 **IR**	Instrument take off; transition to instrument flight during rotation or immediately after airborne	
2.3	Cross wind take-off (aeroplane, if practicable)	
2.4	Take-off at maximum take-off AUW (actual or simulated maximum take-off AUW)	
2.5 **IR**	Simulated engine failure after V2	
2.5.1 **M IR #**	Simulated engine failure between V1 and V2	
2.5.2 **M #**	Rejected take-off at a reasonable speed before reaching V1	
3	**FLIGHT MANOEUVRES AND PROCEDURES**	
3.1	Turns with and without spoilers (as applicable)	
3.2 **#**	Tuck under and Mach buffets and other specific flight characteristics of the Aeroplane (e.g. Dutch Roll)	
3.3	Normal operation of systems and control	
3.4	Normal and abnormal operations of following systems (minimum of 3 **M** items shall be selected from 3.4 to 3.5 inclusive	
3.4.0 **M**	Engine (if necessary propeller)	
3.4.1 **M**	Pressurisation and air- conditioning	
3.4.2 **M**	Pitot/static system	
3.4.3 **M**	Fuel system	
3.4.4 **M**	Electrical system	
3.4.5 **M**	Hydraulic system	
3.4.6 **M**	Flight control and Trim- system	
3.4.7 **M**	Anti- and de-icing system, Glare shield heating	
3.4.8 **M**	Autopilot/Flight director	
3.4.9 **M**	Stall warning devices or stall avoidance devices, and stability augmentation devices.	
3.4.10 **M**	Ground Proximity Warning System, Weather radar, Radio altimeter, Transponder.	
3.4.11 **M**	Radios, Navigation equipment, Instruments, Flight Management System.	
3.4.12 **M**	Landing gear and brake- system.	

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	IR PPC Form for Commercial Aeroplanes with AUW 5700 kgs or less	Revision 1	01 Feb 17

3.4.13 **M**	Slat and flap system.	
3.4.14 **M**	Auxiliary Power Unit.	
3.5 **M #**	ACAS/TCAS	
3.6	Abnormal and emergency procedures (minimum of 3 **M** items shall be selected from 3.6 to 3.6.8 Inclusive).	
3.6.1 **M #**	Fire drills e.g. Engine, APU, Cabin, Cargo compartment, Flight deck, Electrical Fires including Evacuation.	
3.6.2 **M #**	Smoke control and removal.	
3.6.3 **M #**	Engine failures, shut-down and restart	
3.6.4 **M**	Jet Upset and recovery	
3.6.5 **M #**	Windshear at Take Off and Landing.	
3.6.6 **M**	Simulated cabin pressure failure/Emergency descent.	
3.6.7 **M**	Incapacitation of flight crew member.	
3.6.8	Other emergency procedures as outlined in the appropriate Aeroplane Flight Manual. (*E.g. engine-out descent in simulated IMC, conduct of the forced landing procedure until touchdown in simulated IMC, with zero thrust set, and operating with simulated emergency electrical power –for SET).*	
3.7	Steep turns with 45° bank, 180° to 360° left and right.	
3.8 **#**	Early recognition and counter measures on approaching stall (up to activation of stall warning device)	
3.8.1**#**	Recovery from full stall or after activation of stall warning device in climb, cruise and approach configuration.	
3.9	Instrument flight procedures:	
3.9.1 **M IR**	Adherence to departure and arrival routes and ATC instructions.	
3.9.2 **IR**	Holding procedures.	
3.9.3 **M IR**	ILS-approaches down to a decision height (DH) not less than 60 m (200 ft.):	
3.9.3.1 **M IR**	Manually, without flight director.	
3.9.3.2 **M IR**	Manually, with flight director. (any one of 3.9.3.2 or 3.9.3.3)	
3.9.3.3 **M IR**	automatically, with Autopilot (see above)	
3.9.3.4 **M IR**	manually, with one engine simulated inoperative	
3.9.4 **M IR**	NDB or VOC /LOC or RNAV approach down to the MDH/A.	
3.9.5 **M IR**	Circling approach (if applicable) to a runway at least 90° off centreline from final approach	
4	**MISSED APPROACH PROCEDURES**	
4.1 **IR**	Go-around with all engines operating after an ILS approach on reaching decision height.	
4.2 **IR**	Go – around with one engine simulated inoperative after an ILS approach on reaching DH (see also 3.9.3.4).	
4.3 **M IR**	Rejected landing at (50 ft.) above runway threshold and go-around.	
5	**LANDING(s)**	
5.1 **IR**	Normal landings also after an ILS approach with transition to visual flight on reaching DH.	
5.2 **#**	Landing with simulated jammed horizontal stabiliser in an out-of-trim position.	
5.3	Cross wind landings (aeroplane, if practicable).	
5.4	Traffic pattern and landing without extended or with partly extended flaps and slats.	
5.5 **M**	Landing with critical engine simulated inoperative.	
5.6 **M #**	Landing with two engines simulated inoperative (for 3 and 4 engine aeroplanes)	

OVERALL ASSESSMENT: IR PPC -PASS/FAIL (separate sheet for remarks in case of fail)

(Limitations: - Height ± 100' > 15 Sec, Direction ± 10 °, Speed ± 10 kts except in approach phase when it would be +10 / -0 kts)

Pilot under Check

Check Pilot/Examiner

Appendix 6

	DGCA India	**CA 43**
	Route Check Form for Commercial Aeroplanes with AUW 5700 kgs or less	**Page 1 of 1**
		Rev 0 / **01 Feb 17**

Company Name:		Date:	
Pilot under check:	License Number :	Aircraft Type:	Aircraft registration
CheckPilot/Examiner/ LTC/TRI/DE:	License Number :	Route Sector:	
Crew status: PIC/Co-pilot	Nature of duties: PF/PM Seat occupied: LHS/RHS	Take off time (UTC): Day/Night Landing time (UTC): Day/Night (D/N route check determined by time of landing)	
Type of check: Annual Line /PIC/SLF Release/Line Release/Other		Type of approach: ILS/VOR/LOC/NDB/RNAV/Visual/Circling	

Assessment

Pre-flight: S/U **In-flight: S/U** **Post-flight: S/U**

Overall assessment: Satisfactory/Unsatisfactory

CRM: Situational awareness: S/U Crew coordination: S/U Communication: S/U Decision making & judgment: S/U	FMS/FMGS/GNSS: S/U ECAM/EFB/ECL: S/U F/D: S/U A/T: S/U

Remarks:

(Signature) Pilot Under Check	Certified that I have 10 hours PIC experience on Type during preceding 90 days and have exercised the functions/ privileges of Check Pilot/Examiner/ LTC/TRI/DE on type during preceding 6 months / new Approval on the type (Signature) Check Pilot/Examiner/LTC/TRI/DE

Limitations:± 100', ±10^0 and ±10 kts. except in Approach Phase when speed limits would be + 10 kts and - 0.

Note: 1) Remarks mandatory when assessment is U.
2) Take-off and landing to be given to Co-Pilots, weather permitting
3) S-SATISFACTORY U-UNSATISFACTORY

One form to be filled up for each route sector

Appendix 7

GROUND REFRESHER TRAINING CURRICULUM SEGMENT

The annual ground refresher training curriculum segment consists of the following modules with minimum duration and operators shall incorporate the relevant modules while formulating the refresher syllabus and duration. The modules marked with "M" are mandatory for inclusion while the ones marked with "S" are specific to the operator and will need to be included depending on the nature and scope of operations defined in the AOP.

Sl No	Module	Duration (hrs)	Applicability
M 1.	Aeroplane specific performance	4	M
M 2.	Aeroplane technical (systems)	6	M
M 3.	SEP	0.5	M
M 4.	CRM	0.5	M
M 5.	Adverse weather (including monsoon)	1.5	M
M 6.	SMS and Accident/incident review	0.5	M
M 7.	Changes in regulations	0.5	M
M 8.	Changes in Operations Manual	0.5	M
	Evaluation	2	M
	Sub total	16	
S 1.	MNPS	0.5	S
S 2.	De-icing/anti-icing	0.5	S
S 3.	PBN (RNP 10, RNAV 5, RNAV1/2)	0.5	S
S 4.	PBN (APCH or AR APCH)	0.5	S
S 5.	RVSM	0.5	S
S 6.	LVO	0.5	S
S 7.	SET IMC AND/OR NIGHT	2	S
S 8.	SINGLE PILOT OPS	1	S
	Evaluation	1	M for S above
	Sub total	7	

Appendix 8

FLIGHT CREW TRAINING EXPLANATORY MATERIAL

a. PPC is a seat-specific check. All PICs (including trainee PICs) and trainers are required to carry out PPC from LHS. All operator designated Co –pilots are required to carry out PPC from RHS. An under trainee PIC may be utilized as co-pilot from RHS provided the RHS co-pilot PPC (6 months), line check and RHS co- pilot take-off landing (90 days) recency is current. RHS qualification is not applicable in this case till the designated Co-Pilot is designated as PIC. A trainer can fly as PF from the RHS during the period of approval as trainer if the PPC from LHS is current and meets the RHS training and checking requirements.
b. Para 12.3: An acceptable means of compliance of route competence for less complex routes is a briefing guide document for the crew.
c. Para 12.4 (a): Additional safety margin of as per CAR Section 8 Series C Part I - AWO is to be added to the minima for first flight as PIC into an aerodrome to comply with the margin requirement in Para 12.3 (a).
d. Para 12.7: An acceptable means of compliance for re-qualifying a pilot who has not flown to an aerodrome for more than 12 months is to undertake a flight as an observer or co-pilot before operating as PIC without the need to repeat the initial qualification syllabus.
e. Para 9.2.3, 9.3.3, ground training: Example for clarity on PPC when done up to 2 months earlier as follows. PPC done on 01 Oct 2016 will expire after 6 months on 01 Apr 2017 (validity till 31 Mar 2017). If the next PPC is done on 05 Feb 2017 within preceding 2 months of PPC expiry, next PPC expiry will be 01 Oct 2017, 6 months from date of previous expiry. Similar expiry rationale for IR (Para 9.3.3) and ground training (Para 9.4, 9.5, 9.6, 9.9, 9.9)
f. Guidance for completing CA 43 Route Check Form is tabulated below:

Pilot performance is to be monitored for assessment in the following areas.	
Pre-flight 1) Flight Planning, 2) Pre-flight Procedures **In-Flight** 1) Taxy 2) Departure Procedures (Clearances, Briefing, T/O, SID, etc.) 3) Climb , 4) Cruise, 5) GNSS/GPS/INS / Radio Navigation 6) Descent and Approach Procedures, 7) Instrument Scan, 8) Landing, landing roll 9) Taxy and Parking and Shut down procedures 10) Knowledge of Emergency Equipment / Procedures 11) Route Knowledge / Airline Procedures, Diversion Awareness 12) Knowledge of Flight and Route Manuals 13) Airmanship and Crew Co-ordination and Standard Callouts where applicable **Post-flight** 1) Post Flight Documentation 2) Debriefing and snag reporting	**COCKPIT RESOURCE MANAGEMENT** **1. COMMUNICATION** - Shares information/ ideas - Attentive Listener - Assertive when required - Admits mistakes and clarifies doubts **2. LEADERSHIP/TEAMWORK** - Balances Rank Authority - Open to feedback - Pro-active Participation **3. SITUATION AWARENESS** - Gathers Appropriate Data - Recognizes Potential Threats - Stays Ahead & Updates Plans - Traps Errors **4. DECISION MAKING** - Refrains from Assumptions - Uses the CLEAR Decision Making Tool - Optimum Utilization of Resources **5. WORKLOAD MANAGEMENT** - Recognizes High workload - Manages time - Sets Priorities - **Avoids Distraction & Distracting**