



GOVERNMENT OF INDIA

OFFICE OF DIRECTOR GENERAL OF CIVIL AVIATION
TECHNICAL CENTRE, OPP. SAFDARJUNG AIRPORT, NEW DELHI

CIVIL AVIATION REQUIREMENTS
SECTION 7 – FLIGHT CREW STANDARDS
TRAINING AND LICENSING
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Subject: Procedure for undergoing Endorsement Training on aircraft used for Scheduled, Non-Scheduled and General Aviation Operations.

1. Purpose:

- 1.1 Rule 41 of the Aircraft Rules, 1937 requires applicants for licences and ratings to produce proof of having acquired the flying experience and having passed satisfactorily the test and examinations specified in Schedule II in respect of the licence or rating concerned.
- 1.2 In order to standardize and streamline the process, this Civil Aviation Requirement provides the basic guidelines for pilots to undertake endorsement training in various Type Rated Training Organization (TRTO) / Flying Training Organisation (FTO) for Scheduled, Non-Scheduled and General Aviation Operations.
- 1.3 The relevant Rules & CAR's shall be complied with for the issue of Licenses and Ratings,
- 1.4 This Civil Aviation Requirement has been issued under the provisions of Rule 133A of Aircraft Rules 1937.
- 1.5 This CAR Supersedes Operations Circular 04 of 2007.

- 1.6 With the issuance of this CAR, the requirement of issuance of No Objection Certificate (NOC) by Flight Standards Directorate (FSD) of DGCA for the type of aircraft enlisted in this CAR is hereby dispensed with.

2. Applicability:

- 2.1 The provisions of this CAR shall apply to all Indian Licence Holders for undertaking endorsement training in the TRTO/ Flying Training Organisation (FTO) of any ICAO Contracting state.
- 2.2 This CAR contains important information for both the applicant (trainee Pilot) as well as the TRTO/ Flying Training Organisation (FTO).
- 2.3 The Pilot Endorsement training syllabus is being issued to comply with the provisions of "CAR, Section 7, Series 'G', Part I, Issue I, Dated 27th July, 1999 - Requirements for issue of Indian Licences and aircraft ratings to pilots holding licences and aircraft ratings issued by contracting states" for issue of pilots' licenses
- 2.4 The pre-requisite or *requirements to be met*, before undergoing the type training by both the Trainee Pilot and the Organization providing the Training.

3. General Requirements:

- 3.1 The Training Institute / facility shall be approved for the purpose by the State Regulatory Authority of concerned ICAO Contracting State. Prior to commencement of training for an Indian Licence holder, the TRTO/FTO shall ensure that the training requirements are accomplished and required documents are submitted in accordance with the CAR to the following address:-

The Director of Training and Licensing,
Office of the Director General of Civil Aviation,
Technical Centre, Opposite Safdarjung Airport,
New Delhi – 110 003.

- 3.2 In case of any clarification is required the TRTO/FTO may contact Flight Standards Directorate of DGCA in the following address:-

The Chief Flight Operations Inspector,
Flight Standards Directorate,
Office of the Director General of Civil Aviation,
Technical Centre, Opposite Safdarjung Airport,
New Delhi – 110 003.

- 3.3 The license and medical of the trainee pilot must be current and valid during the entire training and checks or Skill tests.
- 3.4 The trainee pilot should have passed all requisite written examinations including Technical Examination on type before commencement of the flying training and that must be valid during entire training and checks.
- 3.5 General Flying Test (Day/Night) and IR/PPC Checks in respect of Jet Aeroplanes above 1500 Kg (CA 40A(J) / CA 40B(J) / IR/PPC) forms as applicable shall be used which is available on the DGCA web site. (www.dgca.nic.in)
- 3.6 The final training checks / skill tests of the trainee pilot shall be carried out by an Examiner, other than those who had imparted the training.
- 3.7 Training and checks must be carried out with State Regulatory Authority approved Instructor(s) and Examiner(s) only
- 3.8 The Instructor / Examiner shall refer to the guidelines on manoeuvres and procedures given in Appendix II of Operations Circular 3 of 2001 dated 08-11-2001 while conducting the simulator and flying training respectively. This circular is available on DGCA website www.dgca.nic.in.
- 3.9 The approved syllabus (and practical test standards) of the training organisation if higher shall apply.

4. Responsibility of Submission of documents for endorsement:

- 4.1 The TRTO/Flying Training Organisation/Employer shall submit the following documents in original under sealed envelope directly to the Directorate of Training and Licensing of this office((if training and checks carried out in the Flying training Organisation/employer, the records, in original, may be forwarded by the Chief of Operations/ Chief of Training)
 - a. The sortie wise simulator training and tests records
 - b. The sortie wise aircraft training and tests records,
 - c. The briefing / debriefing & comments of Instructors / Examiners.
- 4.2 The applicant shall submit the following documents to the Directorate of Training and Licensing of this office.
 - a. Proof of State Regulatory Authority approval of Organisation certificate

- b. Proof of State Regulatory Authority approval certificate for level 'D' Simulator (If training carried out on the simulator).

Note: Skill test (General Flying Tests – Day/Night) for (i) issue of licence, (ii) renewal of licence and (iii) Extension of aircraft rating is allowed only with Level 'D' simulator.

- c. Documents Proof of currency of the Instructorship / Examinership as Instructor(s) / Examiner(s).
- d. All other documents required in accordance with the Aircraft Rules of 1937 and CAR for the purpose of endorsement.
5. The syllabus for certain aircraft has been standardized and the table below gives the list of Appendices pertaining to different type of aircrafts:-

Appendix 'A'	Airbus A-320
Appendix 'B'	Boeing B 737- 800 NG
Appendix 'C'	CRJ – 100/200
Appendix 'D'	ATR 42/72
Appendix 'E'	Jet Aircrafts with AUW less than 5700 Kg

Director General of Civil Aviation

Endorsement Training on A-320 type of Aircraft

For a pilot to get his license endorsed on **A 320** type of aircraft, he/she shall undergo the following training:-

The prerequisite is 25 hours on multi engine aircraft (10 hours can be completed in an approved simulator).

1. **Jet Induction Training** / Jet Orientation Training / Multi Crew Conversion – The trainee pilot shall undergo at least **12 hours of ground school** followed by minimum 20 hours of classroom or CBT and STD. This training has to be at a facility approved for this purpose. (This training is not required to be undertaken in case the trainee pilot has past flying experience on Jet Aircraft). This may include any applicable training requirement which is a pre requisite for the following type rating syllabus. The Course content must then be increased appropriately.
2. **Ground Training** – The trainee pilot should undergo at least 72 hours of ground training. Ground Training must include a minimum of Aircraft Systems Training, general operational subjects training, CRM training, Systems Inclusion / Integrated Training, Weight and Balance Training, Aircraft Performance training and pre-flight inspection training. The ground training shall not be more than 8 hours in a day. There should not be any FFS simulator sessions during the ground training period. A 'home study' is not approved and no credit could be provided for the same.
 - 2.1 At the end of ground subjects training, a written exam shall be conducted by the TRTO, with a minimum of 70 % pass marks (or higher if stipulated by TRTO). The certified marked answer sheets and tests should be sent to the Directorate of Training and licensing of this office in a sealed cover directly by the training institute for scrutiny and record.
3. **Simulator Training** – After completion of 1 and 2 above, the trainee pilot shall undergo a simulator training on approved Level 'C' or Level 'D' simulators as per details given below.
 - 3.1 7 sessions of FFS training of duration of not less than 28 hours (which must include at least 14 hours as PF and 14 hours as PM) spread over 7 days. The duration of each session should be 2 hours as PF and 2 hours as PM each day. In case the trainee pilot is not attaining the required standard, he / she should be given appropriate training till a proficiency level is achieved before subjecting to a simulator test. The full flight simulator profiles shall include exercises to comply with the requirements of DGCA Operations Circular No. 2 of 2001. Further to the above, Profiles must include Circuits & Landings. The records of each simulator profile must be prepared duly remarked (including briefing and de-briefing remarks) and certified by the Instructor / Examiner. These should be sent to the Directorate of Training

and licensing of this office in a sealed cover directly by the training institute for scrutiny and record.

- 3.2 Two hours of LOFT exercise as Pilot Flying (PF) on a Level 'D' simulator.
- 3.3 After completion of the above, the trainee pilot should undergo 2 sessions of skill test (CA 40 checks) on a Level 'D' (ZFTT) simulator of duration of 2 hours, each with an examiner other than the one who imparted training.
- 3.4 The CA 40A(J)/CA 40B(J) Checks (Skill Tests) by day as well as by night each must have *03 takeoffs and 03 landings* which shall be demonstrated to an approved examiner as per the DGCA India CA 40A(J)/CA 40B(J) check form. The required Pilot Proficiency Check (PPC) and IR check may be combined with the skill tests. The IR Check must be carried out with a minimum of 2 instrument approaches on 2 different approach facilities.
- 3.5 The trainee pilot shall undergo training on Low Visibility Operations (LVO) and All weather Operations (AWO) of 2 hours on Level 'D' Simulator. The purpose of this syllabus is to train all pilots to operate under All Weather Conditions.
- 3.6 AWO should include Wet Runway Operations, Heavy Rain, Cross Wind, Take Off and Approaches affected by wind shear and micro burst phenomenon to cover aspects of CAR on All Weather Operations dated 13.06.11, Section-8, Series – C, Part – 1 and FSF – ALAR toolkit.
- 3.7 The Type Rating Training syllabus being followed as per above shall in no case be less than what is being followed by the TRTO as per syllabus prescribed by the Contracting State.
- 3.8 After co-pilot endorsement (type-rating) on your DGCA India license, trainee will be required to undergo a minimum of 45 minutes of familiarization aircraft training followed by a release route check for P2 (SIC) release, before exercising the privileges of the type rating. In case the trainee has not attained an acceptable level of proficiency, additional familiarization must be given till an acceptable level of proficiency is achieved. A report of the same should be submitted to this office for examination.

Endorsement Training on B 737-800NG type of Aircraft

For a pilot to get his license endorsed on **B 737-800 NG** of aircraft, he/she shall undergo the following training:-

1. **Jet Induction Training** / Jet Orientation Training / Multi Crew Conversion – The trainee pilot shall undergo at least **12 hours of ground school** followed by minimum 20 hours of classroom or CBT and STD. This training has to be at a facility approved for this purpose. (This training is not required to be undertaken in case the trainee pilot has past flying experience on Jet Aircraft). This may include any applicable training requirement which is a pre requisite for the following type rating syllabus. The Course content must then be increased appropriately.
2. **Ground Training** – The trainee pilot should undergo at least 68 hours of ground training. Ground Training must include a minimum of Aircraft Systems Training, general operational subjects training, CRM training, Systems Inclusion / Integrated Training, Weight and Balance Training, Aircraft Performance training and pre-flight inspection training. The ground training shall not be more than 8 hours in a day. There should not be any FFS simulator sessions during the ground training period. A 'home study' is not approved and no credit could be provided for the same.
 - 2.1 At the end of ground subjects training, a written exam shall be conducted by the TRTO, with a minimum of 70 % pass marks (or higher if stipulated by TRTO). The certified marked answer sheets and tests should be sent to the Directorate of Training and licensing of this office in a sealed cover directly by the training institute for scrutiny and record.
3. **Simulator Training** – After completion of 1 and 2 above, the trainee pilot shall undergo a simulator training on approved Level 'C' or Level 'D' simulators as per details given below.
 - 3.1 8 sessions of FFS training of duration of not less than 32 hours (which must include at least 16 hours as PF and 16 hours as PM) spread over 8 days. The duration of each session should be 2 hours as PF and 2 hours as PM each day. In case the trainee pilot is not attaining the required standard, he / she should be given appropriate training till a proficiency level is achieved before subjecting to a simulator test. The full flight simulator profiles shall include exercises to comply with the requirements of DGCA Operations Circular No. 2 of 2001. Further to the above, Profiles must include Circuits & Landings. The records of each simulator profile must be prepared duly remarked (including briefing and de-briefing remarks) and certified by the Instructor / Examiner. These should be sent to the Directorate of Training

and licensing of this office in a sealed cover directly by the training institute for scrutiny and record.

- 3.2 Two hours of LOFT exercise as Pilot Flying (PF) on a Level 'D' simulator.
 - 3.3 After completion of the above, the trainee pilot should undergo 2 sessions of skill test (CA 40 checks) on a Level 'D' (ZFTT) simulator of duration of 2 hours, each with an examiner other than the one who imparted training.
 - 3.4 The CA 40 (A) J Checks (Skill Tests) by day as well as by night each must have three takeoffs and 3 landings which shall be demonstrated to an approved examiner as per the DGCA India CA 40 (A)J check form. The required Pilot Proficiency Check (PPC) and IR check may be combined with the skill tests. The IR Check must be carried out with a minimum of 2 instrument approaches on 2 different approach facilities.
 - 3.5 After successful completion of the above, trainee pilot shall undergo training on Low Visibility Operations (LVO) and All weather Operations (AWO) of 2 hours on Level 'D' Simulator. The purpose of this syllabus is to train all pilots to operate under All Weather Conditions.
 - 3.6 AWO should include Wet Runway Operations, Heavy Rain, Cross Wind, Take Off and Approaches affected by wind shear and micro burst phenomenon to cover aspects of CAR on All Weather Operations dated 13.06.11, Section-8, Series – C, Part – 1 and FSF – ALAR toolkit.
 - 3.7 The Type Rating Training syllabus being followed as per above shall in no case be less than what is being followed by the TRTO as per syllabus prescribed by the Contracting State
4. After co-pilot endorsement (type-rating) on your DGCA India license, trainee will be required to undergo a minimum of 45 minutes of familiarization aircraft training followed by a release route check for P2 (SIC) release, before exercising the privileges of the type rating. In case the trainee has not attained an acceptable level of proficiency, additional familiarization must be given till an acceptable level of proficiency is achieved. A report of the same should be submitted to this office for examination.

Endorsement Training on CRJ – 100/200 type of Aircraft

1. **Jet Induction Training** / Jet Orientation Training / Multi Crew Conversion – The trainee pilot shall undergo at least **12 hours of ground school** followed by minimum 20 hours of classroom or CBT and STD. This training has to be at a facility approved for this purpose. (This training is not required to be undertaken in case the trainee pilot has past flying experience on Jet Aircraft). This may include any applicable training requirement which is a pre requisite for the following type rating syllabus. The Course content must then be increased appropriately.
2. **Ground Training** – The trainee pilot should undergo at least 72 hours of ground training. Ground Training must include a minimum of Aircraft Systems Training, general operational subjects training, CRM training, Systems Inclusion / Integrated Training, Weight and Balance Training, Aircraft Performance training and pre-flight inspection training. The ground training shall not be more than 8 hours in a day. There should not be any FFS simulator sessions during the ground training period. A 'home study' is not approved and no credit could be provided for the same.
 - 2.1 At the end of ground subjects training, a written exam shall be conducted by the TRTO, with a minimum of 70 % pass marks (or higher if stipulated by TRTO). The certified marked answer sheets and tests should be sent to the Directorate of Training and licensing of this office in a sealed cover directly by the training institute for scrutiny and record.
3. **Simulator Training** – After completion of 1 and 2 above, the trainee pilot shall undergo a simulator training on approved Level 'C' or Level 'D' simulators as per details given below.
 - 3.1 8 sessions of FFS training of duration of not less than 32 hours (which must include at least 16 hours as PF and 16 hours as PM) spread over 8 days. The duration of each session should be 2 hours as PF and 2 hours as PM each day. In case the trainee pilot is not attaining the required standard, he / she should be given appropriate training till a proficiency level is achieved before subjecting to a simulator test. The full flight simulator profiles shall include exercises to comply with the requirements of DGCA Operations Circular No. 2 of 2001. Further to the above, Profiles must include Circuits & Landings. The records of each simulator profile must be prepared duly remarked (including briefing and de-briefing remarks) and certified by the Instructor / Examiner. These should be sent to the Directorate of Training and licensing of this office in a sealed cover directly by the training institute for scrutiny and record.
 - 3.2 Two hours of LOFT exercise as Pilot flying (PF) on a Level 'D' simulator.

- 3.3 After completion of the above, the trainee pilot should undergo 2 sessions of skill test (CA 40 checks) on a Level 'D' (ZFTT) simulator of duration of 2 hours, each with an examiner other than the one who imparted training.
- 3.4 The CA 40A(J) Checks (Skill Tests) by day as well as by night each must have three takeoffs and 3 landings which shall be demonstrated to an approved examiner as per the DGCA India CA 40A(J) check form. The required Pilot Proficiency Check (PPC) and IR check may be combined with the skill tests. The IR Check must be carried out with a minimum of 2 instrument approaches on 2 different approach facilities.
- 3.5 The trainee pilot shall undergo training on Low Visibility Operations (LVO) and All weather Operations (AWO) of 2 hours on Level 'D' Simulator. The purpose of this syllabus is to train all pilots to operate under All Weather Conditions.
- 3.6 AWO should include Wet Runway Operations, Heavy Rain, Cross Wind, Take Off and Approaches affected by wind shear and micro burst phenomenon to cover aspects of CAR on All Weather Operations dated 13.06.11, Section-8, Series – C, Part – 1 and FSF – ALAR toolkit.
- 3.7 The Type Rating Training syllabus being followed as per above shall in no case be less than what is being followed by the TRTO as per syllabus prescribed by the Contracting State.
- 3.8 After **CRJ – 100/200** endorsement (type-rating) on your DGCA India license, trainee will be required to undergo a minimum of 45 minutes of familiarization aircraft training followed by a release route check for P2 (SIC) release, before exercising the privileges of the type rating. In case the trainee has not attained an acceptable level of proficiency, additional familiarization must be given till an acceptable level of proficiency is achieved. A report of the same should be submitted to this office for examination.

Endorsement Training on ATR 42/72 type of Aircraft

For a pilot to get his license endorsed on **ATR 42/72** of aircraft, he/she shall undergo the following training:-

1. **Ground Training** - The trainee pilot should undergo a Ground Technical Course of not less than 78 hours in not less than 10 days covering all aspects pertaining to Aircraft, Engine, Systems as well as its safe operations/emergencies procedures including briefing & de-briefing sessions. At the end of the Course, there must be a written Examination. The Training Institute, if considered necessary, may impart additional Ground Training to achieve the required Technical standards. Pass percentage of the same should not be less than 70%. A certificate to this effect or marks sheet, in original, has to be submitted to the Directorate of Training & Licensing in this office by the Training Institute directly under a sealed cover for scrutiny and records. There should not be any simulator session during this Course.
2. **Simulator Training** - After satisfactory completion of (1) above, the trainee pilot shall undergo the training on Full Flight Simulator (Level 'D') of not less than 24 hours which should include 12:00 hours as Pilot Flying (PF) position and 12:00 hours Pilot Non Flying (PNF) position. The Simulator Training shall be followed by simulator Check-ride of 02 hours each from PF & PNF. In case the trainee pilot is not attaining a standard level, he should be given additional training till a proficient level is achieved before clearing them for a simulator check-ride.
3. **CA 40A & IR Checks** - Skill Test combined with Day CA 40A(J)*/CA 40B(J)* followed by IR/LR Test combined with night CA 40A(J)*/CA 40B(J)* (minimum 2 hours per pilot per person) on LVL 'D' ZFTT simulator fully serviceable simulator (applicable ADL accepted).

* 3 take-offs and landings by day and by night.
4. **Low visibility Operations (LVO) & All Weather Operations (AWO)** - After completion of above the trainee pilot shall undergo LVO & AWO. The purpose of this syllabus is to train all pilots to operate under all weather conditions which should include LVO. However, this LVO training does not qualify for LVO/LVTO operations on line operations.

Wet Runway operations, Heavy Rain, Cross Wind, Take Off and Approaches affected by Windshear and microburst phenomena should be included in All Weather Operations to cover aspects of Monsoon Operations Circular and ALAR Tool Kit.

The FFS profiles shall include exercises to comply with the requirements of DGCA Operations Circular No. 2/2001 which is available on DGCA web site www.dgca.nic.in. The records of each Simulator Profiles carried must be prepared duly remarked and certified by the Examiner. These are to be submitted to Directorate of Training & Licensing, DGCA (Hqrs), New Delhi.

After completion of all the above requirements, all the necessary papers, profiles, reports in original along with licence and log book shall be submitted to DGCA and if found satisfactory, the trainee pilot will be considered for endorsement as Co-pilot on ATR-42-320 & ATR 72-500 type of aircraft.

5. **Familiarization Flying Training** – The trainee pilot shall undergo familiarization flying training of a minimum duration of 00:45 hrs on **ATR-42 & ATR-72** type of aircraft. In case he is not attaining a satisfactory level, he must be given additional training till a proficient level is achieved. Thereafter, the first flight will be a Route Check. Report of the same has to be submitted to this office in original.

Endorsement Training on Jet Aircrafts (Multi Engine)
with AUW not exceeding 5700 kg

For a pilot to get his license endorsed on **Jet Aircrafts (Multi Engine)**, he/she shall undergo the following training:-

1. **Ground Training** - The trainee pilot should undergo a Ground Technical Course approved by the manufacturer. The training and testing will be carried out at or by approved training organizations only.
2. **Simulator Training** - After satisfactory completion of (1) above, the trainee pilot shall undergo the following Simulator training:
 - a. Manufacturer's laid down simulator profile training which should include circuit landings in various sessions and one LOFT session
 - b. Skill test combined with Day CA 40A/B* followed by IR/LR test combined with Night CA 40A/B* (minimum 2 hours per pilot per session) on LVL 'D' ZFTT fully serviceable simulator. (applicable ADL accepted)
 - c. Low Visibility Operations and All Weather Operations training – ground class followed by two sessions of at least 01:30 hours each per pilot per session to include CAT II/ CAT III as well as Wet Runway and Monsoon Operations.

*Captain – 6 take off and landings by day and 6 by night

* FO – 3 take off and landings by day and 3 by night

3. **Low visibility Operations (LVO) & All Weather Operations (AWO)** - After completion of above the trainee pilot shall undergo LVO & AWO. The purpose of this syllabus is to train all pilots to operate under all weather conditions which should include LVO. It is generally accepted that pilots with some experience should only be approved for LVO. Introducing this training during the early phase of learning will improve the Instrument Flying Skills and confidence levels of the Pilots. After building up the required experience they will be cleared for LVO on the aircraft during the normal line operations on completion of laid down LVO line training.

Wet Runway operations, Heavy Rain, Cross Wind, Take Off and Approaches affected by Windshear and microburst phenomena should be included in All Weather Operations to cover aspects of Monsoon Operations Circular and ALAR Tool Kit.

Pilot license and training record shall be submitted to the Directorate of Training and Licensing for relevant pilot license endorsement as P2 on successful completion of the above training.

4. **Familiarization Flying Training** – The trainee pilot shall undergo familiarization flying training of a minimum duration of 00:45 hrs on the type of aircraft for which endorsement is obtained.

Pilots with previous jet experience who meet the minimum requirements as given below. When transiting to another Jet type are not required to do Familiarization training on the aircraft.

- Captains with 500 hours PIC on Commercial Jet Aircraft
- FO with 500 hours on Commercial Jet Aircraft

5. **Line Training after Endorsement** – A First Officer, after Familiarisation Training on Aircraft shall be subjected to a route check on First Flight, then undergo a minimum of 10 sectors LOFT/ LOE of which 5 shall be by night, before being cleared for First Officer Final Release Check.

For Line Training for Captains converting from one aircraft type to Captain on another type, the First Flight shall be a route check and minimum 100 hours experience shall be acquired from LHS (since trained for PIC in LHS in simulator). This shall be done under supervision of Check Pilot/ Instructor/ Examiner as LOFT/ UOE, on successful completion of which, pilot shall be subjected to 10 mandatory PIC Route Checks. Pilots' Licenses and relevant training records shall be submitted to DTL for PIC endorsement. First Flight after PIC endorsement shall be PIC Release Route Check/ Conditional Route Check.

The above guidelines shall be followed while submitting Training syllabus of PIC/ Co-Pilot Endorsement Training of your Pilots for approval by this office.
