



# Singapore Air Safety Publication Part 1

## Licensing of Student Pilots and Private Pilots

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the CAAS website at [www.caas.gov.sg](http://www.caas.gov.sg)*

## **FOREWORD**

Pursuant to paragraph 20(14) of the Air Navigation Order, this Singapore Air Safety Publication (SASP) contains the requirements for the grant and renewal of flight crew licences under paragraph 20(1) of the Air Navigation Order (ANO). Any person applying for or holding a licence granted or renewed under the ANO shall comply with these requirements and all amendments which may be made from time to time. Paragraph 2 of the ANO and SASP Part D contains the definitions of some terms used in this document, to facilitate the interpretation of the requirements in this SASP.

2 Failure to comply with any of these requirements may result in suspension or the revocation of the licence or the penalties as provided under the Thirteenth Schedule of the ANO.

3 Starting from Issue 6 of SASP Part 1, amendment to SASP Part 1 will be notified through Notice of Amendment (NOA) and shall take effect from the date stipulated in the NOAs.

4 Queries on flight crew licensing requirements should be referred to:

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## **CHAPTER 1 THE STUDENT PILOT LICENCE**

### **1 AGE AND VALIDITY**

- 1.1 The minimum age for the grant of a Student Pilot Licence (SPL) is 16 years as specified in the Eighth Schedule of the Air Navigation Order (ANO).
- 1.2 As specified in the paragraph 20 of the ANO, the applicant for the renewal of grant of any pilot's licence shall not be 65 years of age or more.
- 1.3 The maximum period of validity will be in accordance with the Eighth Schedule of the ANO, which is as follows:
- (a) 60 months from the date the licence is granted or renewed, if the holder is less than 40 years of age on the date;
  - (b) 24 months from the date the licence is granted or renewed, if the holder is 40 years of age or more but less than 50 years of age on the date;
  - (c) 12 months from the date the licence is granted or renewed, if the holder is 50 years of age or more but less than 60 years of age on the date; or
  - (d) 6 months from the date the licence is granted or renewed, if the holder is 60 years of age or more on the date.

### **2 REQUIREMENTS FOR INITIAL ISSUANCE OR RENEWAL OF A STUDENT PILOT LICENCE**

- 2.1 For the initial issuance or renewal of a Student Pilot Licence, no technical examination or flying experience is required.
- 2.2 An applicant for a Student Pilot Licence is required to meet the Class 2 Medical Requirements as specified in the Fourteenth Schedule of the ANO and the SASP Part 9.

### **3 LICENCE PRIVILEGES**

- 3.1 The privileges of the Student Pilot Licence are as specified in Eighth Schedule of the ANO and are reproduced herein as follows.

The licence --

- (a) shall entitle the holder to fly as pilot-in-command of an aircraft for the purpose of becoming qualified for the grant or renewal of a pilot's licence provided that --
  - (i) the holder is above the age 16½ years; and
  - (ii) the holder does not fly unless under the supervision of, or with the authority of, a person holding a pilot's licence granted under the Order, being a licence which includes a flying instructor's rating or an assistant

flying instructor's rating entitling him to give instructions in flying the type of aircraft to be flown.

- (b) shall be valid only for flights within Singapore and any other country as specified in the licence.
- (c) shall not entitle the holder to fly as pilot-in-command of an aircraft in which any person is carried or fly solo in an aircraft on an international flight unless under specified or general arrangement with the Contracting States concerned.
- (d) shall be valid only for flights carried out in accordance with instructions given by a person holding a pilot licence granted under the Order, being a licence which includes a flying instructor rating or an assistant flying instructor rating entitling the holder to give instruction in flying the type of aircraft to be flown.

## **CHAPTER 2        SINGAPORE PRIVATE PILOT LICENCE (AEROPLANES) GROUPS A, B AND C**

### **1        AGE AND VALIDITY**

- 1.1    The applicant must be not less than 17 years of age as specified in the Eighth Schedule of the Air Navigation Order (ANO).
- 1.2    The maximum period of validity will be in accordance with the Eighth Schedule of the ANO, which is as follows:
- (a)    60 months from the date the licence is granted or renewed, if the holder is less than 40 years of age on the date;
  - (b)    24 months from the date the licence is granted or renewed, if the holder is 40 years of age or more but less than 50 years of age on the date;
  - (c)    12 months from the date the licence is granted or renewed, if the holder is 50 years of age or more but less than 60 years of age on the date; or
  - (d)    6 months from the date the licence is granted or renewed, if the holder is 60 years of age or more on the date.

### **2        MEDICAL REQUIREMENTS**

- 2.1    An applicant for a Private Pilot Licence (Aeroplanes) [PPL(A)] must meet the Class 2 Medical Requirements as specified in the Fourteenth Schedule of the ANO and the SASP Part 9.
- 2.2    An applicant for a PPL(A) with Instrument Rating (IR) must meet the Class 1 Medical Requirements as specified in the Fourteenth Schedule of the ANO and the SASP Part 9.
- 2.3    The validity period of a PPL(A) is based in part on the validity period of the medical certificate. The period of medical validity is specified in Chapter 4.

### **3        LANGUAGE PROFICIENCY REQUIREMENTS**

- 3.1    An applicant for a PPL(A) shall demonstrate the ability to speak and understand English language used for radio-telephony communications.
- 3.2    A PPL(A) licence shall not be valid unless the holder has been certified to at least the Operational Level (Level 4) of the ICAO Language Proficiency Rating Scale.
- 3.3    A PPL(A) holder who demonstrates language proficiency below the Expert Level (Level 6) shall be evaluated at the following intervals:
- (a)    those demonstrating language proficiency at the Operational Level (Level 4) shall be evaluated at least once every three years; and

- (b) those demonstrating language proficiency at the Extended Level (Level 5) shall be evaluated at least once every six years.
- 3.4 Notwithstanding paragraphs 3.2 and 3.3 above, an applicant for or holder of a restricted PPL(A) is not required to meet the language proficiency requirements specified in this Section.
- 3.5 The evaluation and certification of language proficiency shall be performed only by persons authorised by or otherwise acceptable to the Authority.

#### **4 AIRCRAFT TO BE USED FOR FLIGHT TRAINING AND TESTS**

- 4.1 All flying training and tests shall be carried out in a Singapore registered aircraft or a DGCA approved flight simulation training device where applicable.
- 4.2 Notwithstanding paragraph 4.1, an applicant enrolled in an approved Aviation Training Organisation (ATO) located outside Singapore may carry out the required flying training and flight tests in a non-Singapore registered aircraft that is accepted for use under that ATO's Certificate of Approval.

#### **5 LICENCE PRIVILEGES**

- 5.1 The privileges of a Singapore PPL(A) are set out in the Eighth Schedule of the ANO. The holder of the licence may fly as pilot-in-command (PIC) or co-pilot of an aeroplane specified in the Aircraft Rating of the licence. This is provided the licence contains a valid Medical Certificate and a valid Certificate of Test (C of T) or Certificate of Experience (C of E) endorsed in the licence.
- 5.2 The holder shall not fly an aeroplane for the purposes of public transport and aerial work or receive any remuneration for his services as a pilot.
- 5.3 The holder shall not fly as pilot-in-command (PIC) of an aeroplane on a flight outside controlled airspace where the flight visibility is less than 1 nm; or when any passenger is carried and the aeroplane is flying either above 3000 ft AMSL in IMC or at or below 3000 ft AMSL in a flight which visibility is less than 1 nm.
- 5.4 The licence privileges may be extended to include:
  - (a) Instrument Rating; and
  - (b) Night Rating.

#### **6 AIRCRAFT RATING**

- 6.1 Class ratings are established for aeroplanes certificated for single pilot operations and comprised of:
  - (i) Single-engine, land
  - (ii) Single-engine, sea

- (iii) Multi-engine, land
  - (iv) Multi-engine, sea
- 6.2 The Aircraft Rating as specified in the Eighth Schedule Part B of the ANO enables the licence holder to act as PIC of the following Group of aircraft contained in the Aircraft Rating page of the licence:
- (a) Group A aircraft rating - Entitles the holder to act as PIC of all single-engine aeroplanes not exceeding 5,700 kg maximum total mass authorised.
  - (b) Group B aircraft rating - Entitles the holder to act as PIC of all multi-engine aeroplanes not exceeding 5,700 kg maximum total mass authorised.
  - (c) Group C aircraft rating - Entitles the holder to act as PIC of a specified type whose maximum total mass authorised exceeds 5,700 kg.

## **7 VALIDITY OF AIRCRAFT RATING**

- 7.1 The validity of an aircraft rating is maintained by the inclusion in the pilot licence a valid C of T or C of E. The validity period of a C of T or C of E is 12 months.
- 7.2 The minimum flying experience required to maintain an Aircraft Rating is 5 hours as pilot of aeroplanes within the 12 months preceding the date of issue of a C of E or C of T. All flying must be completed within the validity period of an existing C of E or C of T.
- 7.3 Of the 5 hours minimum experience required, a minimum of 2 hours must be of dual flying instruction under a flying instructor. Upon completion of the dual flight(s), the instructor must certify that the pilot is fit to fly as PIC and so certifies in his logbook.
- 7.4 Flying experience towards the endorsement of C of E must be gained on a Singapore registered aircraft. In the case of RSAF pilots, flying experience gained in a military aircraft may be accepted for the renewal of a C of E. This is provided that the minimum 2 hours of dual flying instruction is conducted in a civilian aircraft.
- 7.5 Pilots with more than one Group of aeroplane on their licence wishing to maintain the validity of each Aircraft Rating must include at least 1 flight as PIC in each Group (or type in the case of Group C aeroplanes) in the Aircraft Rating of the licence as part of or in addition to the overall minimum 5 hours.
- 7.6 To revalidate the privileges of a lapsed Aircraft Rating:
- (a) An applicant whose most recent C of T or C of E has expired by less than 5 years shall pass the PPL Flight Test. In addition, the applicant shall also pass the PPL Human Performance examination if he has not sat for this examination before.
  - (b) An applicant whose most recent C of T or C of E has expired by more than 5 years but less than 10 years shall:
    - (i) pass the PPL Air Law and Operational Procedures - Aeroplane examination;

- (ii) pass the PPL Aircraft General Knowledge and Principles of Flight - Aeroplane examination;
  - (iii) pass the PPL Human Performance examination (if he has not sat for this examination); and
  - (iv) pass the PPL Flight Test.
- (c) An applicant whose most recent C of T or C of E has expired by more than 10 years shall :
- (i) pass all the ground examinations;
  - (ii) complete the full PPL course; and
  - (iii) pass the PPL Flight Test.

## **8 FLYING EXPERIENCE FOR INITIAL GRANT OF PPL(A)**

8.1 An applicant for a PPL(A) flight test shall produce evidence of having satisfactorily completed all ground examinations and an approved training course of flying to a syllabus approved by the DGCA. The syllabus of flying training must provide for a minimum of 40 hours of flight time, which should be carried out in a Group A aeroplane fitted with dual controls. The syllabus of training must include at least:

- (a) 10 hours of solo flight time under the supervision of an Assistant Flying Instructor (AFI) or a Flying Instructor (FI) including at least 5 hours of solo cross-country flight time.
- (b) 20 hours of dual flight time under the supervision of an AFI or a FI.

**Note:** The minimum of 20 hours of dual flight time under the supervision of an AFI or FI must include at least:

- (i) 4 hours instruction in instrument flying.
- (ii) 4 hours instruction in pilot navigation.
- (iii) 2 hours stall awareness and avoidance training of which one hour must have been completed within the 6 months preceding the date the licence application submitted to the DGCA.

8.2 The flight time logged in the flight tests may be counted towards the 40 hours minimum experience requirement for the grant of a licence but not towards the 10 hours of solo flying time minimum requirement.

8.3 A Credit time of 2 hours in an approved synthetic flight trainer may be accepted towards the total flight time of 40 hours.

8.4 All flying in microlight or motor gliders cannot be counted towards the grant of a PPL(A).

## **9 RESTRICTED PPL(A)**

- 9.1 A restricted PPL(A) will be issued restricting the privileges to carry out cross-country flights if the holder has not flown at least 5 hours solo on cross-country flights. This cross country flying must include a flight of not less than 150 nm during which the applicant has made two intermediate stops, one of which must have been at least 50 nm from the aerodrome of departure within a single day. This flight must be completed within the 6 months preceding the date of licence application. The minimum requirement of 4 hours instruction in pilot navigation will not be applicable for the issue of a restricted PPL(A).

## **10 PPL(A) FLIGHT TEST**

- 10.1 An applicant for a PPL(A) is required to pass a flight test conducted by an Authorised Flight Examiner or CAAS Inspector.
- 10.2 The flight test will normally consist of one flight of approximately one hour, during which the candidate will be assessed on all applicable items as detailed in **Appendix A**. Essentially the candidate shall be able to demonstrate his ability to perform as pilot-in-command of an aeroplane the applicable procedures and manoeuvres as described in paragraph 15.2 (a) to (k) of this chapter with a degree of competency appropriate to the privileges granted to the holder of a PPL(A) and to:
- (a) operate the aeroplane within its limitations;
  - (b) complete all manoeuvres with smoothness and accuracy;
  - (c) exercise good judgement and airmanship;
  - (d) apply aeronautical knowledge; and
  - (e) maintain control of the aeroplane at all times in a manner such that the successful outcome of a procedure or manoeuvre is never in doubt.
- 10.3 A candidate who fails in any part of the flight test may be required to undertake further flying training before being accepted for re-test. All parts of the flight test must be completed within a 21 days period.
- 10.4 An applicant who fails a PPL(A) flight test on more than 3 consecutive attempts will be subjected to a special review by the DGCA for any further application for flight test.

## 11 GROUND EXAMINATIONS

**Note:** Refer to AC FCL-6 for guidance on the validity period of the examination results for the old syllabus.

11.1 An applicant for a PPL(A) shall obtain a pass in each of the following subjects:

Code	Subject
1A	PPL Air Law and Operational Procedures - Aeroplane
2	PPL Human Performance
3	PPL Meteorology
4	PPL Communications
7A	PPL Flight Performance and Planning - Aeroplane
8A	PPL Aircraft General Knowledge and Principles of Flight - Aeroplane
9	PPL Navigation

**Note:** The learning objectives for each of the subjects listed above are found in AC FCL-7 which also contains a list of publications which applicants may find helpful.

11.2 A holder of a valid Singapore PPL(H) applying for PPL(A), shall obtain a pass in each of the following subjects:

Code	Subject
1A	PPL Air Law and Operational Procedures - Aeroplane
7A	PPL Flight Performance and Planning - Aeroplane
8A	PPL Aircraft General Knowledge and Principles of Flight - Aeroplane

11.3 An applicant applying for an Instrument Rating shall obtain a pass in each of the following subjects:

- (a) Air Law;
- (b) Instrumentation;
- (c) Flight Planning and Monitoring;
- (d) Human Performance;
- (e) Meteorology;
- (f) Radio Navigation; and
- (g) IFR Communications.



- 11.4 A pass in an examination subject will be awarded to an applicant who has achieved at least 75% of the score.
- 11.5 An applicant shall not be permitted to attempt an examination subject more than three times in any three month period.
- 11.6 Should any applicant be deemed to have not complied with the examination instructions, the DGCA may at his discretion, void the applicant's examination results for that subject.
- 11.7 A pass in any subject listed in this paragraph shall be valid for 36 months.

## **12 HOLDERS OF A FOREIGN PRIVATE PILOT LICENCE (AEROPLANES)**

### **12.1 Conversion of foreign PPL(A)**

12.1.1 A Singapore PPL(A) may be issued on the basis of a foreign pilot licence subject to the applicant meeting the following requirements:

- (a) pass the PPL Air Law and Operational Procedures examination;
- (b) pass the PPL Human Performance examination unless the applicant produces documentary evidence (e.g. result slips or letter from the foreign licensing authority) to show a pass in an equivalent subject;
- (c) pass the PPL(A) flight test;
- (d) meet the Class 1 Medical Requirements for PPL(A) with IR or Class 2 Medical Requirements for a PPL(A); and
- (e) certified to at least the Operational Level (Level 4) of the ICAO Language Proficiency Rating Scale through a language proficiency assessment performed by the DGCA or persons authorised by the DGCA.

12.1.2 All the above examinations shall be completed within 6 months from the date of approval from the DGCA.

12.1.3 The pilot's foreign licence and its associated ratings must be valid from the time of application to the time of issue of a Singapore licence and its associated ratings.

### **12.2 Certificate of Validation**

12.2.1 When a holder of a non-Singapore Pilot Licence wishes to fly on a Singapore registered aircraft in a private capacity in Singapore, he will be required to apply for a Certificate of Validation for his foreign licence. The Certificate of Validation, if approved, will be issued for this purpose only and up to a maximum period of 3 months subject to the validity of the foreign licence. The Certificate of Validation may not be renewed or extended. An applicant who wishes to revalidate his foreign pilot licence is required to reapply for the Certificate of Validation. The reissue of the certificate is based on the sole discretion of the DGCA.

- 12.2.2 Before exercising the privileges of a Certificate of Validation issued by the DGCA, the foreign PPL (A) holder shall:
- (a) pass the PPL Air Law and Operational Procedures examination; and
  - (b) demonstrate to an AFI or FI an acceptable standard of flying on local procedures and airspace constraints.
- 12.2.3 Exercising these privileges are subject to the holder having the appropriate valid medical certificate from the state of licence issue, and meeting all necessary flight recency or competency requirements of that licence.
- 12.2.4 The DGCA may in a particular case require the holder of a foreign licence to meet additional requirements.

### **13 ADDITION OF A MULTI-ENGINE RATING**

- 13.1 The holder of a PPL (A) who wishes to add a Group B aircraft rating to his existing Group A aircraft rating must complete an approved training course recognised by the DGCA and pass a flight test and the Aircraft (Type) examination of a Group B aircraft.
- 13.2 The course of flying training must be completed within 12 months of the date of application and must take place on flights made for the sole purpose of Group B training and must include at least:
- (a) 2.5 hours of dual flight instruction under the supervision of an AFI or FI under conditions of normal flight.
  - (b) 3.5 hours in engine failure procedures and asymmetric flying techniques.
  - (c) 1 hour instrument flying.
- 13.3 For a Group B rating restricted to centre-line thrust aircraft only, the 3.5 hours in paragraph 13.2 (b) may be reduced to 2.5 hours.
- 13.4 A licence holder with an aircraft rating in Group B restricted to centre-line thrust aircraft only, who wishes to convert to an unrestricted Group B rating will be required to carry out 3.5 hours dual flight instructions under the supervision of a AFI or FI in asymmetric flight on an aircraft with the engines mounted symmetrically either side of the lateral axis.
- 13.5 In all cases, the licence holder will be required to pass an Aircraft (Type) examination and a flight test on a representative type within the Group for which the aircraft rating is required.

### **14 APPLICATIONS**

- 14.1 An application for the issue of a PPL(A) should be forwarded to the DGCA and include the following documents:
- (a) Personal flying log book
  - (b) Form CAAS (FO) 07

- (c) Two recent full faced photographs of size 25mm x 30mm
- (d) Proof of identity documents
- (e) Qualifying cross-country certification (if applicable)
- (f) Language Proficiency Assessment - Form CAAS (FO) 95 or 95A
- (g) Prescribed fees

## **15 RECORDS OF TRAINING**

- 15.1 The records of flying training should be kept by every Flying Training Organisation (FTO) or flying club involved in a student's training. Irrespective of how many FTOs have been involved in a PPL(A) applicant's training, the person certifying the completion of training of the applicant on the application form is responsible for verifying that all the required training has been satisfactorily completed.
- 15.2 The records shall indicate the applicant has operational experience in the following areas to the level of performance required of a private pilot:
- (a) pre-flight operations, including mass and balance determination, aeroplane inspection and servicing;
  - (b) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
  - (c) control of the aeroplane by external visual reference;
  - (d) flight at critically slow airspeeds; recognition of, and recovery from, incipient and full stalls;
  - (e) flight at critically high airspeeds;
  - (f) normal and cross-wind take-offs and landings;
  - (g) maximum performance (short field and obstacle clearance) take-offs and landings;
  - (h) flight by reference solely to instruments, including the completion of a level 180 degrees turn;
  - (i) cross-country flying using visual reference, dead-reckoning and, where available, radio navigation aids (in the case of an unrestricted PPL(A));
  - (j) emergency operations, including simulated aeroplane equipment malfunctions; and
  - (k) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology.

- 15.3 The DGCA may inspect a student's training records before issuing a licence or rating. FTOs are required to keep all training records for at least five years following completion of training.
- 15.4 On completion of any course of training, the student's logbook should be certified by the FTO or flying club on the training completed.

## **CHAPTER 3        SINGAPORE PRIVATE PILOT LICENCE (HELICOPTERS)**

### **1        AGE AND VALIDITY**

- 1.1    The applicant must not be less than 17 years of age as specified in the Eighth Schedule of the ANO.
- 1.2    The maximum period of validity will be in accordance with the Eighth Schedule of the ANO, which is as follows:
- (a)    60 months from the date the licence is granted or renewed, if the holder is less than 40 years of age on the date;
  - (b)    24 months from the date the licence is granted or renewed, if the holder is 40 years of age or more but less than 50 years of age on the date;
  - (c)    12 months from the date the licence is granted or renewed, if the holder is 50 years of age or more but less than 60 years of age on the date; or
  - (d)    6 months from the date the licence is granted or renewed, if the holder is 60 years of age or more on the date.

### **2        MEDICAL REQUIREMENTS**

- 2.1    An applicant for a Private Pilot Licence (Helicopters) [PPL(H)] must meet the Class 2 Medical Requirements as specified in the Fourteenth Schedule of the ANO and the SASP Part 9.
- 2.2    An applicant for a PPL(H) with Instrument Rating (IR) must meet the Class 1 Medical Requirements as specified in the Fourteenth Schedule of the ANO and the SASP Part 9.
- 2.3    The validity period of a PPL(H) is based in part on the validity period of the medical certificate. The period of medical validity is specified in Chapter 4.

### **3        LANGUAGE PROFICIENCY REQUIREMENTS**

- 3.1    An applicant for a PPL(H) shall demonstrate the ability to speak and understand English language used for radio-telephony communications.
- 3.2    A PPL(H) licence shall not be valid unless the holder has been certified to at least the Operational Level (Level 4) of the ICAO Language Proficiency Rating Scale.
- 3.3    A PPL(H) holder who demonstrates language proficiency below the Expert Level (Level 6) shall be evaluated at the following intervals:
- (a)    those demonstrating language proficiency at the Operational Level (Level 4) shall be evaluated at least once every three years; and

- (b) those demonstrating language proficiency at the Extended Level (Level 5) shall be evaluated at least once every six years.
- 3.4 Notwithstanding paragraphs 3.2 and 3.3 above, an applicant for or holder of a restricted PPL (H) is not required to meet the language proficiency requirements specified in this Section.
- 3.5 The evaluation and certification of language proficiency shall be performed only by persons authorised by or otherwise acceptable to the Authority.

#### **4 AIRCRAFT TO BE USED FOR FLIGHT TRAINING AND TESTS**

- 4.1 All flying training and tests shall be carried out in a Singapore registered aircraft or a DGCA approved flight simulation training device where applicable.
- 4.2 Notwithstanding paragraph 4.1, an applicant enrolled in an approved Aviation Training Organisation (ATO) located outside Singapore may carry out the required flying training and flight tests in a non-Singapore registered aircraft that is accepted for use under the ATO's Certificate Approval.

#### **5 LICENCE PRIVILEGES**

- 5.1 The privileges of the Singapore PPL(H) are set out in Eighth Schedule of the ANO. The holder of the licence may fly as pilot-in-command (PIC) or co-pilot of any of the types specified in the Aircraft Rating of the licence. This is provided the licence contains a valid Medical Certificate and a valid Certificate of Test (C of T) or Certificate of Experience (C of E) endorsed in the licence.
- 5.2 The holder shall not fly a helicopter for the purposes of public transport and aerial work or receive any remuneration as a pilot.
- 5.3 The holder shall not fly as pilot-in-command (PIC) of a helicopter on a flight outside controlled airspace where the flight visibility is less than 1nm; or when any passenger is carried and the helicopter is flying either above 3000 ft AMSL in IMC or at or below 3000 ft AMSL in a flight which visibility is less than 1nm.
- 5.4 The licence privileges may be extended to include:
  - (a) Instrument Rating; and
  - (b) Night Rating.

#### **6 AIRCRAFT RATING**

- 6.1 The Aircraft Rating as specified in the Eighth Schedule Part B of the ANO enables the licence holder to act as PIC of the types of helicopters contained in the Aircraft Rating page of the licence.

**Note:** A class rating may be established for helicopters certificated for single-pilot operations which have comparable handling, performance and other characteristics.

## **7 VALIDITY OF AIRCRAFT RATING**

- 7.1 The validity of an aircraft rating is maintained by the inclusion in the pilot's licence a valid C of T or C of E. The validity period of a C of T or C of E is 12 months.
- 7.2 The minimum flying experience required to maintain an Aircraft Rating is 5 hours as pilot of helicopter within the 12 months preceding the date of issue of a new C of E or C of T. All flying must be completed within the validity period of an existing C of E or C of T.
- 7.3 Of the 5 hours minimum experience required, a minimum of 2 hours must be of dual flying instruction under a flying instructor. Upon completion of the dual flight(s), the instructor must certify that the pilot is fit to fly as PIC and so certifies in the logbook.
- 7.4 Flying experience towards the endorsement of C of E must be gained on a Singapore registered aircraft. In the case of RSAF pilots, flying experience gained in a military aircraft may be accepted for the renewal of a C of E. This is provided that the minimum 2 hours of dual flying instruction is conducted in a civilian aircraft.
- 7.5 Pilots with more than one type of helicopter endorsed on their licence wishing to maintain the validity of each Aircraft Rating must include at least 1 flight as PIC on each type in the Aircraft rating of the licence as part of or in addition to the overall minimum 5 hours.
- 7.6 To revalidate the privileges of a lapsed Aircraft Rating:
- (a) An applicant whose most recent C of T or C of E has expired by less than 5 years shall pass the PPL Flight Test. In addition, the applicant shall also pass the PPL Human Performance examination if he has not sat for this examination before.
  - (b) An applicant whose most recent C of T or C of E has expired by more than 5 years but less than 10 years shall:
    - (i) pass the PPL Air Law and Operational Procedures examination;
    - (ii) pass the PPL Aircraft General Knowledge and Principles of Flight examination;
    - (iii) pass the PPL Human Performance examination (if he has not sat for this examination); and
    - (iv) pass the PPL Flight Test.
  - (c) An applicant whose most recent C of T or C of E has expired by more than 10 years shall:
    - (i) pass all the ground examinations;
    - (ii) complete the full PPL course; and
    - (iii) pass the PPL Flight Test.

## **8 FLYING EXPERIENCE FOR INITIAL GRANT OF PPL(H)**

- 8.1 An applicant for a PPL(H) flight test shall produce evidence of having satisfactorily completed all ground examinations and an approved training course of flying to a syllabus approved by the DGCA. The syllabus of flying training must provide for a minimum of 40 hours as pilot of helicopters to include at least:
- (a) 10 hours of solo flight time under the supervision of a helicopter Assistant Flying Instructor (AFI) or Flying Instructor (FI) including at least 5 hours of solo cross-country flight time.
  - (b) 20 hours of dual flight time under the supervision of a helicopter AFI or FI.
- 8.2 The 40 hours requirement may be reduced to 35 hours if the applicant is a holder of a current pilot licence on aeroplanes.
- 8.3 A credit time of 2 hours in an approved synthetic flight trainer may be accepted towards the total flight time of 40 hours.

## **9 RESTRICTED PPL(H)**

- 9.1 A restricted PPL(H) will be issued restricting the privileges to carry out cross-country flights if the holder has not flown at least 5 hours solo on cross-country flights. This cross country flying must include a flight totalling not less than 100 nm in the course of which landing at two different points shall be made within a single day. This flight must be completed within the 6 months preceding the date of licence application.

## **10 PPL(H) FLIGHT TEST**

- 10.1 An applicant for a PPL(H) is required to pass a flight test conducted by an Authorised Flight Examiner or CAAS Inspector.
- 10.2 The flight test will normally consist of one flight of approximately one hour, during which the candidate will be assessed on all items as detailed in **Appendix B**. Essentially the candidate shall be able to demonstrate his ability to perform as pilot-in-command of a helicopter, the applicable procedures and manoeuvres described in paragraph 15.2 (a) to (j) of this chapter with a degree of competency appropriate to the privileges granted to the holder of a PPL(H) and to:
- (a) operate the helicopter within its limitations;
  - (b) complete all manoeuvres with smoothness and accuracy;
  - (c) exercise good judgement and airmanship;
  - (d) apply aeronautical knowledge; and
  - (e) maintain control of the helicopter at all times in a manner such that the successful outcome of a procedure or manoeuvre is never in doubt.



- 10.3 A candidate who fails in any part of the flight test may be required to undertake further flying training before being accepted for re-test. All parts of the flight test must be completed within a 21 days period.
- 10.4 An applicant, who fails a PPL(H) flight test on more than 3 consecutive attempts, will be subjected to a special review by the DGCA for any further application for flight test.

## 11 GROUND EXAMINATIONS

**Note:** Refer to AC FCL-6 for guidance on the validity period of the examination results for the old syllabus.

- 11.1 An applicant for a PPL(H) shall obtain a pass in each of the following subjects:

Code	Subject
1H	PPL Air Law and Operational Procedures - Helicopter
2	PPL Human Performance
3	PPL Meteorology
4	PPL Communications
7H	PPL Flight Performance and Planning – Helicopter
8H	PPL Aircraft General Knowledge and Principles of Flight - Helicopter
9	PPL Navigation

**Note:** The learning objectives for each of the subjects listed above are found in AC FCL-7 which also contains a list of publications which applicants may find helpful.

- 11.2 A holder of a valid Singapore PPL(A) applying for PPL(H) shall obtain a pass in each of the following subjects:

Code	Subject
1H	PPL Air Law and Operational Procedures - Helicopter
7H	PPL Flight Performance and Planning - Helicopter
8H	PPL Aircraft General Knowledge and Principles of Flight - Helicopter

- 11.3 An applicant applying for an Instrument Rating shall obtain a pass in each of the following subjects:

- (a) Air Law;
- (b) Instrumentation;
- (c) Flight Planning and Monitoring;
- (d) Human Performance;
- (e) Meteorology;

- (f) Radio Navigation; and
  - (g) IFR Communications.
- 11.4 A pass in an examination subject will be awarded to an applicant who has achieved at least 75% of the score.
- 11.5 An applicant shall not be permitted to attempt an examination subject more than three times in any three month period.
- 11.6 Should any applicant be deemed to have not complied with the examination instructions, the DGCA may at his discretion, void the applicant's examination results for that subject.
- 11.7 A pass in any subject listed in this paragraph shall be valid for 36 months.

## **12 HOLDERS OF A FOREIGN PRIVATE PILOT LICENCE (HELICOPTERS)**

### **12.1 Conversion of foreign PPL(H)**

12.1.1 A Singapore PPL(H) may be issued on the basis of a foreign pilot licence subject to the applicant meeting the following requirements:

- (a) pass the PPL Air Law and Operational Procedures examination;
- (b) pass the PPL Human Performance examination unless the applicant produces documentary evidence (e.g. result slip or letter from the foreign licensing authority) to show a pass in an equivalent subject;
- (c) obtain at least 5 hours as PIC on the helicopter type to be endorsed in the licence;
- (d) pass the PPL(H) flight test;
- (e) pass the Aircraft Type Technical examination for the aircraft type to be endorsed on the licence;
- (f) meet the Class 1 Medical Requirements for PPL(H) with IR or a Class 2 Medical Requirements for a PPL(H); and
- (g) certified to at least the Operational Level (Level 4) of the ICAO Language Proficiency Rating Scale through a language proficiency assessment performed by the DGCA or persons authorised by the DGCA.

12.1.2 All the above examinations shall be completed within 6 months from the date of approval from the DGCA.

12.1.3 The pilot's foreign licence and its associated ratings must be valid from the time of application to the time of issue of a Singapore licence and its associated ratings.

## 12.2 Certificate of Validation

- 12.2.1 When a holder of a non-Singapore Pilot Licence wishes to fly on a Singapore registered aircraft in a private capacity in Singapore, he will be required to apply for a Certificate of Validation for his foreign licence. The Certificate of Validation, if approved, will be issued for this purpose only and up to a maximum period of 3 months subject to the validity of the foreign licence. The Certificate of Validation may not be renewed or extended. An applicant who wishes to revalidate his foreign pilot licence is required to reapply for the Certificate of Validation. The reissue of the certificate is based on the sole discretion of the DGCA.
- 12.2.2 Before exercising the privileges of a Certificate of Validation issued by the DGCA, the foreign PPL(H) holder shall:
- (a) pass the PPL Air Law and Operational Procedures examination; and
  - (b) demonstrate to an AFI or FI an acceptable standard of flying on local procedures and airspace constraints.
- 12.2.3 Exercising these privileges is subject to the holder having the appropriate valid medical certificate from the state of licence issue, and meeting all necessary flight recency or competency requirements of that licence.
- 12.2.4 The DGCA may in a particular case require the holder of a foreign licence to meet additional requirements.

## 13 **INCLUSION OF ADDITIONAL TYPES**

- 13.1 A PPL(H) holder who wishes to have an additional helicopter type included in his licence is required to:
- (a) have at least 5 hours as pilot on the helicopter type
  - (b) pass the Aircraft Type examination
  - (c) pass a flight test conducted by an Authorised Flight Examiner or CAAS Inspector

## 14 **APPLICATIONS**

- 14.1 An application for the issue of a Singapore PPL(H) should be forwarded to the DGCA and include the following documents:
- (a) Personal flying log book
  - (b) Form CAAS (FO) 07
  - (c) Two recent full faced photographs of size 25mm x 30mm
  - (c) Proof of identity documents
  - (e) Qualifying cross-country certification (if applicable)

- (f) Language Proficiency Assessment - Form CAAS (FO) 95 or 95A
- (g) Prescribed fees

## **15 RECORDS OF TRAINING**

- 15.1 The records of flying training should be kept by every Flying Training Organisation (FTO) or flying club involved in a student's training. Irrespective of how many FTO have been involved in a PPL(H) applicant's training, the person certifying the completion of training of the applicant on the application form is responsible for verifying that all the required training has been satisfactorily completed.
- 15.2 The records shall indicate the applicant has operational experience in the following areas to the level of performance required of a private pilot (helicopter):
- (a) pre-flight operations, including mass and balance determination, helicopter inspection and servicing;
  - (b) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
  - (c) control of the helicopter by external visual reference;
  - (d) recovery at the incipient stage from settling with power; recovery techniques from low- rotor rpm within the normal range of engine rpm;
  - (e) ground manoeuvring and run-ups; hovering; take-offs and landings – normal, out of wind and sloping ground;
  - (f) take-offs and landings with minimum necessary power; maximum performance take-off and landing techniques; restricted site operations; quick stops;
  - (g) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids, including a flight of at least one hour (in the case of an unrestricted PPL(H));
  - (h) emergency operations, including simulated helicopter equipment malfunctions; autorotative approach and landing; and
  - (i) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures, radiotelephony procedures and phraseology.
  - (j) Flight by reference solely to instruments, including the completion of a level 180 degrees turn.
- 15.3 The DGCA may inspect a student's training record before issuing a licence or rating. FTOs are required to keep all training records for at least five years following completion of training.
- 15.4 On completion of any course of training, the student's logbook should be certified by the FTO or flying club on the training completed.

## **CHAPTER 4            MEDICAL PROCEDURES (ADMINISTRATION)**

### **1            LICENSING MEDICAL EXAMINATION (LME)**

- 1.1        An applicant for the initial issue or renewal of a Student Pilot Licence (SPL) or Private Pilot Licence (PPL) must satisfy the Civil Aviation Medical Board (CAMB) that he/she meets the medical requirements as laid down in the Fourteenth Schedule of the ANO and the SASP Part 9.
- 1.2        Prospective applicants must be free from any physical disabilities or defects of hearing, vision or colour perception.
- 1.3        Applicants are required to undergo the initial or renewal Licensing Medical Examination (LME) for the appropriate licence sought.
  - 1.3.1      The LME is to be conducted by a Designated Medical Examiner (DME). LME for the initial and every fourth renewal for SPL or PPL holders shall be at the clinical premises of the CAMB.
  - 1.3.2      The applicant shall sign and furnish to the DME a declaration, made in a form prescribed by the Authority, stating whether he/she has previously undergone such an examination and, if so, the date, place and result of the last examination. He/She shall indicate to the DME whether a previous Medical Assessment had been unsuccessful and, if so, the reason for such.
  - 1.3.3      The report of the LME will be sent to the CAMB for assessment of the applicant's fitness to hold a SPL or PPL. It is the applicant's responsibility to ensure that he/she has been declared as fit by CAMB prior to exercising the privileges of the licence that he/she is applying for. He/She must hold a valid medical certificate for the initial issuance/ or renewal of a licence. The validity period of the licence is subject in part to the validity period of the applicant's Medical Certificate.
- 1.4        The maximum period of validity of the Medical Certificate will be that as specified in Chapter 1 para 1.3. The period of validity will be based on the age of the applicant at the time of successful LME. The medical validity period may be reduced when clinically indicated.
- 1.5        An applicant is required to undergo another initial LME if he/ she did not revalidate his/ her Medical Certificate within 12 months after the expiry of the Medical Certificate.

### **2            THE CIVIL AVIATION MEDICAL BOARD (CAMB)**

- 2.1        The CAMB is a board of medical specialists that advises the Authority on the regulation of medical standards of Singapore licensed flight crew and air traffic controllers, and on the aeromedical requirements of Singapore in relation to international standards set by the International Civil Aviation Organisation (ICAO).
- 2.2        For the purpose of carrying out the necessary medical assessments, the Authority has appointed a panel of Medical Assessors, as part of the Office of CAMB, who are competent in evaluating and assessing medical conditions of flight safety. Licensing Medical Assessors' Boards (LMAB) are convened to assess the medical fitness of an

applicant for the initial issue or renewal of a Medical Certificate in accordance with the Fourteenth Schedule of the ANO and the SASP Part 9.

### **3 DESIGNATED MEDICAL EXAMINERS (DMEs)**

- 3.1 For the purpose of carrying out the necessary medical examinations for flight crew, the Authority has appointed a panel of Designated Medical Examiners (DMEs), to conduct LME for the initial issue and renewal of flight crew licences. The list of names and addresses of DMEs is published in the Aeronautical Information Circular which is available on the CAAS website at [www.caas.gov.sg](http://www.caas.gov.sg).

### **4 MEDICAL REQUIREMENTS**

- 4.1 An applicant for a SPL, PPL(A) and PPL(H) must meet the Class 2 Medical Requirements as specified in the Fourteenth Schedule of the ANO and the SASP Part 9.
- 4.2 An applicant for a PPL(A) with IR or PPL(H) with IR must meet the Class 1 Medical Requirements as specified in the Fourteenth Schedule of the ANO and the SASP Part 9.
- 4.3 The level of medical fitness to be met for the renewal of a Medical Certificate shall be the same as that for the initial assessment except where otherwise specifically stated.

### **5 TIMELY REVALIDATION OF MEDICAL CERTIFICATE**

- 5.1 The Medical Certificate will bear the date of the applicant's successful LME, its expiry date and other requirements e.g. Chest X-ray, ECG, Audiogram etc.
- 5.2 The licence holder is responsible for ensuring that his/her Medical Certificate is valid prior to exercising the privileges of his/her licence.
- 5.3 A licence holder shall arrange for his/her renewal LME to take place up to 45 days prior to the expiry of his/her medical validity period.

### **6 MEDICAL STANDARDS NOT MET**

- 6.1 If the medical standards as presented in the ANO's Fourteenth Schedule and the SASP Part 9 for a particular licence are not met, the corresponding medical certificate for that particular licence will not be issued or renewed unless the following conditions are fulfilled:
- (a) accredited medical conclusion arrived at by CAMB indicates that in special circumstances, the applicant's failure to meet any requirement, whether numerical or otherwise, is such that exercise of the privileges of the licence applied for is not likely to jeopardise flight safety.
  - (b) relevant ability, skill and experience of the applicant and operational conditions have been given consideration.
  - (c) the licence is endorsed with any special limitation or limitations when the safe performance of the licence holder's duties is dependent on compliance with such limitation or limitations.

6.2 A holder of a licence granted in part on the basis of medical fitness shall not be entitled to perform any of the functions to which his/her licence relates if he/she knows or has reason to believe that his/her physical condition renders him/her temporarily or permanently unfit to perform such function

6.3 A holder of a licence who:

- (a) suffers any personal injury involving incapacity to undertake the functions to which his/ her licence relates;
- (b) suffers any illness involving incapacity to undertake those functions for a period extending beyond 20 days;
- (c) knows or has reasons to believe that she is pregnant;
- (d) developed a medical condition that requires continued treatment with prescribed medication; or
- (e) has received medical treatment requiring hospitalisation;

is to report the issue or occurrence to CAMB as soon as practicable. He/she shall not exercise the privileges of the licence and related ratings until he has satisfied the CAMB that his medical fitness has been restored to the standard as specified in the Fourteenth Schedule of the ANO and the SASP Part 9. If under any doubt, he/she is to seek clarification or guidance from a DME to ascertain if the medical issue or occurrence is of relevance to flight safety

## **7 PAYMENT OF CHARGES**

7.1 The fees to be charged by the DME for medical examinations may follow guidelines set by the Singapore Medical Council (SMC) or at rates as determined by the DME performing the medical examinations.

7.2 The fee to be paid by the applicant for a medical evaluation by the CAMB is laid down in the Twelfth Schedule of the ANO.

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## **CHAPTER 5 THE INSTRUMENT RATING (AEROPLANES)**

### **1 THE INSTRUMENT RATING FLIGHT TEST**

- 1.1 As specified in the Eighth Schedule of the ANO an Instrument Rating (Aeroplanes) entitles the holder of the licence to act as pilot-in-command or co-pilot of an aeroplane flying in controlled airspace in circumstances which require compliance with the Instrument Flight Rules.
- 1.2 A PPL(A) may be issued without an Instrument Rating but its privileges will not include the privileges mentioned above in paragraph 1.
- 1.3 The flight test for the Instrument Rating (Aeroplanes) is normally conducted in a multi-engine aeroplane to exercise the privileges of an IR in a single-engine, multi-engine and multi-crew aeroplane.
- 1.4 If the test is conducted in:
  - (a) a single-engine aeroplane the rating will be endorsed accordingly and its privileges may be exercised only in single-engine aeroplanes;
  - (b) a multi-crew aeroplane the rating will be endorsed accordingly and its privileges may be exercised only in aeroplanes certificated for two pilots. Grant of such a restricted rating will be considered, after evaluation, for RSAF pilots who hold a current Instrument Rating, or to holders of a current ATPL(A) and Instrument Rating issued by another ICAO Contracting State. The test will normally be conducted only in aeroplanes requiring two pilots when flying for the purpose of public transport in compliance with the Instrument Flight Rules.

### **2 APPROVED TRAINING**

- 2.1 Unless qualifying for exemption as detailed in paragraph 3.1, persons wishing to obtain an Instrument Rating (Aeroplanes) will, be required to complete an approved training course. This will comprise:
  - (a) for an unrestricted rating, not less than 45 hours dual instruction in instrument flying in single-engine or multi-engine aeroplanes, of which not less than 25 hours must be in multi-engine aeroplanes. The remaining experience, up to a maximum of 20 hours, may be gained in an approved flight simulation training device or an approved procedure trainer;
  - (b) for a rating with privileges restricted to single-engine aeroplanes, not less than 40 hours dual instruction in instrument flying. This must include not less than 20 hours in single-engine aeroplanes. The remaining experience, up to a maximum of 20 hours, may be gained in an approved flight simulation training device or an approved procedure trainer;
  - (c) for the holder of a rating restricted to single-engine aeroplanes wishing to obtain an unrestricted rating, not less than five hours dual instruction in instrument flying in multi-engine aeroplanes.

- 2.2 The approved training shall cover the following areas:
- (a) pre-flight procedures, including the use of the flight manual or equivalent document, and appropriate air traffic services in the preparation of an IFR flight plan;
  - (b) pre-flight inspection, use of checklists, taxiing and pre-take-off checks;
  - (c) procedures and manoeuvres for IFR operation under normal, abnormal and emergency conditions covering at least:
    - transition to instrument flight on take-off
    - standard instrument departures and arrivals
    - en-route IFR procedures
    - holding procedures
    - instrument approaches to specified minima
    - missed approach procedures
    - landings from instrument approaches
  - (d) in-flight manoeuvres and particular flight characteristics.
- 2.3 The experience gained in an approved training course may be counted toward satisfying the experience requirements for the ratings as specified.

### **3 EXEMPTION FROM APPROVED TRAINING**

- 3.1 Exemption from having to undergo an approved training course will normally be given to the following:
- (a)  Holders of a Singapore Instrument Rating (Helicopters) 

Pilots who hold, or have held within the three years preceding the date of receipt by the DGCA of the application for the Instrument Rating (Aeroplanes), a Singapore Instrument Rating (Helicopters).
  - (b)  RSAF pilots 

Qualified serving pilots in the RSAF with a Green Rating who meet the experience specified in paragraph 4.2
  - (c)  Foreign licences holders with a valid Instrument Rating 

Foreign licence holders with a valid Instrument Rating on aeroplanes endorsed in their licences.

## 4 FLYING EXPERIENCE REQUIREMENTS

- 4.1 The normal method of recording flight time and the way in which it will be credited toward meeting the flying experience requirements is in **Appendix C**.
- 4.2 The minimum flying experience required for grant of an Instrument Rating (Aeroplanes) is 200 hours as pilot of aeroplanes, which must include:
- (a) not less than 100 hours as PIC, of which not less than 50 hours must be cross-country flying.
  - (b) not less than 40 hours as pilot by sole reference to instruments, of which up to 20 hours may be in an approved flight simulation training device or approved procedure trainer.
- 4.3 Where a pilot holds, or has held within the three years preceding the date of receipt by the DGCA of the application for the Instrument Rating (Aeroplanes), a Instrument Rating (Helicopters), the minimum experience required in aeroplanes is:
- (a) 50 hours as PIC, of which not less than 20 hours must be cross-country flying.
  - (b) 20 hours as pilot by sole reference to instruments. Up to 10 hours of this may be in an approved simulator.
- 4.4 Flight time in microlight aeroplanes, will not be counted toward satisfying any of the requirements specified in paragraphs 4.2 and 4.3 above. Flight time in self-launching motor gliders will not be counted toward satisfying the minimum PIC or pilot by sole reference to instruments requirements and may only be counted toward satisfying the total experience requirements specified in paragraph 4.2 when the aircraft is under power.

## 5 THE INSTRUMENT RATING FLIGHT TEST

- 5.1 All applicants for the grant of an Instrument Rating (Aeroplanes) will be required to pass an Instrument Rating Flight Test. The test for an unrestricted rating will be conducted in a multi-engine aeroplane having a Singapore Certificate of Airworthiness, which permits it to be flown by a single flight crew member. The syllabus for the test comprises:

Section 1 : Departure procedures

Section 2 : Airways procedures

Section 3 : ILS instrument approach procedures

Section 4 : NDB, VOR or RNAV instrument approach procedures

**Note:** At the conclusion of Section 3, the applicant will be asked to carry out a missed approach from decision height in the course of which and at a safe height an engine failure will be simulated. Section 4 will be conducted on asymmetric power and will terminate at minimum descent height after the applicant has levelled the aircraft and has given the CAAS Inspector or Authorised Flight Examiner an estimate of the time or distance to run to the aerodrome boundary, runway threshold or the facility, as appropriate.

Sub-section A: Preliminary and external checks

Sub-section B: Holding procedures

Sub-section C: Engine failure procedures

Sub-section D: Limited Panel

- 5.2 The full syllabus for the test, the conditions and assumptions upon which it will be conducted and the levels of acceptable performance are spelt out in **Appendix D**.
- 5.3 The test syllabus for a rating restricted to multi-crew aeroplanes is the same as that for an unrestricted rating, but there may be minor variations in the conduct of the test. The CAAS Inspector or Authorised Flight Examiner will explain this before the test begins.
- 5.4 The test syllabus for a rating restricted to single-engine aeroplanes is the same as that given in paragraph 5.1, less Sub-section C (simulation of engine failure as referred to in the Note).
- 5.5 In the test for an unrestricted or single-engine rating, the applicant will be required to fly the aeroplane from the PIC position and to carry out the test as if he were the sole flight crew member. The CAAS Inspector or Authorised Flight Examiner will, however, be the designated PIC.
- 5.6 In the test for a multi-crew rating, the applicant may take the test as handling pilot in either the PIC or in the co-pilot position and will be expected to call upon the other flight crew members to assist him in the conduct of the flight in accordance with the normal crew drills for that type of aeroplane. The CAAS Inspector or Authorised Flight Examiner will occupy the PIC or co-pilot position and will be designated as PIC of the aeroplane. When the CAAS Inspector or Authorised Flight Examiner does not occupy either of these positions, the pilot occupying either one who is not undergoing the test will be designated as PIC and must be a person authorised by the operator of the aeroplane to act as a training or check captain on the type.
- 5.7 The applicant, together with the remainder of the flight crew in the case of a test on a multi-crew aeroplane, will be briefed by the CAAS Inspector or Authorised Flight Examiner before the test. The applicant will be responsible for ensuring that he has all equipment and documentation necessary for the planning and execution of the flight.
- 5.8 The CAAS Inspector or Authorised Flight Examiner will choose the route for the test flight. It may start and finish at the same aerodrome or may end at another aerodrome. The applicant may not decline to fly the nominated route solely because he is not familiar with it. He should be prepared to be examined along any route terminating at a suitably equipped aerodrome within 150nm of departure.

## **6 INSTRUMENT RATING FLIGHT TEST: PASS CONDITIONS**

- 6.1 Before an applicant attempts the Instrument Rating flight test he must obtain a form, signed by a person authorised to sign such forms, certifying that he has satisfactorily completed any training which may have been required of him and that in the judgement of the person signing the form, he is ready to take the test. This requirement will apply regardless if the

applicant has had to undergo an approved training course. The form is valid for a period of six months from the date of signature and the first attempt to pass the test must be taken within this period of validity. If a partial pass is obtained during this period, then the form may be extended to allow the candidate to complete satisfactorily all the outstanding items within a period of 21 days from the date of first obtaining a partial pass. If the candidate fails to pass the test during this extended validity period, the form is cancelled.

- 6.2 All four sections and three sub-sections (two sub-sections in the case of a test in a single-engine aeroplane) of the test must be taken at the first attempt. The applicant will be required to demonstrate the ability to perform the procedures and manoeuvres described in paragraph 2.2 with a degree of competency appropriate to the privileges granted to the holder of an Instrument Rating (aeroplanes) and to:
- (a) operate the aeroplane within its limitations;
  - (b) complete all manoeuvres with smoothness and accuracy;
  - (c) exercise good judgement and airmanship;
  - (d) apply aeronautical knowledge; and
  - (e) maintain control of the aeroplane at all times in a manner such that the successful outcome of a procedure or manoeuvre is never in doubt.
- 6.3 An applicant is required to demonstrate that he can satisfactorily complete in one flight any three of the four sections. He will be required to take the section that he has failed in his next attempt with the other failed items.
- 6.4 During a re-test, candidates will be re-tested in Section 1 (Departure Procedures). In addition, if the applicant is required for operational reasons to take up a hold, he will be re-assessed on sub-section B during the re-test.
- 6.5 Under the provisions of paragraphs 6.1 and 6.2, if an applicant has to take parts of the test again, he must satisfactorily complete all the outstanding items within a period of 21 days months from the date of first test when obtaining the partial pass. If this is not achieved, the applicant will be required to take the whole flight test again.
- 6.6 If a candidate fails to achieve a valid pass in all sections and required sub-sections of the test within three attempts, he is required to meet the following prior to his first attempt in his second series of tests:
- (a) complete in the six months preceding the date of receipt by the DGCA of the application for the first test in the second series such further training as the DGCA may prescribe;
  - (b) obtained a form signed by a person authorised to sign such forms certifying that the prescribed training has been satisfactorily completed and that the applicant is ready to take the test.

- 6.7 The first attempt in the second series will cover the whole test and the series will be subject to the same pass conditions as the first series. If, within three attempts at the test in the second series, the applicant has still not obtained a valid pass in all sections and required sub-sections of the test, he will, before he may start the third series of attempts, be required to:
- (a) show that he has not less than 500 hours experience as pilot-in-command of aeroplanes;
  - (b) complete in the six months preceding the date of receipt by the DGCA of the application for the first test in the third series, an approved training course as specified in paragraph 2.1(a) or 2.1(b) as appropriate.
  - (c) obtain a form signed by a person authorised to sign such forms, certifying that he has satisfactorily completed the required training and is ready to take the test.
- 6.8 The first two attempts at the test in the third series will be conducted subject to the same pass conditions as in the earlier series. However, if a third attempt is required, (regardless if it is 21 days of the applicant having gained a partial pass) the applicant will have to take the whole test again.
- 6.9 If, at the conclusion of the third attempt in the third series, the applicant is still unable to obtain a valid pass in all sections and required sub-sections of the test, he will be considered unsuitable to hold an Instrument Rating and will not normally be permitted to make any further attempts at the Instrument Rating Test. The DGCA will, however, be prepared, at his written request, to review the circumstances and results of all the tests he has taken to determine whether any further attempt may be permitted. Any such further attempt, if allowed, would be subject to such conditions as the DGCA deemed fit.

## **7 TERMINATION OF A TEST BY THE APPLICANT**

- 7.1 Once a test has started, should the applicant choose not to continue with it for reasons not considered acceptable by the CAAS Inspector or Authorised Flight Examiner, he will be regarded as having failed those items not attempted in the test. Failure of the test on this ground will be counted as an attempt.

## **8 TERMINATION OF A TEST BY THE CAAS INSPECTOR OR AUTHORISED FLIGHT EXAMINER**

- 8.1 The CAAS Inspector or Authorised Flight Examiner may stop the test at any stage if he considers that the applicant's standard of flying warrants a re-test.

## **9 FLIGHT TEST ARRANGEMENTS**

- 9.1 Where an applicant for an Instrument Rating has undergone an approved training course, arrangements for the flight test, including the provision of a suitable aircraft, will normally be made by the Flying Training Organisation (FTO) which conducted the training.
- 9.2 Applicants who have been exempted from having to undergo an approved training course will be required to make their own arrangements for the test with the DGCA. They must also make their own arrangements to provide an aircraft for the test. Such aircraft must be

maintained and equipped to the DGCA requirements for the conduct of the test, including the method of ensuring that it can be flown by sole reference to instruments.

## **10 THE INSTRUMENT RATING RENEWAL - CERTIFICATE OF TEST**

- 10.1 The privileges of an Instrument Rating may not be exercised unless the licence contains a valid Certificate of Test (C of T). The period of validity of a C of T in relation to an Instrument Rating is 12 months from the date of the completion of the test.
- 10.2 For the grant of an Instrument Rating, the C of T will be endorsed by the DGCA with a date effective from the date on which the Instrument Rating Flight Test was successfully completed.
- 10.3 Before the certificate can be renewed again the licence holder must pass a further test conducted by a CAAS Inspector or Authorised Flight Examiner in an aeroplane or in an approved flight simulation training device. Access to such simulators can normally only be obtained through the operator who holds the simulator approval.
- 10.4 Any suitable means of simulating instrument flight conditions in an aeroplane may be used.
- 10.5 The test will comprise, Section 1 (Departure Procedures) Section 2 (Airways Procedures) and a modified Section 3 (ILS Instrument Approach Procedure consisting of an approach to land, go-around and missed approach procedure), Sub-section A (Preliminary and External Checks), and Sub-section B (Holding Procedures). Simulated failure of an engine and flight on asymmetric power will not be tested in Section 3.
- 10.6 A failure of more than one section of Sections 1, 2 and 3 will require the whole of the test to be taken again. If only one of these sections is failed, the CAAS Inspector or Authorised Flight Examiner, at his discretion, may ask the applicant to repeat the failed procedure during the course of the test. Should a further flight test be necessary only the failed section need be taken again except that where a re-test of Section 3 is required it will start from the holding pattern and the candidate will be re-assessed on Sub-section B as well as Section 3. If, in the course of any other re-test, the applicant is required for operational reasons to take up a hold, he will be re-assessed on Sub-section B. In a retest of Sub-section B, Section 1 will also be re-tested. If in the course of a re-test a section or sub-section which has previously been passed is performed unsatisfactorily a re-test in that section or sub-section will be required.
- 10.7 The whole of the test must be satisfactorily completed within 21 days from the initial attempt, or all passes gained will become invalid and the whole of the test must be taken again in one attempt, in accordance with the pass conditions as stated before.
- 10.8 On successful completion of the test, the C of T will be signed by the CAAS Inspector or Authorised Flight Examiner who conducted it, with a date effective on the day the test was successfully completed.

## **11 EXPIRY OF CERTIFICATE OF TEST (C of T)**

- 11.1 When an Instrument Rating has lapsed within 12 months, a C of T may be revalidated in accordance with the renewal Instrument Rating flight test requirement.

11.2 If a period of more than 12 months has elapsed since the expiry of the C of T, the licence holder will be required, before the C of T can be revalidated, to pass a full Instrument Rating Flight Test. On successful completion of the test, the C of T will be issued by the DGCA effective from the date on which the test was completed. If a licence holder has remained in instrument flying practice on a foreign licence with Instrument Rating or in active flying with the RSAF, this requirement may be waived. Advice should be sought from the DGCA.

## **12 TEST FOR REMOVAL OF THE MULTI-CREW OR SINGLE-ENGINE AEROPLANE RESTRICTION**

12.1 The holder of an Instrument Rating valid for a multi-crew aeroplanes or for single-engine aeroplanes may have the restriction lifted by passing a flight test conducted by a CAAS Inspector or Authorised Flight Examiner in an aeroplane of the type specified in paragraph 5 with the applicant acting as sole flight crew member. The arrangements to be observed for the test are as described in paragraph 5.

12.2 For lifting of the multi-crew restriction the test will be conducted to the same syllabus and subject to the same pass conditions as that for an unrestricted rating. When the applicant passes the test, the DGCA will lift the restriction on the rating and issue the C of T effective from the date on which the test was completed.

12.3 Before the test can be taken for removal of the single-engine aeroplane restriction, the applicant will, unless he is exempt under the terms of paragraph 3 be required to complete an approved training course as specified in paragraph 2.1(c).

12.4 The test for removal of the single-engine restriction will be that described in paragraph 5.1 except Section 2 and Sub-section B, where if a holding procedure is required, the applicant will be assessed on it.

12.5 Successful completion of the test will allow lifting by the DGCA of the single-engine restriction from the rating, but will not allow the C of T to be revalidated. For this to be done, the applicant will also be required to pass Section 2, Airways procedures, and Sub-section B, Holding procedures. Applicants wishing to have these items included in the test should request it at the time of making the arrangement for the test.

12.6 A failure of more than one Section of Sections 1, 2 and 3 will require the whole test to be taken again. If only one of these Sections is failed, the CAAS Inspector or Authorised Flight Examiner may require the applicant to repeat the failed section during the course of the test. Should another flight test be required, only the failed section need be taken again, except for Section 3 when the retest will start from the holding pattern and the candidate will be re-assessed on Sub-section B as well as on Section 3. If, in the course of any other re-test, the applicant is required for operational reasons to take up a hold he will also be re-assessed on Sub-section B. In a test of Sub-section B, Section 1 will also be retested. If in the course of a retest a section or sub-section which has previously been passed is performed unsatisfactorily a retest in that section or sub-section may be required.

12.7 The whole of the test must be satisfactorily completed within 21 days from the initial attempt, or all previous passes will become invalid and the whole of the test must be taken again in one attempt, the pass conditions applying as before.



## **CHAPTER 6 THE INSTRUMENT RATING (HELICOPTERS)**

### **1 THE INSTRUMENT RATING PRIVILEGES**

- 1.1 As specified in the Eighth Schedule of the ANO an Instrument Rating (Helicopters) entitles the holder of the licence to act as pilot-in-command or co-pilot of a helicopter flying in controlled airspace in circumstances which require compliance with the Instrument Flight Rules.
- 1.2 This rating will be granted only in respect of helicopters having a Singapore Certificate of Airworthiness which permits unrestricted flight in Instrument Meteorological Conditions and will be granted in respect only of those helicopters upon which the licence holder has passed an Instrument Rating flight test and the navigation group of papers at the CPL or ATPL level.

### **2 APPROVED TRAINING**

- 2.1 Unless qualifying for exemption as detailed in paragraph 3, persons wishing to obtain an Instrument Rating (Helicopters), will before they may take the Instrument Rating Flight Test, be required to complete an approved training course. This will comprise at least:
- (a) 20 hours dual instruction in instrument flying in helicopters not less than five hours of which must be in the type in which the applicant wishes to qualify. The remainder may be in any helicopter having a Singapore Certificate of Airworthiness, which permits instrument flight training.
  - (b) 20 hours instruction in instrument flying in an approved helicopter flight simulation training device. Up to 10 hours of this training may alternatively be conducted in an approved procedure trainer.
- 2.2 The approved training will cover the following areas:
- (a) pre-flight procedures, including the use of the flight manual or equivalent document, and appropriate air traffic services documents in the preparation of an IFR flight plan;
  - (b) pre-flight inspection, use of checklists, taxiing and pre-take-off checks;
  - (c) procedures and manoeuvres for IFR operation under normal, abnormal and emergency conditions covering at least:
    - transition to instrument flight on take-off
    - standard instrument departures and arrivals
    - en-route IFR procedures
    - holding procedures
    - instrument approaches to specified minima

- missed approach procedures
  - landings from instrument approaches
- (d) in-flight manoeuvres and particular flight characteristics; and
- (e) if appropriate, operation of a multi-engined helicopter solely by reference to instruments with one engine inoperative or simulated inoperative.
- 2.3 The experience gained in an approved training course may be counted toward satisfying the experience requirements for the rating as specified in paragraph 4.

### **3 EXEMPTION FROM APPROVED TRAINING**

3.1 Exemption from having to undergo an approved training course will normally be given to the following:

(a)  Holders of a Singapore Instrument Rating (Aeroplanes)

Pilots who hold, or have held within the three years preceding the date of receipt by the DGCA on the application for the Instrument Rating (Helicopters), a Singapore Instrument Rating (Aeroplanes).

(b)  RSAF pilots

Qualified serving pilots in the RSAF who meet the experience requirements specified in paragraph 4.

(c)  Foreign Licence holders with a valid Instrument Rating

Foreign licence holders with a valid Instrument Rating on aeroplanes endorsed in their licence.

### **4 FLYING EXPERIENCE REQUIREMENTS**

4.1 The minimum flying experience required for grant of an Instrument Rating (Helicopters) to a pilot who does not hold an Instrument Rating (Aeroplanes) is 200 hours as pilot of helicopters, which must include:

- (a) Not less than 100 hours as PIC and must include not less than 50 hours cross-country flying.
- (b) Not less than 40 hours as pilot by sole reference to instruments. Up to 20 hours of this time may be in an approved helicopter flight simulation training device or up to 10 hours in an approved procedure trainer;
- (c) not less than 5 hours as pilot by sole reference to instruments in the type of helicopter in respect of which the applicant wishes to qualify. These hours must be gained in flight.

- 4.2 Where a pilot holds, or has held within the three years preceding the date of receipt by the DGCA of the application for the Instrument Rating (Helicopters), an Instrument Rating (Aeroplanes), the minimum experience required in helicopter is:
- (a) not less than 50 hours as PIC, of which not more than 15 hours may be as PIC U/S, including not less than 20 hours cross-country flying.
  - (b) not less than 20 hours as pilot by sole reference to instruments, of which not more than 10 hours of this may be in an approved helicopter flight simulation training device, or up to 5 hours in an approved procedure trainer.
  - (c) not less than 5 hours as pilot by sole reference to instruments in the type of helicopter in which the applicant wishes to qualify. This time must be gained in flight. It may count toward that required by paragraph 4.2(b) above.

## 5 THE INITIAL INSTRUMENT RATING FLIGHT TEST

- 5.1 All applicants for the grant of an Instrument Rating (Helicopters) will be required to pass, on the first type of helicopter to which the rating will apply, an Instrument Rating flight test conducted by the DGCA. Further tests will be required to extend rating privileges of other types of helicopters.
- 5.2 The test for grant of the rating is conducted subject to the same conditions as that for the Instrument Rating (Aeroplanes); except that where it is conducted in a multi-engine helicopter, an engine failure will be simulated during the missed approach following Section 3 or Section 4 whichever is flown first at the discretion of the CAAS Inspector or Authorised Flight Examiner. The following sections will then be conducted under simulated engine failure conditions. The applicant will be required to demonstrate the ability to perform the procedures and manoeuvres specified in paragraph 2.2 with a degree of competency appropriate to the privileges granted to the holder of an instrument rating (helicopter) and to:
- (a) operate the helicopter within its limitations;
  - (b) complete all manoeuvres with smoothness and accuracy;
  - (c) exercise good judgement and airmanship;
  - (d) apply aeronautical knowledge; and
  - (e) maintain control of the helicopter at all times in a manner such that the successful outcome of a procedure or manoeuvre is never in doubt.
- 5.3 The complete syllabus of the test, the conditions and assumptions upon which it will be conducted and the level acceptable performance are in **Appendix D**.
- 5.4 Where the test is conducted in a helicopter having a Singapore Certificate of Airworthiness which permits it to be flown by a sole flight crew member, the applicant will be expected to act as sole flight crew member. He will occupy the PIC position but the CAAS Inspector or Authorised Flight Examiner will be the designated PIC.
- 5.5 Where the test is conducted in a helicopter requiring it to be flown by more than one pilot, the applicant may take the test as handling pilot in either the PIC or co-pilot position, and will be expected to call upon the other pilot to assist him in the conduct of the flight in accordance

with the normal crew drills for that type of helicopter. Where the CAAS Inspector or Authorised Flight Examiner occupies the PIC or co-pilot position, he will be the designated PIC. Where he does not occupy either of these positions, the pilot occupying either one who is not undergoing the test will be designated as PIC and must be a person authorised by the operator of the helicopter to act as a training or check captain on the type.

## **6 INSTRUMENT RATING FLIGHT TEST: PASS CONDITIONS**

- 6.1 The flight test pass conditions for grant of the Instrument Rating (Helicopters) are the same as those for the Instrument Rating (Aeroplanes). (See Chapter 5 paragraph 6).
- 6.2 If the applicant has to go for a third series of attempts at the test, he will, before he makes the first attempt in the series, be required to:
- (a) show that he has not less than 500 hours experience as PIC of helicopters;
  - (b) complete in the six months preceding the date of receipt by the DGCA of the application for the test, an approved training course as specified.
  - (c) obtain a form signed by an authorised person certifying that he has satisfactory completed the required training and is fully ready to take the test again.

## **7 FLIGHT TEST ARRANGEMENTS**

- 7.1 The flight test arrangements for grant of the Instrument Rating (Helicopters) are the same as those for the Instrument Rating (Aeroplanes). (See Chapter 5 paragraph 9).

## **8 THE INSTRUMENT RATING CERTIFICATE OF TEST**

- 8.1 The privileges of an Instrument Rating (Helicopters) may only exercised in those types of helicopters in respect of each of which the licence contains a valid Certificate of Test (C of T). The period of validity of a C of T in respect of each type of helicopter is 12 months from the date of effect from the certificate in relation to that type.
- 8.2 On grant of an Instrument Rating, the C of T will be endorsed by the DGCA in respect of the type of helicopters on which the test was taken, with a date effective from the date on which the Instrument Rating flight test was successfully completed. When tests are passed to extend the rating privileges to other types of helicopters, the additional types will be added to the rating by the DGCA, who will also endorsed the C of T in respect of the aircraft type an effective date on which the extension flight test was successfully completed.
- 8.3 The flight test arrangements in respect of the C of T, the syllabus for the test and the pass conditions are the same as those for the aeroplane rating. A test must be taken in respect of each type of helicopter for which a C of T is required, but the Airways procedures section of the test, Section 2, need only be taken once every 12 months.

## **9 EXPIRY OF CERTIFICATE OF TEST (C of T)**

- 9.1 When an Instrument Rating has lapsed within 12 months, the C of T may be revalidated in accordance with the renewal Instrument Rating flight test requirement.
- 9.2 If a period of more than 12 months has elapsed since the period of validity of the C of T expired, the licence holder will, before the C of T may be revalidated in respect of any type, be required to pass a full Instrument Rating Flight Test for the grant of the rating. On the test being passed, the C of T will be endorsed by the DGCA in respect of the type of helicopter on which the test was taken, effective as from the date on which the test was conducted. Where a licence holder has remained in instrument flying practice on a foreign licence with Instrument Rating or a Green Rating in RSAF, this requirement may be waived. Advice should be sought from the DGCA.

## **10 FLIGHT TEST TO EXTEND THE RATING PRIVILEGES TO ADDITIONAL TYPES OF HELICOPTERS**

- 10.1 To extend the Instrument Rating privileges to additional types of helicopters, the licence holder will be required to pass a further test on each of the types for which the extension is sought.
- 10.2 Before the flight test may be taken, the applicant will be required to have obtained not less than two hours as pilot by sole reference to instruments on the type of helicopter in which the test is to be taken, or in an approved helicopter flight simulation training device representative of the type.
- 10.3 If a first multi-engine helicopter Instrument Rating is to be included, the test will be as detailed as paragraph 5.2 above less Section 2 and Sub-section B, except that if a holding procedure is operationally necessary, the applicant will be assessed on it. For other cases the test will comprise Section 1 and Section 3 but if a holding procedure is operationally necessary, the applicant will be assessed on it. Every such flight test must be conducted in a helicopter.
- 10.4 On satisfactory completion of the flight test, the additional helicopter type will be added to the rating by the DGCA, who will also complete the C of T in respect of that type effective from the date on which the test was successfully completed.

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## **CHAPTER 7 THE NIGHT RATING (AEROPLANES)**

### **1 INTRODUCTION**

- 1.1 The experience requirements and the flying training syllabus for the PPL(A) do not require any night flying training. However, in order to fly as PIC at night with passengers, the holder of a PPL(A) must have a night rating. For this purpose, 'night' means the time between 20 minutes after sunset and 20 minutes before sunrise, sunset and sunrise being determined at surface level.
- 1.2 The privileges of the Night Rating are set out in Eighth Schedule of the Air Navigation Order.
- 1.3 A PPL(A), which includes a valid IR, allows the holder to carry passengers at night, without meeting the night currency requirement (see paragraph 3).

### **2 EXPERIENCE AND TRAINING REQUIREMENTS**

- 2.1 An applicant for a Night Rating must produce evidence of having at least 50 hours of total flying experience as pilot of aeroplanes, of which, at least 20 hours are flown as pilot-in-command.
- 2.2 The night training requirements are:
  - (a) dual instruction in instrument flying, of which not less than 5 hours shall be flown by sole reference to instruments on aeroplanes. Not more than 2.5 hours may be carried out in an approved flight simulation training device or procedure trainer.
  - (b) satisfactory completion of an approved course of at least 5 hours night flying on aeroplanes. This shall consist of:
    - (i) at least 3 hours dual instruction including at least one hour night navigation; and
    - (ii) at least 5 flights by night to complete 5 take-offs and full-stop landings as PIC of aeroplanes. The 5 flights by night may be reduced to 2 flights if the training is conducted as part of an integrated PPL course.
- 2.3 The night training requirements stated in paragraph 2.2 shall be completed within 6 months.

### **3 VALIDATION**

- 3.1 The holder of a Night Rating or a licence including the privileges of Night Rating, may not fly as PIC at night unless he either holds a valid Instrument Rating or has within the immediately preceding 12 months carried out, as PIC not less than 5 take-offs and 5 landings at a time when the depression of the centre of the sun was not less than 12 degrees below the horizon.

- 3.2 A pilot who has qualified to fly as PIC at night but is unable to meet the recency requirements must undertake dual refresher training in night flying with an AFI or FI. The pilot must satisfy the PIC recency requirements detailed in paragraph 3.1 by flying solo, with the authority and under the supervision of an AFI or FI, who must present during the take-off and landing at the aerodrome from which the instruction is to begin and end, before acting as a PIC at night.

**Note:** Where PIC is stipulated, this does not include PIC U/S or P/UT.



## **CHAPTER 8 THE NIGHT RATING (HELICOPTERS)**

### **1 INTRODUCTION**

- 1.1 The experience requirements and the flying training syllabus for the PPL(H) do not require for any night flying training. However, in order to fly as PIC at night with passengers, the holder of a PPL(H) must have a Night Rating. For this purpose, 'night' means the time between 20 minutes after sunset and 20 minutes before sunrise, sunset and sunrise being determined at surface level.
- 1.2 The privileges of the Night Rating are set out in Eighth Schedule to the ANO.
- 1.3 A PPL(H) which includes a valid IR, allows the holder to carry passengers at night without meeting the night currency requirements (see paragraph 3).

### **2 EXPERIENCE AND TRAINING REQUIREMENTS**

- 2.1 An applicant for a Night Rating shall produce evidence of having at least 50 hours of total flying experience as pilot of helicopters of which, at least 20 hours are flown as pilot-in-command.
- 2.2 The training requirements are:
  - (a) dual instruction in instrument flying of which not less than 5 hours must be flown by sole reference to instruments on helicopters. Not more than 2.5 hours may be completed in an approved flight simulation training device or procedure trainer.
  - (b) satisfactory completion of an approved course of at least 5 hours night flying on helicopters. This shall consist of:
    - (i) at least 3 hours dual instruction including at least one hour night navigation.
    - (ii) at least 5 flights to complete 5 take-offs and landings by night as PIC of helicopters. For each take-off and landing, the applicant shall conduct a take-off, transition from hover to forward flight, climb to at least 500 feet, an approach and a landing. The 5 flights by night maybe reduced to 2 flights if the training is conducted as part of an integrated PPL course.
- 2.3 The night training requirements stated in paragraph 2.2 shall be completed within 6 months. The holder of an AFI or FI must certify, on the application form, that this requirement has been fulfilled.

### **3 VALIDATION**

- 3.1 The holder of a Night Rating may not fly at night as PIC unless he has met the night currency experience at a time when the depression of the centre of the sun was not less than 12 degrees below the horizon (i.e. the end of evening or beginning of morning civil twilight). The experience requirement is 5 flights, each consisting of a take-off, a transition

from hover to forward flight, a climb to 500 feet and a landing as PIC within the immediately preceding 12 months.

- 3.2 A pilot who has qualified to fly as PIC at night but is unable to meet the recency requirements must undertake dual refresher training in night flying with an AFI or FI. The pilot must satisfy the PIC recency requirements detailed in paragraph 3.1 by flying solo, with the authority and under the supervision of a flying instructor, who must be present during the take-off and landing at the aerodrome from which the instruction is to begin and end, before acting as a PIC at night.

## APPENDIX A PPL(A) GROUPS A & B TRAINING SYLLABUS

- 1 This syllabus lists all the items which should be covered during training for the PPL flight test in either Groups A or B. The candidates will be required to demonstrate a satisfactory standard of knowledge and handling in any of the items listed below.
  - 1.1 Preparation for flight:
    - Self briefing
    - Weather assessment
    - Aeroplane documentation
    - Personal equipment check
    - Weight and balance (calculate)
    - Weight and performance (calculate)
    - Fuel and oil state
    - Aeroplane acceptability
    - Filing of ATS Flight Plan
    - Pre flight inspection
    - NOTAM
  - 1.2 Starting, taxiing and power checks:
    - Pre start checks
    - Post start checks
    - Taxying techniques
    - Engine run-up
  - 1.3 Take-off:
    - Pre take-off checks (Vital actions).
    - Assessment of cross wind component.
    - Normal and cross wind take-offs.
    - During and post take off checks.
  - 1.4 Aerodrome departure procedures.
  - 1.5 Climbing.
  - 1.6 Straight and level flight.
  - 1.7 Descending with power/flap.
  - 1.8 Turning :
    - Level
    - Climbing
    - Descending
    - High angles of bank
  - 1.9 Stalling:
    - Checks before stalling.
    - Flight at  $V_{S1} + 5$  kts and at  $V_{SO} + 5$  kts straight and level, climbing, descending and turning.
    - Recognition of incipient stall and recovery.
    - Recovery from a developed stall from straight and level, turning and approach configuration.

- 1.10 Flight by sole reference to instruments:
  - Straight and level.
  - Climbing and climbing turns.
  - Descending and descending turns.
  - Turns on to specified headings.
  - Recovery to straight and level flight from unusual attitudes.
  
- 1.11 Navigation and orientation:
  - Flight plan, dead reckoning and map reading.
  - Maintenance of altitude and heading.
  - Orientation, timing and revisions of ETAs.
  - Diversion to alternate aerodrome (planning and implementation).
  - Interpretation of radio navigation aids.
  - Basic instrument flying check (180 degrees turn in simulated IMC).
  - Internal checks (fuel management, systems and carburettor icing checks, etc).
  - Actions after flight.
  
- 1.12 Circuit joining procedures.
  
- 1.13 Circuit procedures/Approach and Landing:
  - Pre landing checks (Vital actions)
  - Assessment of cross-wind component
  - Normal approach
  - Flapless approach
  - Glide approach to spot landing (Group A only)
  - Short field take-off and landing
  - Bad weather circuit
  - Cross wind landing
  - Missed approach procedure
  - After landing checks
  
- 1.14 Simulated emergencies:
  - Forced landings without power (Group A only):
  - Checks procedure and judgement
  - Touch-down at a pre-determined spot
  - Action in the event of fire
  - Engine failure after take-off
  - Other simulated emergencies
  
- 1.15 Engines and systems handling
  
- 1.16 Airmanship/awareness:
  - Look out
  - Positioning (restricted airspace, hazards and weather)
  - ATC liaison
  - Aerodrome discipline
  
- 1.17 Action after flight
  - Engine shut down
  - Parking and securing aeroplane
  - Recording of flight details

- 1.18 Flight with asymmetric power (Group B only):  
 Engine failure and feathering  
 Air re-start and unfeathering  
 Alternate gear lowering procedure (if applicable)  
 Procedure for engine failure in the cruise  
 Normal manoeuvres with one engine inoperative  
 Compliance with recommended speeds

Determination of critical speeds:  
 VMCA demonstration  
 VMCG demonstration

Simulated engine failure after take-off at or above safety speed  
 Approach and go around with one engine at zero thrust  
 Approach and landing with one engine at zero thrust  
 Use of asymmetric committal height (Decision Height)

2 PPL(A) FLIGHT TEST TOLERANCE

- 2.1 The following limits are for general guidance. The CAAS Inspector or Authorised Flight Examiner will make allowance for turbulent conditions and the handling qualities and performance of the aeroplane used.

Height:

normal flight	± 100 feet
with simulated engine failure	± 150 feet

Heading / Tracking of radio aids:

normal flight	± 10°
with simulated engine failure	± 15°

Speed:

take-off and approach	+5/-0 knots
all other flight regimes	± 10 knots

INTENTIONALLY  
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## APPENDIX B

## PPL(H) TRAINING SYLLABUS

- 1 This syllabus lists all the items which should be covered during training for the flight test. The flight test will be conducted at the maximum permissible landing weight. The candidate will be required to demonstrate a satisfactory standard of knowledge and handling in any of the items listed below.
  - (a) Pre-flight inspection.
  - (b) Starting procedure; running up.
  - (c) Taxying.
  - (d) Take-off, hovering and landing into wind.
  - (e) Flying a square pattern with constant heading at speeds not exceeding 25 knots.
  - (f) Take-off, turn 360 deg each way in hovering flight, crosswind landing within limitations of the type of helicopter.
  - (g) Straight and level flight at given power settings and airspeeds.
  - (h) Climbing and descending turns.
  - (i) Steep turns at constant altitude and airspeed.
  - (j) Entry into autorotation, go-around procedure.
  - (k) Landing in simulated autorotation on a given spot.
  - (l) In servo-controlled aircraft, an approach and landing using the supplementary system.
  - (m) Recognition and correction of over-pitching.
  - (n) Limited power take-off and landing.
  - (o) Action on the event of fire in the air.
  - (p) Flight into, and out of, a restricted landing area.
  - (q) Shut down procedures.

## 2 PPL(H) FLIGHT TEST TOLERANCE

2.1 The following limits are for general guidance. The CAAS Inspector or Authorised Flight Examiner will make allowance for turbulent conditions and the handling qualities and performance of the helicopter used.

### Height:

normal forward flight	± 150 feet
with simulated major emergency	± 200 feet
hovering I.G.E. flight	± 2 feet

### Heading / Tracking of radio aids:

normal flight	± 10°
with simulated major emergency	± 15°

### Speed:

take-off and approach	-10/+15 knots
all other flight regimes	± 15 knots

### Ground drift:

T.O. hover I.G.E.	± 3 feet
Landing	± 2 feet (about 0 feet rearward or lateral flight)



**APPENDIX C**

**RECORDING AND CREDITING OF FLIGHT TIME**

Case	Operating Capacity	Aircraft Rating (A) Requirements in professional pilot licence, or Aircraft group rating in PPL where applicable	Non-pilot licence requirements	Designation in log book under 'Holder's operating capacity'	Recording of item in log book and crediting of such time toward licence experience requirements
1	2	3	4	5	6
A	Pilot-in-command (PIC)	Part 1: Appropriate PPL group	N/A	PIC or P1	Enter time in 'P1' column, Counted in full.
B	Co-pilot performing the duties of PIC under supervision of pilot-in-command (PIC U/S)  See Note 2	Part 1 or Part 2; Appropriate PPL group	N/A	PIC U/S	Enter time in 'P1' column. Counted in full toward licence experience requirements subject to certification by the pilot-in-command.
C	Co-pilot  See Note 3	Part 2 or Part 1	N/A	P2	Enter time in 'Second Pilot' or in 'Co-pilot (P2)' column. Counted in full toward overall licence experience requirements.
D	Co-pilot whilst holding PPL	Group B or C	N/A	P2	Enter times as for Case C. Counted in full towards overall licence experience requirements for professional pilots' licences.
E	Pilot acting as  (i) <b>Systems Panel Operator (SPO) in aircraft certificated for optional operation by three pilot crew; or</b>  (ii) Flight Engineer (FE) in aircraft certificated for optional or mandatory operation by two pilots + F E crew	N/A  N/A	N/A  F E licence with rating	SPO  E1	Enter time in the 'F Eng', 'Any other flying' or spare column and annotate 'SPO' or 'F Eng' as appropriate.  Not counted towards licence experience requirements.

Case	Operating Capacity	Aircraft Rating (A) Requirements in professional pilot licence, or Aircraft group rating in PPL where applicable	Non-pilot licence requirements	Designation in log book under 'Holder's operating capacity'	Recording of item in log book and crediting of such time toward licence experience requirements
1	2	3	4	5	6
F	Pilot on flight deck but not as P1, P2, SPO or F E:  (i) Acting as 'required' Flight Navigator (under Air Navigation (91 – General Operating Rules) Regulations 2018, Air Navigation (121 – Commercial Air Transport by Large Aeroplanes) Regulations 2018 or Air Navigation (135 – Commercial Air Transport by Helicopters and Small Aeroplanes) Regulations 2018);	N/A	F/N licence	N1	Enter time in the 'F/Nav', 'Any other flying' or spare column and annotate 'N1'.  Not counted toward licence experience requirements
	(ii) Pilot supervising Co-pilot activities;	Part 1	N/A	P2	Enter time for Case C and count in full toward overall licence experience requirements.
	(iii) Other flying duties	N/A	N/A	SNY	Enter time in 'Any other flying' or spare column and annotate 'SNY'. Not counted toward licence experience requirements.
G	Pilot under instruction for the purpose of gaining a licence or rating, or for conversion to an aircraft type within a PPL Aircraft Rating group.	N/A for grant of a licence or Aircraft Rating. Otherwise Part 1 or Part 2, or appropriate PPL Aircraft Rating group.	N/A	P/UT	Enter time in 'Dual' column,  Counted in full toward overall licence experience requirements.
H	Pilot under instruction on an APPROVED COURSE of CPL, CPL/IR or MPL training acting as pilot-in-command under the supervision of a flying instructor.	N/A	N/A	PIC U/S	Enter time in 'P1' column.  Counted in full toward PIC requirements for grant of a CPL, CPL/IR or MPL subject to certification by the supervising pilot and to a maximum agreed between the DGCA and the flying training organisation conducting the Approved Course.

Case	Operating Capacity	Aircraft Rating (A) Requirements in professional pilot licence, or Aircraft group rating in PPL where applicable	Non-pilot licence requirements	Designation in log book under 'Holder's operating capacity'	Recording of item in log book and crediting of such time toward licence experience requirements
1	2	3	4	5	6
J	Pilot undergoing any form of flight test other than for the grant renewal or extension of an aircraft rating Part 2.	N/A for grant of a licence or Aircraft Rating. Part 2 for upgrade of Aircraft Rating from Part 2 to Part 1.  Otherwise, Part 1 or appropriate PPL Aircraft Rating group.	N/A  N/A	PIC U/S for successful test  P/UT for unsuccessful test	For successful test enter time in 'P1' column and have it certified by the aircraft commander. For unsuccessful tests enter time in 'Dual' column.  PIC U/S time counted in full within maximum specified in Cases B and H. P/UT time counted in full toward overall licence experience requirements.
K	Pilot undergoing a flight test in the capacity of co-pilot for grant of a licence or rating or for variation of rating, or in relation to Certificate of Test.	N/A for grant of a licence or Aircraft Rating. Otherwise, Part 2.	N/A	P2	As for Case C.
L	Student pilot flying as the sole occupant of an aircraft during training for the grant of a PPL, CPL or MPL.	N/A	N/A	PIC or P1	Enter time in 'P1' column.  Counted in full.
M	Student pilot flying as pilot-in-command during training for the grant of a CPL accompanied by:  Safety pilot	PPL for appropriate Group or Exemption from holding a PPL.  As above or Part 1	N/A  N/A	PIC or P1  SNY	As for Case L.  As for Case F (iii)
N	Pilot undergoing AFI training as pilot-in-command accompanied by:  Pilot acting as 'student' for instructional purposes	Part 1; Appropriate PPL group  Part 1; Appropriate PPL group	N/A  N/A	PIC or P1  SNY	Roles in Column 2 are interchangeable between pilots. Time spent as 'P1' to be entered and counted as for Case L. Time spent as 'student' to be entered and counted as for Case F (iii).

**Notes:**

- Whenever two pilots performing duties in the same capacity, share a particular operating duty on a flight, each pilot shall only record (in the appropriate column of his personal log book), the time when he actually performed such duty in the pilot or co-pilots seat during the flight. The time spent away from duty in the respective seat shall be logged as SNY as per F(ii) in the foregoing table. Such time shall NOT count towards licence experience requirements, but shall apply for FDP and FTL.

2 A co-pilot performing the duties and functions of the pilot-in-command or under the supervision of the pilot-in-command, will be credited with the flight time towards licence experience requirements provided all the following conditions are met:

- (a) the flight conducted in an aircraft equipped to be operated by a co-pilot and the aircraft is operated in a multi-pilot operation;
- (b) the flight was conducted in an aircraft having a Certificate of Airworthiness which requires its flight crews to include not less than two pilots;
- (c) he was responsible for checking the accuracy of the flight plan, load sheet and fuel calculations for the flight;
- (d) he ensured that all crew checks were carried out in accordance with the laid down operation procedures;
- (e) throughout the flight he carried out all the duties and functions of pilot-in-command and conducted the take-off and the landing;
- (a) he resolved all meteorological, communication and air traffic control problems;
- (g) the pilot-in-command did not have to overrule any course of any course of action proposed or taken by the co-pilot; and
- (a) the pilot-in-command certifies in the co-pilot flying log book against the entry for that flight that it was carried out by the co-pilot acting as pilot-in-command under supervision. Such certification will be taken as confirming that all the foregoing conditions were met.

3 A pilot claiming flying hours as co-pilot towards meeting the overall flying experience requirements for a licence, as provided for in cases C, D, F (ii) or K, will only be credited with that flight time provided the aircraft is equipped to be operated by a co-pilot and the aircraft is operated in a multi-pilot operation, with the pilot holding an appropriate licence to perform co-pilot duties, and if:

- (a) the flight was conducted in an aircraft required by:
  - (i) its Certificate of Airworthiness; or
  - (ii) Air Navigation (91 – General Operating Rules) Regulations 2018; or
  - (iii) Air Navigation (98 – Special Operations) Regulations 2018; or
  - (iv) Air Navigation (121 – Commercial Air Transport by Large Aeroplanes) Regulations 2018; or
  - (v) Air Navigation (135 – Commercial Air Transport by Helicopters and Small Aeroplanes) Regulations 2018,to carry a crew of not less than two pilots; or
- (b) the flight was conducted by an Air Operator's Certificate (AOC) holder choosing to operate a particular aircraft as a two pilot operation and provided that the specific duties that the second pilot was required to perform on all flights in

respect of the operation of the aircraft were contained in the Operations Manual relating to the aircraft; or

(c) it was conducted in a RSAF aircraft normally flown by more than one pilot.

- 4 Flight time as PIC U/S, apart from as specifically provided for under Case J above, will only be allowable for the holder of a PPL subject to the terms of a prior agreement with the DGCA.
- 5 Any pilot conducting proficiency tests or training or supervision or supernumerary duties, from any seat other than the pilot or co-pilot seat, shall record (in the appropriate column of his logbook) such flying as SNY as per F(iii) in the foregoing table. Such time shall NOT count towards licence experience requirements, but shall apply for FDP and FTL.

## **APPENDIX D INSTRUMENT RATING FLIGHT TEST SYLLABUS AND FLIGHT TEST CONDITIONS**

### **1 FLIGHT TEST SYLLABUS**

#### **1.1 Section 1: Departure Procedure**

All pre-departure checks and drills necessary to check and prepare the aircraft and its equipment for the safe conduct of the flight. A visual take-off followed by an instrument climb-out and departure, following the routings published for the aerodrome, unless ATC otherwise directs.

#### **1.2 Section 2: Airways Procedure**

Entry into, flight within and departure from airways in accordance with ATC clearance, using tracking facilities as briefed by the CAAS Inspector or Authorised Flight Examiner.

#### **1.3 Section 3: ILS Instrument Approach Procedure**

An approach to land procedure, as published in the relevant AIP for the facility in use, descending to a specified Decision Height and position from which a direct landing may be made. Both localiser and glidepath must be used.

#### **1.4 Section 4: NDB, VOR or RNAV Instrument Approach Procedure**

This is an approach to land procedure requiring descent to minimum descent altitude/ height (MDA/H). The candidate should follow the published procedure for the facility in use. Following descent to MDA/H, altitude/height should be maintained along the final approved track to a point where either:

- (a) a landing may be safely made; or
- (b) the Missed Approach Point is reached.

In the case of (b) the published Missed Approach Procedure should be carried out. On approaches to land where timing is used to estimate the Missed Approach Point from overhead the final approach fix a candidate may be asked, at some stage on the final approach, to estimate the time or distance to the runway threshold.

**Note:** At the conclusion of Section 3:

- (a) On reaching Decision Height, the missed approach action to establish a normal climb shall be initiated by the applicant unless otherwise directed.
- (b) The missed approach procedure as published is to be flown unless otherwise as directed, during which the CAAS Inspector or Authorised Flight Examiner will also simulate failure of an engine (multi-engine aeroplanes only).

- (c) A safe flight path is to be established with simulated engine failure, followed by identification of failed engine and completion of essential actions. For multi-engine aeroplanes, feathering will be simulated by the CAAS Inspector or Authorised Flight Examiner at an appropriate stage.
- (d) A climbing flight path is to be established at the recommended speed, following the published missed approach procedure or as directed by ATC, to a position from which the next instrument approach procedure may commence (Section 4 will be carried out with a simulated engine failure in the case of a multi-engine aeroplane.)

## 1.5 Sub-Sections

- 1.5.1 A series of 4 sub-sections are defined to identify procedures or manoeuvres within main sections that need to be carried out in particular circumstances.

### 1.5.2 *Sub-Station A: Preliminary and External Checks*

The checks specified in paragraph 1.1 up to and including starting engines.

### 1.5.3 *Sub-Section B: Holding Procedure*

Standard entry into a holding pattern and completion of at least one pattern of the appropriate holding procedure, including any necessary adjustments to leave the holding pattern at the Onwards Clearance Time or Expected Approach Time, if one has been specified by ATC.

### 1.5.4 *Sub-Section C: Engine Failure Procedures (multi-engine aircraft only)*

Identification of failed engine and simulated failure procedures. Basic handling and instrument flying following simulated engine failure.

### 1.5.5 *Sub-Section D: Limited Panel*

Basic handling to cover straight and level flight, turns onto specified headings and recovery from unusual attitudes.

## 2 TEST CONDITIONS

- 2.1 Decision Heights and Minimum Descent Heights (or altitudes) must be calculated by the applicant, and agreed by the CAAS Inspector or Authorised Flight Examiner.
- 2.2 During the test the applicant will be expected to carry out all the duties appropriate to a sole flight crew member or, in the case of a test for a multi-crew rating, the handling pilot.
- 2.3 In the case of a multi-crew rating, the applicant may take the test in either the PIC's or co-pilot seat, and will be expected to call upon the other flight crew members to help in accordance with the normal crew drills for that type of aeroplane.

- 2.4 Where the CAAS Inspector or Authorised Flight Examiner occupies the PIC's or co-pilot seat, he will be designated as PIC. Where he does not occupy either of these positions, the pilot occupying either one of the seats who is not undergoing the test will be designated as PIC who must be authorised by the operator of the aeroplane to act as a training or check captain on type.
- 2.5 The applicant must indicate to the CAAS Inspector or Authorised Flight Examiner the checks and duties which he is performing, including identification of radio facilities. Checks must be in accordance with the authorised checklist for the aircraft, on which the test is being taken. Power settings and speeds should be agreed with the CAAS Inspector or Authorised Flight Examiner before the start of the flight, and will normally be those given in the operations or flight manual for the aircraft type in question.
- 2.6 The applicant, with the remainder of the crew in the case of a test on a multi-crew aeroplane, will be briefed by the CAAS Inspector or Authorised Flight Examiner before the test. The applicant will be responsible for ensuring that all equipment and documentation necessary for the planning and execution of the flight is available.
- 2.7 The CAAS Inspector or Authorised Flight Examiner will choose the route for the test. It may start and finish at the same aerodrome or may end at another aerodrome. Applicants cannot decline to fly the nominated route solely because they are unfamiliar with it.
- 2.8 The CAAS Inspector or Authorised Flight Examiner may be called upon by an applicant to check for the presence of airframe icing but will otherwise take no part in the operation of the aircraft except where he considers it necessary to intervene in the interests of safety or to avoid unacceptable delay to other air traffic.
- 2.9 The test will be assessed assuming that it is the first flight of the day, that the aircraft has been parked outside overnight in freezing conditions, that cloud is entered after take-off at 150 ft above aerodrome level, and that light icing conditions and cloud are forecast at all levels through which the test is conducted.



### 3 FLIGHT TEST TOLERANCE

3.1 The limits given below are for general guidance. Allowance will be made for turbulent conditions and for the handling qualities and performance of the aircraft used.

<u>Height</u>	NORMAL FLIGHT	FLIGHT WITH SIMULATED ASYMMETRIC FLIGHT POWER
(a) In level flight (other than at Decision Height)	+/-100 ft	+/-100 ft
(b) For starting go-around at Decision Height	+50 ft / 0 ft	+50 ft / 0 ft
(c) Minimum Descent Height/ MAP/altitude	+100 ft / 0 ft	+100 ft / 0 ft
Tracking on Radio Navigation Aids		
Tracking on Radio Navigation Aids	+/-5 deg	+/-5 deg
ILS Approach	half-scale deflection on Localiser and Glidepath	half-scale deflection on Localiser and Glidepath
Heading	+/-5 deg	+/-10 deg
Speed	+/-5 kts (Aeroplanes)  +/-10 kts (Helicopters)	+10/-5 kts (Aeroplanes)  +/-10 kts (Helicopters)