

# Singapore Air Safety Publication Part 7 Authorised Flight Examiners

Publication of the  
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*Copies of this document may be obtained from  
the CAAS website at [www.caas.gov.sg](http://www.caas.gov.sg)*

## FOREWORD

Pursuant to paragraph 20(14) of the Air Navigation Order (ANO), this Singapore Air Safety Publication (SASP) contains the requirements for the initial appointment and reappointment of an Authorised Flight Examiner (AFE) authorised to conduct flight tests under paragraph 20(13)(b) of the ANO. Any person applying for or holding an AFE Certificate 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 certificate.

3 Amendments to the SASP are notified through Notices of Amendments (NOA) as shall take effect from the date stipulated in the NOA.

4 Queries on Authorised Flight Examiners requirements should be referred to:

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# CHAPTER 1      FLIGHT EXAMINER

## 1.1      Introduction

- 1.1.1 This document prescribes the requirements to be eligible for appointment as a Flight Examiner. It also provides guidance on the procedures to be followed and the standards to be applied when conducting tests for the issue and renewal of the Instrument Rating and Aircraft Type Rating. Flying instruction and finer points of airmanship are outside the scope of this publication and are not covered.
- 1.1.2 Further advice or clarification on any of the points covered in this document or guidance on policy may be obtained from the CAAS Licensing Section of the Safety Policy & Licensing Division.

## 1.2      Flight Examiner Appointments

- 1.2.1 The DGCA may appoint a Flight Examiner from within an organisation such as an Aviation Training Organisation, an Air Operator Certificate Holder or a flying club. There are two categories of Flight Examiners:
- (a) Authorised Flight Examiner (AFE) who conducts flight tests on behalf of the DGCA.
  - (b) Senior Authorised Flight Examiner (SAFE) who assists in the surveillance of AFEs within their organisation.
- 1.2.2 A Flight Examiner nominee will not be considered for initial appointment if he has been subject to any technical or disciplinary enquiry in the 5 years preceding the application unless the organisation is able to provide justification to support the appointment.
- 1.2.3 A Flight Examiner will not be considered for reappointment if he has been subject to any technical or disciplinary enquiry in the 2 years preceding the application unless the organisation is able to provide justification to support the reappointment.
- 1.2.4 The Flight Examiner shall be limited to conduct flight tests or AFE surveillance on the authorised aircraft type specified in the certificate or letter of authorisation within his organisation. Except for Group A or B aircraft types, the Flight Examiner shall not exercise his examiner privileges on more than one aircraft type. A Flight Examiner shall only conduct tests on aircraft types which he is rated.
- 1.2.5 The Flight Examiner shall not conduct any tests or AFE surveillance when the certificate or letter of authorisation has lapsed. Similarly, the Flight Examiner's authority may not be exercised if the licence, medical or appropriate rating has lapsed.
- 1.2.6 The Flight Examiner shall carry his licence including the certificate and/or letter of authorisation when conducting tests or checks, since candidates undergoing such tests are entitled to satisfy themselves that the Flight Examiner is qualified to carry out the test and authorised to sign the appropriate certificates or reports.
- 1.2.7 The organisation shall maintain a current list of Flight Examiners to track their recency and achievement status. The DGCA shall be immediately informed due to any of the following:
- (a) Any changes which may affect the Flight Examiner's employment status within the organisation.
  - (b) The Flight Examiner is assigned to a new fleet or transitions to another aircraft type.

- (c) The Flight Examiner relinquishes his role.
- (d) The Flight Examiner has not met the minimum requirements for reappointment.
- (e) The Flight Examiner has been subjected to any technical and/or non-technical disciplinary enquiry.
- (f) The Flight Examiner has any restrictions to the privileges of his licence resulting from a medical condition. His examining authorisation shall be established before further flight tests may be conducted.

### **1.3 Independence of Flight Examiners**

- 1.3.1 The organisation shall ensure there are appropriate procedures in place to avoid situations whereby the person giving the instruction is also responsible for evaluating the student on completion of the instruction. In the event that such a scenario is unavoidable, prior consent shall be obtained from the DGCA.
- 1.3.2 The organisation shall ensure appropriate measures to avoid situations whereby the Flight Examiner assigned to conduct the test is in any way related to the candidate. Should such a situation arise, the Flight Examiner shall not proceed to conduct the test.

### **1.4 Revocation, Suspension or Withdrawal of Authorisation**

- 1.4.1 The flight tests and or flight surveillance checks shall be carried out to the standards set out in this publication and the Operator's training manual. Failure to comply shall result in the suspension of the Flight Examiner's authorisation and possible permanent revocation.
- 1.4.2 The DGCA may review the Flight Examiner's appointment if he has been subject to any technical or disciplinary enquiry during his appointment tenure.
- 1.4.3 The Flight Examiner's letter/ certificate shall also be returned to the DGCA and voided due to any of the following:
  - (a) The Flight Examiner is no longer required by the organisation to exercise his privileges.
  - (b) The Flight Examiner is relinquishing his role.
  - (c) The Flight Examiner ceases to be employed with the organisation.

## **CHAPTER 2          AUTHORISED FLIGHT EXAMINER (AFE)**

### **2.1          Introduction**

2.1.1      The AFE shall display qualities of tact, detachment and impartiality well above the average, particularly when the candidate is more senior or a personal friend or a colleague. It is also vital that the person appointed to the AFE position have good knowledge of the operational procedures and the systems on the aircraft. Proper standards of airmanship and instrument flying shall be insisted at all times and applied with consistency and without favour.

### **2.2          Authority of the AFE**

2.2.1      Pursuant to paragraph 20(13)(b) of the Air Navigation Order, an AFE may be appointed to conduct flight tests on behalf of the DGCA. The AFE will be issued with a “Certificate of Authorised Flight Examiner”, which shall be valid for a maximum period of 24 months.

2.2.2      The AFE may be authorised to conduct one or more of the following tests:

- (a)      PPL Final Handling Test (FHT)
- (b)      CPL General Flight Test (GFT)
- (c)      Aircraft Type Rating Test – Initial issue and renewal
- (d)      Instrument Rating Test – Initial issue and renewal
- (e)      Assistant/ Flying Instructor Rating Test – Initial issue and renewal
- (f)      MPL Final Assessment Flight Test

2.2.3      The AFE authorised to conduct tests on both aircraft and simulator may conduct a test in an aircraft provided that within the preceding 12 months:

- (a)      He has conducted such a test in an aircraft within the preceding 90 days; or
- (b)      He has been certified by another Flight Examiner, who is current per sub-paragraph (a) above, to have satisfactorily performed a practice session in an approved simulator in the preceding 35 days.

2.2.4      If the AFE has not conducted any aircraft test within the preceding 12 months, he may conduct a test in an aircraft provided that he has been certified by a CAAS inspector or an SAFE to have satisfactorily performed a practice session in an approved simulator in the preceding 35 days.

2.2.5      When conducting a flight test for the grant or renewal of an Aircraft Type Rating, the AFE’s licence shall include an appropriate Certificate of Test or Certificate of Experience in respect of the type of aircraft in which the test is being conducted.

2.2.6      Should an AFE conduct an instrument rating renewal test in an aircraft type not endorsed in Part I of his licence, he shall ensure that the aircraft carries properly qualified crew in accordance with the aircraft's Certificate of Airworthiness. These crew members shall occupy the appropriate crew seats and the AFE should occupy a position that enables him to fully observe the actions of the pilot under test.

## **2.3 Initial Appointment**

### **2.3.1 Minimum Qualifications**

#### **2.3.1.1 Authorisation to Conduct Aircraft Type Rating Test/ Flying Instructor Rating Test for Pilots on Multi Crew Certificated Aircraft**

The AFE nominee, seeking authorisation to conduct Aircraft Type Rating Tests or Flying Instructor Rating Tests for pilots on multi crew certificated aircraft, shall:

- (a) hold a valid Singapore ATPL including the Aircraft Type Rating for which the authorisation is sought;
- (b) hold a valid Flying Instructor (FI) Rating for the aircraft type for which the authorisation is sought;
- (c) be qualified by the organisation supporting the nomination, to act as pilot-in-command (PIC) on the aircraft type for which the authorisation is sought;
- (d) have at least 5,000 hours of total flying experience on multi crew certificated aircraft;
- (e) have at least 1,000 hours of flying experience as PIC on multi crew certificated aircraft;
- (f) have at least 500 hours of flying experience as PIC on the aircraft type for which the authorisation is sought;
- (g) have at least 300 hours of instructional experience on the aircraft type for which the authorisation is sought, of which, at least 70 hours of instruction conducted for type rating training, recurrent training or reinforcement training whilst holding a Singapore FI Rating.

#### **2.3.1.2 Authorisation to Conduct MPL Final Assessment Test**

In relation to the conduct of the final assessment flight test for the initial issue of an MPL(A), the AFE nominee shall in addition to the requirements specified in paragraph 2.3.1.1, be qualified to instruct in the advanced phase of an MPL training course.

#### **2.3.1.3 Authorisation to Conduct Aircraft Type Rating Test for Flight Engineers**

The AFE nominee, seeking authorisation to conduct Aircraft Type Rating Tests for flight engineers, shall:

- (a) hold a valid Singapore Flight Engineer Licence including the Aircraft Type Rating for which the authorisation is sought;
- (b) hold a valid Instructor Rating for the aircraft type for which the authorisation is sought;
- (c) have at least 5,000 hours of total flight engineering experience, of which, 500 hours shall be on the aircraft type for which the authorisation is sought; and
- (d) have at least 300 hours of instructional experience on the aircraft type for which the authorisation is sought.

2.3.1.4 Authorisation to Conduct PPL Final Handling Test/ CPL General Flight Test / Aircraft Type Rating Test for Pilots on Single Crew Certificated Aircraft

The AFE nominee, seeking authorisation to conduct PPL Final Handling Test, CPL General Flight Test or Aircraft Type Rating Test for pilots on single crew certificated aircraft, shall:

- (a) hold a valid Singapore CPL or ATPL including the Aircraft Type Rating(s) for which the authorisation is sought;
- (b) hold a valid FI Rating for the aircraft type(s) for which the authorisation is sought;
- (c) have at least 1,250 hours of total flying experience on either Group A or Group B aircraft types if the authorisation is sought for the conduct of PPL Final Handling Tests or Aircraft Type Rating Tests;
- (d) have at least 1,500 hours of total flying experience on either Group A or Group B aircraft types if authorisation is sought to conduct CPL General Flight Tests;
- (e) have at least 1,000 hours of flying experience as PIC on either Group A or Group B aircraft types; and
- (f) have at least 750 hours of ab-initio instructional experience on either Group A or Group B aircraft types, of which 200 hours shall be on multi-engine aircraft types if authorisation is sought to conduct flight tests in a multi-engine single crew certificated aircraft.

2.3.1.4A Authorisation to Conduct Assistant Flying Instructor Rating Test or Flying Instructor Rating Test for Pilots on Single Crew Certificated Aircraft

The AFE nominee, seeking authorisation to conduct Assistant Flying Instructor Rating Test or Flying Instructor Rating Test for pilots on single crew certificated aircraft, shall:

- (a) hold a valid Singapore CPL or ATPL including the Aircraft Type Rating(s) for which the authorisation is sought;
- (b) hold a valid FI Rating for the aircraft type(s) for which the authorisation is sought;
- (c) have at least 1,700 hours of total flying experience on either Group A or Group B aircraft types;
- (d) have at least 1,200 hours of flying experience as PIC on either Group A or Group B aircraft types; and
- (e) have at least 950 hours of ab-initio instructional experience on either Group A or Group B aircraft types, of which 200 hours shall be on multi-engine aircraft types if authorisation is sought to conduct flight tests in a multi-engine single crew certificated aircraft.

### 2.3.1.5 Authorisation to Conduct Instrument Rating (IR) Test for Pilots

The AFE nominee, seeking authorisation to conduct Instrument Rating Test, shall, in addition to the requirements specified in paragraphs 2.3.1.1, 2.3.1.2 and 2.3.1.4:

- (a) hold a valid and appropriate Instrument Rating. For example, when the AFE nominee holds only a “type specific instrument rating”, the examination authority shall be restricted to conduct “type specific instrument rating” only;
- (b) have at least 250 hours of actual or simulated instrument flight time under Instrument Flight Rules; and
- (c) have at least 100 hours on instrument instructional duties.

2.3.1.6 Notwithstanding paragraphs 2.3.1.1, 2.3.1.2, 2.3.1.3, 2.3.1.4, 2.3.1.5 and 2.3.2, the AFE nominee(s) forming the initial core group of trained personnel for:

- (a) a new Air Operator; or
- (b) a new FTO or Flying Club; or
- (c) a new aircraft type introduced into the Singapore Register; or
- (d) a new aircraft type utilised by the Air Operator, FTO or Flying Club.

may, at the sole discretion of the DGCA, be waived from the minimum qualifications subject to the nominee’s previous experience as an FI or AFE.

## 2.3.2 **Appointment Process**

2.3.2.1 The process for the appointment of an AFE shall be as follows:

- (a) The organisation shall submit a nomination letter to the DGCA, in support of the AFE nominee, after ensuring he has met the minimum qualification requirements. The organisation shall provide the necessary justifications for the AFE nomination.
- (b) Upon acceptance of the nomination by CAAS, the AFE nominee shall attend the AFE Induction Briefing.
- (c) The AFE nominee shall undergo an AFE Training Programme which shall be submitted by the organisation for the DGCA’s approval. The training programme shall include, but not be limited to, pre-flight briefings, post flights debriefs and practical training on the conduct of proficiency tests. The practical training shall be conducted based on the flight test and the aircraft type for which authorisation is sought. The AFE Training Programme shall comprise, at the minimum, the following:
  - 1) For Authorisation to Conduct MPL Final Assessment Test, Aircraft Type Rating Test for Pilots or Flight Engineers, Flying, Instrument Rating Test & Flying Instructor Rating Test on a Multi Crew Certificated Aircraft
    - (i) Two 4-hour simulator sessions where in each session, the AFE nominee shall observe an AFE conduct the flight test for the first two hours and conduct the same test under the supervision of the AFE for the next two hours.

- (ii) One 4-hour simulator session where the AFE nominee shall conduct the flight test while being assessed by an AFE who will recommend him if he is ready for the AFE Flight Surveillance Check.
- (iii) The AFE Training Programme shall be completed within 8 weeks from the commencement of the first simulator session.

Note: The AFE nominee shall not sign on the test report or in the licence of the flight crew being tested.

2) For Authorisation to Conduct PPL Final Handling Test/ CPL General Flight Test/ Aircraft Type Rating Test, Instrument Rating Test/ Assistant Flying Instructor Rating Test & Flying Instructor Rating Test on a Single Crew Certificated Aircraft

- (i) Three flights where in each flight, the AFE nominee shall observe an AFE conduct flight tests.
- (ii) Three flights where in each flight, the AFE nominee shall conduct flight tests under the supervision of an AFE.
- (iii) One flight where the AFE nominee shall conduct a flight test while being assessed by the AFE who will recommend him if he is ready for the AFE Flight Surveillance Check.
- (iv) The AFE Training Programme shall be completed within 16 weeks from the commencement of the first flight.

Note: The AFE nominee shall not sign on the test report or in the licence of the flight crew being tested.

- (d) The AFE nominee shall satisfactorily complete the AFE Flight Surveillance Check conducted by a CAAS inspector. The AFE Flight Surveillance Check shall entail the observation of the AFE nominee in the conduct of those tests for which he is seeking authorisation.

2.3.2.2 The DGCA may vary or waive the AFE Training Programme stated in paragraph 2.3.2.1(c)(2) for an AFE nominee who holds a valid foreign flight examiner authorisation that is acceptable to the DGCA.

2.3.2.3 The training and AFE Flight Surveillance Check shall be carried out in a Singapore registered aircraft or an approved flight simulation training device where applicable.

2.3.2.4 Notwithstanding paragraph 2.3.2.2, a nominated AFE, employed by an approved Aviation Training Organisation (ATO) located outside Singapore, may carry out the required training and AFE Flight Surveillance Check in a non-Singapore registered aircraft that is accepted for use under that ATO's Certificate of Approval.

2.3.2.5 The AFE appointment tenure shall commence on the date of issue of the certificate.

## **2.4 Reappointment Criteria**

2.4.1 All AFE reappointments shall be at the sole discretion of the DGCA. In order for the AFE to be eligible for reappointment, he shall:

- (a) hold a valid licence including the appropriate ratings such as the Flying Instructor Rating;
- (b) produce evidence of having conducted at least 12 proficiency tests during the appointment term, with at least two proficiency tests conducted in every 180-day period commencing from the date of appointment. The tests conducted may be initial or renewal tests;
- (c) if authorised to conduct Instrument Rating Tests, produce evidence of having conducted at least 12 Instrument Rating Tests during the appointment term, with at least two instrument rating tests conducted in every 180-day period commencing from the date of appointment. The tests conducted may be initial or renewal tests;
- (d) have satisfactorily completed the AFE Flight Surveillance Check conducted by either an SAFE or a CAAS inspector not more than 6 months prior to the expiry date of his certificate. The DGCA may, at his discretion, require an AFE who has completed the flight surveillance check to undergo another check to re-assess his proficiency; and
- (e) have attended the CAAS AFE Refresher Briefing.

2.4.2 The DGCA, may, at his discretion, vary or waive the requirements stated in 2.4.1 for cases where the AFE appointment is less than 2 years.

2.4.3 Should an AFE who failed to meet the reappointment requirements stated in 2.4.1 intend to seek reappointment, consideration may be given to reappoint the AFE provided that he successfully re completes the appointment process stated in paragraph 2.3.2. The DGCA, may vary or waive the requirements stated in paragraph 2.3.2 as he deems fit.

2.4.4 For an incumbent AFE converting to a new aircraft type or reactivating a previous aircraft type, he shall:

- (a) hold a valid FI rating specific to the converted aircraft type;
- (b) have at least 25 hours as PIC on the converted aircraft type; and
- (c) satisfactorily complete the AFE Flight Surveillance Check conducted by either an SAFE or a CAAS inspector.

## **2.5 Records of Tests**

2.5.1 The AFE and the organisation shall maintain a record of all the persons tested including but not limited to the dates and results of those tests. However, the organisation's records of periodic competency are acceptable provided they are annotated to show that a Certificate of Test was signed on satisfactory completion of each test. This record shall be kept for a minimum of five years and shall be readily available when requested for inspection by the DGCA.

2.5.2 Similarly, any test marking sheets shall be kept for a minimum of five years and shall be readily available when requested for inspection by the DGCA.

2.5.3 It is recommended that the AFE keeps notes of any failures recorded and the reasons for each failure in the event that there is an appeal against the conduct of the test.



## **CHAPTER 3 SENIOR AUTHORISED FLIGHT EXAMINER (SAFE)**

### **3.1 Introduction**

- 3.1.1 The DGCA may, at its sole discretion, appoint a suitably qualified person as an SAFE. The SAFE shall assist in surveying and evaluating the performance of AFE in their respective organisations and assigned aircraft type. Such surveillance and evaluation will be carried out when an AFE is conducting a flight test on behalf of the DGCA.
- 3.1.2 The safety, efficiency and regularity of air navigation depends on a large extent the integrity, professionalism and the operational competency of our flight crew. Legislation demands that operational standards be tested on a regular basis. Therefore, the role of AFE in assessing and measuring these standards against international safety norms cannot be understated. Consequently, AFE surveillance is an important aspect of “safety oversight”.

### **3.2 Authority of the SAFE**

- 3.2.1 Pursuant to paragraph 20(13)(b) of the Air Navigation Order, an SAFE may be appointed to conduct AFE Flight Surveillance Checks on AFEs on behalf of the DGCA. The SAFE will be issued with a “Letter of Authorisation”, which shall be valid for a maximum period of 24 months.

### **3.3 Initial Appointment**

#### **3.3.1 Criteria**

- 3.3.1.1 To qualify for the SAFE appointment, the SAFE nominee shall have served as an AFE for at least 3 consecutive years immediately prior to the appointment and shall continue to hold a valid “Certificate of AFE”.

#### **3.3.2 Appointment Process**

- 3.3.2.1 The process for the appointment of an SAFE shall be as follows:
- (a) The organisation shall submit a nomination letter to the DGCA, in support of the SAFE nominee, after ensuring he has met the minimum qualification requirements. The organisation shall provide justification for the SAFE nomination.
  - (b) Upon acceptance of the nomination by CAAS, the SAFE nominee shall attend the SAFE Induction Briefing.
  - (c) The SAFE nominee shall satisfactorily complete the SAFE Flight Surveillance Check conducted by a CAAS inspector.
- 3.3.2.2 The SAFE Flight Surveillance Check shall be carried out in a Singapore registered aircraft or an approved flight simulation training device where applicable.
- 3.3.2.3 Notwithstanding paragraph 3.3.2.2, a nominated SAFE, employed by an approved Aviation Training Organisation (ATO) located outside Singapore, may carry out the required training and SAFE Flight Surveillance Check in a non-Singapore registered aircraft that is accepted for use under that ATO’s Certificate of Approval.
- 3.3.2.4 The SAFE appointment tenure shall commence on the date of issue of the “Letter of Appointment”.

### **3.4 Reappointment Criteria**

- 3.4.1 All SAFE reappointments shall be at the sole discretion of the DGCA. In order for the SAFE to be eligible for reappointment, he shall:
- (a) hold a valid authorisation to act as an AFE. The application to be reappointed as an SAFE shall not take precedence over the application to be reappointed as an AFE. However, the SAFE may submit both applications together at the same time;
  - (b) produce evidence of having conducted at least 4 AFE Flight Surveillance Checks during the appointment term, with at least one conducted in every 180-day period commencing from the date of appointment; and
  - (c) have satisfactorily completed the SAFE Flight Surveillance Check conducted by a CAAS inspector not more than 6 months prior to the expiry date of his authorisation letter.
- 3.4.2 The DGCA may, at his discretion, vary or waive the requirements stated in 3.4.1 for cases in which the SAFE appointment is less than 2 years.
- 3.4.3 Should an SAFE who failed to meet the reappointment requirements stated in 3.4.1 intend to seek reappointment, consideration may be given to reappoint the SAFE provided that he successfully re completes the appointment process stated in paragraph 3.3.2. The DGCA, may vary or waive the requirements stated in paragraph 3.3.2, as he deems fit.

### **3.5 AFE Flight Surveillance Report**

- 3.5.1 The SAFE shall be required to submit his application in the form and manner prescribed by the DGCA for AFE Flight Surveillance Report. The report shall be submitted within 5 working days from the date of the flight surveillance being conducted. The form may be obtained from the Licensing Office.
- 3.5.2 In the case of an AFE not meeting the standards, the SAFE shall brief the AFE accordingly and inform him of the probable withdrawal of his AFE authorisation. The SAFE shall immediately apprise the DGCA and the organisation of the situation, in order that alternative arrangements may be made by the organisation to minimise a delay or loss to the flying/ simulator programme.

## CHAPTER 4      FLIGHT TESTS

### 4.1      Types of Tests

#### 4.1.1      PPL Final Handling Test (FHT)

The purpose of the PPL FHT is to establish that the candidate can demonstrate the ability to perform as pilot-in-command of an aeroplane with a degree of competency appropriate to the privileges granted to the holder of a PPL, 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.

#### 4.1.2      CPL General Flight Test (GFT)

The purpose of the CPL GFT is to ensure the candidate can demonstrate the ability to perform as pilot-in-command of an aeroplane, the procedures and manoeuvres with degree of competency appropriate to the privileges granted to the holder of a CPL, 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.
- (e)      maintain control of the aeroplane at all times in a manner such that successful outcome of a procedure or manoeuvre is never seriously in doubt.

For candidates who have completed an approved course of training for the CPL/IR (Aeroplanes), the General Flight Test may be combined with the Instrument Rating Flight Test. This combined GFT/IR test is conducted in accordance to a syllabus approved by CAAS and carried out by the approved FTO.

#### 4.1.3      Instrument Rating Test (Initial/ Renewal)

The purpose of the instrument rating renewal test is to establish whether the holder has achieved/maintained the standard of proficiency necessary for the safe operation of an aircraft in controlled airspace in compliance with Instrument Flight Rules.

An instrument rating is valid for a period of 12 months from the date of a successful test. It may be renewed at any time by undergoing a further test. An Initial Instrument Rating test will be required if the instrument rating has lapsed for more than 12 months.

#### 4.1.4 Aircraft Type Rating Test (Initial/ Renewal)

The purpose of the Aircraft Type Rating initial and renewal tests is to establish that the candidate has achieved/ maintained the standard of proficiency necessary for safe operation of the relevant aircraft type in visual and instrument meteorological conditions under specified normal and/or abnormal conditions as appropriate. An Aircraft Type Rating is valid for a period of six months from the date of a successful test for the issue or renewal of the rating. However, where two tests have been passed within a period of not less than four months between them, the period of validity may be extended to a maximum of 12 months from the date of the first test. See also paragraphs 4.4 and 4.5.

#### 4.1.5 Flying Instructor Rating Test (Initial/ Renewal)

The purpose of the Flying Instructor/ Assistant Flying Instructor Rating Test is to establish that the candidate can demonstrate an acceptable level of flight instructional technique including demonstrations, student practices, recognition and correction of common student errors, that is appropriate for the initial grant or renewal of such a Rating.

The Instructor Rating is revalidated through the appropriate Briefing and Flight Test every twelve months in the case of an Assistant Flying Instructor Rating, or twenty-four months in the case of a Flying Instructor Rating.

- 4.1.6 Should a rating have lapsed for more than five years, the DGCA may prescribe additional revalidation requirements as he deems fit.

## 4.2 **Conduct of Tests**

### 4.2.1 **General Considerations**

- 4.2.1.1 In practice for an Air Operator, an instrument rating renewal test may be integrated with the proficiency check in one detail (combined test), or conducted separately. The proficiency check includes the tests required for the aircraft type rating renewal. No flight simulator or training device may be used for testing unless it is specifically approved for that purpose by the DGCA. Aircraft testing is thus normally confined to those items of the initial type-rating test not covered by the simulator's approval (see Appendix A).
- 4.2.1.2 No relaxation of the assessment standards is permitted when a combined test is conducted. Candidates shall demonstrate their ability to fly the aircraft or the approved simulator to the laid down tolerances in all respects.
- 4.2.1.3 Before commencing any test, the Flight Examiner shall be satisfied as far as possible that the simulator is serviceable and fit in every way for the proposed detail, including compliance with the simulated aircraft's Minimum Equipment List. He shall be aware of any deficiency of the flight simulator (either mechanically or in system simulation fidelity) and the visual system that detracts from the test being carried out. If shortcomings of the simulator are likely to affect the candidate's performance in any way, the test should be deferred until the fault(s) have been rectified.
- 4.2.1.4 Should a deficiency of the simulator affect the conduct of the test, the deficiency shall be reported and the particular aspect of the test that is affected is to be deferred accordingly. The particular aspect of the test that was deferred shall be completed within the time period allowed to complete the test. Exceeding which, the candidate shall be required to retake the entire test.
- 4.2.1.5 If a candidate complains about the performance or the feel of the simulator, the Flight Examiner should ask him whether he wishes to continue with the test. If he does not wish to continue, the Flight Examiner should halt the test and investigate the validity of the candidate's complaint. If the

complaint is justified, a complete retest should be carried out once the problem has been rectified. On the other hand, if the Flight Examiner believes the simulator is satisfactory, the test shall resume and be completed as planned.

4.2.1.6 In exceptional circumstances, such as prolonged unserviceability or unavailability of an approved simulator, it may be necessary to conduct the renewal of an Aircraft Rating and/or Instrument Rating in an aircraft. As such, additional factors need to be taken into consideration. Refer to Appendix A for additional guidance on the conduct of such tests.

## **4.2.2 Pre-flight Briefing**

4.2.2.1 To obtain maximum benefit from both the pre-flight briefing and post-flight debriefing, the Flight Examiner should ensure that suitable accommodation is available for these activities to be carried out in privacy and free from interruption.

4.2.2.2 The performance of a candidate under test can be adversely affected, to some degree, by nervous tension or if they feel threatened in any way. The Flight Examiner can help to alleviate this situation by adopting a friendly and sympathetic manner. Ensure that the candidate is comfortable and avoid any suggestion of haste during the briefing. Clear and unhurried instructions will not only serve to put the candidate at his ease, but will ensure that the test proceeds smoothly and without delay. Encourage the candidate to ask questions at the conclusion of each section of the briefing.

4.2.2.3 Copies of all relevant civil aviation publications and instructions, Operator operations manuals, the current meteorological forecast, and relevant route and approach charts should be available for use by the candidate before and during briefing.

4.2.2.4 The candidate's licence should be checked for the following before commencing the briefing:

- Licence is valid and signed by the holder.
- R/T licence is valid.
- The dates when the Certificates of Test for instrument and aircraft ratings were last signed.
- Medical certificate is valid and note any limitations e.g. holder to have available (or wear) glasses.

4.2.2.5 The briefing should cover the following relevant points:

- The purpose of the test.
- The candidate will carry out the test from the pilot's seat which he normally occupies during line operations.
- The occupant of the other pilot's seat will act as and carry out support duties that can normally be expected of a competent co-pilot. The co-pilot should not prompt the candidate under test in a manner which is not normally expected by the two-man-crew operation, or be perceived as instruction or guidance.
- The candidate is responsible for the management of the flight, including compliance with all Air Traffic Control instructions and clearances.
- The aircraft will be flown in accordance with the Operator's standard operating procedures as specified in the Operator's operations manual and that full use should be made of check lists and drill cards.
- The candidate is to initiate all Radio Telephony calls as necessary and that the tuning and identification of radio navigation aids is to be in accordance with normal Operator practice.
- For an instrument rating test, icing conditions prevail from ground level upwards. The candidate can expect that the cloud ceiling and visibility will be close to the lowest minima specified in the Operator operations manual. Stress that the aircraft should be operated accordingly.
- Confirm with the candidate the speeds to be flown during each phase of the flight and for each

configuration.

- Confirm with the candidate the minima to be used with each approach aid.

4.2.2.6 At the conclusion of the briefing ask the candidate if he has any further questions. Then ask him to acknowledge that he has been properly briefed and that he has fully understood the briefing.

4.2.2.7 In the case of an instrument rating test on an approved flight simulator, the briefing is also an appropriate time to test the candidate's knowledge of cold weather procedures. Questions should not be limited to the requirements during the external check, but also other aspects of operations in icing conditions and at snow covered airports e.g. holdover times after the aircraft has been de-iced.

### 4.2.3 Assessment System

4.2.3.1 It would be an impossible task to devise a comprehensive formula which a Flight Examiner could use as the sole reference when assessing a candidate's performance during a test. Nevertheless, it is essential that a high degree of standardisation is maintained and the following paragraphs are intended as a guide to assist Flight Examiners in reaching a fair verdict in borderline cases.

4.2.3.2 The basic tolerances detailed below should not be achieved at the expense of smoothness and good co-ordination. However, it should be appreciated that even a good pilot may be distracted and exceed them momentarily without deserving to fail a test. In such cases the decision as to how far or for how long the candidate may exceed these tolerances cannot be left entirely to the Examiner's discretion and guidance is given on how to apply the tolerances to individual cases of inaccuracy.

#### 4.2.3.3 Height tolerances

The basic tolerance for height keeping in both normal and asymmetric flight is +/-100 feet for both normal and asymmetric thrust conditions, and, while the candidate need not be failed for an error of more than 100 feet, the Flight Examiner should consider awarding an individual a fail point for any of the following:-

- A height error exceeding 200 feet.
- A height error of +/-100 feet maintained without any attempt to correct the deviation, for longer than approximately 15 seconds depending on the circumstances.
- Following a precision approach, failure to initiate a go-around within +50 feet and zero (0) feet of the appropriate DH or MDA.
- When decision height is used during low minima ILS approaches it is essential that the missed approach shall be initiated at the DA. The fail point in this instance is the failure to *initiate* the missed approach *at the DA*. It shall be appreciated that some height loss will occur due to the aircraft's momentum. Height loss in excess of what can be expected for the aircraft type will also be a failure point.
- Following a non-precision approach, failure to maintain minimum descent altitude within 0 and +100 feet required.

The above tolerances may be extended if the handling characteristics of the aircraft and/or turbulent conditions make their application excessively demanding. The Flight Examiner should rely on his knowledge and experience of the aircraft type when making such judgements. In turbulent conditions, the candidate is expected to make due allowance when initiating a go-around or maintaining minimum descent altitude/ height.

#### 4.2.3.4 Speed control

The basic tolerance for speed control is +/- 5 knots of the target speed for the configuration and/or phase of flight if the tests conducted in normal conditions and +10/-5 knots when operating in asymmetric thrust conditions. The Flight Examiner should consider awarding a fail point for any of the following:

- An airspeed error of more than 15 knots at any time.
- An airspeed error exceeding +10 knots and -5 knots is maintained, without any attempt to correct the deviation, for longer than approximately 15 seconds, depending on the circumstances (but see paragraph 4.2.3.6).
- Immediate corrective action not taken should speed decay below target on final approach or go-around.
- Failure to observe flap retraction/ extension speed limits.
- Failure to observe gear retraction/ extension speed limits.

In turbulent conditions a pad of 5 knots may be added to the above speeds. The Flight Examiner should also use his judgement if the aircraft characteristics make it difficult to meet the above tolerances under certain conditions e.g. at heavy weights, recovery from a speed decay with one engine inoperative. In such cases, provided the candidate has initiated corrective action without undue delay, a failure need not be recorded.

#### 4.2.3.5 Tracking on radio navigation aids

Tolerances when using radio navigation aids for track and/or glide slope guidance are as follows:

- During flight along airways, the track, as defined by an NDB bearing or VOR radial, should be maintained within 5 degrees when a good signal is received. This applies for tests being conducted on either the flight simulator or the actual aircraft. A correction in the wrong sense held for more than one minute would constitute a fail point.
- During the intermediate phase of an ILS procedure, the candidate should be able to settle within 5 degrees of the published track between the hold and commencement of localiser interception.
- During descent on the ILS from the glide slope interception height until the commencement of the go-around, the candidate should be able to remain within half-scale deflection of localiser and glide slope.
- During an NDB or VOR procedure, the candidate should be able to settle within 5 degrees of the published inbound track.
- Not tracking on the appropriate radio navigation aid or not maintaining hard altitudes when over-flying designated waypoints during approach shall also be a fail point.

#### 4.2.3.6 Simulated engine failure (Asymmetric Thrust)

A simulated engine failure shortly after  $V_1$ , should be controlled within the following limits.

- The initial swing following the failure should not exceed 10 degrees.
- The Candidate shall take action to return to the desired heading within 15 seconds. Failure to do so is a point for failure.
- Once  $V_2$  is attained, the speed should be maintained  $V_2$  0/+10 knots until reaching acceleration height.

#### 4.2.3.7 General fail points

If a candidate is seen to make a major lapse in airmanship as listed below, a fail should be recorded in that part of the test, irrespective of the candidate's performance in other items of the test.

- Failure to check before flight, any of the flight instruments.
- Failure to check before flight, the flight director system.
- Failure to check before flight, any of the flying controls, including trimmers and if trims are not set to as required.
- Failure to check before flight, insofar as it is possible to do so, any of the following items for serviceability – pitot heads and heaters; static vents; ice warning systems; all de-icing and/or anti-icing equipment.

Failure to use correctly any of the following:

- Failure to check before flight, any item of radio equipment anticipated to be used during the flight.
- Failure to use the correct altimeter setting during any phase of the flight.
- Failure to obtain Air Traffic Control clearance whenever necessary.
- Failure to comply with any Air Traffic Control clearance.
- Failure to call Air Traffic Control at a mandatory reporting point, or as requested.
- Failure to call for, or action, as appropriate, any of the relevant checklists. The omission of any check item appropriate to the crew functions of the candidate.
- Failure to identify any radio facility before use.
- Failure to maintain safe obstacle clearance.
- Failure to check the relevant RVR or reported visibility against Operator minima before commencing an approach to land.
- Failure to use the correct decision height/ altitude or minimum descent height/ altitude.
- Failure to discontinue an approach to land in accordance with any approach restrictions.
- Failure to apply, or call for, the correct power setting when initiating a missed approach.
- Failure to comply with the published missed approach procedure or any Air Traffic Control instructions.

#### **4.2.4 Post Flight**

4.2.4.1 Before leaving the flight deck, the Examiner should check his assessment of the pre-flight actions of the candidate. If he is unsure whether a particular item was omitted or simply checked unobserved, it would be the time to clear the item by asking the candidate to repeat the relevant part of the pre-flight checks. This is also an opportune moment to point out to the candidate any incorrectly set ancillary control or instrument, such as an altimeter sub-scale set to an erroneous value.

4.2.4.2 If on completion of the test, the candidate has only failed sections/ items that do not require a complete retest (see paragraphs 4.3.5 and 4.5.2), the candidate should be briefed accordingly and the necessary sections/ items be retested within the same detail if time permits.

4.2.4.3 Subject to the satisfactory completion of the sections/ items, the fact that the particular test was passed on the second attempt should be recorded.

4.2.4.4 If time does not permit retesting, the failure shall be recorded. The Candidate may not exercise the privileges of the rating until he has passed the failed sections/ items.



4.2.4.5 Before debriefing the candidate, the Flight Examiner should review his assessment of each section of the test. It may be necessary to establish, by tactful questioning, whether the candidate had a valid reason for carrying out an unusual action or procedure. If the Flight Examiner considers that a failure was due to circumstances beyond the control of the candidate, such as unserviceable equipment, he should not record a fail but arrange for the candidate to be retested on that particular section. Once the assessment has been finalised, the candidate should be debriefed along the following lines:

#### 4.2.4.6 Pass recorded

- Inform the candidate that he has passed.
- Summarise any weak points that were observed, with suggestions as to how they may be overcome. On some occasions, it may be preferable to do this before informing the candidate of the result.

#### 4.2.4.7 Fail recorded

- Inform the candidate that he has been unsuccessful.
- State the major fail points in order of importance.
- Comment on the test in chronological order, identifying any weaknesses, with suggestions as to how they may be best remedied. If the candidate is an experienced pilot, it would be prudent to avoid any criticism of a “nit-picking” nature.
- State what the retest requirements will be and how the candidate can best prepare for the retest.
- Remind the candidate that he may not exercise the privileges of the rating until he has successfully completed a retest.
- Inform the candidate that he has 14 days within which he may appeal against the conduct of the test but emphasise that he is not entitled to appeal against the result.

### **4.3 Instrument Rating Test**

#### **4.3.1 General**

4.3.1.1 Instrument Ratings are classified into type-specific or generic (non type-specific) and different privileges and conditions of test apply to each class.

4.3.1.2 Type-specific Instrument Ratings apply to aircraft fitted with electronic flight instrument displays and an integrated flight management system (FMS), such as the Airbus 320/ 330/ 340/ 380 and the Boeing 777/ 787/ 747-400. A test conducted on any such aircraft is valid only for that type and the candidate's Certificate of Test will be endorsed accordingly.

4.3.1.3 Generic ratings apply to all aircraft types other than those mentioned above and a test conducted on one type is valid for all other types in the same class.

4.3.1.4 Tests shall be carried out to the standards set out in this guide and the Operator's training manual. Flights shall, in every respect, be conducted in accordance with all relevant regulations and legislation.

4.3.1.5 All parts of the Instrument Rating test shall be completed within a period of 21 days. The date of the last flight is to be taken as the date of renewal of the privileges of the rating.

### 4.3.2 Test Conditions - Type-specific Instrument Rating

4.3.2.1 Tests on aircraft classed as type-specific shall be flown using all available equipment including the FMS, autopilot and auto-throttle/ thrust systems. The candidate will be required to demonstrate his proficiency in using these systems and, on successful completion of such a test, will be granted a type-specific rating appropriate to the type or family of types. Tolerances, conditions of test and retest requirements are as stated in this document with the following additional provisos:

- Candidates are responsible for checking the validity of the initial setting up and subsequent programming of the FMS. Data may be inserted by the non-handling pilot on the candidate's command, if Operator's standard operating procedures so dictate.
- For departure and arrival, all navigation aids with the exception of the ILS shall be manually tuned and the appropriate needles selected for display. The ILS may be automatically tuned by the FMS when the arrival runway is selected.
- The en-route section of this test may consist of the latter portion of a SID and the initial portion of an arrival. En-route navigation aids may be automatically tuned, however manual tuning with appropriate needle display selection may be required to ensure normal en-route tracking tolerances are maintained.
- The appropriate FMS lateral navigation mode should be engaged and the aircraft's position primarily monitored by reference to the map display. However, track keeping accuracy and the possibility of map shift shall be continuously monitored by ensuring that appropriate raw data is displayed at all times.

4.3.2.2 This may entail manual tuning of navigation aids. In the event of any divergence, corrective action utilising another suitable mode selection shall be made.

- Radio navigation aids may be identified aurally or by reference to the visual read-out on the navigation display. Whichever method is chosen, the candidate shall positively indicate to the Flight Examiner that he has actually identified an aid before using it.
- Incorrect set-up or use of the FMS leading to basic tolerances being exceeded will be considered a fail point.

*Note: FMS standard holding patterns are based on a one minute inbound leg and the inbound track is acquired by adjusting bank angle rather than allowing for drift outbound. However the candidate should time the outbound leg in the normal manner as a cross check in case of FMS failure.*

### 4.3.3 Test Conditions - Generic Instrument Rating

4.3.3.1 Use of an autopilot is not permitted during the conduct of a test for the renewal of a generic rating other than during the approach briefing prior to descent. A flight director system, if fitted, may be used at the candidate's discretion and as agreed by the Flight Examiner. However, if the candidate elects to use a flight director for any phase of flight he shall follow the command indications. Non-observance will constitute a fail point.

4.3.3.2 During the en-route section of the test the candidate will be required to demonstrate his ability to maintain a specified track, both inbound and outbound from an NDB, using only the ADF needle presentation.

4.3.3.3 In the absence of a suitable NDB, tracking to or from a VOR using the RMI needle presentation only may be substituted. The candidate shall also demonstrate his ability to track to or from a VOR on a specified radial using the deviation bar presentation.

4.3.3.4 When testing the candidate's tracking ability, only one aid should be available, other than for the purpose of determining an intersection. Similarly, the holding procedure should be carried out using an NDB or VOR needle presentation only.

#### **4.3.4 Test Syllabus**

4.3.4.1 The test syllabus comprises six separate sections as follows:

##### 4.3.4.2 Section 1 - Flight Preparation

All pre-departure checks and drills necessary to prepare the aircraft and its equipment for the safe conduct of the flight. Use of check lists should be in accordance with Operator's or the aircraft manufacturer's policy. When visual checks are made of flight instruments etc, the candidate should point out each item to the Flight Examiner as it is checked.

##### 4.3.4.3 Section 2 - Take-off and Initial Climb

A visual take-off followed by an instrument departure and climb to the initial cruising level following the published routing as amended by any ATC instructions.

*Note: A simulated cloud base of 100ft above aerodrome level will cater for an instrument departure.*

##### 4.3.4.4 Section 3 - En-route

The candidate shall demonstrate his ability to maintain a specified track, whilst flying along the planned route in accordance with ATC instructions.

##### 4.3.4.5 Section 4 - Holding

The holding pattern may be carried out either en-route or as part of the approach procedure, and should consist of a standard entry appropriate to the inbound track followed by at least one full hold as published for the facility. The candidate shall comply with local regulations, particularly speed limits, and demonstrate his ability to achieve the inbound track to the facility.

##### 4.3.4.6 Section 5 - ILS and Missed Approach

The initial approach should be flown without radar assistance. The candidate should demonstrate his ability to follow the published horizontal and vertical patterns, as defined by the localiser and glide path, down to the published minima. At decision height, a go-around should be initiated and the published missed approach procedure followed, unless otherwise directed by ATC.

To permit a proper assessment of the candidate's ability to fly an ILS approach, the test should be conducted at an airfield that allows a decision height of 450 feet AAL or less to be used.

##### 4.3.4.7 Section 6 - Asymmetric Power (Initial Issue Only)

The candidate should demonstrate his ability to correctly identify the failed engine and maintain the yaw within limits. He is able to climb and turn at the recommended engine inoperative airspeed, and make use of trimming.

#### **4.3.5 Retest Requirements**

- A failure of a section will normally require a retest in that particular section only.
- A failure of sections 2 and 5 will require a complete retest.
- A failure of three or more sections will require a complete retest.

4.3.5.1 All parts of the test shall be successfully completed within a period of 21 days, otherwise a complete retest is required.

#### **4.3.6 Post Test**

4.3.6.1 After the candidate successfully completes the renewal test for his Instrument Rating, he has to ensure that the Flight Examiner who conducted the test signs the Instrument Rating Certificate of Test in his licence and enters the date of the test, the aircraft type, and registration or simulator code as appropriate.

4.3.6.2 Should the test lead to the initial issuance of the Instrument Rating, the Flight Examiner should not sign the candidate's Certificate of Test but, instead, complete the flight test form which will be submitted by the candidate.

*Note: Where a candidate holds more than one Certificate of Test (e.g. type specific and generic) care shall be taken to sign only that certificate appropriate to the test.*

4.3.6.3 In the case of a failure, the procedure outlined in paragraph 4.2.4.7 shall be followed.

#### **4.4 Aircraft Rating Test (Initial)**

##### **4.4.1 General**

4.4.1.1 The flying test shall be carried out in accordance with the requirements and conditions prescribed by the DGCA. When an aircraft is used for the test, the Flight Examiner shall occupy a pilot's seat at all times and act as commander of the aircraft.

4.4.1.2 All the items in the Aircraft Type Rating flight test shall be completed within a period of 60 days immediately preceding the date of the licence application.

##### **4.4.2 Conditions for Test**

4.4.2.1 The Flight Examiner shall ensure that all aspects of the initial aircraft rating proficiency tests be in accordance with the items in the prescribed form. While most of these tests shall be flown without the use of autopilot, auto throttle/ thrust etc, there are other tests which demand the candidate to show his proficiency with type specific automated systems.

4.4.2.2 Certain items of the tests specified in the prescribed form may be conducted in an approved simulator. The simulator approval document issued to a particular Operator will list the items that may be completed in this manner. As approvals may vary, the Flight Examiner should familiarise himself with the conditions of the simulator approval certificate appropriate to his respective Operator.

4.4.2.3 Some aspects of the prescribed form may require tests to be conducted on the actual aircraft. To qualify for a Part I rating the pilot under test shall:

- Occupy the appropriate seat where he will normally exercise control of the aircraft.
- Operate all controls and systems that are normally operated or managed by the pilot-in-command.

#### **4.4.3 Post Test**

4.4.3.1 On successful completion of an initial aircraft type rating test, the Flight Examiner shall forward the completed form to the Licensing Office for appropriate action. The Flight Examiner shall not sign the Certificate of Test in the candidate's licence on completion of an initial type rating flight test. The Certificate of Test for the initial endorsement will be completed and signed by the Licensing Officer.

4.4.3.2 In the case of a failure, the procedure outlined in paragraph 4.2.4.7 shall be complied with.

### **4.5 Aircraft Rating Test (Renewal)**

#### **4.5.1 Test Syllabus**

4.5.1.1 The aircraft rating renewal tests shall be in compliance with the approved syllabus. These comprise of certain mandatory exercises and some items which are at the discretion and choice of the Flight Examiner.

4.5.1.2 The syllabus for the tests on an approved simulator may vary from those to be applied when the test is conducted on the aircraft.

4.5.1.3 All items of the test shall be completed within 21 days otherwise a full retest is required.

4.5.1.4 The mandatory items shall comprise of the following:

- Engine start problem.
- A rejected takeoff with simulated failure of a critical engine before V1.
- Take-off with simulated failure of a critical engine immediately after V1, and in instrument flight conditions immediately after airborne, climb and flap retraction to a clean configuration.
- With a critical engine simulated failure, an ILS approach to decision height/altitude and go-around solely by reference to instruments.
- With a critical engine simulated fail, an approach and full stop landing.
- An engine fire.
- For a 3 or 4-engine aircraft, asymmetric flight with 2 engines inoperative culminating in an approach and landing.
- Instrument failure (Flight Examiner's choice).
- Flight control or landing gear malfunction (Flight Examiner's choice).
- System failure such as hydraulics, electrics, FMS, etc ((Flight Examiner's choice).

*Note: A simulated cloud base of 100ft above aerodrome level will cater for instrument flight conditions after airborne.*

#### **4.5.2 Retest Requirements**

- A failure in any one item will entail a retest of that item only.
- A failure in more than one item will require a complete retest.

### **4.5.3 Post Test**

4.5.3.1 On successful completion of the test, the Flight Examiner shall sign the candidate's aircraft rating Certificate of Test with his own licence number and date of signing. He should also enter the type of aircraft, registration or simulator code, the nature of the test (PI or P2) and the date of the test.

4.5.3.2 In the case of a failure, the procedure outlined in Conduct of Tests 4.2.4.7 shall be followed.

## APPENDIX A

## AIRCRAFT TRAINING & TESTING

### A1 General

Although the bulk of training and testing is carried out in approved simulators, there is still a continuing need to complete certain test requirements in an actual aircraft. Special considerations apply to such training and testing and the Flight Examiner should ensure that he is thoroughly prepared and all crew members fully briefed before any airborne detail.

Prior approval shall be obtained for any method of simulating instrument flight conditions for the purpose of testing pilots and to have screens attached to the structure of the aircraft.

Attention is drawn to the need for the Flight Examiner to maintain a proper and adequate lookout at all times in flight, particularly when instrument flight conditions are being simulated.

*Note: The simulation of instrument flight conditions and/or any emergency manoeuvres or procedures on any flight for the purpose of public transport with passengers on board is not permitted.*

The following notes list the additional items that the Flight Examiner shall address to ensure the safety of the proposed flight.

### A2 Preparation for Flight

The Flight Examiner should consider the following points:

- Weather conditions shall be satisfactory for completion of the planned exercises. In particular, the crosswind component should not exceed 15 knots if simulated engine failures are to be included.
- The runways at the intended aerodrome should be of an adequate length for touch-and-go manoeuvres.
- A non-standard fuel distribution and/or carriage of ballast may be necessary. If fuel is used as ballast, it shall be annotated as such on the loadsheet and included in the aircraft's zero fuel weight.
- If a screen is required for a particular test, the Flight Examiner shall ensure that the one supplied has been approved by CAAS and that he is conversant with the method of fitting and removing it.

### A3 Pre-flight Briefing

The following additional points should be included in the pre-flight briefing:

- Crew duties and responsibilities, including look-out and liaison with ATC.
- Use of abbreviated or training check lists.
- Method of simulating instrument flight conditions.
- Method of simulating engine failure.
- Procedure to be followed after a simulated engine failure.
- Effects of systems relevant to asymmetric flight such as auto-feather, rudder boost etc.
- Procedure to be followed during touch-and-go landings (including inadvertent deployment of any retardation device).
- Action in event of a genuine emergency.

- Procedures for arming of doors/slides.

#### **A4 Pre-flight**

The condition of all tyres should be checked bearing in mind the anticipated number of landings to be accomplished.

A thorough check of the passenger cabin and galleys should be carried out and all loose articles secured. In particular, all catering equipment shall be correctly stowed and latched.

Cabin doors should be armed prior to engine start.

#### **A5 In-flight**

When use of a screen is necessary, it should be fitted at a safe height on departure, e.g. 3,000 feet AAL, and removed by decision height if the Flight Examiner intends that the candidate should land off the approach.

*Note: Screens are required even if the test takes place at night.*

Engine failure during take-off should be simulated only by reducing power and never by complete shutdown of the engine. The appropriate method of simulation will vary according to the type of power plants fitted. In the case of turbo-prop engines with auto-feather it is essential that the manufacturer's recommended techniques are followed.

Should it be necessary to practise a rejected take-off, the procedure should be initiated at a speed no greater than 50% of the applicable V1 speed.

Precautions should be taken to guard against brake overheating. When fitted, brake cooling fans should be turned on. It may be desirable to leave the landing gear extended after take-off or a touch-and-go.

Should the ILS ground installation or the aircraft equipment become unserviceable during the test an ADF or VOR approach may be substituted. In this case, the next renewal test completed by the candidate shall involve the use of ILS. The reason for the substitution should be clearly stated on the report form and the Certificate of Test annotated.



**APPENDIX B****SUMMARY OF FLIGHT TESTS AND SIGNING OF DOCUMENTS BY THE AFE**

**B1** The following table summarises the various flight tests and the documents that may be signed by an AFE.

ITEM	ACTIONS BY AFE	
	FLIGHT TEST REPORT	LICENCE
PPL Final Handling Test	Signed by the AFE, or the CAAS Flight Operations Inspector, who conducted the test.	Nil.
CPL General Flight Test	Signed by the AFE, or the CAAS Flight Operations Inspector, who conducted the test.	Nil.
MPL Final Assessment Flight Test	Signed by the AFE, or the CAAS Flight Operations Inspector, who conducted the test.	Nil.
Aircraft Rating Test (Initial)	Signed by the AFE, or the CAAS Flight Operations Inspector, who conducted the test.	Nil.
Aircraft Rating Test (Renewal)	Signed by the AFE, or the CAAS Flight Operations Inspector, who conducted the test.	C of T may be endorsed by the AFE or the DGCA.  Note: An expired rating must be endorsed by the DGCA.
Instrument Rating Test (Initial)	Signed by the AFE, or the CAAS Flight Operations Inspector, who conducted the test.	Nil.
Instrument Rating Test (Renewal)	Signed by the AFE, or the CAAS Flight Operations Inspector, who conducted the test.	C of T may be endorsed by the AFE or the DGCA.  Note: An expired rating must be endorsed by the DGCA.
Flying Instructor Rating Test (Initial/ Renewal)	Signed by the AFE, or the CAAS Flight Operations Inspector, who conducted the test.	Nil.

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