



CIVIL AVIATION SAFETY AUTHORITY OF PNG

PNG

Civil Aviation Rules

Part 63

Flight Engineers and Ratings

Effective 1 May 2016.

DESCRIPTION

Part 63 prescribes the rules relating to the issue of cadet flight engineer licences, flight engineer licences and ratings, including the conditions, privileges and limitations associated with those licences and ratings.

Bulletin

This rule first came into force in 2011 and now incorporates the following amendment:

Amendment	Effective Date
Amendment 1	1 May 2016

Summary of Amendments:

Docket 15/63/01	Rule
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Subpart A — General

63.1 Applicability

This Part prescribes rule governing—

- (1) the issue of cadet flight engineer licences, flight engineer licences, and ratings; and
- (2) the conditions under which those licences and ratings are necessary; and
- (3) the privileges and limitations of those licences and ratings.

63.3 Requirement for licence and ratings

(a) Each person who performs the duties of a flight engineer on a Papua New Guinea registered aircraft within Papua New Guinea must hold—

- (1) a current cadet flight engineer licence or flight engineer licence issued under this Part; or
- (2) a current foreign cadet flight engineer licence or flight engineer licence validated by the Director

(b) Each person who performs the duties of a flight engineer on a Papua New Guinea registered aircraft within a foreign country must hold—

- (1) a current cadet flight engineer licence or flight engineer licence issued under this Part; or
- (2) a current cadet flight engineer licence or flight engineer licence issued or validated by the country in which the aircraft is operated.

(c) Each person who performs the duties of a flight engineer on a foreign registered aircraft within Papua New Guinea must hold—

- (1) a current cadet flight engineer licence or flight engineer licence issued under this Part; or
- (2) a current foreign cadet flight engineer licence or flight engineer licence validated by the Director; or
- (3) a current cadet flight engineer licence or flight engineer licence issued or validated by the country of aircraft registry.

(d) Each person, other than the holder of a cadet flight engineer licence, who performs the duties of a flight engineer on a Papua New Guinea registered aircraft, or on a foreign registered aircraft within Papua New Guinea, must hold a type rating for that aircraft.

(e) Each person exercising the privileges of a flight engineer instructor listed in 63.305(a) must hold a current flight engineer instructor rating issued under this Part.

(f) Each person exercising the privileges of a flight engineer examiner listed in 63.355(a) must hold a current flight engineer examiner rating issued under this Part.

63.5 Licences and ratings

(a) The following licences and ratings are issued under this Part:

- (1) Cadet flight engineer licence:
 - (2) Flight engineer licence:
 - (3) Flight radiotelephone operator rating:
 - (4) Flight engineer aircraft type rating:
 - (5) Flight engineer instructor rating:
 - (6) Flight engineer examiner rating:
- (b) Flight engineer instructor ratings and flight engineer examiner ratings shall be shown on the flight engineer licence. All other ratings shall be shown in the flight engineer logbook but may additionally be shown on the flight engineer licence.

63.6 Specifications for Licences

A Flight Engineer licence issued under this Part must contain the following:

- (1) Name of the issuing State:
- (2) Title of licence:
- (3) Licence number:
- (4) Full name of the licence holder:
- (5) Licence holder's date of birth:
- (6) Licence holder's address:
- (7) Licence holder's nationality:
- (8) Signature of the licence holder:
- (9) Authority and conditions under which the licence is issued:
- (10) Certification concerning validity and authorization for holder to exercise privileges:
- (11) Signature of the Officer issuing the licence and the date of such issue:
- (12) Seal or stamp of Authority issuing the licence:
- (13) Ratings and endorsements including remarks:
- (14) Other information required by Article 39 to the Convention.

63.7 Exchange of terminating licence for lifetime licence

Cadet flight engineer licences and flight engineer licences and ratings held on a licence issued by other National Civil Aviation Authorities carry over to a licence issued under this Part and are deemed to have been issued under this Part.

63.9 Application for licences and ratings

Each applicant for the grant of a cadet flight engineer licence, flight engineer licence, flight engineer instructor rating, or flight engineer examiner rating shall complete form CAA061/01 and submit it to the Director with a payment of the appropriate application fee prescribed by regulations made under the Act.

63.11 Issue of licences and ratings

An applicant is entitled to a licence or rating issued by the Director under this Part if the Director is satisfied that—

- (1) The applicant is fit and proper person; and
 - (2) The applicant has sufficient ability in reading, writing, speaking, and understanding the English language to enable the applicant to adequately carry out their responsibilities as the holder of that licence or rating; and
 - (3) The applicant complies with all of the eligibility requirements specified in the Subpart for that licence or rating; and
- (2) The granting of the licence or rating is not contrary to the interests of aviation safety.

63.13 Duration of licences and ratings

(a) Except as provided in paragraph (b), a licence or rating issued under this Part shall be valid for the lifetime of the holder unless it is suspended or revoked in accordance with the Act.

(b) The Director may, where the Director considers it necessary, issue a temporary licence or rating.

63.15 Examinations

(a) A candidate for a written examination under this Part shall—

- (1) produce written proof of their identity; and
- (2) gain a least 75% of the possible marks in order to pass.

(b) A candidate for a flight test under this Part shall—

- (1) produce a written proof of their identity; and
- (2) have a logbook record of any required training; and
- (3) have a logbook record of any required flight experience.

63.17 Cheating or other unauthorised conduct

(a) During any examination under this Part, no person shall, unless authorised by the conducting officer—

- (1) copy from another person; or
- (2) refer to any source of information; or
- (3) communicate in any way with anyone other than the conducting officer; or
- (4) take an examination on behalf of anyone else; or
- (5) remove material from the examination; or
- (6) record any examination by electronic means.

- (b) Any person who performs any of the acts specified in paragraph (a) shall be liable to all or any of the following:
- (1) failure in that subject:
 - (2) disqualification of all or any subjects already passed:
 - (3) debarment from sitting further examinations under the Civil Aviation Rules for up to 12 months:
 - (4) suspension or revocation of any licence, certificate, or rating issued to that person under this or any other Part of the Civil Aviation Rules, in accordance with sections 53, 54, and 56 of the Act.

63.19 Flight engineer logbooks – general

- (a) Each holder of a cadet flight engineer licence or flight engineer licence shall maintain a record in ink of their flight time in a logbook acceptable to the Director. Flight time entered in a logbook that has been lost or destroyed shall only be recognised by the Director if it can be substantiated by means acceptable to the Director.
- (b) The licence holder shall enter the record of their flight time in their logbook—
- (1) within 14 days of the completion of the flight to be recorded; or
 - (2) if the licence holder is engaged in flying away from their base, within 2 days of their return to base.
- (c) The licence holder shall keep their logbook for at least 12 months from the date of the last flight time entry recorded in it.
- (d) Before the licence holder submits their logbook to the Director for any required inspection, they shall—
- (1) on each page, total each column of entries; and
 - (2) in the spaces provided, enter their total flight experience; and
 - (3) below the last entry, certify the correctness of the entries; and
 - (4) sign the certification.
- (e) A person performing the duties of a flight engineer on an aircraft while not complying with any applicable requirement of this Part, shall not credit that flight time for any purpose.

63.21 Flight engineer logbooks – crediting flight time

- (a) The holder of a current cadet flight engineer licence or flight engineer licence may only credit flight time for a licence or rating when the type certificate of the aircraft flown requires the carriage of a flight engineer.
- (b) The holder of a current cadet flight engineer licence shall be entitled to be credited with the total flight time during which they are carrying out the duties of a flight engineer from the engineer's flight station under the direct supervision of the holder of a flight engineer instructor rating.
- (c) The holder of a current flight engineer licence shall be entitled to be credited with the total flight time during which they are carrying out the duties of a flight engineer, flight engineer instructor, or flight engineer examiner.
- (d) The holder of a current flight engineer licence when designated as a flight crew member other than a flight engineer, flight engineer instructor, or flight engineer examiner shall be entitled to be credited with the total flight time during which they are carrying out the duties of a flight engineer from the engineer's flight station.

63.23 Medical requirements

- (a) The holder of a cadet flight engineer licence or flight engineer licence issued under this Part shall not exercise the privileges of that licence unless that person—
- (1) holds a current Class 2 medical certificate issued under the Act; and
 - (2) complies with all medical endorsements on that medical certificate.

63.25 Biennial flight review

(a) The holder of a flight engineer licence issued under this Part shall not exercise the privileges of that licence for more than two years from the date of the flight test required by 63.153(6), unless they have successfully completed a biennial flight review, within the immediately preceding 2 years, and a record to that effect in the form required by paragraph (c) has been endorsed in the holder's log book.

(b) The biennial flight review required by paragraph (a) shall be conducted by the holder of a flight engineer instructor rating and shall consist of—

- (1) a review of the current operating rules applicable to the use of the flight engineer licence, with particular emphasis upon applicable changes introduced within the immediately preceding 2 year period; and
- (2) flight instruction to review those procedures and tasks applicable to the use of the flight engineer licence. A flight simulator may be used for all or part of such instruction.

(c) When the flight engineer instructor is satisfied that a biennial flight review has been successfully completed, the instructor shall enter in the flight engineer's logbook the name, number of licence and rating, and signature of the instructor; and date of completion of the biennial flight review under the following statement:

This is to certify that [name of flight engineer] has successfully completed a Biennial Flight Review in accordance with the requirements of Civil Aviation Rule Part 63.

(d) The holder of a flight engineer licence issued under this Part, who does not meet the requirements of this rule, may exercise the privileges of the cadet flight engineer licence.

63.27 Examination for proficiency

(a) The holder of a licence or rating issued under this Part shall, when required by the Director and within such period as the Director may determine, take an examination or test to demonstrate their proficiency in the capacity for which the licence or rating is held.

(b) Any examination or test required by the Director under paragraph (a) shall consist of such part or parts of the examination or test required by this Part as the Director may determine.

(c) A person who takes an examination or test under paragraph (a) and who fails to comply with the requirements prescribed for the grant of the licence or rating held, shall not exercise the privileges of that licence or rating.

63.29 Offences involving alcohol or drugs

A conviction for any offence relating to alcohol or drugs, including a refusal to submit to any lawful test for alcohol or drugs, shall be relevant for determining whether a person is or remains fit and proper to hold a licence. Such conviction may result in a refusal to grant a licence, or suspension or revocation of the licence.

Subpart B — Cadet Flight Engineer Licences

63.51 Applicability

This Subpart prescribes rules governing the issue of cadet flight engineer licences and the privileges and limitations of those licences.

63.53 Eligibility requirements

To be eligible for a cadet flight engineer licence a person shall—

- (1) be at least 18 years of age; and
- (2) hold a current Class 1 medical certificate issued under the Act.

63.55 Privileges and limitations

A cadet flight engineer licence authorises the holder to perform the duties of a flight engineer, while under the direct supervision of the holder of a current flight engineer instructor rating, for the purpose of obtaining practical experience in the duties of a flight engineer to—

- (1) qualify for the issue of a flight engineer licence or rating; or
- (2) regain currency of a flight engineer licence.

Subpart C — Reserved

Subpart D — Flight Engineer Licences

63.151 Applicability

This Subpart prescribes rules governing the issue of flight engineer licences and the privileges and limitations of those licences.

63.153 Eligibility requirements

To be eligible for a flight engineer licence a person shall—

- (1) hold a current cadet flight engineer licence; and
- (2) be at least 21 years of age; and
- (3) have logged at least 100 hours total time in the performance of the duties of a flight engineer. At least 50 hours of the total time shall be flight time. Up to 50 hours of the total time may be gained on flight simulators during flight engineer training courses conducted by—
 - (i) the manufacturer of aircraft, the type certificate of which requires the carriage of flight engineers; or
 - (ii) the holder of an air operator certificate issued under Part 119, where the certificate authorises the holder to conduct that training; or
 - (iii) the holder of an aviation training organisation certificate issued under Part 141, where the certificate authorises the holder to conduct that training; and
- (4) hold a flight radiotelephone operator rating; and

- (5) have passed written examinations, or their equivalents, that are acceptable to the Director and are relevant to the duties of a flight engineer, in the following subject areas:
- (i) *Air law*: rules and regulations relevant to the holder of a flight engineer licence; rules and regulations governing the operation of civil aircraft pertinent to the duties of a flight engineer:
 - (ii) *Theory of flight and flight operations*: fundamentals of aerodynamics; effects of loading and mass distribution on aircraft handling, flight characteristics and performance; mass and balance calculations; use and practical application of performance data including procedures for cruise control; principles of maintenance, procedures for the maintenance of airworthiness, defect reporting, pre-flight inspections, precautionary procedures for fuelling and use of external power; installed equipment and cabin systems; normal, abnormal and emergency procedures: operational procedures for carriage of freight and dangerous goods:
 - (iii) *Aircraft engineering*: principles of power plants, gas turbines and piston engines; characteristics of fuels, fuel systems including fuel control; lubricants and lubrication systems; afterburners and injection systems, function and operation of engine ignition and starter systems; principle of operation, handling procedures and operating limitations of aircraft powerplants; effects of atmospheric conditions on engine performance; airframes, flight controls, structures, wheel assemblies, brakes and anti-skid units, corrosion and fatigue life; identification of structural damage and defects; ice and rain protection systems; pressurisation and air-conditioning systems, oxygen systems; hydraulic and pneumatic systems; electrical theory, AC and DC electric systems, aircraft wiring systems, bonding and screening; principles of operation of instruments, compasses, auto-pilots, radio communication equipment, radio and radar navigation aids, flight management system, displays and avionics; limitations of appropriate aircraft; fire protection, detection, suppression and extinguishing systems; use and serviceability checks of equipment and systems of appropriate aircraft:
 - (iv) *Human factors*: human performance and limitations relevant to the flight engineer; and
- (6) have satisfactorily completed a flight test that is acceptable to the Director by demonstrating to the holder of a flight engineer examiner rating the ability to perform competently the following procedures as are relevant to the duties of the flight engineer:
- (i) *Normal procedures*: pre-flight inspections; fuelling procedures, fuel management; inspection of maintenance documents; normal flight deck procedures during all phases of flight; crew co-ordination and procedures in case of crew incapacitation; and defect reporting:
 - (ii) *Abnormal and alternate procedures*: recognition of abnormal functioning of aircraft systems; and use of abnormal and alternate procedures:
 - (iii) *Emergency procedures*: recognition of emergency conditions; and use of appropriate emergency procedures; and
- (7) have demonstrated during the flight test required by paragraph (6) the ability to—
- (i) use aircraft systems within the aircraft's capabilities and limitations; and

- (ii) exercise good judgement and airmanship; and
- (iii) apply aeronautical knowledge; and
- (iv) perform all the duties as part of an integrated crew in a manner such that the successful outcome is never in doubt; and
- (v) communicate effectively with the other flight crew members.

63.155 Privileges

A flight engineer licence authorises the holder to—

- (1) exercise any of the privileges of the cadet flight engineer licence; and
- (2) perform flight engineer duties in aircraft for which they hold a type rating.

63.157 Recent experience requirements

(a) The holder of a flight engineer licence shall not exercise the privileges of that licence in any aircraft type unless within the immediately preceding 90 days they have, while performing the duties of a flight engineer—

- (1) logged not less than 10 hours total time, of which up to 5 hours may be gained in flight simulators; and
- (2) completed at least two flights in the aircraft type.

(b) Where the privileges of a flight engineer licence issued under this Part have not been exercised for 5 years or more, the licence holder shall pass the flight test required by 63.153(6) before the privileges of that licence may be exercised again.

Subpart E — Flight Radiotelephone Operator Ratings

63.201 Applicability

This Subpart prescribes rules governing the issue of flight radiotelephone operator ratings and the privileges and limitations of those ratings.

63.203 Eligibility requirements

To be eligible for a flight radiotelephone operator rating issued under this Part a person must—

- (1) hold a current cadet flight engineer licence; and
- (2) have passed a written examination, or its equivalent, that is acceptable to the Director, in aeronautical radiotelephone practices and procedures; and
- (3) have demonstrated to the holder of a flight engineer instructor rating or flight instructor rating—
 - (i) correct manipulation and adjustment of the controls of an aeronautical radiotelephone transceiver; and

- (ii) the ability to transmit and receive spoken messages competently and in accordance with the procedures listed in PNG AIP.

63.205 Issue

(a) When the holder of a flight engineer instructor rating or flight instructor rating is satisfied that the requirements of 63.203 for a flight radiotelephone operator rating have been complied with, the instructor shall issue the rating by entering in the flight engineer's logbook the name, number of licence and rating, and signature of the instructor, and date of issue of the rating, under the following statement:

This is to certify that [name of flight engineer] has satisfied the requirements of Civil Aviation Rules Part 63 for a flight radiotelephone operator rating.

(b) Upon application to the Director and payment of the applicable fee, the holder of a flight radiotelephone operator rating may, in addition, have the rating endorsed on their cadet flight engineer licence or flight engineer licence.

63.207 Privileges and limitations

A flight radiotelephone operator rating authorises the holder to operate, in accordance with the Radiocommunications (Radio) Regulations 1993, the radiotelephone of any aircraft, aeronautical station, or mobile surface station that operates on frequencies allocated to the aeronautical mobile service where the transmitter—

- (1) requires only the use of simple external controls; and
- (2) automatically maintains the stability of the radiated frequencies.

Subpart F — Aircraft Type Ratings

63.251 Applicability

This Subpart prescribes rules governing the issue of flight engineer aircraft type ratings and the privileges of those ratings.

63.253 Eligibility requirements

To be eligible for an aircraft type rating a person shall—

- (1) hold a current flight engineer licence; and
- (2) have logged at least 8 hours flight time as a cadet flight engineer on that aircraft type; and
- (3) have satisfactorily completed a course of flight engineer aircraft type-rating training for that aircraft, including passing a written examination in the normal, abnormal, and emergency procedures for the operation of the aircraft's systems, and in the aircraft's performance and weight and balance, conducted by—
 - (i) the manufacturer of that aircraft; or
 - (ii) the holder of an air operator certificate issued under Part 119, where the certificate authorises the holder to conduct that training; or
 - (iii) the holder of an aviation training organisation certificate issued under Part 141, where the certificate authorises the holder to conduct that training; and

- (4) have demonstrated to the holder of a flight engineer instructor rating the ability to perform competently all normal, abnormal, and emergency procedures appropriate to the aircraft type for which the rating is required. A flight simulator may be used for demonstrating the abnormal and emergency procedures.

63.255 Issue

- (a) When a holder of a flight engineer instructor rating is satisfied that the requirements of 63.253 for a flight engineer aircraft type rating have been met, the instructor shall issue the type rating by entering in the flight engineer's logbook the aircraft type; the name, number of licence and rating, and signature of the instructor; and date of issue of the type rating, under the following statement:

This is to certify that [name of flight engineer] has satisfied the requirements of Civil Aviation Rules Part 63 for a flight engineer aircraft type rating for the aircraft type specified below.

- (b) Upon application to the Director and payment of the applicable fee, the holder of a flight engineer aircraft type rating may, in addition, have their type ratings endorsed on their engineer licence.

63.257 Privileges

A flight engineer aircraft type rating authorises the holder to exercise the privileges of their flight engineer licence on—

- (1) the aircraft type to which the rating applies; or
- (2) any variant of that aircraft type that has no significant differences in performance, systems, or procedures.

Subpart G — Flight Engineer Instructor Ratings

63.301 Applicability

This Subpart prescribes rules governing the issue of flight engineer instructor ratings and privileges and limitations of those ratings.

63.303 Eligibility requirements

To be eligible for a flight engineer instructor rating a person shall—

- (1) hold a current flight engineer licence; and
- (2) have logged at least 700 hours flight time in the performance of the duties of a flight engineer; and
- (3) have satisfactorily completed a course in the theory and practice of instruction; and
- (4) have demonstrated to the holder of a flight engineer examiner rating the ability to give flight engineer instruction in all normal, abnormal, and emergency flight situations by passing an oral examination and a flight test that are acceptable to the Director. A flight simulator may be used for all or part of such flight test.

63.305 Privileges and limitations

- (a) Subject to paragraph (b), the holder of a flight engineer instructor rating is authorised to—
 - (1) exercise all the privileges of the flight engineer licence; and
 - (2) conduct technical and flight instruction for the holders of cadet flight engineer licences and flight engineer licences; and

- (3) conduct flight simulator instruction for the holders of cadet flight engineer licences and flight engineer licences; and
 - (4) supervise the holders of cadet flight engineer licences performing flight engineer duties; and
 - (5) assess for, and issue to the holders of cadet flight engineer licences and flight engineer licences, flight radiotelephony ratings; and
 - (6) assess for, and issue to the holders of flight engineer licences, flight engineer aircraft type ratings; and
 - (7) conduct biennial flight reviews for holders of flight engineer licences.
- (b) To exercise the privileges of a flight engineer instructor rating the holder shall—
- (1) hold a current flight engineer licence with a type rating for the aircraft in use; and
 - (2) exercise those privileges within an organisation operating under—
 - (i) an air operator certificate issued under Part 119, where the certificate authorises the holder to conduct flight engineer training and assessment; or
 - (ii) an aviation training organisation certificate issued under Part 141, where the certificate authorises the holder to conduct flight engineer training and assessment; and
 - (3) within the immediately preceding 13 months, have demonstrated to the holder of a flight engineer examiner rating the ability to give flight engineer instruction, in all normal, abnormal, and emergency flight situations, by passing an oral examination and a flight test based on practical demonstration of the privileges of the rating. A flight simulator may be used for all or part of such flight test.

Subpart H — Flight Engineer Examiner Ratings

63.351 Applicability

This Subpart prescribes rules governing the issue of flight engineer examiner ratings and the privileges and limitations of those ratings.

63.353 Eligibility requirements

To be eligible for a flight engineer examiner rating a person shall—

- (1) hold a current flight engineer instructor rating; and
- (2) have logged at least 1250 hours flight time in the performance of the duties of a flight engineer; and
- (3) have logged at least 750 hours total time exercising the privileges of a flight engineer instructor. At least 250 hours of the total time shall be flight time. Up to 500 hours of the total time may be gained on flight simulators; and
- (4) have demonstrated to a Civil Aviation Authority flight testing officer the ability to perform competently the duties of a flight engineer examiner.

63.355 Privileges and limitations

- (a) Subject to paragraph (b), the holder of a flight engineer examiner rating is authorised to—
- (1) exercise all the privileges of the flight engineer instructor rating; and
 - (2) conduct flight tests for the issue of flight engineer licences; and

- (3) conduct flight tests for the issue or continued currency of flight engineer instructor ratings.
- (b) To exercise the privileges of a flight engineer examiner rating the holder shall—
 - (1) hold a current flight engineer licence with a type rating for the aircraft in use; and
 - (2) conduct the flight tests within an organisation operating under—
 - (i) an air operator certificate issued under Part 119, where the certificate authorises the holder to conduct flight engineer training and assessment; or
 - (ii) an aviation training organisation certificate issued under Part 141, where the certificate authorises the holder to conduct flight engineer training and assessment; and

within the immediately preceding 13 months, demonstrated to a Civil Aviation Authority flight testing officer the ability to perform competently the duties of a flight engineer examiner.