

SUBJECT

NORMAL DUTIES, PROCEDURES AND OPERATIONS

To include as appropriate:

- Airplane preflight.
- Engine starting, power checks, pretakeoff, postlanding and shut-down procedures.
- Power control.
- Temperature control.
- Engine operation analysis.
- Operation of all systems.
- Fuel management.
- Logbook entries.
- Pressurization and air conditioning.

RECOGNITION AND CORRECTION OF IN-FLIGHT MALFUNCTIONS

To include:

- Analysis of abnormal engine operation.
- Analysis of abnormal operation of all systems.
- Corrective action.

EMERGENCY OPERATIONS IN FLIGHT

To include as appropriate:

- Engine fire control.
- Fuselage fire control.
- Smoke control.
- Loss of power or pressure in each system.
- Engine overspeed.
- Fuel dumping.
- Landing gear, spoilers, speed brakes, and flap extension and retraction.
- Engine shut-down and restart.
- Use of oxygen.

(iv) If the Administrator finds a simulator or flight engineer training device to accurately reproduce the design, function, and control characteristics, as pertaining to the duties and responsibilities of a flight engineer on the type of airplane to be flown, the flight training time may be reduced by a ratio of 1 hour of flight time to 2 hours of airplane simulator time, or 3 hours of flight engineer training device time, as the case may be, subject to the following limitations:

(a) Except as provided in subdivision (b) of this paragraph, the required flight instruction time in an airplane may not be less than 5 hours.

(b) As to a flight engineer student holding at least a commercial pilot certificate with an instrument rating, airplane simulator or a combination of airplane simulator and flight engineer training device time may be submitted for up to all 10 hours of the required flight instruction time in an airplane. However, not more than 15 hours of flight engineer training device time may be substituted for flight instruction time.

(v) To obtain credit for flight training time, airplane simulator time, or flight engineer training device time, the student must occupy the flight engineer station and operate the controls.

(b) *Classroom equipment.* Classroom equipment should consist of systems and procedural training devices, satisfactory to the Administrator, that duplicate the operation of the systems of the airplane in which the student is to receive his flight training.

(c) *Contracts or agreements.* (1) An approved flight engineer course operator may contract with other persons to obtain suitable airplanes, airplane simulators, or other training devices or equipment.

(2) An operator who is approved to conduct both the flight engineer ground course and the flight engineer flight course may contract with others to conduct one course or the other in its entirety but may not contract with others to conduct both courses for the same airplane type.

(3) An operator who has approval to conduct a flight engineer ground course or flight course for a type of airplane, but not both courses, may not contract with another person to conduct that course in whole or in part.

(4) An operator who contracts with another to conduct a flight engineer course may not authorize or permit the course to be conducted in whole or in part by a third person.

(5) In all cases, the course operator who is approved to operate the course is responsible for the nature and quality of the instruction given.

(6) A copy of each contract authorized under this paragraph must be attached to each of the 3 copies of the course outline submitted for approval.

(d) *Instructors.* (1) Only certificated flight engineers may give the flight instruction required by this appendix in an airplane, simulator, or flight engineer training device.

(2) There must be a sufficient number of qualified instructors available to prevent an excess ratio of students to instructors.

(e) *Revisions.* (1) Requests for revisions of the course outlines, facilities or equipment must follow the procedures for original approval of the course. Revisions must be submitted in such form that an entire page or pages of the approved outline can be removed and replaced by the revisions.

(2) The list of instructors may be revised at any time without request for approval, if the requirements of paragraph (d) of this appendix are maintained.

(f) *Ground school credits.* (1) Credit may be granted a student in the ground school course by the course operator for comparable previous training or experience that the student can show by written evidence; however, the course operator must still meet the quality of instruction as described in paragraph (h) of this appendix.

(2) Before credit for previous training or experience may be given, the student must pass a test given by the course operator on the subject for which the credit is to be given. The course operator shall incorporate