

(b) Initial ground training for pilots and flight engineers must consist of at least the following programmed hours of instruction in the required subjects specified in paragraph (a) of this section and in § 121.415(a) unless reduced under § 121.405:

- (1) Group I airplanes—
 - (i) Reciprocating powered, 64 hours; and
 - (ii) Turbopropeller powered, 80 hours.
- (2) Group II airplanes, 120 hours.

[Doc. No. 9509, 35 FR 90, Jan. 3, 1970, as amended by Amdt. 121-199, 53 FR 37696, Sept. 27, 1988; Amdt. 121-250, 60 FR 65949, Dec. 20, 1995; Amdt. 121-333, 72 FR 31682, June 7, 2007]

§ 121.420 Flight navigators: Initial and transition ground training.

(a) Initial and transition ground training for flight navigators must include instruction in the subjects specified in § 121.419(a) as appropriate to his assigned duties and responsibilities and in the following with respect to the particular type airplane:

- (1) Limitations on climb, cruise, and descent speeds.
- (2) Each item of navigational equipment installed including appropriate radio, radar, and other electronic equipment.
- (3) Airplane performance.
- (4) Airspeed, temperature, and pressure indicating instruments or systems.
- (5) Compass limitations and methods of compensation.
- (6) Cruise control charts and data, including fuel consumption rates.
- (7) Any other instruction as necessary to ensure his competence.

(b) Initial ground training for flight navigators must consist of at least the following programmed hours of instruction in the subjects specified in paragraph (a) of this section and in § 121.415(a) unless reduced under § 121.405:

- (1) Group I airplanes—
 - (i) Reciprocating powered, 16 hours; and
 - (ii) Turbopropeller powered; 32 hours.
- (2) Group II airplanes, 32 hours.

§ 121.421 Flight attendants: Initial and transition ground training.

(a) Initial and transition ground training for flight attendants must in-

clude instruction in at least the following:

- (1) General subjects—
 - (i) The authority of the pilot in command;
 - (ii) Passenger handling, including the procedures to be followed in the case of deranged persons or other persons whose conduct might jeopardize safety; and
 - (iii) Approved crew resource management initial training.
- (2) For each airplane type—

(i) A general description of the airplane emphasizing physical characteristics that may have a bearing on ditching, evacuation, and inflight emergency procedures and on other related duties;

(ii) The use of both the public address system and the means of communicating with other flight crewmembers, including emergency means in the case of attempted hijacking or other unusual situations; and

(iii) Proper use of electrical galley equipment and the controls for cabin heat and ventilation.

(b) Initial and transition ground training for flight attendants must include a competence check to determine ability to perform assigned duties and responsibilities.

(c) Initial ground training for flight attendants must consist of at least the following programmed hours of instruction in the subjects specified in paragraph (a) of this section and in § 121.415(a) unless reduced under § 121.405.

- (1) Group I airplanes—
 - (i) Reciprocating powered, 8 hours; and
 - (ii) Turbopropeller powered, 8 hours.
- (2) Group II airplanes, 16 hours.

[Doc. No. 9509, 35 FR 90, Jan. 3, 1970, as amended by Amdt. 121-250, 60 FR 65949, Dec. 20, 1995]

§ 121.422 Aircraft dispatchers: Initial and transition ground training.

(a) Initial and transition ground training for aircraft dispatchers must include instruction in at least the following:

- (1) General subjects—
 - (i) Use of communications systems including the characteristics of those

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systems and the appropriate normal and emergency procedures;

(ii) Meteorology, including various types of meteorological information and forecasts, interpretation of weather data (including forecasting of en route and terminal temperatures and other weather conditions), frontal systems, wind conditions, and use of actual and prognostic weather charts for various altitudes;

(iii) The NOTAM system;

(iv) Navigational aids and publications;

(v) Joint dispatcher-pilot responsibilities;

(vi) Characteristics of appropriate airports;

(vii) Prevailing weather phenomena and the available sources of weather information;

(viii) Air traffic control and instrument approach procedures; and

(ix) Approved dispatcher resource management (DRM) initial training.

(2) For each airplane—

(i) A general description of the airplane emphasizing operating and performance characteristics, navigation equipment, instrument approach and communication equipment, emergency equipment and procedures, and other subjects having a bearing on dispatcher duties and responsibilities;

(ii) Flight operation procedures including procedures specified in § 121.419(a)(2)(vi);

(iii) Weight and balance computations;

(iv) Basic airplane performance dispatch requirements and procedures;

(v) Flight planning including track selection, flight time analysis, and fuel requirements; and

(vi) Emergency procedures.

(3) Emergency procedures must be emphasized, including the alerting of proper governmental, company, and private agencies during emergencies to give maximum help to an airplane in distress.

(b) Initial and transition ground training for aircraft dispatchers must include a competence check given by an appropriate supervisor or ground instructor that demonstrates knowledge and ability with the subjects set forth in paragraph (a) of this section.

(c) Initial ground training for aircraft dispatchers must consist of at least the following programmed hours of instruction in the subjects specified in paragraph (a) of this section and in § 121.415(a) unless reduced under § 121.405:

(1) Group I airplanes—

(i) Reciprocating powered, 30 hours; and

(ii) Turbopropeller powered, 40 hours.

(2) Group II airplanes, 40 hours.

[Doc. No. 9509, 35 FR 90, Jan. 3, 1970, as amended by Amdt. 121–250, 60 FR 65949, Dec. 20, 1995]

§ 121.424 Pilots: Initial, transition, and upgrade flight training.

(a) Initial, transition, and upgrade training for pilots must include flight training and practice in the maneuvers and procedures set forth in the certificate holder's approved low-altitude windshear flight training program and in appendix E to this part, as applicable.

(b) The maneuvers and procedures required by paragraph (a) of this section must be performed inflight except—

(1) That windshear maneuvers and procedures must be performed in a simulator in which the maneuvers and procedures are specifically authorized to be accomplished; and

(2) To the extent that certain other maneuvers and procedures may be performed in an airplane simulator, an appropriate training device, or a static airplane as permitted in appendix E to this part.

(c) Except as permitted in paragraph (d) of this section, the initial flight training required by paragraph (a) of this section must include at least the following programmed hours of inflight training and practice unless reduced under § 121.405:

(1) Group I airplanes—

(i) *Reciprocating powered.* Pilot in command, 10 hours; second in command, 6 hours; and

(ii) *Turbopropeller powered.* Pilot in command, 15 hours; second in command, 7 hours.

(2) *Group II airplanes.* Pilot in command, 20 hours; second in command, 10 hours.

(d) If the certificate holder's approved training program includes a