

to the aircraft category and class rating sought before applying for the practical test;

(g) Pass a knowledge test on the aeronautical knowledge areas of §61.155(c) of this part that apply to the aircraft category and class rating sought;

(h) Pass the practical test on the areas of operation listed in §61.157(e) of this part that apply to the aircraft category and class rating sought; and

(i) Comply with the sections of this subpart that apply to the aircraft category and class rating sought.

[Doc. No. 25910, 62 FR 16298, Apr. 4, 1997; Amdt. 61-103, 62 FR 40905, July 30, 1997; Amdt. 61-124, 74 FR 42559, Aug. 21, 2009; Amdt. 61-130, 78 FR 42374, July 15, 2013]

§ 61.155 Aeronautical knowledge.

(a) *General.* The knowledge test for an airline transport pilot certificate is based on the aeronautical knowledge areas listed in paragraph (c) of this section that are appropriate to the aircraft category and class rating sought.

(b) *Aircraft type rating.* A person who is applying for an additional aircraft type rating to be added to an airline transport pilot certificate is not required to pass a knowledge test if that person's airline transport pilot certificate lists the aircraft category and class rating that is appropriate to the type rating sought.

(c) *Aeronautical knowledge areas.* (1) Applicable Federal Aviation Regulations of this chapter that relate to airline transport pilot privileges, limitations, and flight operations;

(2) Meteorology, including knowledge of and effects of fronts, frontal characteristics, cloud formations, icing, and upper-air data;

(3) General system of weather and NOTAM collection, dissemination, interpretation, and use;

(4) Interpretation and use of weather charts, maps, forecasts, sequence reports, abbreviations, and symbols;

(5) National Weather Service functions as they pertain to operations in the National Airspace System;

(6) Windshear and microburst awareness, identification, and avoidance;

(7) Principles of air navigation under instrument meteorological conditions in the National Airspace System;

(8) Air traffic control procedures and pilot responsibilities as they relate to en route operations, terminal area and radar operations, and instrument departure and approach procedures;

(9) Aircraft loading, weight and balance, use of charts, graphs, tables, formulas, and computations, and their effect on aircraft performance;

(10) Aerodynamics relating to an aircraft's flight characteristics and performance in normal and abnormal flight regimes;

(11) Human factors;

(12) Aeronautical decision making and judgment;

(13) Crew resource management to include crew communication and coordination; and

(14) After July 31, 2014, for airplane category multiengine class rating or airplane type rating, the content of the airline transport pilot certification training program in §61.156.

(d) An applicant who successfully completes the knowledge test for an airline transport pilot certificate prior to August 1, 2014, must successfully complete the practical test within 24 months from the month in which the knowledge test was successfully completed. An applicant who passes the knowledge test prior to August 1, 2014, but fails to successfully complete the practical test within 24 months must complete the airline transport pilot certification training program specified in §61.156 and retake the knowledge test prior to applying for the practical test.

[Docket No. 25910, 62 FR 16298, Apr. 4, 1997, as amended by Amdt. 61-130, 78 FR 42374, July 15, 2013]

§ 61.156 Training requirements: Airplane category—multiengine class rating or airplane type rating concurrently with airline transport pilot certificate.

After July 31, 2014, a person who applies for the knowledge test for an airline transport pilot certificate with an airplane category multiengine class rating must present a graduation certificate from an authorized training provider under part 121, 135, 141, or 142 of this chapter certifying the applicant has completed the following training in

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a course approved by the Administrator.

(a) *Academic training.* The applicant for the knowledge test must receive at least 30 hours of classroom instruction that includes the following:

(1) At least 8 hours of instruction on aerodynamics including high altitude operations;

(2) At least 2 hours of instruction on meteorology, including adverse weather phenomena and weather detection systems; and

(3) At least 14 hours of instruction on air carrier operations, including the following areas:

- (i) Physiology;
- (ii) Communications;
- (iii) Checklist philosophy;
- (iv) Operational control;
- (v) Minimum equipment list/configuration deviation list;
- (vi) Ground operations;
- (vii) Turbine engines;
- (viii) Transport category aircraft performance;
- (ix) Automation, navigation, and flight path warning systems.

(4) At least 6 hours of instruction on leadership, professional development, crew resource management, and safety culture.

(b) *FSTD training.* The applicant for the knowledge test must receive at least 10 hours of training in a flight simulation training device qualified under part 60 of this chapter that represents a multiengine turbine airplane. The training must include the following:

(1) At least 6 hours of training in a Level C or higher full flight simulator qualified under part 60 of this chapter that represents a multiengine turbine airplane with a maximum takeoff weight of 40,000 pounds or greater. The training must include the following areas:

- (i) Low energy states/stalls;
- (ii) Upset recovery techniques; and
- (iii) Adverse weather conditions, including icing, thunderstorms, and crosswinds with gusts.

(2) The remaining FSTD training may be completed in a Level 4 or higher flight simulation training device. The training must include the following areas:

(i) Navigation including flight management systems; and

(ii) Automation including autoflight.

(c) *Deviation authority.* The Administrator may issue deviation authority from the weight requirement in paragraph (b)(1) of this section upon a determination that the objectives of the training can be met in an alternative device.

[Doc. No. FAA-2010-0100, 78 FR 42375, July 15, 2013]

§61.157 Flight proficiency.

(a) *General.* (1) The practical test for an airline transport pilot certificate is given for—

(i) An airplane category and single engine class rating.

(ii) An airplane category and multi-engine class rating.

(iii) A rotorcraft category and helicopter class rating.

(iv) A powered-lift category rating.

(v) An aircraft type rating.

(2) A person who is applying for an airline transport pilot practical test must meet—

(i) The eligibility requirements of §61.153; and

(ii) The aeronautical knowledge and aeronautical experience requirements of this subpart that apply to the aircraft category and class rating sought.

(b) *Aircraft type rating.* Except as provided in paragraph (c) of this section, a person who applies for an aircraft type rating to be added to an airline transport pilot certificate or applies for a type rating to be concurrently completed with an airline transport pilot certificate:

(1) Must receive and log ground and flight training from an authorized instructor on the areas of operation under this section that apply to the aircraft type rating;

(2) Must receive a logbook endorsement from an authorized instructor that certifies the applicant completed the training on the areas of operation listed under paragraph (e) of this section that apply to the aircraft type rating; and

(3) Must perform the practical test in actual or simulated instrument conditions, except as provided under paragraph (g) of this section.