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CIVIL AERONAUTICS MANUAL 42

U. S. Department of Commerce — Civil Aeronautics Administration

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Supplement No. 5 — **February 15, 1956**

SUBJECT: Revisions to Civil Aeronautics Manual 42 Dated August 1954.

The question has been raised as to whether or not a pilot-in-command or other pilot, newly employed by an irregular air carrier, must receive a 6-month equipment check from the check pilot of the company by which he is being employed, even though he had successfully completed, within the previous 6 months, an equipment check given by the company check pilot of another air carrier. A similar problem is also involved in regard to the 6-month instrument check required for a pilot-in-command. Therefore section 42.44–5 is added to indicate clearly which persons are authorized to conduct the equipment and instrument checks required by section 42.44 of this part.

Section 42.44–6 is added for the purpose of permitting an airman assigned to check other flight engineers to apply time spent in giving flight engineer checks toward the recent experience requirements of section 42.44, provided that such experience has been obtained within the preceding 12 months.

NOTE: Revised material is indicated by brackets [ ]. The date the material appeared in the Federal Register and the effective date of the material is indicated at the end of each section of the manual.

Remove and destroy the following pages:	*Insert in lieu thereof the following pages:*
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John F. Warlick

FOR WILLIAM B. DAVIS
Director,
Office of Aviation Safety.

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the landing area of not more than a 180° turn but not less than a 90° turn. The pilot should be judged on the basis of altitude and airspeed control and his ability to maneuver under the minimum ceiling and visibility conditions prescribed.

(v) *Takeoffs and landings (with engine(s) failures).* If it is consistent with safety, traffic patterns, local rules and laws, a simulated engine failure should be experienced during takeoff. The simulated failure should occur at any time after the aircraft has passed the V_1 speed pertinent to the particular takeoff and when practicable before reaching 300 feet. When performing the landing, the aircraft should be maneuvered to a landing while utilizing 50 percent of the available power units. The simulated loss of power should be concentrated on one side of the aircraft. The pilot's ability to satisfactorily perform this maneuver should be evaluated in the manner stated under paragraph (i).

(w) *Judgment.* The pilot should demonstrate judgment commensurate with experience required of a pilot-in-command of air carrier aircraft.

(x) *Emergency procedures.* The emergency procedures should be applicable to the type of aircraft being flown and in accordance with the emergency procedures prescribed by the air carrier. A record should be maintained in the pilot's file which will list the emergency procedures accomplished, date performed, and grade received.

42.44–3 *Aircraft used in instrument checks (CAA policies which apply to sec. 42.44 (a) (3)).* Where a pilot-in-command is scheduled to fly only one type of land aircraft or one type of seaplane, he should be given his instrument checks in that type of aircraft he is scheduled to fly.

Where a pilot-in-command is scheduled to fly more than one type of land aircraft and/or seaplane, his instrument competency should be checked in all types of aircraft he is scheduled to fly. However, the following exceptions should be allowed:

(a) If a pilot is scheduled to fly 2-engine, 3-engine, and 4-engine aircraft or any combination thereof, and/or more than one type of such aircraft, he should take his instrument checks in one of the larger and more complicated types of aircraft; or if only one of the smaller type aircraft is available, he should take his instrument checks immediately due in that aircraft, but his next instrument checks should be accomplished in one of the larger and more complicated type of aircraft.

(b) If a pilot is scheduled to fly both land aircraft and seaplanes, his instrument checks should include a demonstration of competency in both land aircraft and seaplane in accordance with paragraph (a).

42.44–4 *Use of flight simulator in instrument checks (CAA policies which apply to sec. 42.44 (a) (3)).* An air carrier using a flight simulator in its pilot training program may be approved to utilize such a device for certain maneuvers in conducting instrument checks when (a) the training device accurately simulates the flight characteristics and the performance of the applicable aircraft through all ranges of normal and emergency operation, (b) a description of the maneuvers to be conducted in the simulator, other than those specifically authorized in paragraphs (l), (m), (n), (o), (p), and (q) of section 42.44–2, is submitted to the Washington office for approval by the region in which the headquarters of the air carrier is located, and (c) certain critical maneuvers which demonstrate the instrument proficiency of a pilot are executed in an aircraft of the type flown by the pilot in air carrier service. The proficiency flight in the aircraft should include at least maneuvers (minimum speed), approach procedures, handling under regular approach conditions, and takeoff and landings, with engine failures as outlined in section 42.44–2, paragraphs (g), (q), (u), and (v) respectively.

[42.44–5 *Persons from whom the equipment and instrument checks must be received (CAA interpretations which apply to sec. 42.44).* (a) "An authorized representative of the Administrator" as used in this section means a CAA Aviation Safety Agent.

[(b) "A check pilot of the air carrier" as used in this section means a check pilot of the air carrier by which the pilot is presently employed. Therefore, checks given to a pilot by

the check pilot of a previous employer within the preceding 6 months do not satisfy the experience requirements of subparagraphs (2) and (3) of section 42.44 (a).]

[(Published in 21 F. R. 450, January 21, 1956, effective upon publication in the Federal Register.)]

[42.44–6 *Flight engineer qualifications for duty (CAA interpretations which apply to sec. 42.44).* An airman assigned to flight-check other flight engineers must meet the recent experience requirements of this part before serving as a flight engineer in air transportation. However, the time spent in giving flight engineer checks may be applied toward the 50-hour recent experience requirement on a particular type of aircraft. Unless such experience has been obtained within the preceding 12-month period, a check by the air carrier or an authorized representative of the Administrator is required.]

[(Published in 21 F. R. 678, January 31, 1956 effective February 15, 1956.)]

"42.45 Proficiency of crew members serving on large aircraft. **Each air carrier shall establish a training program sufficient to ensure that each crew member used by the air carrier is adequately trained and maintains adequate proficiency to perform the duties to which he is to be assigned.**

"(a) The training program shall consist of appropriate ground and flight training, including all subjects contained in the Operations Manual. Procedures for each crew function shall be standardized to the extent that each flight crew member will know the functions for which he is responsible.

"(b) No air carrier shall initially assign an individual as a pilot unless he has satisfactorily accomplished a written examination by the carrier to ensure his familiarity with the contents of the Operations Manual and with all types of instrument approach and navigational facilities and procedures to be used.

"Thereafter, a pilot shall not be utilized by an air carrier unless during the preceding 6 months:

(1) He has satisfactorily accomplished such written examination, or

(2) He has been in the continuous employ of the air carrier and continuously participating in the training program of the air carrier.

"(c) Each air carrier shall provide a sufficient number of check pilots to be able through its own personnel to give each pilot the checks necessary to comply with the requirements of section 42.44 (a). Check pilots shall make written reports of all pilot deficiencies disclosed by checks, and the carrier shall make provision for such additional pilot training as may be required in each particular case."

42.45–1 *Training program (CAA policies which apply to sec. 42.45).*

(a) *Ground phase.* The ground phase of the air carrier's pilot training and instruction program shall include:

(1) A study of the regulations in this subchapter applicable to irregular air carrier operation and of the provisions of the air carrier's operating certificate, including methods and principles of determining weight limitations for landings and takeoffs;

(2) A study of the company's operations manual and procedures;

(3) Training in the duties and responsibilities of flight crew and crew members;

(4) Through familiarization with the aircraft to be flown including the engines and all major components, operation of cabin pressurization (if installed), oxygen system, standard operating procedures, a study of the CAA approved Airplane Flight Manual;

(5) A study of navigation, use of radio aids to navigation and such refresher courses necessary to keep airmen current in the application of any new developments;

(6) A study of meteorology sufficient to maintain a practical knowledge of the principles of icing, fog, thunderstorms and frontal systems, etc., and the best method of operating under these various conditions.

Training and instruction in synthetic-type training devices may be included in the ground phase of the training program. However, such training should be so planned that it will supplement the flight training phase and afford further training in specific instrument let-down procedures to be conducted by the pilot in irregular air carrier operations.

(b) *Flight phase.* The flight phase of the training program should be so planned as to insure adequate initial qualification of the pilot on the type aircraft on which he is to serve. It shall also provide for the continued maintenance of a high standard of pilot proficiency. This training shall include, but not be limited to:

(1) Takeoffs and landings under varying conditions of load, wind, low ceiling and visibility, inoperative engine, etc.;

(2) Flight with one or more engines inoperative, including flight with any one engine fully throttled at maximum authorized load, either at one-engine-inoperative service ceiling or at an altitude equivalent to 1,000 feet above the highest part of the terrain on the route or routes to be flown;

(3) Operating under normal and maximum limits of power and speed;

(4) Conduct instrument flight including navigation by low frequency radio ranges, VHF, and ADF, letting-down-through procedures utilizing radio range, ADF, ILS, GCA, etc., whichever is used by the air carrier in its normal operations.

(c) *Emergency procedures.* The training program shall include instruction in emergency procedures particularly with respect to engine failure, fire in the air or on the ground, evacuation of passengers, location and operation of all emergency equipment, power settings for maximum endurance and maximum range, etc.

(d) *Other.* Whenever flight engineers, flight radio operators, flight navigators, or cabin attendants are utilized, appropriate and ade-