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## CIVIL AERONAUTICS MANUAL 42

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Civil Aeronautics Administration

Civil Aeronautics Manuals and supplements thereto are issued by the Office of Aviation Safety, Civil Aeronautics Administration, for the guidance of the public and are published in the Federal Register and Code of Federal Regulations.

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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:*  
V through VI  
35 and 36

*Insert in lieu thereof the following pages:*  
V through VI--1  
35 through 36--1

*John F. Warlick*

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

Attachments.

## Aircraft Equipment

	Section	Page
<b>Basic required instruments and equipment for aircraft</b> .....	42.21	9
Seats and safety belts ( <i>CAA rules which apply to 42.21 (a) (1)</i> ) .....	42.21-1	10
Fire extinguisher ( <i>CAA rules which apply to 42.21 (a) (12)</i> ) .....	42.21-2	10
Altimeter ( <i>CAA policies which apply to 42.21 (b) (1)</i> ) .....	42.21-3	10
<b>Additional required instruments and equipment for large aircraft</b> .....	42.22	10
<b>Air-speed indicators, limitations, and related information for large aircraft</b> .....	42.22a	11
<b>Radio communications system and navigational equipment for large aircraft</b> .....	42.23	11
Approved types of radio equipment ( <i>CAA interpretations which apply to 42.23</i> ) .....	42.23-1	11
Independent means ( <i>CAA interpretations which apply to 42.23</i> ) .....	42.23-2	11
Installation and use of nonapproved radio communication equipment ( <i>CAA policies which apply to 42.23</i> ) .....	42.23-3	11
<b>First-aid and emergency equipment</b> .....	42.24	11
First-aid and emergency equipment ( <i>CAA policies which apply to 42.24</i> ) .....	42.24-1	12
First-aid kits ( <i>CAA policies which apply to 42.24</i> ) .....	42.24-2	12
Emergency evacuation equipment ( <i>CAA policies which apply to 42.24 (a)</i> ) .....	42.24-3	12
Emergency equipment ( <i>CAA rules which apply to 42.24 (b)</i> ) .....	42.24-4	13
<b>Cockpit check list</b> .....	42.25	14
Cockpit check list ( <i>CAA policies which apply to 42.25</i> ) .....	42.25-1	14
Minimum standard cockpit check list ( <i>CAA policies which apply to 42.25</i> ) .....	42.25-2	14
<b>Supplemental oxygen</b> .....	42.26	15
Supplemental oxygen for crew members ( <i>CAA interpretations which apply to 42.26 (a) (1)</i> ) .....	42.26-1	16
Oxygen requirements for standby crew members ( <i>CAA interpretations which apply to 42.26 (a)</i> ) .....	42.26-2	16
Operating instructions ( <i>CAA policies which apply to 42.26</i> ) .....	42.26-3	16
Oxygen requirements for jump-seat occupant ( <i>CAA policies which apply to 42.26</i> ) .....	42.26-4	16
Oxygen requirements for infants-in-arms ( <i>CAA policies which apply to 42.26 (b)</i> ) .....	42.26-5	16
Oxygen requirements for clinical purposes ( <i>CAA policies which apply to 42.26 (b)</i> ) .....	42.26-6	17
<b>Supplemental oxygen requirements for pressurized cabin airplanes</b> .....	42.27	17
Computation of supply for crew members in pressurized cabin aircraft ( <i>CAA policies which apply to 42.27 (a)</i> ) .....	42.27-1	18
Computation of supply for passengers in pressurized cabin aircraft ( <i>CAA policies which apply to 42.27 (b)</i> ) .....	42.27-2	18
Oxygen requirements for clinical purposes ( <i>CAA policies which apply to 42.27 (b)</i> ) .....	42.27-3	19
Oxygen requirements for infants-in-arms ( <i>CAA policies which apply to 42.26 (b)</i> ) .....	42.27-4	19
<b>Equipment standards</b> .....	42.28	19
<b>Protective breathing equipment for the flight crew</b> .....	42.29	20
Protective breathing equipment and installation ( <i>CAA policies which apply to 42.29</i> ) .....	42.29-1	20
Requirement of protective breathing equipment in nonpressurized cabin airplanes ( <i>CAA rules which apply to 42.29 (b)</i> ) .....	42.29-2	20

## Maintenance Requirements

<b>General</b> .....	42.30	20
General ( <i>CAA policies which apply to 42.30</i> ) .....	42.30-1	20
<b>Inspection and maintenance</b> .....	42.31	21
Inspection and maintenance—large aircraft ( <i>CAA policies which apply to 42.31 (a) (1)</i> ) .....	42.31-1	21
Maintenance and inspection—small aircraft ( <i>CAA policies which apply to 42.31 (a) (2)</i> ) .....	42.31-2	21

	Section	Page
<b>Inspection and maintenance—Continued</b>		
Deleted.....	42.31-3.....	21
Maintenance and inspection records ( <i>CAA policies which apply to 42.31 (b)</i> ).....	42.31-4.....	22
<b>Additional maintenance requirements for large aircraft</b> .....	42.32.....	22
Facilities for the proper inspection, maintenance, overhaul, and repair ( <i>CAA policies which apply to sec. 42.32</i> ).....	42.31-1.....	23
Arrangements acceptable to the Administrator ( <i>CAA policies which apply to sec. 42.32 (a)</i> ).....	42.32-2.....	23
Maintenance personnel ( <i>CAA policies which apply to sec. 42.32 (b)</i> ).....	42.32-3.....	24
Reporting of mechanical irregularities in operation ( <i>CAA policies which apply to sec. 42.32 (c)</i> ).....	42.32-4.....	24
Maintenance manual ( <i>CAA rules which apply to sec. 42.32 (d) (1)</i> ).....	42.32-5.....	24
Copy of maintenance manual in aircraft ( <i>CAA policies which apply to sec. 42.32 (d) (2)</i> ).....	42.32-6.....	29
Mandatory revisions ( <i>CAA rules which apply to sec. 42.32 (d) (3)</i> ).....	42.32-7.....	29

### Flight Crew Requirements

<b>Airman requirements</b> .....	42.40.....	30
<b>Composition of flight crew</b> .....	42.41.....	30
<b>Pilot qualifications for small aircraft</b> .....	42.42.....	30
<b>Pilot qualifications for large aircraft</b> .....	42.43.....	30
<b>Recent flight experience requirements for flight crew members</b> .....	42.44.....	31
Equipment check ( <i>CAA policies which apply to sec. 42.44 (a) (2)</i> ).....	42.44-1.....	31
Instrument checks ( <i>CAA policies which apply to sec. 42.44 (a) (3)</i> ).....	42.44-2.....	32
Aircraft used in instrument checks ( <i>CAA policies which apply to sec. 42.44 (a) (3)</i> ).....	42.44-3.....	35
Use of flight simulator in instrument checks ( <i>CAA policies which apply to sec. 42.44 (a) (3)</i> ).....	42.44-4.....	35
Persons from whom the equipment and instrument checks must be received ( <i>CAA interpretations which apply to sec. 42.44</i> ).....	42.44-5.....	35
Flight engineer qualifications for duty ( <i>CAA interpretations which apply to sec. 42.44</i> ).....	42.44-6.....	36
<b>Proficiency of crew members serving on large aircraft</b> .....	42.45.....	36
Training program ( <i>CAA policies which apply to sec. 42.45</i> ).....	42.45-1.....	36
<b>Logging flight time</b> .....	42.46.....	37
<b>Grace period of airman periodic checks</b> .....	42.47.....	37
<b>Flight time limitations for pilots on large aircraft</b> .....	42.48.....	37
"Scheduled to fly," "scheduled to be aloft," and "scheduled for duty on the flight deck" ( <i>CAA interpretations which apply to sec. 42.48</i> ).....	42.48-1.....	37

### Flight Operation Rules

<b>Pilot responsibilities</b> .....	42.51.....	37
Preflight responsibilities ( <i>CAA interpretations which apply to sec. 42.51 (a) and (b)</i> ).....	42.51-1.....	38
Responsibilities of the pilot-in-command ( <i>CAA policies which apply to 42.51</i> ).....	42.51-2.....	38
Time of reporting for duty ( <i>CAA policies which apply to sec. 42.51 (b)</i> ).....	42.51-3.....	39
Flight equipment ( <i>CAA policies which apply to sec. 42.51 (c)</i> ).....	42.51-4.....	39
Serviceability of equipment ( <i>CAA policies which apply to sec. 42.51 (e)</i> ).....	42.51-5.....	39
<b>Fuel supply</b> .....	42.52.....	39
Operations in the Territory of Alaska ( <i>CAA policies which apply to sec. 42.52 (a)</i> ).....	42.52-1.....	40
Operations in the Territory of Alaska ( <i>CAA policies which apply to sec. 42.52 (b)</i> ).....	42.52-2.....	40
<b>Minimum flight altitude rules</b> .....	42.53.....	40
<b>Flight into known icing conditions</b> .....	42.54.....	40
Other parts of the aircraft ( <i>CAA interpretations which apply to sec. 42.54</i> ).....	42.54-1.....	40

## TABLE OF CONTENTS

VI—1

	<i>Section</i>	<i>Page</i>
<b>Weather minimums</b> .....	<b>42. 55</b> .....	<b>41</b>
Deleted.....	42. 55-1.....	41
Air traffic clearance ( <i>CAA interpretations which apply to sec. 42.55 (a)</i> )....	42. 55-2.....	41
IFR takeoff and landing minimums ( <i>CAA policies which apply to sec. 42.55</i> ).....	42. 55-3.....	41
<b>Instrument approach</b> .....	<b>42. 56</b> .....	<b>41</b>
Standard instrument approach procedures ( <i>CAA rules which apply to sec. 42.56</i> ).....	42. 56-1.....	41
Takeoff and landing weather minimums ( <i>CAA rules which apply to sec. 42.55 and 42.56</i> ).....	42. 56-2.....	41
<b>Airport lighting for night operations</b> .....	<b>42. 57</b> .....	<b>41</b>
Minimum facilities ( <i>CAA policies which apply to sec. 42.57</i> ).....	42. 57-1.....	42

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 (1), (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.

(Rev. 2/15/56)

(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-