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Civil Aeronautics Manual 41

Certification and Operation Rules for Scheduled Air Carrier Operations Outside the Continental Limits of the United States

Supplement No. 7, CAM 41 dated Nov. 10, 1959 **October 1, 1962**

SUBJECT: Revisions to CAM 41.

This supplement is issued to incorporate into CAM 41 Civil Air Regulations Amendment 41–45, and Special Civil Air Regulations Nos. SR–392D, SR–411B, SR–446A, and SR–450A.

Amendment 41–45 concerns the period allowed for compliance with the recurrent training requirements of air carrier training programs. It was issued July 30, 1962, and became effective August 3, 1962.

Special regulation SR–392D concerns the display of experimental exterior lighting systems approved for use on aircraft. This regulation was issued June 22, 1962, and became effective June 25, 1962.

Special regulation SR–411B concerns the operation of certain transport category airplanes in cargo service at increased zero fuel and landing weights. This regulation was issued June 29, 1962, became effective June 30, 1962, and supersedes Special Civil Air Regulation No. SR–411A.

Special regulation SR–446A prohibits the use of portable frequency modulation (FM) type radio receivers on certain aircraft during flight. This regulation was issued May 22, 1962, became effective May 25, 1962, and supersedes Special Civil Air Regulation No. SR–446.

Special regulation SR–450A concerns airspeed operating limitations for transport category airplanes. This regulation was issued August 29, 1962, and became effective August 31, 1962.

New or revised material is enclosed in black brackets on the pages submitted with this supplement, except Special Civil Air Regulations Nos. SR–392D, SR–411B, SR–446A, and SR–450A and the pages in the addendum containing the preamble of amendments.

Remove the following pages:	*Insert the following new pages:*
VII and VIII	VII and VIII
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—	80–1 through 80–3
87 through 90	87 through 90–1
177 and 178	177 and 178
—	181 and 182
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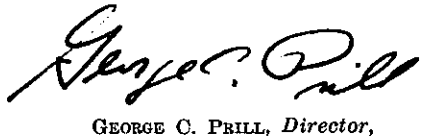

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the approval of a representative of the Administrator.

(Added by Amdt. 41-28, published in 24 F.R. 9768, Dec. 5, 1959, effective Jan. 1, 1961; Amended by Amdt. 41-36, published in 26 F.R. 1057, Feb. 3, 1961, effective Mar. 3, 1961.)

41.53f *Initial aircraft dispatcher training.*

(a) The training program for aircraft dispatchers shall provide for training in their duties and responsibilities and shall include a study of the flight operation procedures, air traffic control procedures, the performance of the airplanes used by the air carrier, navigational aids and facilities, and meteorology. Particular emphasis shall be placed upon the procedures to be followed in the event of emergencies, including the alerting of proper governmental, company, and private agencies to render maximum assistance to an airplane in distress.

(b) Each aircraft dispatcher shall, prior to initially performing the duty of an aircraft dispatcher, satisfactorily demonstrate to the supervisor or ground instructor authorized to certify to his proficiency, his knowledge of the following subjects:

(1) Contents of the air carrier operating certificate;

(2) Appropriate provisions of the air carrier operations specifications, manual, and regulations of this subchapter;

(3) Characteristics of the airplanes operated by the air carrier;

(4) Cruise control data and cruising speeds for such airplanes;

(5) Maximum authorized loads for the airplanes for the routes and airports to be used;

(6) Air carrier radio facilities;

(7) Characteristics and limitations of each type of radio and navigational facility to be used;

(8) Effect of weather conditions on airplane radio reception;

(9) Airports to be used and the general terrain over which the airplanes are to be flown;

(10) Prevailing weather phenomena;

(11) Sources of weather information available;

(12) Pertinent air traffic control procedures; and

(13) Emergency procedures.

(Added by Amdt. 41-28, published in 24 F.R. 9768, Dec. 5, 1959, effective Jan. 1, 1961.)

41.53g *Recurrent training.*

(a) Each air carrier shall provide such training as is necessary to insure the continued competence of each crewmember and dispatcher and to insure that each possesses adequate knowledge of and familiarity with all new equipment and procedures to be used by him.

[(b) Each air carrier shall, as a part of the training program, check the competence of each crewmember and dispatcher each 12 months with respect to procedures, techniques, and information essential to the satisfactory performance of his duties. The competence check may be given at any time during the month preceding or following the month in which it becomes due. The effective date of the check, if given within the preceding or following month, shall be the same as if given within the month in which it became due. Where the check of the pilot in command or second in command requires actual flight, such check shall be considered to have been met by the checks accomplished in accordance with sections 41.53j and 41.53k, respectively.]

(c) The appropriate instructor, supervisor, or check airman shall certify as to the proficiency demonstrated, and such certification shall become a part of the individual's record.

(Added by Amdt. 41-28, published in 24 F.R. 9768, Dec. 5, 1959, effective Jan. 1, 1961.) [Amended by Amdt. 41-45, published in 27 F.R. 7673, Aug. 3, 1962, effective Aug. 3, 1962.]

41.53h *Approval of training program.* The training program established by the air carrier under the provisions of sections 41.53 through 41.53g shall meet with the approval of an authorized representative of the Administrator: *Provided,* That the curriculum of such training program shall be submitted in appropriate form to an authorized representative of the Administrator not later than May 1, 1960.

(Added by Amdt. 41-28, published in 24 F.R. 9768, Dec. 5, 1959, effective Jan. 1, 1961, except as noted in proviso.)

41.53i *Qualification requirements.*

(a) No air carrier shall utilize any flight crewmember or dispatcher, nor shall any such airman perform the duties authorized by his airman certificate, unless he satisfactorily meets the appropriate requirements of sections 41.48, 41.50, 41.51; 41.53 or 43.53g; and 41.53j through 41.53k; and 41.68 through 41.88.

(b) Check airmen shall certify as to the proficiency of the pilot being examined, as required by sections 41.50, 41.53j, and 41.53k, and such certification shall be made a part of the airman's record.

(Added by Amdt. 41-28, published in 24 F.R. 9768, Dec. 5, 1959, effective Jan. 1, 1961.)

41.53j *Pilot checks; pilot in command.*

(a) *Line check.* Prior to serving as pilot in command, and at least once each 12 months thereafter, a pilot shall satisfactorily accomplish a line check in one of the types of airplanes normally to be flown by him. The line check may be given at any time during the month preceding or following the month in which it becomes due. The effective date of the check, if given within the preceding or following month, shall be the same as if given within the month in which it became due. This check shall be given by a check pilot who is qualified for the route. It shall consist of at least a scheduled flight over a typical portion of the air carrier's routes to which the pilot is normally assigned, and shall be of sufficient duration for the check pilot to determine whether the individual being checked satisfactorily exercises the duties and responsibilities of pilot in command.

(b) *Proficiency check.*

(1) An air carrier shall not utilize a pilot as pilot in command until he has satisfactorily demonstrated to a check pilot of a representative of the Administrator his ability to pilot and navigate airplanes to be flown by him. Thereafter, he shall not serve as pilot in command unless each 6 months he successfully completes a similar pilot proficiency check. The proficiency check may be given at any time during the month preceding or following the month in which it becomes due. The effective date of the check, if given within the preceding or following month, shall be the same as if given within the month in which it became due. Where such pilots serve in more than one airplane type, at least every other successive proficiency check shall be given in flight in the larger airplane type.

(2) The pilot proficiency check shall include at least the following:

(i) The flight maneuvers specified in section 41.53b(b)(1), except that the simulated engine failure during takeoff need not be accomplished at speed V_1, nor at actual or simulated maximum authorized weight.

(ii) Flight maneuvers approved by the Administrator accomplished under simulated instrument conditions utilizing the navigational facilities and letdown procedures normally used by the pilot: *Provided,* That maneuvers other than those associated with approach procedures for which the lowest minimums are approved may be given in a synthetic trainer which contains the radio equipment and instruments necessary to simulate other navigational and letdown procedures approved for use by the air carrier.

(3) Subsequent to the initial pilot proficiency check, an approved course of training in an aircraft simulator, if satisfactorily completed, may be substituted at alternate 6-month intervals for the proficiency check required by subparagraph (1) of this paragraph. The air carrier shall show that the flight characteristics, performance, instrument reaction, and control loadings of the applicable aircraft are accurately simulated in the aircraft simulator through all ranges of normal and emergency operations in accordance with subdivisions (i) through (vii) of this subparagraph.

(i) The simulator shall represent a full-scale mockup of the cockpit interior, including normal flight crew stations and accommodations for the instructor or check airman.

(ii) The effect of changes on the basic forces and moments shall be introduced for all combinations of drag and thrust nor-

mally encountered in flight. The effect of changes in airplane attitude, power, drag, altitude, temperature, gross weight, center of gravity locations, and configuration shall be included.

(iii) In response to control movement by a flight crewmember, all instrument indications involved in the simulation of the applicable airplane shall be entirely automatic in character unless otherwise specified. The rate of change of simulator instrument readings and of control forces shall correspond to the rate of change which would occur on the applicable airplane under actual flight conditions, for any given change in the applied load on the controls, in the applied power or in aircraft configuration. Control forces and degree of actuating control travel shall correspond to that which would occur in the airplane under actual flight conditions.

(iv) Through the medium of instrument indication, it shall be possible to use the simulator for the training and checking of a pilot in the operational use of controls and instruments on the applicable airplane model during the simulated execution of ground operation, takeoff, landing, normal flight, unusual attitudes, navigation problems and instrument approach procedures. In addition, the simulator shall be designed so that malfunction of aircraft engines, propellers and primary systems may be presented and corrective action taken by the crew to cope with such emergencies.

(v) Suitable course and altitude recorders shall be included.

(vi) Communication and navigation aids of the applicable airplane shall be simulated for on-the-ground and inflight operations.

(vii) Other aircraft systems and components shall be simulated to the extent found necessary by the Administrator.

(c) Prior to serving as pilot in command in a particular type of airplane, a pilot shall have accomplished during the preceding 12 months either a proficiency check or a line check in that type of airplane.

(Added by Amdt. 41-28, published in 24 F.R. 9768, Dec. 5, effective Jan. 1, 1961; Amended by Amdt. 41-33, published in 25 F.R. 3850, May 4, 1960, effective June 1, 1960.)

41.53k *Proficiency checks; second in command.*

(a) An air carrier shall not utilize a pilot as second in command until he has satisfactorily demonstrated to a check pilot or a representative of the Administrator his ability to pilot and navigate airplanes to be flown by him and to perform his assigned duties. Thereafter, he shall not serve as second in command unless each 12 months he successfully completes a similar pilot proficiency check. The proficiency check may be given at any time during the month preceding or following the month in which it becomes due. The effective date of the check, if given within the preceding or following month, shall be the same as if given within the month in which it became due. Where such pilots serve in more than one airplane type, at least every other successive proficiency check shall be given in flight in the larger airplane type. The pilot proficiency check shall include at least an oral or written equipment examination, and the procedures and flight maneuvers specified in section 41.53b(c)(1). The pilot proficiency check may be demonstrated from either the right or left pilot seat.

(b) The proficiency check for the second in command of a crew requiring 3 or more pilots shall be the same as required under section 41.53j(b).

(c) Subsequent to the initial pilot proficiency check, an approved course of training in an aircraft simulator which meets the requirements of section 41.53j(b)(3), if satisfactorily completed, may be substituted at alternate 12-month intervals for the proficiency check required by paragraph (a) of this section.

(d) Satisfactory completion of the proficiency check in accordance with the requirements of section 41.53j(b) will also meet the requirements of this section.

(Added by Amdt. 41-38, published in 24 F.R. 9768, Dec. 5, 1959, effective Jan. 1, 1961.)

41.54 *Flight time limitations for aircraft having a crew of one or two pilots.*

SPECIAL CIVIL AIR REGULATION NO. SR-392D

Effective: June 25, 1962
Adopted: June 22, 1962
Published: June 26, 1962
(27 F.R. 5979)

Display of Experimental Exterior Lighting Systems Approved for Use on Aircraft

Special Civil Air Regulation No. SR-392B, adopted on February 25, 1957, and superseded by SR-392C on February 3, 1962, permitted experimentation with exterior lighting systems that did not comply with the standards prescribed in the Civil Air Regulations on aircraft with standard airworthiness certificates. Several conditions were imposed to insure that the number of aircraft engaged in the experiments was reasonably limited; that the experimental exterior lights were in fact installed for bona fide experimentation; and that the results of such experimentation became generally available.

In a notice of proposed rule making contained in Draft Release No. 61-27 and published in the Federal Register, December 23, 1961 (26 F.R. 12294), the Agency gave notice that it had under consideration the termination of SR-392B, which was then in effect, and requested comments from interested persons. However, the nature of the comments received was such that there was not sufficient time remaining, before the February 25, 1962, termination date specified in SR-392B, for their proper review and evaluation. To provide the time needed, the Agency adopted SR-392C which superseded SR-392B without revision other than extension of the termination date from February 25, 1962, to June 25, 1962.

On April 3, 1962, the Agency convened a public conference (previously announced by a notice of conference dated February 12, 1962) to give persons interested in SR-392C an opportunity to supplement their written comments with oral presentations, to make additional evidence available, and to participate in direct discussions wth government-industry technical people in the aircraft lighting field.

From a study of all comments made on the issue, those who support the need for an extension of SR-392C contend essentially as follows: (1) Experimental lighting systems now operating under SR-392C are more effective than the system prescribed in the Civil Air Regulations; (2) much money and time has been invested in the experiments, which would be wasted if SR-392C were terminated; (3) extension would continue grass-roots cooperation between experienced FAA inspectors and inventors, and stimulate inventive initiatives; (4) unrestrictive field testing would insure reliability of new lighting equipment by exposing it to actual service conditions; (5) a new lighting concept cannot attract financing, or interest manufacturing management, unless its sales potential is established by flight demonstrations to prospective customers; and (6) there is no satisfactory alternative to extension of SR-392C.

After more than 10 years of experimentation under the provisions of SR–392C and predecessor special regulations, the evidence supporting the contention that various experimental lighting systems surpass the standard system now prescribed in the Civil Air Regulations remains inconclusive. For the most part, reports submitted by experimenters contain subjective evaluations of proposed systems without the use of experimental controls to insure a valid basis for comparison. Tests and studies conducted by the Navy Department and by the Agency's National Aviation Facilities Experimental Center have not corroborated the advantages claimed by private experimenters for their respective systems.

The experiments were no doubt expensive and time-consuming, but the persons who undertook them did so voluntarily and with no assurance of success. In any case, the costs incurred in such experiments do not justify the indefinitely prolonged display of experimental lighting systems, since these systems necessarily introduce some degree of ambiguity and confusion in night operations.

Termination of SR–392C would not prevent further lighting experimentation since such experiments could still be performed under the terms of an experimental airworthiness certificate. There appears to be no reason why cooperation between FAA inspectors and inventors would necessarily diminish if further lighting experiments were conducted only on that basis.

The point that unrestricted field testing insures reliability of experimental lighting equipment is largely irrelevant since the objective of SR–392C was to facilitate experiments with new lighting concepts rather than to achieve component reliability. Component technology is not in question; and, in any case, there is no evidence that unusual problems exist. Further, reliability can be attained to a large extent by laboratory tests in a simulated environment, a practice which has worked satisfactorily in the past.

It may be true that the privileges granted by SR–392C (as opposed to the generally more restrictive terms of experimental airworthiness certificates) make it easier to finance new lighting concepts, but similar privileges are not granted to those who experiment with aircraft in other ways. This preference for one class of experimenters over all other classes has not been justified in terms of safety improvements achieved to date.

Reasonable alternatives to SR–392C are, in fact, open to experimenters. Experiments may be conducted under the terms of an experimental airworthiness certificate; and the Agency's well-equipped experimental facilities, with trained personnel, are now available for cooperative evaluation of new lighting concepts developed by inventors.

For these reasons, the Agency concludes that the arguments offered in support of an extension of SR–392C are not persuasive; and SR–392C will not be continued in effect beyond June 25, 1962. However, the Agency believes that a reasonable transition period of not less than one year should be established. This would permit 6 months for completion of experiments begun before June 25, 1962, the maximum period of experimentation permitted under SR–392C without special permission, and would allow not less than an additional 6 months for airplane modifica-

tions that may be necessitated by the termination of experimentation hereunder.

The various experiments which were conducted under the provisions of SR-392C and predecessor special regulations, although inconclusive, have, nevertheless, helped to crytallize the Agency's position on the need for revisions of the currently effective exterior lighting regulations. Therefore, a proposed rule concerning these requirements is under study by the Agency. If rule making action is initiated as a result of this study, it may ultimately effect some of the details of the lighting systems now required to be installed on aircraft. Moreover, if such rule making action is initiated it may not be completed before December 25, 1962. In such case, a requirement to accomplish the necessary modifications within one year after the termination of SR-392C, i.e., by June 25, 1963, may not provide the operator with a period of 6 months in which to accomplish the modifications, if any, required by the regulation.

In order to permit an adequate transition period for the accomplishment of any necessary modifications, this regulation permits the current experimental lighting systems to be used until June 25, 1963, or 6 months after completion of the proposed rule making action in regard to exterior lighting systems, whichever date is later. If, however, the Agency finds at the conclusion of its studies that rule making action will not be adopted an appropriate notice thereof will be issued and published in the Federal Register. In such case this regulation also permits the experimental lighting systems to be used until June 25, 1963, or 6 months after such notice is published in the Federal Register, whichever date is later.

In consideration of the foregoing, the following Special Civil Air Regulation is adopted to become effective on June 25, 1962:

Contrary provisions of the Civil Air Regulations notwithstanding, experimental exterior lighting systems which do not not comply with the Civil Air Regulations, and which were installed for the purposes of experimentation on aircraft with standard airworthiness certificates under the provisions of SR-392B or SR-392C, may be displayed until:

(1) 6 months after the date of publication in the Federal Register of either

(i) revised standards adopted by the Agency for exterior lighting systems, or

(ii) a notice that rule making action to revise such standards will not be adopted by the Agency; or

(2) June 25, 1963, if later than that specified in paragraph (1).

This Special Civil Air Regulation shall remain in effect until superseded or rescinded.

SPECIAL CIVIL AIR REGULATION NO. SR-411B

Effective: June 30, 1962
Adopted: June 29, 1962
Published: July 4, 1962
(27 F.R. 6321)

Operation Of Certain Transport Category Airplanes in Cargo Service at Increased Zero Fuel and Landing Weights

The Federal Aviation Agency published as a notice of proposed rule making (27 F.R. 3890) and circulated as Civil Air Regulations Draft Release No. 62-18 dated April 19, 1962, a proposed Special Civil Air Regulation to permit certain transport category airplanes to be operated in cargo service at increased zero fuel and landing weights. The proposed regulation was intended to supersede Special Civil Air Regulation No. SR-411A, which contains a termination date of June 30, 1962.

Trial operations of cargo airplanes (Douglas DC-6A) at increased weights were first authorized in waivers issued by the Civil Aeronautics Board to individual air carriers. The first such waiver was issued on July 21, 1954. The weights involved were the zero fuel weight (i.e., the maximum weight of the airplane with no disposable fuel and oil, which has the effect of limiting the weight of the fuselage contents) and the structural landing weight. The weight increases were limited to not more than 5 percent of the zero fuel weight approved for passenger operations, and their use was made contingent upon certain findings by the Administrator of Civil Aeronautics and upon certain conditions of operation, inspections, and reporting. Authorization of the trial operations was predicated on the premise that such operations could eventually lead to the establishment of a sound basis for differentiating between standards for passenger and cargo air carrier operations. Based upon the trial operations under the waivers, the Board determined that a more extensive background of operating experience was necessary. This led to the promulgation of Special Civil Air Regulation No. SR-411 (20 F.R. 4765) which permitted any number of any type of transport category airplane to be operated by any air carrier at increased weights in cargo service.

From the data submitted by the operators in accordance with SR-411, the Board concluded that the scope of operations under SR-411 had been such that substantiation of the conditions for these operations for inclusion in the regulations on a permanent basis would entail a long-range program. The Board, therefore, extended the trial operations by adopting SR-411A on June 28, 1957 (22 F.R. 4684), with a termination date of June 30, 1962.

SR-411A is applicable to airplanes certificated under the transport category airworthiness requirements effective before March 13, 1956. The applicability was so limited because the Board believed it advisable to gain some experience with the airplanes certificated under the provisions of Part 4b effective on and after March 13, 1956, at the normal transport

category weights before permitting such airplanes to operate at increased weights. In arriving at this conclusion, the Board took into consideration the new concept of structural design requirements as well as other related changes in these requirements which were introduced in Part 4b on March 13, 1956.

As the preambles to both SR–411 and SR–411A indicated, the purpose in permitting the trial operation of transport category airplanes in cargo service at the arbitrary increased zero fuel and landing weights was to determine through operating experience whether the conditions governing the trial operations would provide a sound basis for establishing future standards for airplanes in cargo operations at increased weights. During the approximately seven years that these trial operations have been conducted, a substantial amount of data has been amassed concerning the airplanes approved for operation under these Special Civil Air Regulations.

The data submitted and the operating experience gained under SR–411 and SR–411A indicate that the airplanes approved for and operated at the increased weights can continue to be operated at such increased weights under certain conditions without adverse effect upon the safety of such airplanes. The inspection reports submitted by the operators under SR–411 and SR–411A have not indicated any serious structural difficulties resulting from operation at the increased weights. The service history of these airplanes with respect to fatigue cracks and other damage is similar to that for airplanes of the same type operated in passenger service. Furthermore, cargo operators have expressed a need to continue operation of these airplanes at the increased weights in their cargo operations. Therefore, Draft Release 62–18 proposed to extend the provisions of SR–411A indefinitely to the types of airplanes that have been qualified and operated at such weights. However, the proposal did not specify the particular models of the various types approved for increased weights under SR–411 and SR–411A. Furthermore, it has subsequently been determined that the L–1649A airplane as modified under supplemental type certificate SA 4–1402 has been approved for operation and has been operated under the provisions of SR–411A. While the application for the type certificate for this airplane was filed in 1955, the manufacturer elected to comply with the later requirements of Part 4b rather than those in effect at the time of his application for type certificate. Subsequently, a supplemental type certificate was issued covering a modification to this airplane based on a demonstration of compliance with the requirements in effect on the date of the application for the type certificate for the airplane. Since this modified airplane was certificated in accordance with the provisions of Part 4b, effective prior to March 13, 1956, it is included in the airplanes permitted to be operated under the terms of this special regulation.

One of the comments received in response to Draft Release 62–18 expressed opposition to the proposed indefinite extension of SR–411A on the grounds that there should be one set of safety standards for the design and operation of all transport category airplanes without regard as to whether the airplane is used for the carriage of cargo or passengers. In this respect, it shoud be noted that the airplanes covered

under this regulation are the airplanes which have been operated for the carriage of cargo at the increased weights without any adverse effect on safety, and that the special inspections conducted by the operators have not indicated any serious structural problems with respect to these airplanes operated at the increased weights as compared with airplanes operated in passenger operations. Furthermore, this regulation requires operators to continue these special inspections. Consequently, the Agency does not believe that it would be justified in arbitrarily terminating the authorization to operate such airplanes at the increased weights.

On the other hand, the majority of the comments received in response to Draft Release 62–18 concurred in the proposed regulation and at the same time recommended that various airplanes other than those covered in the proposal be permitted to operate in cargo service at the aribitrary increased weights. Numerous and detailed arguments have been presented in support of these recommendations for broadening the scope of the proposal. However, these recommendations require consideration of matters which go beyond the scope of the proposed regulation, and there is not sufficient time remaining prior to the expiration of SR–411A for the necessary evaluation of such matters. Therefore, the regulation is being adopted substantially as proposed and further study will be given to such recommendations insofar as they might indicate a need for additional rule making action on this matter.

In view of the foregoing, the special regulation set forth hereinafter permits only those airplane types and models which were approved for trial operations under SR–411 and SR–411A to be used in the carriage of cargo with the arbitrary increased weights.

This regulation relaxes the provisions of SR–411A to the extent that it also applies to foreign air carriers operating the specified airplanes. The provisions of SR–411A were made applicable only to United States air carriers because the conditions for the trial operations required close cooperation between the manufacturer, operator, and the Civil Aeronautics Administration during the initial technical evaluation and in the inspection and reporting procedures. However, since this regulation permits the continued use of increased weights only for those type airplanes previously approved for operation under SR–411A, for which the necessary data and procedures are already available, the increased weights can now be made applicable to any foreign air carrier using airplanes of the specified types in the carriage of cargo only.

This regulation continues the requirement contained in SR–411A that airplanes used by air carriers at the increased weights be operated in accordance with the passenger-carrying transport category operating limitations of Part 40, 41, or 42, as the case may be. In addition, foreign air carriers are permitted to operate airplanes under the authority of this regulation if the country of registry of the airplanes requires such airplanes to be operated in accordance with the performance operating limitations applicable to United States air carriers or the equivalent thereof. The requirement that air carriers must operate their airplanes under the provisions of the regulation in accordance with the passenger-carrying performance operating limitations prescribed in Part 40, 41, or 42 is considered necessary in the interest of safety. Therefore, in order

to insure an equivalent level of safety for operations by foreign air carriers, it is considered appropriate to permit such carriers to operate airplanes under the authority of this regulation only on the condition that the country of registry of the airplanes requires that such airplanes be operated in accordance with the same or equivalent performance operating limitations.

This regulation also continues the requirement for special inspections, including the special inspections required prior to returning an airplane from cargo to passenger service. However, in view of the volume of data now available for the eligible airplane types, it no longer requires special reports and records be kept with respect to operations at increased weights. Based on experience gained under SR–411 and SR–411A, it is believed that intermittent cargo-passenger operations can now be permitted provided the special inspection is made each time the airplane is returned to passenger service.

This regulation contains a proviso, similar to that which appears in SR–411A, requiring a determination that any increase in the zero fuel and landing weights for the specified airplanes does not seriously affect the strength, fatigue, flutter, deformation, or vibration characteristics of such airplanes. While not proposed in Draft Release 62–18, the Agency is now of the opinion that even though such a determination has already been made for the increased weights presently authorized for the specified airplanes, such a requirement should be continued in effect to cover possible modifications to these airplanes as well as further increases in the approved weights. Since this provision merely continues in effect a provision currently applicable to the specified airplanes and imposes no additional burden on any person, notice and public procedure thereon are unnecessary for its adoption as part of this regulation.

Interested persons have been afforded an opportunity to participate in the making of this regulation, and due consideration has been given to all relevant matter presented. Since this regulation extends many of the provisions of a currently effective regulation which expires on June 30, 1962, imposes no additional burden on any person, and a delay in its effectiveness would impose a hardship on the cargo operators, good cause exists for making it effective on less than 30 days' notice.

In consideration of the foregoing, the following Special Civil Air Regulation is adopted to become effective on June 30, 1962:

Notwithstanding the applicable structural provisions of the Civil Air Regulations, any air carrier or foreign air carrier may operate, for the carriage of cargo only, the transport category airplanes specified in paragraph (1) of this regulation, at increased zero fuel and landing weights, under the conditions specified in paragraphs (2) through (6) of this regulation.

(1) Transport category airplanes certificated under the provisions of Part 4b, effective prior to March 13, 1956, as follows:

(a) DC–6A, DC–6B, DC–7B, DC–7C; and

(b) L–1049B, C, D, E, F, G, H, L–1649A when modified in accordance with supplemental type certificate SA 4–1402.

(2) The zero fuel weight (maximum weight of the airplane with

no disposable fuel and oil) and the structural landing weight may be increased beyond the maximum approved in full compliance with the applicable Civil Air Regulations: *Provided,* That any increase in the zero fuel weight shall not exceed 5 percent and that the increase in the structural landing weight shall not exceed the amount, in pounds, of the increase in zero fuel weight: *And provided further,* That the Administrator finds that the increase in either such weight is not likely to reduce seriously the structural strength, that the probability of sudden fatigue failure is not noticeably increased, and that the flutter, deformation, and vibration characteristics do not fall below those required by the applicable Civil Air Regulations. All other weight limitations established in accordance with the Civil Air Regulations applicable to the type airplane shall apply.

(3) Each airplane shall be inspected in accordance with the special inspection procedures for operations at increased weights established and issued by the manufacturer of the particular type airplane and approved by the Administrator.

(4) Each airplane operated by an air carrier under this regulation shall be operated in accordance with the passenger-carrying transport category performance operating limitations prescribed in Part 40, 41, or 42. Operation of airplanes by a foreign air carrier is not permitted under the authority of this regulation unless the country of registry requires the airplanes to be operated in accordance with such performance operating limitations or the equivalent thereof.

(5) The Airplane Flight Manual for each airplane operated under the provisions of this regulation shall be appropriately revised to include the operating limitations and information required for operation with the increased weights.

(6) An airplane operated at increased weights under the provisions of this regulation shall be inspected in accordance with the special inspection procedures for return to passenger service established and issued by the airplane manufacturer and approved by the Administrator, before it is used in passenger service, except as provided for the carriage of persons under Special Civil Air Regulation No. SR–432A.

This regulation supersedes Special Civil Air Regulation No. SR–411A.

SPECIAL CIVIL AIR REGULATION NO. SR–446A

Effective: May 25, 1962
Adopted: May 22, 1962
Published: May 25, 1962

(27 F.R. 4906)

Use of Portable Frequency Modulation (FM) Type Radio Receivers on Aircraft During Flight

In 1961, during tests conducted by the Federal Aviation Agency's Aviation Research and Development Service, it was found that radio receivers having local oscillators operating within or near the VHF omnirange (VOR) frequency band (108 to 118 Mcs.) cause interference which adversely affects the operation of an aircraft's VOR navigational system. Various types of portable radio receivers (i.e., radio receivers capable of being carried aboard an aircraft by a passenger) were used in these tests to determine which would produce interference to the VOR equipment. It was determined that the portable frequency modulation (FM) radio receiver is the only type radio receiver, which is commonly used by the general public, that would create this unwanted interference. Therefore, it was found that immediate regulatory action was necessary in order to provide adequately for safety in air commerce.

Accordingly, on May 4, 1961, the Federal Aviation Agency issued Special Civil Air Regulation No. SR–446 (26 F.R. 4011) to become effective May 25, 1961. This regulation, which will expire May 24, 1962, prohibits the operation of portable FM radio receivers during flight on all civil aircraft of the United States operated by an air carrier or a commercial operator. It also prohibits the operation of portable FM radio receivers on all other VOR-equipped civil aircraft of the United States while such VOR equipment is being used for navigational purposes. The added restriction in the case of aircraft operated by an air carrier or a commercial operator was necessary since most of these aircraft are equipped with VOR navigational equipment and it would be difficult, if not impossible, for a passenger to know when the pilot in command was depending upon this equipment for navigational purposes. In addition, although not all portable FM radio receivers utilize local oscillators which will create interference, it was necessary to make the rule applicable to all portable FM radio receivers since it would not be feasible to expect the general public, airline personnel, or air crewmembers to distinguish which will cause this interference.

The tests which disclosed the interference problems caused by FM radio receivers were not completed at the time SR–446 was issued in 1961. Therefore, to simplify revision of the rule if additional interference problems were found by the tests, SR–446 was issued as a temporary rule, effective for a one-year period. When SR–446 was issued, the Agency had intended, prior to its expiration, to incorporate the provisions of the rule into the applicable operating parts, i.e., Parts 40, 41, 42, 43, 45, and

46. However, since the final evaluation of these tests by all interested industry parties has not been completed, this action has not been taken. Accordingly, since the conditions under which SR–446 was issued still exist, it is necessary, in order to provide adequately for safety in air commerce, to extend the provisions of that rule for a period of one year.

Since this regulation extends the provisions of a currently effective regulation which expires on May 24, 1962, and a lapse in the effectiveness of the regulation would endanger safety in air commerce, I find that notice and public procedure hereon would be contrary to the public interest, and that good cause exists for making it effective on less than 30 days' notice.

In consideration of the foregoing, Special Civil Air Regulation No. SR–446 is superseded by the following Special Civil Air Regulation which is hereby adopted to become effective on May 25, 1962:

No person shall operate, nor shall any operator or pilot in command of an aircraft permit the operation of, a portable frequency modulation (FM) radio receiver on the following civil aircraft of the United States while such aircraft are engaged in flight in air commerce: (a) Aircraft operated by an air carrier or commercial operator; and (b) any other aircraft equipped with VHF omnirange (VOR) navigational equipment while such VOR equipment is being used for navigational purposes.

This special regulation supersedes Special Civil Air Regulation No. SR–446 and shall remain in effect for one year unless sooner superseded or rescinded by the Federal Aviation Agency.

SPECIAL CIVIL AIR REGULATION NO. SR–450A

Effective: Aug. 31, 1962
Adopted: Aug. 29, 1962
Published: Sept. 1, 1962
(27 F.R. 8760)

Airspeed Operation Limitation for Transport Category Airplanes

Special Civil Air Regulation No. SR–450, effective May 3, 1962 (27 F.R. 2995), contained a number of requirements dealing with airspeed operating limitations to airplanes certificated under the provisions of Part 4b in effect prior to May 3, 1962. A revision of the Airplane Flight Manual statement concerning airspeed operating limitations was prescribed for all such airplanes. Consistent revision of airspeed placards and instrument markings, and the installation of a speed warning device, were additionally prescribed for turbine-powered airplanes. The special regulation required compliance with the speed warning device provision on or before February 1, 1963; with all other provisions, on or before September 1, 1962.

Several operators of airplanes affected by SR–450 have requested extensions of the compliance dates specified therein, containing that compliance before these dates would be unnecessarily and excessively burdensome in relation to the attained increment of safety. With respect to the September 1, 1962, compliance date specified in section 1(a)(2), they point out that remarking airspeed instruments generally involves removal of the instrument seal. When this is done, the instrument is processed through a time-consuming overhaul schedule to make certain that its calibration has not been changed. They state, in addition, that the airplane manufacturer delayed delivery of the detailed service information required for the modification until necessary technical consultations with the instrument manufacturer, and with representatives of this Agency, could be completed. With respect to the February 1, 1963, date established for compliance with section 1(b), operators of turbine-powered airplanes not already equipped with a speed warning device report that they cannot obtain delivery of the device in less than 5 months; that installation of the device involves extensive electrical modifications, rework of the pitot-static pressure system, and other installation changes; that ground and flight tests are necessary to insure proper functioning of the modified systems; and that such modifications and tests, to be conducted in a safe, manner, should be scheduled during a major airplane overhaul.

The Agency has determined that, for the reasons stated above and despite diligent efforts on their part, many persons affected by SR–450 will not be able to comply with its provisions before the specified dates and that a period of relief may be granted without adversely affecting safety. Accordingly, SR–450 has been amended by extending the Sep-

tember 1, 1962, compliance dates to March 1, 1963, and by extending the February 1, 1963, compliance date to February 1, 1964.

Since this regulation provides relief from the provisions of the previous regulation, and imposes no additional burden upon any persons, compliance with the notice and public procedure provisions of the Administrative Procedure Act is unnecessary, and good cause exists for making this regulation effective on less than 30 days' notice.

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted to become effective August 31, 1962:

Contrary provisions of the Civil Air Regulations notwithstanding, the following requirements shall be applicable to transport category airplanes certificated under the provisions of Part 4b in effect prior to May 3, 1962:

1. *Turbine-powered airplanes.*

(a) On or before March 1, 1963:

(1) The airspeed operating limitations in the Airplane Flight Manual shall be revised by deleting the term "normal operating limit speed" and the corresponding symbols "V_{NO}/M_{NO}", together with statements explaining the significance of this term, and inserting in lieu thereof the term "maximum operating limit speed", the corresponding symbols "V_{MO}/M_{MO}", and the following statement explaining the significance of the new term:

"The maximum operating limit speed shall not be deliberately exceeded in any regime of flight (climb, cruise, or descent), except where a higher speed is specifically authorized for flight test or pilot training operations, or in approved emergency procedures."

(2) Airspeed placards and instrument markings shall be consistent with subparagraph (1) of this paragraph. Where color markings are used on airspeed or Mach indicators, the red radial line shall be at V_{MO}/M_{MO}. Where a maximum allowable airspeed indicator is used, the limit hand shall indicate V_{MO}/M_{MO}.

(b) On or before February 1, 1964, each airplane shall be equipped with a speed warning device which shall provide aural warning to the pilots, which is distinctly different from aural warnings used for other purposes, whenever the speed exceed V_{MO} plus 6 knots or $M_{MO}+0.01$. The upper limit of the production tolerances permitted for the warning device shall be at a speed not greater than the prescribed warning speed.

2. *Reciprocation engine-powered airplanes.* On or before March 1, 1963, the airspeed operating limitations in the Airplane Flight Manual shall be revised as necessary to state that the normal operating limit speed, or the maximum structural cruising speed (whichever term is used in the particular manual), shall not be deliberately exceeded in any regime of flight (climb, cruise, or descent), except where a higher speed is specifically authorized for flight test or pilot training operations, or in approved emergency procedures.

This regulation supersedes Special Civil Air Regulation No. SR–450.

solidation and clarification, we are also deleting section 41.130–1(b) and incorporating the substance of that reporting requirement in a new section 41.130a which is being added to the basic regulation. While the title and phraseology of new section 41.130a have been changed to achieve regulatory uniformity, the substantive requirements of the amended rule are the same as those currently contained in the manual material in section 41.130–1.

It will be noted that the provisions of section 41.130a prescribe, in order to avoid duplicate reporting, that those malfunctions or mechanical difficulties reported in mechanical reliability reports need not be reported under the requirements of section 41.130a(a).

The Federal Aviation Agency believes that reports of the failures, malfunctions, and defects required under this amendment, plus additional reports received from the air carriers regarding other occurrences of failures, malfunctions, and defects they consider hazardous, will provide complete, accurate, and uniform reporting. Safety will be served better by this amended reporting procedure as the Agency will be able to disseminate to industry improved reports of hazardous conditions pertaining to airplane systems, components, and equipment. In addition, through analysis of information developed from reports received, the Agency will be able to detect deteriorating conditions in airplane systems, components, and equipment, and issue Airworthiness Directives and Alert Notices before such conditions reach hazardous proportions.

Interested persons have been afforded an opportunity to participate in the making of this amendment and due consideration has been given to all relevant matter presented.

Amendment revised section 41.130 and added a new section 41.130a.

Amendment 41–44

Illumination of Passenger Emergency Exit Markings	Adopted:	Feb. 12, 1962
	Effective:	Mar. 20, 1962
	Published:	Feb. 16, 1962 (27 F.R. 1453)

The Federal Aviation Agency published as a notice of proposed rule making (26 F.R. 9241) and circulated as Civil Air Regulations Draft Release No. 61–20 dated September 21, 1961, a proposal to amend Parts 40, 41, 42, and 46 of the Civil Air Regulations to require the illumination of passenger emergency exit markings during all takeoffs and landings, day and night.

In proposing these amendments, the Agency considered several recent accidents and incidents where illumination of the emergency exits during daylight hours may have resulted in a more effective evacuation of the passengers and crew. The Civil Air Regulations as originally adopted did not require daytime use of the emergency exit lighting system. It is now considered that this additional lighting during daylight hours is necessary to provide maximum safety where the evacuation of large numbers of passengers is concerned.

Interested persons have been afforded an opportunity to participate in the making of this regulation and due consideration has been given to all relevant matter presented. In general, all comments received from interested persons as a result of the Agency's notice of proposed rule making were favorable to the proposal.

Amendment revised section 41.23d(b)(2).

Amendment 41–45

Extension of Period Allowed for Compliance with the Recurrent Training Requirements of Air Carrier Training Programs	Adopted:	July 30, 1962
	Effective:	Aug. 3, 1962
	Published:	Aug. 3, 1962 (27 F.R. 7673)

Paragraph (b) of section 41.53g, Recurrent training, requires that each air carrier shall, at intervals established as part of the training program, but not to exceed 12 months, check the competence of each crewmember and dispatcher with respect to procedures, techniques, and information essential to the satisfactory performance of his duties.

The Federal Aviation Agency has received recommendations that the time interval between competence checks of crewmembers and dispatchers be specified in the same manner as in section 41.53j, which permits pilot line and proficiency checks to be given in the month before or following the month in which they are due. Such flexibility will simplify recordkeeping and administration of the crewmember and dispatcher competence check requirements of section 41.53g in the same way that the pilot line and proficiency check requirements have been simplified.

The FAA has considered the foregoing recommendations and believes that the requirements with respect to the frequency of crewmember and dispatcher competence checks should be amended to provide the flexibility recommended.

Civil Air Regulations Draft Release No. 61–7, dated April 14, 1961, subject "Qualification and Training Requirements for Pilots Other Than Pilots in Command," proposed, among other matters, to amend Parts 40, 41, and 42 to permit the competence checks of crewmembers and dispatchers to be given at any time during the month preceding or following the month in which they become due.

No adverse comments were received with respect to this particular portion of Draft Release 61–7. Accordingly, since it will permit more efficient administration of air carrier training programs and will not adversely affect safety of the carriers' operations, it is being adopted at this time separately from the other proposals which were included in the draft release. The phrase "not to exceed 12 months" contained in the present regulations and in Draft Release 61–7 has been changed to "each 12 months" to make the wording consistent with that of revised Part 41 (27 F.R. 1977), which was circulated as Draft Release 60–19 (26 F.R. 12299) prior to its adoption. The remaining proposals and the comments received thereon are being evaluated by the Agency in conjunction with comments received in response to Draft Release 61–17, "Use of Aircraft Simulators for Pilot Training and Proficiency Checks," and Draft Release 62–9, "Approval of Air Carrier Training Programs."

Interested persons have been afforded an opportunity to participate in the making of this regulation (26 F.R. 3438), and due consideration has been given to all relevant matter presented. Since this regulatory action imposes no additional burden on any person, it may be made effective on less than 30 days' notice.

Amendment revised paragraph (b) of section 41.53g.