Federal Aviation Agency

Washington, D.C.

Civil Aeronautics Manual 42

Irregular Air Carrier and Off-Route Rules

Supplement No. 6, CAM 42 dated February 15, 1960 **April 1, 1962**

SUBJECT: Revisions to CAM 42.

This supplement is issued to incorporate into CAM 42 Civil Air Regulations Amendments 42–38, 42–39, and Special Civil Air Regulations Nos. SR–392C, SR–432A, and SR–450.

Amendment 42–38 concerns mechanical reliability reports. It was issued February 6, 1962, to become effective March 12, 1962.

Amendment 42–39 concerns the illumination of passenger emergency exit markings. It was issued February 12, 1962, to become effective March 20, 1962.

Special regulation SR–392C concerns the facilitation of experiments with exterior lighting systems. This regulation was issued January 30, 1962, to become effective February 3, 1962, and supersedes Special Civil Air Regulation No. SR–392B.

Special regulation SR–432A concerns the carriage of persons aboard all-cargo aircraft. This regulation was issued February 5, 1962, to become effective February 9, 1962, and supersedes Special Civil Air Regulations Nos. SR–419 and SR–432.

Special regulation SR–450 concerns airspeed operating limitations for transport category airplanes. This regulation was issued March 27, 1962, to become effective May 3, 1962.

New or revised material is enclosed in black brackets on the pages submitted with this supplement, except Special Civil Air Regulations Nos. SR–392C, SR–432A, and SR–450, and the pages in the addendum containing the preambles of amendments.

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GEORGE C. PRILL, *Director,*
Flight Standards Service.

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Preambles of Amendments to Part 42	P–1

1 bottle insect repellent for each person.
1 pint drinking water for each person.
1 bottle chlorine tablets for water purification.
1 waterproof box of matches.
1 magnetic compass.
1 bottle quinine tablets.
1 signaling mirror.
1 pyrotechnic pistol and 6 cartridges.
1 small bore rifle and cartridges.
1 hunting knife.
1 fishing kit.
1 snake-bite kit.
1 book on jungle survival.

(2) *Frigid land areas:*
1 machete.
1 axe.
1 blanket for each person.
2 pairs snowshoes.
1 pair sunglasses for each person.
1 book on Arctic survival.
1 waterproof box of matches.
1 magnetic compass.
1 bottle of chlorine tablets for water.
1 signaling mirror.
1 pyrotechnic pistol and 6 cartridges.
1 small bore rifle and cartridges.
1 hunting knife.
2-day supply emergency food ration for each person.
1 mosquito headnet for each person.
1 bottle insect repellent for each person.
1 fishing kit.

(Published in 17 F. R. 2748, Mar. 29, 1952, effective upon publication; amended in 18 F. R. 1719, Mar. 7, 1953, effective Apr. 15, 1953; amended effective June 15, 1957.)

42.24b *Equipment for overwater operations.*

(a) The following equipment shall be required for all extended overwater operations: *Provided*, That the Administrator, after appropriate investigation, may require the carriage of all of the prescribed equipment, or any item thereof, for any operation over water; or upon application of an air carrier, permit deviation from these requirements for a particular extended overwater operation:

(1) Life vest or other adequate individual flotation device for each occupant of the airplane;

(2) Life rafts sufficient in number and of such rated capacity and buoyancy as to accommodate all occupants of the airplane;

(3) Suitable pyrotechnic signaling devices; and

(4) One portable emergency radio signaling device, capable of transmission on the appropriate emergency frequency or frequencies, which is not dependent upon the airplane power supply and which is self-bouyant and water-resistant.

(b) All required life rafts, life vests, and signaling devices shall be easily accessible in the event of a ditching without appreciable time for preparatory procedures. After May 31, 1957, this equipment shall be installed in conspicuously marked approved locations.

(c) A survival kit, appropriately equipped for the route to be flown, shall be attached to each required life raft.

42.24b–1 *Survival kit for overwater operations (FAA policies which apply to sec. 42.24b).* Survival kits containing the materials listed below will be approved by the Administrator. To obtain approval to use survival kits which do not contain such materials, application must be made through the local FAA inspector having certificate responsibility.

(a) *General.* When the type of operation requires more than one class of equipment, it will not be necessary to carry more than one supply of items duplicated in another list.

1 canopy (for sail, sunshade, or for rain catcher).
1 liferaft repair kit.
1 bailing bucket.
1 signaling mirror.
1 police whistle.
1 raft knife.
1 CO_2 bottle for emergency inflation.
1 inflation pump.
2 oars.
1 75-foot retaining line.
1 magnetic compass.
1 pyrotechnic pistol and 6 cartridges.
2-day supply of emergency food ration for each person.
1 sea water desalting kit for each 2 persons the raft is authorized to carry, or 2 pints of water per person.
1 fishing kit.
1 book on survival appropriate for area.

(Published in 14 F. R. 7034, Nov. 22, 1949, effective upon publication; amended effective June 15, 1957.)

42.24c *Emergency evacuation equipment.*

(a) *Means for emergency evacuation.* **After August 31, 1957, on all passenger-carrying airplanes, at all emergency exits which are more than 6 feet from the ground with the airplane on the ground and with the landing gear extended, means shall be provided to assist the occupants in descending from the airplane. At floor level exits approved as emergency exits, such means shall be a chute or equivalent device suitable for the rapid evacuation of passengers. During flight time this means shall be in a position for ready use: *Provided,* That the requirements of this paragraph do not apply to emergency exits over the wing where the greatest distance from the lower sill of the exit to the wing surface does not exceed 36 inches.**

(b) *Interior emergency exit markings.*

(1) After May 31, 1957, all passenger emergency exits of large aircraft, their means of access, and their means of opening shall be marked conspicuously. The identity and location of emergency exits shall be recognizable from a distance equal to the width of the cabin. The location of the emergency exit operating handle and the instructions for opening shall be marked on or adjacent to the emergency exit and shall be readable from a distance of 30 inches by a person with normal eyesight.

[(2) In all large passenger-carrying airplanes, a source or sources of light with an energy supply independent of the main lighting system shall be installed to illuminate all passenger emergency exit markings. Such lights shall be designed to function automatically in a crash landing and to continue to function thereafter, and shall also be operable manually, or shall be designed only for manual operation and also to continue to function following a crash landing. When such lights require arming of the system to function automatically, the system shall be armed prior to each takeoff and landing. When such lights require manual operation to function, they shall be turned on prior to each takeoff and landing.

[(Amendment 42–39, published in 27 F.R. 1453, Feb. 16, 1962, effective Mar. 20, 1962.)]

42.25 *Cockpit check list.* The air carrier shall provide for each type of aircraft a cockpit check list adapted to each operation in which the aircraft is to be utilized. The check list shall be installed in a readily accessible location in the cockpit of each aircraft and shall be used by the flight crew.

42.25–1 *Cockpit checklist (FAA policies which apply to sec. 42.25).*

(a) The cockpit checklist shall be legible during hours of daylight and darkness under the light conditions of the cockpit.

(b) Checklists developed by the manufacturer, military services, or the operator will be considered satisfactory, providing the following steps are covered:

Prior to starting engines.
Prior to takeoff.
Cruising.
Prior to landing.
Powerplant emergencies.
After landing.
Stopping engines.

(c) It is recommended that in all multiengine equipment a one-engine inoperative checklist be available in cockpit for pilot reference after encountering difficulty which may cause one or more engines to become inoperative. It is further recommended that all aircraft having retractable gear and flaps also have checklists prepared for emergency use in event of failure.

(Published in 14 F. R. 7035, Nov. 22, 1949, effective upon publication.)

42.25–2 *Minimum standard cockpit checklist (FAA policies which apply to sec. 42.25).* The following checklist using general terms will be considered as the minimum standard check list for compliance with the foregoing requirements in irregular air carrier operations. Those items not applicable to the aircraft being operated may be deleted and the order of arrangement of the individual items is left to the air carrier. The checklist shall include all applicable items, but will not necessarily be limited thereto.

PRIOR TO STARTING ENGINE

Fuel system:

Quantity—checked.
Proper tank selection—checked.

turer's production tolerances. Such rebuilding of the propeller shall be accomplished by the manufacturer or by a certificated repair station having the proper rating. The new record shall be signed by the manufacturer or by the repair agency, giving the date the propeller hub or blade was rebuilt and such other information as the Administrator may require.

42.91–1 *Content of maintenance records (FAA policies which apply to sec. 42.91).* The basic requirement of the above records is to provide a means for determining that overhaul, inspection, and check of the various units or components is performed within the prescribed time limitations. In the case of appliances, any method which will accomplish this result, other than keeping of individual time records on the units themselves, will be satisfactory.

(Published in 14 F. R. 7041, Nov. 22, 1949, effective upon publication.)

42.91–2 *Principal maintenance base (FAA policies which apply to sec. 42.91).* When the principal maintenance base is at a location other than the principal operations base, the term "Principal operations base," when applied to maintenance matters, shall be considered to mean the principal maintenance base. Copies of the necessary records shall also be maintained at the principal operations base if it is in a region other than the one in which the principal maintenance base is located.

(Published in 14 F. R. 7041, Nov. 22, 1949, effective upon publication.)

42.91–3 *Retention of records (FAA policies which apply to sec. 42.91).* The records required by this section shall be preserved and retained by the air carrier for a period of 2 years. For additional requirements pertaining to preservation of records, see Part 249 of this chapter (i. e. the Economic Regulations).

(Published in 14 F. R. 7041, Nov. 22, 1949, effective upon publication.)

42.92 *Airman records.* An air carrier shall maintain at its principal operations base, or at such other location used by the air carrier as the Administrator may designate, current records of every airman utilized as a member of a flight crew. These records shall contain such information concerning the qualifications of each airman as is necessary to show compliance with the appropriate requirements prescribed by the regulations in this subchapter. No air carrier shall utilize any airman as a flight crew member unless records are maintained for such airman as required in this section.

42.92–1 *Content of airman records (FAA policies which apply to sec. 42.92).*

(a) *General.* The following pertinent information is considered the minimum necessary in the airman records required by this section:

(1) Name (in full);

(2) Current duties and date of assignment (pilot, engineer, navigator, etc.);

(3) Airman certificates (type, number, and ratings);

(4) Date, result, and class of last physical examination;

(5) Date and result of last 6-month instrument competency flight check for each pilot in command;

(6) Record of each pilot's flight time including trip time, instrument, night flight time, and flight time in the make and model of aircraft on which he is currently qualified;

(7) Records of company training for all crewmen, including actual flight, synthetic flight, and maintenance of proficiency training;

(8) Any check pilot authorization.

(Published in 14 F. R. 7041, Nov. 22, 1949, effective upon publication.)

42.92–2 *Availability of records (FAA policies which apply to sec. 42.92).* The above information shall be made available at any time for inspection by an authorized representative of the Administrator or Board.

(Published in 14 F. R. 7041, Nov. 22, 1949, effective upon publication.)

42.92–3 *Retention of records (FAA policies which apply to sec. 42.92).* The disposition of any flight crew member released from the employ of the air carrier, or who becomes physically or professionally disqualified must be so indicated in these records and such records shall be retained by the company for at least 1 year. For additional requirements pertaining to preservation of records see Part 249 of this chapter (i. e. the Economic Regulations).

(Published in 14 F. R. 7041, Nov. 22, 1949, effective upon publication.)

42.93 *Emergency flight reports.* In the case of emergencies necessitating the transportation of persons or medical supplies for the protection of life or property, the rules contained herein regarding type of aircraft, equipment, and weather minimums to be observed will not be applicable: *Provided,* That within 48 hours after any such flight returns to its base the air carrier shall file a report with the Administrator setting forth the conditions under which the flight was made, the necessity therefor, and the names and addresses of the crew and passengers.

42.93–1 *Submission of emergency flight reports (FAA policies which apply to sec. 42.93).* The report referred to in this section shall be submitted in duplicate to the local inspector, and a copy shall be retained by the air carrier for at least 1 year.

(Published in 14 F. R. 7042, Nov. 22, 1949, effective Nov. 22, 1949; amended effective June 15, 1957.)

42.94 *Pilot's emergency deviation report.* Where pursuant to authority granted in section 42.51 (d) a pilot has deviated from established methods or requirements, he shall, within 7 days after completion of the trip, file with the Administrator a report thereof giving a brief statement concerning the circumstances of the emergency and the nature of the deviation.

42.94–1 *Submission of pilot's emergency deviation report (FAA policies which apply to sec. 42.94).* The report referred to in this section shall be submitted in duplicate to the local inspector, and a copy shall be retained by the air carrier for at least 1 year.

(Published in 14 F. R. 7042, Nov. 22, 1949, effective Nov. 22, 1949; amended effective June 15, 1957.)

42.95 *Flight manifest record.* A signed copy and any revision of the flight manifest required by section 42.62 shall be retained in the personal possession of the pilot for the duration of the flight, and a duplicate copy thereof shall be retained by the air carrier at its principal operations base, or at such other location used by the air carrier as the Administrator may designate, for at least 1 year after completion of the flight.

**[*42.96 Mechanical reliability reports.*

[(a) Each air carrier operating large aircraft shall report the occurrence or detection of those failures, malfunctions, or defects specified in paragraph (b) of this section. In addition, each air carrier shall report any other failure, malfunction, or defect which occurs or is detected at any time in an aircraft or aircraft component (including aircraft systems, appliances, powerplants, and propellers) used by the air carrier, when, in the carrier's opinion, such failure, malfunction, or defect has endangered or may endanger the safe operation of an aircraft used by the air carrier. The report shall be in written form covering a period of 24 hours beginning at 0900 hours local time of each day and ending at 0900 hours local time the next day, and shall be submitted to the Federal Aviation Agency maintenance inspector assigned to the air carrier by 0900 hours local time of the following day: *Provided,* That reports which are due on Saturday or Sunday may be submitted on the following Monday and in case of legal holidays on the following workday.

[NOTE: Failures, malfunctions, or defects reported in accordance with the accident reporting provisions of Part 320 of the Regulations of the Civil Aeronautics Board need not be included.

[(b) The air carrier shall report each occurrence or detection of a failure, malfunction, or defect involving:

[(1) Fires during flight and whether the related fire-warning system functioned properly;

[(2) Fires during flight and whether the related fire-warning system did not function properly;

[(3) Fires during flight not protected by a related fire-warning system;

[(4) False fire warning during flight;

[(5) Engine exhaust systems which result during flight in damage to engine, adjacent structure, equipment, or components;

[(6) An aircraft component which results during flight in the accumulation or circulation of smoke, vapor, or taxic or noxious fumes in the crew compartment or cabin;

[(7) Engine shutdown during flight due to engine flameout;

[(8) Engine shutdown during flight when external damage to the engine or to the aircraft structure has occurred;

[(9) Engine shutdown during flight due to foreign object ingestion or icing;

[(10) Engine shutdown during flight of more than one engine on an aircraft;

[(11) Propeller feathering system or ability of the system to control overspeeding during flight;

[(12) Fuel or fuel-dumping systems affecting fuel flow or causing hazardous leakage during flight;

[(13) Landing gear extension or retraction or opening or closing of landing-gear doors during flight;

[(14) Brake system components which result in loss of brake actuating force while the aircraft is in motion on the ground;

[(15) Aircraft structure which requires major repair;

[(16) Cracks, permament deformation, or corrosion of aircraft structure which exceed the maximum limits acceptable to the manufacturer or the Federal Aviation Agency; and

[(17) Aircraft components or systems which result during flight in the taking of emergency actions; except that action taken to shutdown an engine need not be reported as an emergency under this provision.

[NOTE: Under the provisions of this paragraph, an aircraft is in flight from the moment it leaves the surface of the earth on takeoff until it touches down at a place of landing.

[(c) Reports required by paragraph (a) of this section shall be transmitted in a manner and on a form convenient to the air carrier's system of communication and procedure, and shall include on the first daily report as much of the following information as is available:

[(1) Type and identification number of the aircraft, name of the operator, date, flight number, and stage during which the incident occurred; e.g., preflight, takeoff, climb, cruise, descent, landing, inspection;

[(2) Emergency procedure effected; e.g., unscheduled landing, emergency descent;

[(3) Nature of condition; e.g., fire, structural failure;

[(4) Identification of part and system involved, including available information pertaining to type designation of the major component and time since overhaul;

[(5) Apparent cause of trouble; e.g., wear, crack, design deficiency, personnel error;

[(6) Disposition; e.g., repaired, replaced, aircraft grounded, part sent to manufacturer; and

[(7) Brief narrative summary of other pertinent information necessary for more complete identification, determination of seriousness, and corrective action.

[(d) Reports required by paragraph (a) shall not be withheld pending accumulation of all information specified in paragraphs (b) and (c) of this section. When additional information is obtained relative to the incident, including any that may be furnished by the manufacturer or other outside agency, it shall be expeditiously submitted as a supplement to the first report, referencing the date and place of submission of such report.

[NOTE: The reporting requirements contained herein have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

[(Amendment 42–38, published in 27 F.R. 1245, Feb. 10, 1962, effective Mar. 12, 1962.)]

[*42.96a Monthly report of chronic mechanical difficulties.* As soon as practicable after the end of each calendar month, each irregular air carrier operating large aircraft shall submit to the assigned maintenance inspector three copies of a report covering the mechanical difficulties experienced during the preceding month which the air carrier considers chronic or otherwise particularly significant from a safety standpoint. The report shall fully identify all aircraft and aircraft components involved (i.e., manufacturer, model and type), and shall contain enough information to serve as a basis for corrective action and to enable a determination to be made of the trend of aircraft and aircraft component failures, malfunctions, or defects. The detailed information from which such reports are prepared shall be kept current and available at the air

carrier's main headquarters for examination by any authorized representative of the Administrator or Board.

[NOTE: The reporting requirements contained herein have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

[(Amendment 42–38, published in 27 F.R. 1245, Feb. 10, 1962, effective Mar. 12, 1962.)]

42.97 *Change in exclusive use of large aircraft.* When, for any reason whatsoever, an air carrier shall cease to have the exclusive use of any large aircraft, an immediate report of such fact shall be filed with the Administrator in such form and manner and containing such information as the Administrator may prescribe.

SPECIAL CIVIL AIR REGULATION NO. SR-392C

Effective: February 3, 1962
Adopted: January 30, 1962
Published: February 3, 1962
(27 F.R. 1008)

Facilitation of Experiments With Exterior Lighting Systems

Special Civil Air Regulation No. SR-392B, adopted on February 25, 1957, permits experimentation with exterior lighting systems, which do not comply with the standards prescribed in the Civil Air Regulations, on aircraft with standard airworthiness certificates. Several conditions are imposed to insure that the number of aircraft engaged in the experiments is reasonably limited; that the experimental exterior lights are in fact installed for bonafide experimentation; and that the results of such experimentation become generally available. This special regulation expires on February 25, 1962.

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 has under consideration the termination of SR-392B and requested comments from interested persons concerning this matter. In response to such request, the Agency has received numerous reports, arguments and other evidence. However, the volume of the comments received is such that there is not sufficient time remaining to review and evaluate such comments prior to the termination of SR-392B. Therefore, in order to afford the Agency the opportunity to fully consider all the relevant matter presented and to take whatever additional rule making action that may be indicated, it is necessary to extend the termination date of SR-392B to June 25, 1962.

Since this regulation continues in effect the provisions of the previous regulation and imposes no additional burden upon any person, 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 adopted to become effective on February 3, 1962:

Contrary provisions of the Civil Air Regulations notwithstanding, experimental exterior lighting equipment which does not comply with the relevant specifications contained in the Civil Air Regulations may, subject to the approval of the Administrator, be installed and used on aircraft for the purpose of experimentation intended to improve exterior lighting for a period not to exceed 6 months: *Provided,* That

(1) The Administrator may grant approval for additional periods if he finds that the experiments can be reasonably expected to contribute to improvements in exterior lighting;

(2) Not more than 15 aircraft possessing a U.S. certificate of airworthiness may have installed at any one time experimental exterior lighting equipment of one basic type;

(3) The Administrator shall prescribe such conditions and limitations as may be necessary to insure safety and avoid confusion in air navigation;

(4) The person engaged in the operation of the aircraft shall disclose publicly the deviations of the exterior lighting from the relevant specifications contained in the Civil Air Regulations at times and in a manner prescribed by the Administrator; and

(5) Upon application for approval to conduct experimentation with exterior lighting, the applicant shall advise the Administrator of the specific purpose of the experiments to be conducted; and, at the conclusion of the approved period of experimentation, he shall advise the Administrator of the detailed results thereof.

This regulation supersedes Special Civil Air Regulation No. SR-392B and shall terminate June 25, 1962, unless sooner superseded or rescinded.

SPECIAL CIVIL AIR REGULATION NO. SR–432A

Effective: February 9, 1962
Adopted: February 5, 1962
Published: February 9, 1962
(27 F.R. 1208)

Carriage of Persons Aboard All-Cargo Aircraft

Authorization for the carriage of persons aboard all-cargo aircraft is presently contained in Special Civil Air Regulations No. SR–419, effective January 17, 1957 (22 F.R. 423), and No. SR–432, effective May 30, 1959 (24 F.R. 4366).

SR–419 authorizes three LOGAIR contractors, listed in Appendix A thereto, to carry military couriers, route supervisors, and LOGAIR flight crewmembers of other LOGAIR contractors in their cargo aircraft. These air carriers were granted relief from the maximum passenger weight requirements of Special Civil Air Regulation No. SR–406C, as applicable to C–46 aircraft, in addition to certain other passenger-carrying provisions of Part 42 of the Civil Air Regulations. Special Civil Air Regulaton No. SR–419 also provides that other air carriers conducting LOGAIR operations may individually secure this authorization from the Administrator, and be listed accordingly in Appendix A of the regulation. Such authorization was granted in the interest of the efficiency and safety of these essential national defense operations.

SR–432 authorizes the carriage of certain persons in cargo operations when such persons perform specific duties in connection with the safety of flights, the safe carriage of animals, or the carriage of radioactive materials. It also provides for the carriage of security and honor guards in cargo aircraft when authorized by the Federal Government. These authorizations were based on the conclusion that compliance with the passenger operation rules of Parts 40, 41, and 42 by an air carrier when carrying these passengers in all-cargo airplanes placed an unreasonable burden upon the air carriers concerned, since such individuals should not, and were not intended to, fall within the normally accepted category of air carrier passengers.

This regulation incorporates the provisions of both Special Regulations in a single regulation with the following changes:

(1) Recently the Agency has received requests from other air carriers and commercial operators operating flights under LOGAIR or other types of military contracts who wish to take advantage of SR–419. However, as presently written, it would require a revision of the regulation or an exemption thereto each time an operator is given such authorization. The Administrator has determined that there are no special reasons to limit such authorization to LOGAIR operations or air carriers and that this privilege should be extended to all military contract air carriers or commercial operators.

(2) Requests have also been received from air carriers to permit carriage of company employees and their dependents on cargo flights without complying with the passenger-carrying airplane requirements when traveling on company business to and from outlying stations not served by adequate and regular passenger flights. The problem of providing

these persons with transportation to and from their duty stations is particularly acute outside the United States. Carriage of these persons on cargo flights is similar to the carriage of the persons authorized by paragraphs 1(a) and (b) of SR–432 and a provision is included authorizing their transportation on cargo flights without full compliance with the passenger-carrying or passenger-service airplane requirements of Part 40, 41, or 42.

(3) Many of the operators may also wish to conduct the cargo flights in accordance with SR–411A which authorizes airplanes certificated under the transport category requirements in effect prior to March 13, 1956, to be operated in cargo service at certain increased weights. Airplanes used in these cargo flights are subject to inspections in addition to those normally performed and have been operated incident-free for many years. Therefore, as part of this regulatory action the persons authorized herein may also be carried aboard those airplanes specified in SR–411A at the increased weights.

(4) Under SR–419, the operator is responsible for the issuance of instructions to insure that the persons carried will not interfere with the control of the aircraft. This requirement is unnecessary and is being deleted in this regulation. The pilot in command of the aircraft has the authority to approve or deny access to the flight deck of such aircraft and is better qualified to issue such instructions as are necessary under the particular circumstances of the flight to persons authorized to enter the flight deck under this regulation.

(5) SR–419 also requires that the operator furnish the Administrator, prior to the carriage of persons authorized by the regulation, with a list showing the type of aircraft, registration number, and an authorization from the Air Force for the transportation of such persons. Experience has shown that inspection of the records of the operators involved will supply the necessary information. Therefore, submission of this information in advance is no longer required under this regulation.

In view of the foregoing, this regulation combines the provisions of SR–419 and SR–432, insofar as they both relate to the carriage of passengers on cargo aircraft, and, in addition, permits the carriage of certain other persons on such cargo flights. The regulation also permits such flights to be conducted without compliance with the passenger-carrying or passenger-service airplane requirements of Part 40, 41, or 42, or, in the case of C–46 airplanes, the provisions of SR–406C. When such persons are authoried to be carried on airplanes certificated under the transport category requirements in effect prior to March 13, 1956, the airplane may be operated in accordance with the increased weight requirements of SR–411A.

With regard to the carriage of company employees and their dependents it was deemed necessary to provide special requirements, since these persons may vary in age and agility, and thus their ability to cope with unusual situations may be restricted. Therefore, it is being required that operators include in their operations manuals the procedures necessary for the safe carriage of such persons.

Since this regulatory action imposes no additional burden on any person, notice and public procedure hereon are unnecessary, and 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 hereby adopted, effective February 9, 1962:

1. The following persons, when duly authorized by the air carrier or commercial operator operating the airplane may be carried aboard an airplane engaged in the carriage of cargo only, without compliance with the passenger-carrying or passenger-service airplane requirements of Parts 40, 41, and 42, and SR–406C and SR–411A of the Civil Air Regulations:

(a) A person performing a specific duty assignment aboard an airplane in connection with the safety of the flight, or the safe carriage of animals, or radioactive materials within the meaning of and subject to the requirements of section 49.2 of the Civil Air Regulations; or while traveling to or from such duty assignments where the air carrier or commercial operator finds that other means of transportation are not practicable;

(b) A person performing duty as a security or honor guard aboard an airplane for shipments made by or under the authority of the Federal Government;

(c) Military couriers, military route supervisors, and flight crewmembers of any military cargo contract air carrier or commercial operator, when operating under a military cargo contract and specifically authorized by the appropriate military service; and

(d) Company employees of the air carrier or commercial operator and their dependents when traveling on company business to or from outlying stations not served by adequate, regular passenger flights. When such persons are carried, cargo will be loaded in such a manner as not to obstruct access to the pilot compartment, or the appropriate emergency or regular exits. In addition, for extended overwater flights, or for flights over uninhabited terrain, emergency and survival equipment adequate for the particular operation involved shall be carried. Procedures for the safe carriage of company employees and their dependents under this subparagraph shall be incorporated into the air carrier's or commercial operator's operations manual.

2. An approved seat with a safety belt shall be available for the use of each person described in paragraph 1. The location of the seat shall be such that the occupant will not be in a position to interfere with the flight crewmembers in the performance of their duties.

3. Persons described in paragraph 1 may be admitted to the flight deck of the airplane when authorized by the pilot in command.

This Special Civil Air Regulation supersedes Special Civil Air Regulation No. SR–419 and Special Civil Air Regulation No. SR–432, and shall remain in effect until superseded or rescinded.

SPECIAL CIVIL AIR REGULATION NO. SR–450

Effective: May 3, 1962
Adopted: Mar. 27, 1962
Published: Mar. 30, 1962
(27 F.R. 2995)

Airspeed Operating Limitations For Transport Category Airplanes

As a result of the First Federal Aviation Agency Airworthiness Review, the Agency published a notice of proposed rule making affecting several parts of the Civil Air Regulations. This notice which was published in the Federal Register (26 F.R. 5130) and circulated as Civil Air Regulations Draft Release No. 61–12 dated June 8, 1961, also contained a proposed Special Civil Air Regulation which would require, for certain transport category airplanes, revision of the Airplane Flight Manual statement of airspeed operating limitations, and the revision of airspeed indicator markings and installation of an overspeed warning device in turbine-powered airplanes.

Operating records show an increasing number of cases of exceeding the airspeed operating limits on transport category airplanes, particularly on turbine-powered airplanes. Among the probable causes of overspeed are the characteristics of turbine-powered airplanes which make it desirable to operate at the limit speed, the somewhat indefinite significance of the present normal operating limit speed, and the increasing preoccupation of the pilots with air traffic and other duties which distract them from continuous monitoring of airspeed instruments.

For new type airplanes, Part 4b of the Civil Air Regulations is being amended concurrently to replace the existing normal operating limit and never exceed speeds (§§ 4b.711 and 4b.712) by a single speed at the previous normal operating limit value. The new single limit in Part 4b is being designated as the "maximum operating limit speed," and will be defined in the Airplane Flight Manual (§ 4b.741) as a speed which shall not be deliberately exceeded in any regime of flight, except where a higher speed is authorized for flight test or pilot training operations.

To minimize overspeeding due to pilot preoccupation, § 4b.603(k) is being amended to require an aural warning device on turbine-powered airplanes and other airplanes having a speed margin of less than 20 percent between limit and demonstrated speeds. To insure early warning and thus to make a major portion of the speed margin available for pilot reaction and recovery maneuvers, the speed warning shall occur whenever the speed exceeds the limit speed by more than 6 knots or 0.01 Mach number.

The changes being made to Part 4b relating to airspeed operating limitations apply only to new type airplanes for which application for type certificate is filed on or after the effective date of the amended regulations, and would not affect existing airplanes. This Special Civil Air Regulation is being issued to apply retroactively to transport category airplanes certificated under the provisions of Part 4b in effect prior to the effective date of the amendments to Part 4b discussed herein.

For turbine-powered airplanes, this regulation requires an aural speed warning device and revision of Airplane Flight Manuals to replace the previous term "normal operating limit speed" with the new term "maximum operating limit speed" and to state that this speed shall not be deliberately exceeded in any regime of flight, except where a higher speed is specifically authorized for flight test or pilot training operations, or in approved emergency procedures. The actual value of this limit speed is not changed. The existing never exceed speed may be retained in the manual since, in some cases, emergency procedures may refer to this speed. Airspeed placards and markings are required to be revised as necessary to reflect the maximum operating limit speed.

For reciprocating engine-powered airplanes, this regulation merely requires revision of the statement in the Airplane Flight Manual explaining the significance of the existing speed limitations.

Since this Special Civil Air Regulation is applicable to existing airplanes, approximately 6 months is being allowed after its adoption for the revision of manuals and approximately one year for installation of warning devices in turbine-powered airplanes. The proposed provision requiring air carriers to take action to insure that their pilots are informed of the changes to the airspeed operating limitation prescribed in this regulation has been withdrawn. Such an additional provision is considered to be unnecessary in that it is the responsibility of the air carrier under other provisions of the Civil Air Regulations to inform their pilots of the current operating limitations for their aircraft.

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

In consideration of the foregoing, the following Special Civil Air Regulation is hereby adopted, to become effective May 3, 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 September 1, 1962:

(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, 1963, each airplane shall be equipped with a speed warning device which shall provide aural warning to the pilots, which is distinctively different from aural warnings used for other purposes, whenever the speed exceeds 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. *Reciprocating engine-powered airplanes.* On or before September 1, 1962, 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.

As a result of this reevaluation it has been concluded that, regardless of its height, a properly loaded cargo bin which has been constructed and installed in the airplane to meet specific strength requirements will not adversely affect safety if it does not obscure any passenger's view of the "seat belt" or "no smoking" sign. Therefore, this amendment eliminates the height restriction for cargo bins and in lieu thereof adds provisions which (1) require proper distribution of the weight of the cargo within the bin, (2) prohibit use of bins which exceed the structural load limitation on components of the airplane, and (3) prohibit installing the bin in a location which will obscure any passenger's view of the "seat belt" or "no smoking" sign, unless an auxiliary sign, or some other approved means for notification of the passenger is provided.

The provisions of paragraphs (a)(1) and (a)(4) of this amendment specify the strength which a cargo bin and its attachments must meet for approval. It was intended, in Amendment 42-35, that this strength be such that in the event the airplane was involved in a survivable crash involving high deceleration forces, the cargo bin would not shift forward or be dislodged and injure the passengers. To provide this safeguard, the strength of the bin and its attachments must be able to withstand at least the load factors and emergency landing conditions applicable to the passenger seats installed on the airplane. The combined weight of the cargo bin and its contents must be used to determine this strength. However, in view of the comments received, it appears that the wording of paragraphs (a)(1) and (a)(4) of Amendment 42-35 did not make this strength requirement completely clear. Accordingly, this amendment rewords these paragraphs to specify more clearly the strength requirements which a cargo bin and its attachments must meet for approval.

In addition to the aforementioned changes, other editorial changes were made in this amendment for the purpose of clarification.

Since this amendment relaxes the height requirement of a previous rule which becomes effective January 20, 1962, and imposes no additional burden on any person, I find that notice and public procedure hereon are impractical and unnecessary, and good cause exists for making this amendment effective on less than 30 days' notice.

Amendment rescinded Amendment 42-35 and added new section 42.66.

Amendment 42-38

Mechanical Reliability Reports		
	Adopted:	Feb. 6, 1962
	Effective:	Mar. 12, 1962
	Published:	Feb. 10, 1962 (27 F.R. 1245)

The Federal Aviation Agency published as a notice of proposed rule making (26 F.R. 1410) and circulated as Civil Air Regulations Draft Release No. 61-2 dated February 8, 1961, a proposal to amend Parts 40, 41, 42, and 46 of the Civil Air Regulations to establish requirements for the reporting of specific types of malfunctions, failures, and defects occurring to aircraft.

With the adoption of this amendment, it should be noted that the title, Daily Mechanical Report (DMR), is changed and will hereafter be known as the Mechanical Reliability Report (MRR). The Federal Aviation Agency believes the name to be appropriate in that it is more descriptive of the concept of the report.

The currently effective provisions of Part 42 require operators to submit daily a report known as a daily mechanical report (DMR) which contains information concerning each failure, malfunctioning, or other defect, regardless of where detected, which may reasonably be expected by the air carrier to cause a serious hazard in the operation of an aircraft.

The lack of specific reporting requirements and the fact that each air carrier reported only those items which, in the opinion of the air carrier, constitute a hazard, heretofore resulted in inadequate and nonuniform reporting. Various attempts were made to correct these inadequacies, such as joint industry-government meetings and the use of a trial reporting guide for a 6-month period. Some improvement in reporting was accomplished; however, satisfactory reporting was not achieved. In accordance with the proposal contained in Draft Release 61-2, amendment specifies certain aircraft and aircraft com-

ponent failures, malfunctions, or defects which must be reported by air carriers in mechanical reliability reports. In addition, an air carrier is required to report other aircraft and aircraft component failures, malfunctions, or defects, even though they are not specified in the rule, when the air carrier is of the opinion that they may seriously endanger the safe operation of its aircraft.

In Draft Release 61–2 it was proposed to require air carriers to report engine shutdowns during flight necessitated or caused by aircraft component failure, malfunction, or defect. Although the Agency evaluates the significance of every engine shutdown, regardless of cause or effect, it has been determined that it is presently not necessary to require all engine shutdowns to be included in mechanical reliability reports. Accordingly, in this amendment, the proposed rule has been changed to require mandatory reporting of engine shutdowns only when they involve engine flameout, foreign object ingestion or icing, external damage to the engine or aircraft structure, or when more then one engine is shutdown during flight. Paragraph (b) (17) of section 42.96 has been worded to make it clear that action taken to shutdown an engine in flight need not be reported as an emergency action under the requirements of that provision.

Draft Release 61–2 contained a proposal to require reports of failures of the landing gear to extend or retract properly during flight. To avoid any misunderstanding of our intention that landing-gear doors be included in this reporting requirement, this final rule expressly provides for reporting the occurrence of a failure, malfunction, or defect which involves the extension or retraction of the landing gear, or the opening or closing of the landing-gear doors during flight.

Also, it will be noted that paragraph (b) (15) of section 42.96 has been changed from the original proposal so that failures, malfunctions, or defects in aircraft structures are required to be reported only if a major repair is necessary.

Many failures, malfunctions, or defects are required to be included in the mechanical reliability report only if they occur during "flight." A note has been added to the rule to explain that in complying with the reporting requirements of section 42.96 an aircraft is to be considered in "flight" from the moment it leaves the surface of the earth on takeoff until it touches down at a place of landing.

Attention is directed to the fact that Draft Release 61–2 proposed 13 specific reporting items while this amendment contains 17 reportable items. This increase in the number of items is the result of rewording and expanding the previous items to facilitate administrative handling of the reports within the Agency with automatic data processing equipment.

Another change has been made in this amendment which differs from the original proposal. This change provides that the report shall cover a 24-hour period beginning at 0900 hours local time each day and is to be submitted by 0900 hours of the following day rather than the midnight to midnight report period proposed. In this respect, local time is considered to be the time at each air carrier's main maintenance base. This revision does not alter the 24-hour interval made in the proposal, but is incorporated so that the reports can be handled more expeditiously by the Agency under its new automatic data processing system for evaluating individual reports and for distributing mechanical reliability report summaries.

The currently effective provisions governing daily mechanical reports are set forth in the manual material in section 42.96–1. For purposes of consolidation and clarification, we are taking this opportunity to delete section 42.96–1 and incorporate in section 42.96 of the basic regulation all of the requirements prescribed in this amendment for mechanical reliability reports.

Likewise, requirements for a monthly report of chronic mechanical difficulties are currently prescribed in the manual material in section 42.96–1. For purposes of consolidation and clarification, this monthly reporting requirement is also being set forth, without substantive change, in a new section 42.96a which is being added to the basic regulation.

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 aircraft systems, components, and equipment. In addition, through analysis of information developed from reports received, the Agency will be able to detect deteriorating conditions in aircraft 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. Since the portion of the amendment pertaining to a monthly report of chronic mechanical difficulties is minor in nature and imposes no additional burden on any person, I find that notice and public procedure hereon is unnecessary.

Amendment revised section 42.96, deleted section 42.96–1, and added a new section 42.96a

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Amendment 42–39

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.

The amendment adopted herein, as distinguished from that adopted in Parts 40, 41, and 46, excludes small passenger-carrying aircraft. This exclusion is consistent with the present provisions of Part 42 and Draft Release 60–13 (25 F.R. 7452) in regard to interior emergency exit markings for small aircraft.

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 paragraph (b)(2) to section 42.24c.

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