UNITED STATES OF AMERICA
FEDERAL AVIATION AGENCY
WASHINGTON, D.C.

Civil Air Regulations Amendment 41-43
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Docket No. 652; Amdt. 41-43; Supp. 32]

T 41—CERTIFICATION AND OPRATION RULES FOR SCHEDULED R CARRIER OPERATIONS OUTDE THE CONTINENTAL LIMITS OF IE UNITED STATES

Iechanical Reliability Reports

e Federal Aviation Agency pubd as a notice of proposed rule mak-26 F.R. 1410) and circulated as Civil Regulations Draft Release No. 61-2 February 8, 1961, a proposal to d Parts 40, 41, 42, and 46 of the Air Regulations to establish rements for the reporting of specific of malfunctions, failures, and deoccurring to airplanes.

th the adoption of this amendment, ould be noted that the title, Daily anical Report (DMR), is changed will hereafter be known as the anical Reliability Report (MRR). Federal Aviation Agency believes ame to be appropriate in that it is descriptive of the concept of the t.

e currently effective provisons of 41 require operators to submit daily ort known as a daily mechanical re-(DMR) which contains information rning each failure, malfunctioning, ner defect, regardless of where dcd, which may reasonably be exd by the air carrier to cause a seriihazard in the operation of an ane.

e lack of specific reporting requires and the fact that each air carrier ted only those items which, in the on of the air carrier, constitute a d, heretofore resulted in inade- and nonuniform reporting. Varittempts were made to correct these quacies, such as joint industryrnment meetings and the use of a reporting guide for a six-month d. Some improvement in reporting accomplished; however, satisfactory ting was not achieved. In accordwith the proposal contained in Release 61-2, this amendment fies certain airplane and airplane onent failures, malfunctions, or dewhich must be reported by air car- in mechanical reliability reports. ddition, an air carrier is required to t other airplane and airplane comnt failures, malfunctions, or defects, though they are not specified in the when the air carrier is of the opinion that they may seriously endanger the safe operation of its airplanes.

In Draft Release 61-2 it was proposed to require air carriers to report engine shutdowns during flight necessitated or caused by airplane 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 airplane structure, or when more than one engine is shutdown during flight. Paragraph (b)(17) of § 41.130 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 § 41.130 has been changed from the original proposal so that failures, malfunctions, or defects in airplane 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 § 41.130 an airplane 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 § 41.130–1(a). For purposes of consolidation and clarification, we are taking this opportunity to delete § 41.130–1(a) and incorporate in § 41.130 of the basic regulation all of the requirements prescribed in this amendment for mechanical reliability reports.

Likewise, requirements for daily reports concerning chronic mechanical difficulties are currently prescribed in the manual material in § 41.130–1(b). For purposes of consolidation and clarification, we are also deleting § 41.130–1(b) and incorporating the substance of that reporting requirement in a new § 41.130a which is being added to the basic regulation. While the title and phraseology of new § 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 § 41.130–1.

It will be noted that the provisions of § 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 § 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.

In consideration of the foregoing, Part 41 of the Civil Air Regulations (14 CFR Part 41, as amended) is hereby amended as follows, effective March 12, 1962:

1. By amending § 41.130 to read as follows:

§ 41.130 Mechanical reliability reports.

(a) Each air carrier 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 airplane or airplane component (including airplane 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 airplane 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 airplane component which results during flight in the accumulation or circulation of smoke, vapor, or toxic 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 airplane 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 airplane;

(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 airplane is in motion on the ground;

(15) Airplane structure which requires major repair;

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

(17) Airplane 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 airplane 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 in the first daily report as much of the following information as is available:

(1) Type and identification number of the airplane, 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 major component and time since ov haul;

(5) Apparent cause of trouble; e wear, crack, design deficiency, pers nel error;

(6) Disposition; e.g., repaired, placed, airplane grounded, part sent manufacturer; and

(7) Brief narrative summary of ot pertinent information necessary for m complete identification, determinat of seriousness, and corrective action.

(d) Reports required by paragr (a) shall not be withheld pending cumulation of all information speci in paragraphs (b) and (c) of this s tion. When additional information obtained relative to the incident, incl ing any that may be furnished by manufacturer or other outside ager it shall be expeditiously submitted a supplement to the first report, refere ing the date and place of submission such report.

2. By adding a new § 41.130a to r as follows:

§ 41.130a Mechanical interruption su mary report.

Each air carrier shall submit regula and promptly to the Administrato summary report containing informat on the following occurrences:

(a) All interruptions to a schedu flight, unscheduled changes of airpla en route, and unscheduled stops diversions from route which result fr known or suspected mechanical diffic ties or malfunctions that are not quired to be included in mechan reliability reports.

(b) The number of engines remo prematurely because of mechan trouble, listed by make and model engine and the airplane type in wh the engine was installed.

(c) The number of propeller feath ings in flight, listed by type of prope and type of engine and the airplane which the propeller is installed. P peller featherings accomplished training, demonstration, or flight ch purposes need not be reported.

§ 41.130–1 [Deletion]

3. By deleting § 41.130–1.

The reporting requirements contai herein have been approved by the B reau of the Budget in accordance w the Federal Reports Act of 1942.

(Secs. 311, 313(a), 601, 605; 72 Stat. 751, 775, 778; 49 U.S.C. 1352, 1354, 1421, 14

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N. E. HALABY,
Administrato

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