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Superseded

ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

SUBJECT: MANUFACTURERS REPORTING FAILURES, MALFUNCTIONS, OR DEFECTS

1. PURPOSE. This circular provides information to assist manufacturers of aeronautical products (aircraft, aircraft engines, propellers, appliances, and parts) in notifying the Federal Aviation Administration of certain failures, malfunctions, or defects, resulting from design or quality control problems, in the products which they manufacture. Amendments Nos. 21-37 and 37-27 provide a procedure for reporting the failures, malfunctions, or defects.
2. REFERENCES. Federal Aviation Regulations Sections 21.3 and 37.17.
3. GENERAL.
 - a. FARs 21.3 and 37.17 require the holder of a type certificate (TC) (including a supplemental type certificate (STC)), or a parts manufacturer approval (PMA), or a technical standard order (TSO) authorization, or the licensee of a type certificate, to notify the FAA of any failure, malfunction, or defect in their product or part that they determine has resulted in any one of the occurrences specified in these rules. In addition, they must notify the FAA of any defective product or part that has left their quality control system and which they determine could result in any one of the occurrences specified in these rules. It is expected that compliance with FARs 21.3 and 37.17 will provide the earliest possible notification, to the FAA, of a hazardous condition in order that appropriate corrective action may be initiated, whenever necessary, without delay.
 - b. It is recognized that a manufacturer may choose to report an item prior to completion of his investigation to assure that the FAA is properly informed of the problem. However, the manufacturer need not report until he has determined that a deficiency does

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exist. The method and manner of reporting may be in accordance with systems and procedures already established by the manufacturer, if that system provides for immediate identification of the items noted in FARs 21.3(c) and 37.17(c).

- c. The subject rules do not apply to the notification of a defect which the manufacturer becomes aware of during the normal manufacturing cycle of a product or article unless like products or articles have left his quality control system. If the product or article is readily retrievable by the manufacturer, i.e., under his defined quality control system, then notification is not necessary. It is suggested that the manufacturers review their quality control system to assure that the limits of the system are clearly defined.

4. NOTIFICATION PROCEDURES. It is recommended that each manufacturer contact the appropriate regional office to:

- a. Ensure an understanding of the rules;
- b. Establish the most expeditious means of conveying the required information. It is anticipated that the telephone will be used in the majority of cases;
- c. Determine the person(s) to be contacted in the FAA Engineering and Manufacturing Branch/Aircraft Engineering Division;
- d. Establish a means of keeping the FAA Engineering and Manufacturing Branch/Aircraft Engineering Division informed of progress and additional information on those cases where the manufacturer has reported only preliminary information.

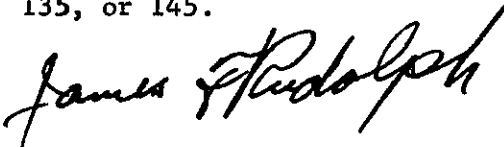
5. APPLICABILITY TO FOREIGN MANUFACTURERS. The reporting rules do not apply to foreign manufacturers whose products or articles have been approved under the applicable import certification provisions of FAR Part 21. Under the provisions of the bilateral airworthiness agreements the United States has concluded with various foreign countries, the FAA relies on the civil air authorities of those countries to keep it informed of hazardous conditions occurring in these products or articles.

6. GUIDANCE RELATIVE TO REPORTING. FARs 21.3(d) and 37.17(d) speak to those conditions under which reports are not required.

- a. The requirements under FARs 21.3(a) and 37.17(a) do not apply if it is determined by the holder that the failure, malfunction, or defect was caused by improper maintenance or improper usage. This excludes those items that are a result of causes other than design or quality control problems. For example, if a part failed and resulted in one of the occurrences noted in FARs 21.3(c) and 37.17(c) and it is

found the failure is due to a worn part caused by improper maintenance, the failure need not be reported. However, if the part was found to fail because of design or a quality control deficiency, the holder must report the item. An engine fire from a fuel line failure due to an overtorqued cracked "B" nut during maintenance would not be reported; a "B" nut cracked due to overtorquing when torqued in accordance with design or manufacturer's instructions would be reported.

- b. As noted in the rule, the holder of a type certificate (including a supplemental type certificate), or a parts manufacturer approval, or TSO, or the licensee of a type certificate, is responsible for reporting the failures, malfunctions, or defects in his products or parts resulting in the occurrences specified in FARs 21.3(c) and 37.17(c). For example, if an operator experiences an engine failure because of a turbine blade failure, the engine failure would be reported under FARs 121, or 127, or 135, or possibly by a malfunction or defect report. If subsequent investigation by the manufacturer reveals the failure was caused by an engine quality control or design deficiency, the engine manufacturer, as the TC holder, is required to report under FAR 21.3(a).
- c. FARs 21.3(d)(1)(ii) and 37.17(d)(1)(ii) remove the need to report as required by FARs 21.3(a) and 37.17(a) if the holder knows that the malfunction, failure, or defect was reported by another person under the Federal Aviation Regulations. The manufacturers need not contact operators or other persons to determine whether or not the item had been reported. FARs 21.3 and 37.17 are directed to those deficiencies in the product that only the manufacturers would normally be expected to know (i.e., design or quality control deficiency). The deficiency that caused the occurrence is required to be reported under FARs 21.3(a) and 37.17(a). A malfunction, failure, or defect that resulted in an occurrence listed in FARs 21.3(c) and 37.17(c) must be reported under FARs 21.3(a) and 37.17(a) even though the occurrence caused by this malfunction, failure, or defect has previously been reported under FARs 121, 127, 135, or 145.



Director
Flight Standards Service