

Reference Copy

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ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

SUBJECT: ELIGIBILITY, QUALITY, AND IDENTIFICATION OF APPROVED
AERONAUTICAL REPLACEMENT PARTS

1. PURPOSE. This circular provides information relative to the determination of the eligibility of aeronautical parts and materials for installation on certificated aircraft.
2. CANCELLATION. Advisory Circular 20-62B dated 9/13/74, is cancelled.
3. BACKGROUND. An increasing amount of replacement parts (including standard parts), materials, appliances, and instruments are offered for sale as being of aircraft quality when actually the quality and origin of these units are not known. Users of such units are usually not aware of the potential hazards involved with replacement parts that are not eligible for use on certificated aircraft. Frequently such units are deceptively advertised or presented as "unused," "like new," or "remanufactured." This implies that the quality of such units is equal to an original or appropriately repaired or overhauled unit.

The performance rules for replacement of parts and materials used in the maintenance and alteration of U.S. certificated aircraft are specified in Federal Aviation Regulations (FAR) 43.13 and FAR 145.57. The responsibility for the continued airworthiness of the aircraft, which includes the replacement of parts, is the responsibility of the owner/operator as outlined in FAR 91.163, FAR 121.363, FAR 123.45, FAR 127.131 and FAR 135.143(a).

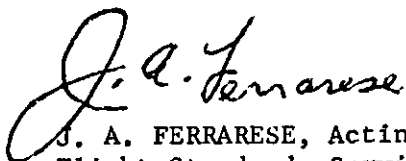
4. IDENTIFICATION OF APPROVED PARTS. Approved serviceable replacement parts are identified as follows:
 - a. By an FAA Form 8130-3 (Formerly FAA Form 186), Airworthiness Approval Tag. An Airworthiness Approval Tag identifies a part or group of parts that have been approved by authorized FAA representatives.

- b. By an FAA Technical Standard Order (TSO) number and identification mark that indicates the part or appliance has been manufactured under the requirements of FAR 37.
 - c. By an FAA/PMA symbol, together with the manufacturer's name, trademark or symbol, part number, and the make and model of the type certificated product on which the part is eligible for installation, stamped on the part. An FAA Parts Manufacturer Approval (FAA/PMA) is issued under FAR 21.305. The make and model information may be on a tag attached to the part.
 - d. By shipping ticket, invoice, or other document which provides evidence that the part was produced by a manufacturer holding an FAA Approved Production Inspection System issued under FAR 21, Subpart F, or by a manufacturer holding an FAA Production Certificate issued under FAR 21, Subpart G.
 - e. By a certificate of airworthiness for export issued by a foreign government under the provisions of FAR 21, Subpart N.
5. IDENTIFIED UNSERVICEABLE PARTS, APPLIANCES, AND COMPONENTS. Unserviceable parts, appliances, and components that are identified as outlined in paragraph 4, should be tested, examined, or operated to determine that the articles used meet the requirements of FAR 43.13.
6. UNIDENTIFIED SERVICEABLE OR UNSERVICEABLE PARTS, APPLIANCES AND COMPONENTS. A serviceable or unserviceable unidentified part would have to be reidentified by the manufacturer or a person possessing the required data to certify that the part meets the standards to which it was manufactured as contained in FAR 21.305. A common source of unidentifiable serviceable or unserviceable parts, appliances, and components is outlined in paragraph 7.
7. SURPLUS. Many materials, parts, appliances, and components that have been released as surplus by the military service or by manufacturers may originate from obsolete or overstocked items. Parts obtained from surplus sources may be used, provided it is established that they meet the standards to which they were manufactured, interchangeability with the original part can be established, and they are in compliance with all applicable airworthiness directives. Such items, although advertised as "remanufactured," "high quality," "like new," "unused," or "looks good," should be carefully evaluated before they are purchased. The storage time, storage conditions, or shelf life of surplus parts and materials are not usually known. Example of items that may be available from surplus sources are:
- a. Antifriction bearings. Antifriction bearings that have been in storage for a long period, even though encased in protective coating or within a component, are subject to deteriorating effects of time

and the elements. Such items should be completely inspected and lubricated before placing them in service.

- b. Aircraft fabric. Fabric and prefabricated covers should be used only if identifiable as meeting aircraft standards. All fabric should be examined for freedom from deterioration due to age, climatic conditions, and contamination.
 - c. Dope and paint. Dope and paint advertised as aircraft quality may have deteriorated due to age or climatic conditions while in storage and should be tested before use.
 - d. Avionic parts. Small avionic replacement parts, (e.g., resistors, capacitors, diodes, transistors, etc.), should be the same as or equivalent to the parts identified in the manufacturer's manual and should be tested for performance.
 - e. Aircraft instruments. Although advertised as "high quality," "unused," "like new," "looks good," or "remanufactured," aircraft instruments should not be put in service unless they have been inspected, tested and overhauled as necessary by an appropriately rated, certificated instrument repair station. Instruments are highly susceptible to hidden damage caused by rough handling and improper storage conditions.
 - f. Pumps, valves, and actuators. The internal seals are subject to deterioration from long-term storage and are susceptible to early failure in service.
 - g. Connectors and fittings. The cones, facings and threads have been found damaged due to mishandling. Generally there is no accurate visual means of identifying the specification revision status of a connector or fitting except by assistance from the original manufacturer. Stocking practices should consider specification revision status.
8. ELECTRICAL AND ELECTRONIC KITS. Several kits which are being offered for sale to be assembled by the purchaser and intended to be installed on a standard certificated aircraft may not be eligible for installation. During and after assembly, these kits should receive conformity inspections by properly certificated or authorized persons to assure they meet all applicable airworthiness requirements for use on aircraft. The installation of these approved units should be accomplished under the supervision of a properly certificated airman or agency. When the installation is a major alteration, proper forms should be completed, and a properly certificated person should make the required entries to approve the aircraft airworthy for return to service.
9. UNACCEPTABLE PARTS, APPLIANCES AND COMPONENTS. A common source of unacceptable parts, appliances, and components is outlined in paragraph 10.

10. SALVAGE. Salvaged parts, appliances, or components which have come from aircraft that have been involved in accidents, and rejected parts sold by the manufacturer as scrap metal, are available to industry as replacements. Such items may have been subjected to forces or environments which would render them permanently unairworthy. For example:
- a. Parts that have been exposed to heat or fire can be seriously affected and are likely to be unserviceable.
 - b. Foreign or corrosive liquids can also take their toll of aircraft parts. Parts, appliances, and components from aircraft that have been submerged in salt water have been offered for sale as serviceable replacement parts.
11. KNOW YOUR SUPPLIER. It has come to our attention that many reproduced parts and components, particularly instruments which have been manufactured by persons other than the original manufacturer, are available for purchase and installation on U.S. certificated aircraft. Often, an original part is used as a sample to produce duplicates. The reproduced parts appear to be as good as the original part; however, there are many unknown factors to be considered that may not be readily apparent to the purchaser; i.e., heat treating, plating, inspections, tests and calibrations. All too often the faulty part is not discovered until a malfunction or an accident occurs.
- In addition to reproduced parts, used or repaired parts are offered for sale as "like new," "near new" and "remanufactured." When such terms are employed, or whenever a part is not identified as an approved part, the purchaser should have inspections or tests accomplished to determine that the part is airworthy for use on an aircraft in accordance with applicable airworthiness requirements for that aircraft.
12. SUMMARY. In accordance with Federal Aviation Regulations, certification of materials, parts, and appliances for return to service, for use on aircraft, is the responsibility of the person or agency who signs the approval. The owner/operator, as denoted in paragraph 3 of this advisory circular, is responsible for the continued airworthiness of the aircraft. To assure continued safety in aircraft operation, it is essential that great care be used when inspecting, testing, and determining the acceptability of all parts and materials. Particular caution should be exercised when the identity of materials, parts, and appliances cannot be established or when their origin is in doubt.



J. A. FERRARESE, Acting Director
Flight Standards Service