

AC NO: 20-62B

DATE: 9/13/74



# 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 20-62A dated 6/16/70, is cancelled.
3. BACKGROUND. An increasing amount of replacement 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 Part 43, Section 43.13. The method by which replacement parts are identified as APPROVED PARTS is contained in FAR 21.303 and persons who produce parts for sale for installation on type certificated products (aircraft) must comply with FAR 21.303.

4. IDENTIFICATION OF APPROVED PARTS. Approved 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 Federal Aviation Regulations Part 37.
- 

Initiated by: AFS-350

- c. By an FAA/FMA 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/FMA) is issued under Federal Aviation Regulations Part 21, Section 21.303. 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. UNIDENTIFIED PARTS, APPLIANCES, AND COMPONENTS. Parts, appliances, and components that are not identified as outlined in paragraph 4, must be tested, examined, or operated to determine that the articles used meet the requirements of FAR 43.13. Common sources of unacceptable parts, appliances, or components are outlined as follows:
- a. 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:
    - (1) Parts that have been exposed to heat or fire can be seriously affected and are likely to be unserviceable.
    - (2) Foreign or corrosive liquids can also take their toll of aircraft parts. Parts, appliances, and components from aircraft that had been submerged in salt water have been offered for sale as serviceable replacement parts.
  - b. 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 overstock items. Parts obtained from surplus sources may be used provided interchangeability with the original part can be established and all applicable airworthiness directives have been complied with. Such items, although advertised as "remanufactured," "high quality," "like new," "unused," or "looks good," should be carefully evaluated by the user before installation. The storage time, storage conditions, or shelf life of surplus parts and materials are not usually known. Examples of items that may be available from surplus sources are:

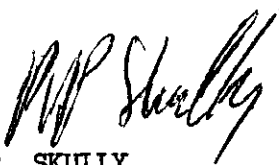
- (1) Antifriction bearings. Antifriction bearings that have been in storage for a long period, even though encased in protective coating or within a component are subject to deteriorating effects of time and the elements. Completely inspect and lubricate such items before placing them in service.
- (2) 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.
- (3) Dope and paint. Dope and paints advertised as aircraft quality may have deteriorated due to age or climatic conditions while in storage and should be tested before use.
- (4) Avionic Parts. Small avionic replacement parts, (i.e., resistors, capacitors, diodes, transistors, etc.), must be the same as or equivalent to the parts identified in the manufacturer's manual and should be tested for performance.
- (5) Aircraft instruments, although advertised as "high quality," "unused," "like new," "looks good," or "remanufactured," 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.
- (6) Pumps, valves, and actuators. The internal seals are subject to deterioration from long-term storage and are susceptible to early failure in service. Surplus pumps, valves, and actuators should be overhauled before being placed in service.

6. 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," "unused," "near new" and "remanufactured." When such terms are employed or whenever a part is not identified as an approved part, the purchaser must perform whatever inspections or tests that are necessary to determine that the part will properly function when used on an aircraft.

9/13/74

7. SUMMARY. Federal Aviation Regulations place the responsibility for determining that materials, parts, and appliances used in aircraft maintenance and alteration conform to applicable requirements upon the persons approving the affected unit for return to service. To assure continued safety in aircraft operation, it is essential that great care be used in inspecting, testing, or otherwise determining the acceptability of all parts and materials. Particular caution should be exercised when the identity of materials, parts, and appliances cannot be established as outlined in paragraph 4 of this Advisory Circular or when the origin is in doubt.



R. P. SKULLY  
Acting Director, Flight Standards Service, AFS-1

Page 4

Par 7

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
Washington, D.C. 20591

Official Business

PENALTY FOR PRIVATE USE, \$300

POSTAGE AND FEES PAID  
FEDERAL AVIATION  
ADMINISTRATION  
DOT 515

