Repl. by 62B

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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 20-62, dated 4/30/69, is cancelled. *

3. BACKGROUND. An increasing amount of replacement parts and materials being offered for sale as aircraft quality may not be acceptable for use on certificated aircraft. Users of these parts and materials may not be aware of the potential hazards involved. The quality requirements for parts and materials used in the maintenance and alteration of certificated aircraft is specified in Federal Aviation Regulations, Part 43, Section 43.13. Replacement parts are not eligible for use on certificated aircraft unless their eligibility for installation has been established. It is the responsibility of the person who approves the aircraft for return to service to determine that materials used conform to applicable requirements.

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.

   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,

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stamped on the part. An FAA Parts Manufacturer Approval (FAA/PMA) 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 Production Certificate issued under Federal Aviation Regulations, Part 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. PARTS, APPLIANCES, AND COMPONENTS. When parts, appliances, and components used in the performance of maintenance on a certificated aircraft are not identified as outlined in paragraph 4, the person performing that maintenance must determine, through test, examination, or operation, that the articles used meet the requirements of FAR 43.13. Common sources of parts, appliances, or components are:

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. Excessive heat can affect the strength qualities and dimensions of parts or materials. Regardless of their rejuvenated appearance, such parts are likely to be unserviceable.

(2) Foreign or corrosive liquids can also take their toll of aircraft parts. Parts, appliances, and components from an aircraft that has been submerged in salt water have been known to be offered for sale as serviceable replacement parts.

b. Surplus. Many materials, parts, appliances, and components originate from obsolete or overstock items that have been released as surplus from the military service or by manufacturers. 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 "high quality," "new," "unused," or "looks good," should be carefully evaluated by the user. The storage time, storage conditions, or shelf life of parts and materials from these sources are not usually known. Examples of items that may be available from surplus sources are:

(1) Antifriction bearings. Components having antifriction bearings installed that have been in storage for a long period, even though encased in protective coating or packaged, are subject to deteriorating effects of time and the elements. Completely inspect and lubricate such items before placing them in service.

(2) Aircraft fabric. Prefabricated covers and fabric offered by the yard should be used only if it is identifiable as meeting aircraft standards. In addition, all fabric should be examined for freedom from deterioration due to age, climatic conditions, and contamination prior to use on certificated aircraft.

(3) Dope and paint. Dope and paints advertised as aircraft quality may have deteriorated due to age or climatic conditions while in storage. It is advisable to test a sample of the material before using.

(4) Avionic Parts. Small avionic replacement parts, i.e., resistors, capacitors, diodes, transistors, etc., should be the same as or equivalent to the parts identified in the manufacturer's manual. Regardless of origin, these items should be tested for performance.

(5) Aircraft instruments. Aircraft instruments, although advertised as "unused" or "new," should not be put in service unless they have been inspected, tested and overhauled if 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. Therefore, surplus pumps, valves, and actuators should be overhauled before being placed in service.

c. Know Your Supplier. On occasion, parts identified as authentic have been manufactured for sale by other than the approved manufacturer and in some cases have caused hazard to flight. For example: parts have been manufactured by other than the approved manufacturer, using an original part as a sample. Drawings, specifications of manufacturing processes, heat treatment, plating and grinding, or the raw material for the part are not known to these persons. Although the reproduced parts appear to be as good as the approved part, the unknown factors which are important criteria in assuring airworthiness may not have been followed. Too often the part is not discovered to be

defective until a malfunction or accident has occurred. Therefore, it is important that you know the source of supply.

6. 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 their origin is in doubt.

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