



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

Subject: **DETECTING AND REPORTING
SUSPECTED UNAPPROVED PARTS**

Date: **02/20/98**

AC No: **21-29B**

Initiated by: **AVR-20**

Change: **Advance copy**

1. **PURPOSE.** This Advisory Circular (AC) provides updated information and guidance to the aviation community for detecting suspected unapproved parts (SUP) and reporting them to the Federal Aviation Administration (FAA). Appendix 1 contains FAA Form 8120-11, Suspected Unapproved Parts Notification Form, which serves as a standardized means of reporting.

2. **CANCELLATION.** AC 21-29A, Detecting and Reporting Suspected Unapproved Parts, dated July 16, 1992, is canceled by this revision.

3. **REGULATORY REFERENCES.**

a. Title 14 of the Code of Federal Regulations (CFR):

- (1) Part 1, Definitions and Abbreviations.
- (2) Part 21, Certification Procedures for Products and Parts.
- (3) Part 43, Maintenance, Preventive Maintenance, Rebuilding, and Alteration.
- (4) Part 45, Identification and Registration Markings.
- (5) Part 91, General Operating and Flight Rules.
- (6) Part 145, Repair Stations.

b. 49 CFR Part 7, Public Availability of Information.

c. Title 49 of the U.S. Code, Sections 44701, 44702 and 44704.

4. **DEFINITIONS.** Notwithstanding specific definitions in 14 CFR Part 1, the following definitions apply to terms used in this AC:

a. **Administrator.** The FAA Administrator or any person to whom authority is delegated in the matter concerned.

b. “Approved Parts.” The term “approved parts” in quotations is used throughout this AC in a colloquial sense. The term “approved parts” in quotations is not synonymous with “a part that has received a formal FAA approval.” “Approved parts” are identified as parts which have met one of the following requirements:

(1) Produced in accordance with a Parts Manufacturer Approval (PMA) issued under part 21, Subpart K.

(2) Produced in accordance with a Technical Standard Order Authorization (TSOA) issued by the Administrator under part 21, Subpart O.

(3) Produced during the Type Certificate (TC) application process under part 21, Subpart B, or the Supplemental Type Certificate (STC) application process under part 21, Subpart E, prior to the issuance of the certificate; subsequently determined to conform to the approved TC or STC data (refer to § 21.303 (b)(1)).

(4) Produced under a TC without a separate production authorization, and an Approved Production Inspection System (APIS) in accordance with part 21, Subpart F.

(5) Produced under a Production Certificate (PC) (including by a licensee if produced under PC authority), in accordance with part 21, Subpart G.

Note: The term “licensing agreement” refers to §21.133(a)(2) which allows any person to apply for a PC if they hold or have rights to the benefit of a TC from the owner of the TC. The term “licensing agreement” does not imply or infer that a PC holder may grant production approval to any party on behalf of the FAA. Authority granted by a PC holder to a supplier to ship parts directly to a customer of the PC holder, is not considered to be a licensing agreement.

(6) Produced in accordance with an approval under a bilateral airworthiness agreement under part 21, Subpart N.

(7) Approved in any other manner acceptable to the Administrator (§ 21.305(d)).

Notes:

1. Parts which have been maintained, rebuilt, altered, or overhauled, and approved for return to service in accordance with parts 43 and/or 145 are considered to be “approved parts.” Parts which have been inspected and/or tested by persons authorized to determine conformity to FAA-approved design data may also be found to be acceptable for installation.

2. Military surplus parts (defined as parts which have been originally released as surplus by the military, even if subsequently resold by manufacturers, owners/operators, repair facilities, or any other suppliers of parts) may fall under this condition.

3. AC 20-62, Eligibility, Quality, and Identification of Aeronautical Replacement Parts, should be referred to for information regarding eligibility and traceability of replacement parts.

(8) Produced as standard parts *that conform* to established industry or U.S. specifications. (see definition in paragraph 4j)

Note: Standard parts are not required to be produced under an FAA Approved Production Inspection System, therefore it is incumbent upon the installer (and the producer) to determine that the part conforms. The part must be identified as part of the approved type design or found to be acceptable for installation under part 43. Refer to AC 20-62, for additional guidance on this matter.

(9) Produced by an owner or operator for the purpose of maintaining or altering their own product.

(10) Manufactured by a repair station or other authorized person during alteration in accordance with an STC or Field Approval (which is not for sale as a separate part), in accordance with part 43 and Order 8000.50, Repair Station Production of Replacement or Modification Parts.

(11) Fabricated by a qualified person in the course of a repair for the purpose of returning a TC product to service (which is not for sale as a separate part) under part 43.

Note: In summary, “approved parts” are those which are produced in accordance with the means outlined in part 21, maintained in accordance with parts 43 and 91, and meet applicable design standards.

c. Aviation Safety Hotline. A toll-free telephone number (1-800-255-1111) used to report unsafe practices that affect aviation safety, including the manufacture, distribution, or use of a SUP. The caller’s identification will be kept confidential, if requested.

d. Counterfeit Part. A part made or altered so as to imitate or resemble an “approved part” without authority or right, and with the intent to mislead or defraud by passing the imitation as original or genuine.

e. Distributors. Brokers, dealers, resellers, or other persons or agencies engaged in the sale of parts for installation in TC aircraft, aircraft engines, propellers, and in appliances.

f. Part(s) Not Acceptable For Installation. A part which is not acceptable for installation on an FAA TC product. (Parts that are determined to be “approved parts” but are awaiting maintenance, have not yet been shown to be acceptable).

g. Product. An aircraft, aircraft engine, or propeller, as defined in part 21.

h. Production Approval Holder (PAH). The holder of a PC, APIS, PMA, or TSO Authorization who controls the design and quality of a product or part thereof.

i. Reporter. Any person who furnishes information regarding a SUP.

j. Standard Part. A part manufactured in complete compliance with an established industry or U.S. government specification which includes design, manufacturing, test and acceptance criteria, and uniform identification requirements; or for a type of part which the Administrator has found demonstrates conformity based solely on meeting performance criteria, is in complete compliance with an established industry or U.S. Government specification which contains performance criteria, test and acceptance criteria, and uniform identification requirements. The specification must include all information necessary to produce and conform the part, and be published so that any party may manufacture the part. Examples include, but are not limited to, National Aerospace Standards (NAS), Army-Navy Aeronautical Standard (AN), Society of Automotive Engineers (SAE), SAE Sematec, Joint Electron Device Engineering Council, Joint Electron Tube Engineering Council, and American National Standards Institute (ANSI).

Notes:

1. Criteria for acceptable established industry or U.S. Government specifications differs for parts which must meet specifications which include design, manufacturing, test and acceptance criteria, and uniform identification requirements; and for parts (which the Administrator finds demonstrates conformity based solely on meeting performance criteria) which must meet established industry or U.S. Government specifications which contain test and acceptance criteria, and uniform identification requirements. The organizations listed may publish one or both types of specifications.

2. The FAA will publicize determinations of parts which (the Administrator finds) demonstrate conformity based solely on meeting performance criteria. A determination has been made for discreet electrical and electronic components, as published in the Federal Register on January 31, 1997.

k. Supplier. Any person who furnishes aircraft parts or related services at any tier to the producer of a product or part thereof.

l. Suspected Unapproved Part (SUP). A part, component, or material that is suspected of not meeting the requirements of an “approved part.” A part that, for any reason, may not be “approved.” Reasons may include findings such as a different finish, size, color, improper (or lack of) identification, incomplete or altered paperwork.

Note: An “approved part” which is used in an incorrect application should be addressed as a potential part 43 violation, however it is not considered reportable as a SUP.

m. Unapproved Part. A part that does not meet the requirements of an “approved part” (refer to definition of “Approved Parts” in par. 4b). This term also includes parts which have been improperly returned to service (contrary to parts 43 or 145) and/or parts which may fall under one or more of the following categories:

(1) Parts shipped directly to the user by a manufacturer, supplier, or distributor, where the parts were not produced under the authority of (and in accordance with) an FAA production approval for the part, such as production overruns where the parts did not pass through an approved quality system.

Note: This includes parts shipped to an end user by a PAH's supplier who does not have direct ship authority from the PAH.

(2) New parts which have passed through a Production Approval Holder's (PAH) quality system which are found not to conform to the approved design/data.

Note: Parts damaged due to shipping or warranty issues are not required to be reported as SUP.

(3) Parts that have been maintained, rebuilt, altered, overhauled, or approved for return to service by persons or facilities not authorized to perform such services under parts 43 and/or 145.

(4) Parts that have been maintained, rebuilt, altered, overhauled, or approved for return to service which are subsequently found not to conform to approved data.

Notes:

1. This would include parts produced by an owner/operator for the purpose of maintaining or altering their own product, which have been approved for return to service, and found not to conform to approved data.

2. This does not include parts currently in the inspection or repair process, such as, parts removed for maintenance. Parts in this status may be considered not acceptable for installation.

(5) Counterfeit parts.

5. RELATED REFERENCES. Current copies of the following publications may be obtained by sending a request to: U.S. Department of Transportation, Subsequent Distribution Office, Ardmore East Business Center, 3341 Q 75th Ave., Landover, Md. 20785.

- a. AC 00-56, Voluntary Industry Distributor Accreditation Program.
- b. AC 20-62, Eligibility, Quality, and Identification of Aeronautical Replacement Parts.
- c. AC 21-20, Supplier Surveillance Procedures.
- d. AC 21-38, Disposition of Unsalvageable Aircraft Parts and Materials.
- e. FAA Order 8110.42, Parts Manufacturing Approvals.
- f. FAA Order 8120.10, Suspected Unapproved Parts Program.

6. BACKGROUND.

a. In recent years, the FAA has intensified efforts to educate its inspectors and the public regarding the potential safety threat posed by aeronautical parts that do not meet applicable design, manufacturing, and maintenance requirements. In 1993, the SUP Program was established to coordinate efforts and address issues posed by the entry of “unapproved” parts into the United States aviation system.

b. In August 1995, the FAA convened a Task Force to conduct a thorough review of SUP issues and devise a program plan which would build on past initiatives and increase the existing program’s effectiveness. A vision for the Task Force and SUP Program was set forth as follows:

*To promote the highest level of aviation safety by
eliminating the potential safety risk posed by the entry of
“unapproved parts” in the U.S. aviation community.*

c. To achieve this vision, the Task Force developed a SUP Program Plan. The plan included several special emphasis areas, and specific recommendations. The recommendations identified the need for the FAA to establish an organizational structure capable of providing clear and consistent guidance, enhanced training, more timely SUP case processing, access to usable management information system data, and improved coordination with law enforcement authorities.

d. Following acceptance of the recommendations, the SUP Program Office was established effective November 13, 1995. Functions of the SUP Program Office include:

- (1) Providing a primary point of contact on SUP issues.
- (2) Providing technical support to FAA Offices and industry.
- (3) Developing basic SUP Program policy and guidance material.
- (4) Developing and maintaining a parts reporting information system and analyzing data in that system.
- (5) Disseminating SUP information to FAA Offices, other government agencies, and industry.
- (6) Identifying SUP related training requirements, overseeing training program development, and evaluating training.

7. DISCUSSION.

a. A basic outline of the regulations may provide the necessary foundation to determine if a part should be suspect. The following overview illustrates the relationships between aircraft certification, airworthiness certificate issuance, and continued airworthiness. For the purpose of simplifying this illustration, references herein pertain to Standard Category Aircraft.

(1) Pursuant to Sections 44701, 44702 and 44704 of Title 49 of the United States Code, the Administrator shall issue a TC for aircraft, aircraft engines, propellers, and certain appliances when they are found to be properly designed and manufactured, perform properly, and meet the regulations and minimum standards. Additionally, the Administrator shall issue an Airworthiness Certificate when the aircraft is found to conform to its TC, and after inspection, is in condition for safe operation.

(2) Part 21 defines the procedural requirements for the issuance of TCs and changes to those certificates, PCs, Airworthiness Certificates, and the requirements for approval of certain materials, parts, processes, and appliances.

(a) Aircraft manufactured under a TC or PC are eligible for a Standard Airworthiness Certificate in accordance with §21.183. This section further provides other circumstances in which a Standard Airworthiness Certificate may be issued to an aircraft that is proven to conform to a type design approved under a TC or STC.

Note: Part 21 requires PAH to establish and maintain a quality control or fabrication inspection system (depending upon the type of production approval authorized) which ensures that each part presented for approval conforms to its approved design, and is in a condition for safe operation.

(b) As stated on the Standard Airworthiness Certificate, “this airworthiness certificate is effective as long as the maintenance, preventive maintenance, and alterations are performed in accordance with parts 21, 43 and 91.”

(3) Part 43 contains regulations for maintenance, preventive maintenance, rebuilding, and alteration.

(a) In accordance with the general performance rules in §43.13(a), the person performing maintenance, preventive maintenance, or alteration shall use the methods, techniques and practices prescribed in the current manufacturer’s maintenance manual, or Instructions for Continued Airworthiness (IFCA) prepared by its manufacturer; or other methods, techniques, and practices acceptable to the Administrator. The tools, equipment, and test apparatus necessary to assure completion of the work in accordance with accepted industry standards shall be used, and special equipment or test apparatus recommended by the manufacturer (or an equivalent acceptable to the Administrator) shall also be used.

(b) In accordance with §43.13(b), the work shall be done in such a manner, using material of such quality, that the condition of the aircraft, airframe, aircraft engine, propeller, or appliance worked on will be at least equal to its original or properly altered condition (with regard to aerodynamic function, structural strength, resistance to vibration and deterioration, and other qualities affecting airworthiness).

(4) Part 45 prescribes the requirements for identification of aircraft, aircraft engines and propellers that are manufactured under the terms of a type or production certificate; identification of certain replacement and modified parts produced for installation on TC products; and nationality and registration marking of U.S. registered aircraft.

(5) Subpart E of part 91, General Operating and Flight Rules, also refers to maintenance, preventive maintenance, and alterations. This section includes the owner/operator's responsibilities to maintain the aircraft in an airworthy condition, have it maintained and inspected in accordance with part 43, and ensure record entries are made approving the aircraft for return to service.

b. To determine that the installation of a part complies with the applicable regulations, the installer of the part is ultimately responsible for establishing that the part conforms to its type design and is in a condition for safe operation ("airworthy").

c. To enable compliance with the regulations, and offer further guidance and clarification relevant to the eligibility of aeronautical replacement parts, AC 20-62, Eligibility, Quality, and Identification of Aeronautical Replacement Parts, was published. This AC includes definitions of various terms (e.g., surplus, as is) and outlines a means by which the installer can make the required determinations.

Note: Aircraft parts which are for sale that are not *represented as* being "airworthy" or eligible for installation on a TC product are not considered SUP. It is not contrary to the CFR, per se, to sell aircraft parts "as is" or for decorative purposes. It is imperative that the buyer request and receive the necessary documentation to substantiate the status of the part!

8. DETECTION. The airworthiness of aeronautical products would be in question if the design and quality of the parts are unknown. Positive identification of unapproved parts can be difficult if the parts display characteristics similar to that of an "approved part." The following guidelines offer a means by which "approved parts" (and their sources) may be assessed.

a. Procurement process. A procedure to ensure the procurement of "approved" parts should be established *prior to* purchasing parts and material for installation in TC products. This procedure should include the following as a minimum:

(1) Methods of identifying distributors and/or suppliers who have a documentation system, and receiving inspection system which ensures the traceability of their parts to an FAA-approved source.

(2) Methods of screening unfamiliar distributors and/or suppliers to determine if the parts present a potential risk of being "unapproved." The following are situations which may raise questions:

(a) A quoted or advertised price which is significantly lower than the price quoted by other distributors and/or suppliers of the same part.

(b) A delivery schedule which is significantly shorter than that of other distributors and/or suppliers (when the stock of a like item is exhausted).

(c) Sales quotes or discussions from unidentified distributors which create the perception that an unlimited supply of parts, components, or material are available to the end user.

(d) A distributor and/or supplier's inability to provide substantiating documentation that the part was produced pursuant to an FAA approval; or inspected, repaired, overhauled, preserved or altered in accordance with the CFR.

Note: To assist in alleviating issues regarding "lack of documentation" and improve "traceability," the FAA published AC 00-56, Voluntary Industry Distributor Accreditation Program. The AC describes a system for the voluntary accreditation of civil aircraft parts distributors on the basis of voluntary industry oversight, and provides information that may be used for developing accreditation programs. Purchasers conducting business with participants in this program should not be discouraged from implementing their own procurement and acceptance procedures (as outlined in AC 00-56). The Airline Suppliers Association maintains a listing of participants in the voluntary program on the Internet at the following address: <http://www.airlinesuppliers.com>.

b. Acceptance procedures. Procedures should include a means of identifying SUP during the receiving inspection and prevent their acceptance. Suggested areas to be addressed include the following:

(1) Confirm the packaging of the part identifies the supplier or distributor, and is free from alteration or damage.

(2) Verify that the actual part and delivery receipt reflect the same information as the purchase order regarding part number, serial number, and historical information (if applicable).

(3) Verify that the identification on the part has not been tampered with (e.g., serial number stamped over, label or part/serial numbers improper or missing, vibro-etch or serial numbers located at other than the normal location).

(4) Ensure that the shelf life and/or life limit has not expired, if applicable.

(5) Conduct a visual inspection of the part and supporting documents to the extent necessary to determine if the part is traceable to an FAA-approved source. For detailed guidelines on the identification of replacement parts, refer to AC 20-62. The following are examples of positive forms of identification:

(a) FAA Form 8130-3, Airworthiness Approval Tag.

(b) Joint Aviation Authorities (JAA) Form One.

(c) Maintenance records or release document with approval for return to service.

(d) FAA TSO markings.

(e) FAA PMA markings.

(f) Shipping ticket / invoice from PAH.

(g) Direct ship authority letter from PAH.

(6) Evaluate any visible irregularities (e.g., altered or unusual surface, absence of required plating, evidence of prior usage, scratches, new paint over old, attempted exterior repair, pitting or corrosion).

(7) Conduct random sampling of standard hardware packaged in large quantities in a manner which corresponds to the type and quantity of the parts.

(8) Segregate parts of questionable nature and attempt to resolve issues regarding questionable status of part (e.g., obtain necessary documentation if inadvertently not provided, or determine if irregularities are a result of shipping damage and handle accordingly).

c. Supplier Evaluations. Part 21 requires the quality control system of a PAH to provide a means of determining that supplier-produced components (e.g., materials, parts, and subassemblies) or services (e.g., processes, calibration, etc.), conform to FAA-approved design data, and are in a condition for safe operation. Detailed information and guidance on this subject can be found in AC 21-20, Supplier Surveillance Procedures.

9. REPORTING PROCEDURES. Reports of SUP may originate from numerous sources such as incoming/receiving inspections, audits, facility surveillance, complaints, congressional inquiries, accident or incident investigations, or various service difficulty reports.

a. It is the FAA's policy to encourage the disclosure of information regarding aviation safety. As it is recognized that reporters may be concerned with the potential repercussions of reporting the discovery of parts which are alleged to be unapproved, the term "suspected unapproved parts" is utilized in this AC and throughout the reporting form. Although reports may be made anonymously, the submission of the reporter's name is requested to enable the FAA to verify information, and provide confirmation and/or follow-up to the reporter.

b. FAA Form 8120-11, Suspected Unapproved Parts Notification, includes instructions for completion, and identifies the information needed to initiate a SUP investigation. It is included in this AC and can also be found at any FAA Office, or on the SUP Program Office Website at the following address: <http://www.faa.gov/avr/sups.htm>. Completed forms should be sent to the SUP Program Office at the FAX number or address listed below. If a reporter is not willing or able to complete FAA Form 8120-11, they may report a SUP by calling the SUP Program Office. When reporting by telephone, refer to FAA Form 8120-11, as the required information (from the caller) will be transcribed onto this form. The FAA Aviation Safety Hotline may also be called at (800) 255-1111, to report conditions affecting aviation safety, including reports of SUP.

**Federal Aviation Administration
SUP Program Office, AVR-20
45005 Aviation Drive Suite 214
Dulles, VA 20166-7541**

**FAX (703)-661-0113
Phone (703) 661-0580**

c. Questions or comments regarding this AC or SUP related issues should be directed to the SUP Program Office. In addition to the address listed above, questions or comments may be forwarded via electronic mail to the following address: 9.Sups@faa.dot.gov.

/S/

Kenneth J. Reilly
Manager, Suspected Unapproved Parts
Program Office

APPENDIX 1. SUSPECTED UNAPPROVED PARTS NOTIFICATION FORM

OMB Approved: 2120-0552

SUSPECTED UNAPPROVED PARTS NOTIFICATION		
1. Date:		2. Part Name:
3. Part No.:		4. Serial No.:
5. Aircraft Make/Model:	6. Quantity:	7. Next Assembly Name & No.:
8. Name & Address of Person(s) That Supplied or Repaired the Part:		
Name: _____		
Street: _____ City: _____		
State/Country: _____ Zip: _____ Phone: _____		
9. Description of Event (Include why you think the part(s) is not approved):		
10. Date Part(s) Was Discovered:		
11. Location Where Part Was Discovered:		
Name : _____		
Street: _____ City: _____		
State/Country: _____ Zip: _____ Phone: _____		
Check One Of The Following Applicable To The Person Who Discovered The Part:		
<input type="checkbox"/> Manufacturer <input type="checkbox"/> Supplier <input type="checkbox"/> Distributor <input type="checkbox"/> Repair Station <input type="checkbox"/> Other _____		
12. Reporter Name:		
Name : _____		
Street: _____ City: _____		
State/Country: _____ Zip: _____ Phone: _____		
13. <input type="checkbox"/> Check here if you want your identity to be kept confidential		

FAA FORM 8120-11 INSTRUCTIONS

1. Date notification is submitted.
2. Part name (i.e. nut, bolt, blade) or description of the suspected unapproved part (SUP).
3. Part number, or identification number on part.
4. Serial number of part.
5. Aircraft that part was installed on, or may be used on.
6. Quantity of SUP found.
7. Identify the next higher assembly of the SUP and list part number if known.
8. Provide the name and address of the person(s) who supplied or repaired the SUP. When possible, provide the certificate number.
9. Description of SUP complaint. Please provide as much detail as possible as to why reporter feels this is an unapproved part.
10. Date SUP was discovered by reporter.
11. Provide the name and address of the company or location where the SUP was discovered.
12. The name, address and telephone number of the person who completed the notification.

Note: The FAA may need to contact the reporter if additional information is required.

13. Check block if reporter wishes to remain confidential.

Completed FAA Form 8120-11 should be forwarded to:

**Federal Aviation Administration
SUP Program Office, AVR-20
45005 Aviation Drive Suite 214
Dulles, VA 20166-7541**

**PHONE: (703) 661-0580
FAX: (703) 661-0113**

This information is collected by the FAA's Suspected Unapproved Parts (SUP) Program and will be used to support SUP investigations and other summary management reports. Submission of this information is voluntary, with questions limited to reduce any burden to the reporter. Completion is estimated to take less than 15 minutes. Information collected is not available elsewhere and is vitally important to FAA's SUP program and its commitment to remove the potential threat posed by unapproved parts from the aviation system. If requested, confidentiality of the reporter may be protected from disclosure under 5 USC 522(b)(6). Form 8120-11 is also available through the internet/FEDWORLD or through the FAA. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Use of this form is authorized under OMB control number 2120-0552.