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**THE FEDERAL AVIATION ADMINISTRATION SUSPECTED
UNAPPROVED PARTS PROGRAM:
THE NEED TO ELIMINATE SAFETY RISKS POSED
BY UNAPPROVED AIRCRAFT PARTS**

BEVERLY JANE SHARKEY* **

I. BACKGROUND

“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.”¹

THE ISSUE of suspected unapproved parts is not new. Regulations relating to the design, manufacture, operation, maintenance, and alteration of aviation products and parts have existed for years. These regulations, reinforced with surveillance and enforcement activities by the Federal Aviation Administration (FAA), have been key elements in maintaining a high level of safety in the air transportation system. Yet, some parts circumvent these regulatory controls and enter the aviation stream of commerce as suspected unapproved parts—SUPs.

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** Since this article was written, President Clinton signed into law the “Wendell H. Ford Aviation Investment and Reform Act for the 21st Century.” The purpose of the Act is to protect passengers and crewmembers from the dangers posed by, inter alia, unapproved aircraft parts. President Clinton signed the Act into law on April 5, 2000.

¹ “Suspected ‘Unapproved Parts’ Program Plan,” prepared by the FAA Suspected ‘Unapproved Parts’ Task Force, October 6, 1999 (visited June 18, 2000).

In recent years, the FAA has focused increased effort and resources on addressing the issue of suspected unapproved parts. This focus on SUPs was triggered in 1995 when the United States Department of Transportation Inspector General (IG) testified before members of Congress regarding the results of IG investigations of reported "bogus parts."² These bogus parts, as the IG called them, included counterfeit aircraft parts as well as parts discovered at aircraft manufacturers, air carriers, and repair facilities that lacked documentation attesting to the source of the part or evidence to verify that the part was ever designed or produced in accordance with Federal Aviation Regulations.³ The concern expressed by both Congress and the IG was that the existing FAA policy and enforcement regarding suspected unapproved parts was both inconsistent and insufficient.

In response to these concerns, the FAA convened the Suspected Unapproved Parts Task Force (Task Force) to review the unapproved parts issue and to devise a comprehensive program plan to address, more aggressively, SUPs.⁴ The purpose of the review was to build on past initiatives and to make the FAA SUPs program more effective.

Task Force members were selected from principal FAA disciplines having SUP-related duties and represented two services: (1) Flight Standards responsible for surveillance and inspection related to maintenance and alteration; and (2) Aircraft Certification responsible for surveillance and inspection related to design and production. The Task Force also included representatives of FAA legal and security offices. The team was comprised of both FAA Headquarters personnel and field inspectors.

The culmination of the Task Force effort was the October 6, 1995 publication of the "Suspected 'Unapproved Parts' Program Plan." The Program Plan defined the SUPs problem and identified areas that the FAA was to enhance to further "choke off" points at which unapproved parts enter the aviation system. The report set forth 30 recommendations to be addressed by the

² Aviation Safety: Do Unapproved Parts Pose A Safety Risk: Hearing before the Subcommittee on Oversight of Government Management and the District of Columbia of the Committee on Governmental Affairs, United States Senate, 104th Cong. (1995) (statement of A. Mary Schiavo).

³ See Title 14 of the Code of Federal Regulations.

⁴ See The FAA Suspected 'Unapproved Parts' Task Force, "Suspected 'Unapproved Parts' Program Plan," October 6, 1995, <<http://www.faa.gov/avr/sups.htm>>.

FAA with the status of each recommendation to be reported annually to Congress. The recommendations included the following key elements to be addressed by the FAA:

- Clarify the FAA's policy on SUPs
- Standardize the use of SUPs terminology
- Establish an FAA national SUPs program office
- Establish a new parts reporting information system
- Improve cooperation with law enforcement agencies
- Target receiving inspection procedures for surveillance and enforcement
- Clarify the responsibility of persons performing maintenance
- Expedite rulemaking
- Improve SUPs investigation training for the FAA workforce
- Define procedures to dispose of scrap parts
- Define procedures to remove "unapproved parts" from inventories and aircraft.⁵

On November 13, 1995, the establishment of the FAA Suspected Unapproved Parts Program (AVR-20) marked the beginning of the FAA's efforts to address each of the Task Force's 30 recommendations and to create a cohesive, consistent, and aggressive approach to SUPs.

II. APPROVED, UNAPPROVED, OR SUSPECT?

"The underlying question facing maintenance personnel when installing a part on an aircraft or other type certificated aeronautical product is: Is the part eligible for installation?"⁶ Part of the determination of eligibility for installation is whether a part was designed, produced, and maintained in accordance with the regulations. Although the Federal Aviation Regulations do not require the installation of "approved parts" in determining the eligibility of a part, the maintenance community often referred to parts that were produced and maintained in accordance with the regulations as "approved parts."⁷

In an effort to clarify confusion regarding the meaning of "approved part," and to distinguish the term from *approved* as defined in Part 1 of the Federal Aviation Regulations (meaning approved by the Administrator), the FAA published the defini-

⁵ *See id.* at 1-8.

⁶ *Id.* at 3-3.

⁷ *Id.*

tion of “approved part” in both FAA Order 8120.1 OA, “Suspected Unapproved Parts Program,” and Advisory Circular 21-29B, “Detecting and Reporting Suspected Unapproved Parts.”⁸ “Approved part,” in quotes, is a colloquial term. The term is *not* regulatory. “Approved part” is a part that has met one of the following requirements:

1. Produced in accordance with a Parts Manufacturer Approval (PMA) issued under part 21, Subpart K [14 CFR 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) . . . in accordance with part 21, Subpart G.
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)).
8. Produced as standard parts that conform to established industry or U.S. specifications.
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.

⁸ Both FAA Order 8120.1OA, “Suspected Unapproved Parts Program,” and Advisory Circular 21-29B, “Detecting and Reporting Suspected Unapproved Parts” are available at <<http://www.faa.gov/avr/sups.htm>>.

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 43.⁹

AC 21-29B further provides that “approved parts” are those parts produced in accordance with part 21, maintained in accordance with parts 43 and 91, and that meet applicable design standards.¹⁰ An *unapproved part* is a part that does not meet the requirements of an “approved part” and may also include parts that have been improperly returned to service and/or parts that may fall under one 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.

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

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 and that are subsequently found not to conform to approved data.

5. Counterfeit parts.¹¹

When a part’s status is unknown—the part is *suspect*. A suspected unapproved part, a SUP, is therefore “a part, component, or material that is suspected of not meeting the requirements of an ‘approved part.’”¹² Indicators of SUPs have included different finish, size, or color; parts that lack identification or carry altered documentation; and parts offered at a price substantially below like parts on the market.

⁹ See Advisory Circular 21-29 B, “Detecting and Reporting Suspected Unapproved Parts,” at 3.

¹⁰ See *id.* at 3.

¹¹ See *id.* at 4-5.

¹² *Id.* at 4.

A. HOW UNAPPROVED PARTS ENTER THE SYSTEM

The need for controls, both industry initiated as well as regulatory, to ensure the design, quality, use, and maintenance of aircraft parts is obvious. Some aircraft parts, especially those that are flight critical, may only be produced under approvals granted by the FAA. These approvals are based on stringent review of design criteria, facilities, processes, and quality control systems. The unapproved parts that circumvent these controls pose potential safety risks to the aviation system.

One prevalent category of unapproved parts that circumvent regulatory controls is replacement parts produced by a manufacturer who has failed to obtain an FAA Parts Manufacturer Approval. Although these parts may ultimately prove to be airworthy, the parts have been produced without benefit of certification and oversight of the manufacturing and/or quality processes.

Production overruns are another category of unapproved parts that circumvent regulatory controls. A subcontractor may produce overruns—that is, produce more parts than ordered by the Production Approval Holder—and later offer the surplus parts to a distributor, repair station, or airline as a replacement part. These parts are usually offered cheaper and delivered faster than if purchased from the authorized manufacturer. These parts fall outside the Production Approval Holder's certificate and carry no assurance regarding conformity or quality.

Military surplus parts are parts generally produced pursuant to U.S. Department of Defense contracts. Although these parts meet military contract specifications, and in some cases exceed standards for civil aircraft, they are considered unapproved parts. Unless adequate documentation accompanies these parts, it is difficult to determine whether a shorter life limit may be exceeded with continued use, or whether a part may have been exposed to extreme stresses. Some military surplus parts, however, may be inspected and tested by persons authorized to determine conformity to FAA-approved design data and found to be acceptable for installation.

Perhaps the most troubling unapproved parts that enter the aviation system are counterfeit parts. These may be new parts that are deliberately misrepresented as designed and produced under an approved system or other acceptable method. Counterfeit parts may also be used life limited parts that have exceeded their time limit and are sold with false documentation.

Life limited parts, as well as scrap parts, that are not destroyed or mutilated properly may be reworked or camouflaged to give the appearance of being serviceable parts and then sold with the intent to mislead or defraud.

III. ADDRESSING THE UNAPPROVED PARTS ISSUE

The FAA has made significant in-roads in addressing the unapproved parts issue. This effort, however, has not been unilateral. Law enforcement agencies, as well as the aviation industry, have also been aggressively addressing unapproved parts.

A. THE FAA

Since 1995, the FAA has initiated or completed action on all 30 Task Force recommendations. Significant among the accomplishments are:

- The Suspected Unapproved Parts Program Office was established to promote a cohesive, consistent, aggressive approach to SUP. In addition to setting forth policy, the SUP Program Office coordinates all FAA investigations of SUP.
- Since 1995, approximately 1,500 SUP cases have been opened with 363 resulting in FAA enforcement actions.
- Approximately 1,785 Aviation Safety Inspectors have received extensive training in investigating and enforcing SUP related cases.
- The FAA continues to provide SUP seminars, nationally and internationally, to the aviation industry, as well as conduct SUP training and seminars for other government and law enforcement agencies.
- The FAA has issued numerous guidance and advisory documents directly or indirectly relating to the unapproved parts issue.
- The FAA has developed the Parts Reporting System (PRS), a database designed to support the SUP Program. The objectives of the PRS are to support management in monitoring trends, allocating resources, and to support SUP inspectors in conducting investigations. The PRS provides current and historical data about parts reported as suspect, as well as individuals and companies involved in, or the subject of, SUP investigations.
- A Letter of Agreement was signed among Department of Transportation Office of Inspector General, Department of Justice, Federal Bureau of Investigation, Department of De-

fense Criminal Investigative Service, U.S. Customs Service, and the FAA establishing a cooperative effort in the investigation and enforcement of SUPs.

B. LAW ENFORCEMENT AGENCIES

Law enforcement agencies continue to make significant and most noteworthy advances in addressing the criminal manufacture and distribution of unapproved parts. In May 1997, the FAA entered an agreement with the Department of Transportation-Office of Inspector General (DOT/OIG); the Department of Justice; Federal Bureau of Investigation (FBI); the Department of Defense Criminal Investigative Service; and the U.S. Customs Service. The primary objective of this agreement was to create a cooperative effort among all participants in the criminal and regulatory investigation and enforcement of SUPs.

Since 1993, Federal law enforcement agencies collectively have secured approximately 500 criminal indictments for the manufacture, distribution, or installation of unapproved parts. Since 1995, the DOT/OIG reports the following statistics:

- 153 Indictments
- 136 Convictions (17 cases pending)
- Criminal fines and restitution: \$40.8 million
- Jail time: 130.4 years
- Probation: 178.3 years to individuals and corporations
- Community Service: 50 years.

One problem facing law enforcement agencies in pursuing SUPs cases is that no statute currently exists making it criminal to traffic suspect parts. As a result, the law enforcement agencies have to pursue indictments based on mail fraud, wire fraud, or falsification of government documents. Although the agencies have been successful in pursuing convictions, the result of the sanctions imposed is that individuals and companies are back dealing in counterfeit parts within a matter of months.

To address this problem, an interagency Law Enforcement/FAA working group was established. Based on the working group's determination of the need for federal legislation that would target the problem of suspect aircraft and spacecraft parts, the working group drafted "The Aircraft Safety Act of 1999." This legislation proposes to safeguard United States aircraft, space vehicles, passengers, and crewmembers from the dangers posed by the installation of nonconforming, defective, or counterfeit parts in civil, public, and military aircraft. Not

only does the bill prescribe new penalties, it also authorizes the Attorney General to seek civil remedies to stop offenders from re-entering the business and to direct the destruction of suspect parts. The draft legislation currently proposes the following sanctions:

- If the offense relates to the aviation quality of a part and the part is installed on an aircraft or space vehicle—a fine of not more than \$500,000, imprisonment for not more than 15 years, or both;
- If failure of the part is the proximate cause of a malfunction or failure that results in serious bodily injury—a fine of not more than \$1,000,000, imprisonment for not more than 20 years, or both;
- If failure of the part is the proximate cause of a malfunction or failure that results in death of any person—a fine of not more than \$1,000,000, imprisonment for any term of years or life, or both;
- If the offense is committed by an organization—a fine of not more than \$10-\$20 million depending on the offense.

At the end of FY '99, the proposed bill was before the U.S. Senate. U.S. Attorney General, Janet Reno; Secretary of Defense, William Cohen; Secretary of Transportation, Rodney Slater; and Administrator, National Aeronautics and Space Administration, Daniel Goldin have endorsed the legislation.¹³ The legislation has received further endorsement from aircraft manufacturers, air carriers, and others in the aviation industry.

C. THE AVIATION INDUSTRY

The aviation industry has been aggressively involved in resolving unapproved parts issues. Many air carriers, aircraft and parts manufacturers, and repair facilities have established internal unapproved parts programs. These programs include such aspects as enhanced receiving inspections, internal SUP reporting procedures, and increased supplier surveillance.

The Air Transport Association's Spec 2000 Bar Code Task Force is one example of an industry initiative, unprompted by regulation. The transport industry has promoted the use of bar

¹³ See Office of the Attorney General letter dated September 28, 1999, to The Honorable Orrin G. Hatch, Chairman, Committee on the Judiciary, United States Senate, transmitting the proposed legislation "The Aircraft Safety Act of 1999" (on file with author).

coding for aircraft part marking not only to facilitate and expedite parts purchases and transfers, but also to enhance part traceability—a significant issue regarding suspect parts. The Airline Suppliers Association (ASA) maintains a listing of participants in the Voluntary Industry Distributor Accreditation Program. The FAA, in cooperation with ASA, has published Advisory Circular 00-56, “Voluntary Industry Distributor Accreditation Program,” which describes FAA-acceptable quality systems that may be adopted by civil aircraft parts distributors.

Representatives of all facets of the aviation community continue to meet quarterly to form the SUP Steering Committee. Members of this committee share industry concerns and initiatives, as well as provide feedback to the FAA regarding aspects of the Government’s SUP program.

IV. CONCLUSION

In 1999, the FAA received approximately 300 reports of suspected unapproved parts and initiated 51 enforcement actions relating to unapproved parts. In 1999, the DOT/OIG accomplished 40 SUP related indictments. The numbers are not decreasing—unapproved parts continue to exist. Since the Inspector General’s report to Congress in 1995, however, the joint efforts of the FAA, law enforcement agencies, and the aviation industry have raised the level of awareness of the need to eliminate safety risks posed by unapproved aircraft parts.