
Office of Inspector General

Audit Report

ENHANCEMENTS ARE NEEDED TO FAA'S OVERSIGHT OF THE SUSPECTED UNAPPROVED PARTS PROGRAM

Federal Aviation Administration

Report Number: AV2017049

Date Issued: May 30, 2017





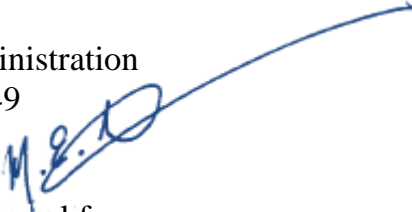
Memorandum

U.S. Department of
Transportation

Office of Inspector General

Subject: **ACTION:** Enhancements Are Needed to FAA's
Oversight of the Suspected Unapproved Parts
Program
Federal Aviation Administration
Report No. AV2017049

Date: May 30, 2017

From: Matthew E. Hampton 
Assistant Inspector General for
Aviation Audits

Reply to
Attn. of: JA-10

To: Federal Aviation Administrator

The public depends on the Federal Aviation Administration (FAA) and the aviation industry to provide safe, reliable air transportation and ensure that aircraft are properly maintained and approved for flight. According to FAA estimates, there are approximately 7,000 commercial aircraft in service in the United States. One type of aircraft—the Boeing 737, the most widely used aircraft in the world—contains approximately 400,000 parts. FAA and the aviation industry are responsible for ensuring that all these parts are safe for use in transporting passengers. Part of this responsibility includes detecting and monitoring for Suspected Unapproved Parts (SUP)—aircraft parts that may have been manufactured without FAA approval or intentionally misrepresented.¹ Over the last 2 decades, FAA has issued nearly 200 notifications to the industry, warning about potential safety threats caused by SUPs.

Our office has long had a role in the effort to eliminate unapproved parts from the aviation industry. When we previously reported² our concerns about FAA's ability to monitor SUPs and remove them from the aviation supply chain, the Agency established the SUPs Program Office. However, FAA disbanded the office in 2007 and delegated oversight for SUPs-related issues to its regional and directorate-level offices. Furthermore, in 2008, the Agency changed its definition of SUPs to provide clarification and distinction between an unapproved part and one that was improperly maintained, i.e., an aircraft part that has been approved

¹ Intentionally misrepresented parts have inaccurate paperwork or were produced via counterfeit manufacturing.

² *Suspected Unapproved Parts Program, Federal Aviation Administration* (OIG Report Number R4-FA-6-026), April 9, 1996. OIG reports are available on our Web site: <https://www.oig.dot.gov/>.

for use but was not repaired in accordance with Federal regulations. (See exhibit C for examples of unapproved and improperly maintained parts.) In the last 5 years, our office has closed 118 SUPs-related complaints or investigations, which have resulted in 63 indictments and 51 convictions.

Concerned about the changes in the SUPs program, Representative Peter DeFazio, Ranking Member of the House Committee on Transportation and Infrastructure, and Aviation Subcommittee Ranking Member Representative Rick Larsen requested that we conduct this audit. Accordingly, our objectives were to assess the effectiveness of FAA's (1) process for monitoring and investigating SUPs and (2) oversight of industry actions to remove unapproved parts from the aviation supply chain.

We conducted this review in accordance with generally accepted Government auditing standards. To conduct our work, we met with FAA Headquarters officials, including representatives from Aircraft Certification, Flight Standards, and the Hotline managed by FAA's Office of Audit and Evaluation. We also visited or contacted seven FAA manufacturing and flight standards oversight offices, where we interviewed inspectors and reviewed SUPs investigation case files. Exhibit A further details our scope and methodology, and exhibit B lists all entities contacted or visited.

RESULTS IN BRIEF

FAA's process for monitoring and investigating SUPs is not as effective as it could be, because of recordkeeping weaknesses and the lack of a management control to capture and accurately report the number of SUPs. For example, our analysis of all 265 SUPs entries in FAA's database revealed 16 duplicate, 86 incomplete, and 28 invalid entries. These inaccuracies occur, in part, because FAA Hotline personnel are not formally trained on how to record SUPs-specific information. While Hotline personnel are required to analyze data for SUPs-related trends, they do not perform this analysis because they do not have the capabilities to do so. In addition, FAA inspectors perform SUPs investigations in different ways because they do not uniformly follow established guidance, which leads to varying and inconsistent results. Furthermore, FAA's risk-based oversight system is not designed to incorporate unapproved parts as a risk indicator for manufacturers. Finally, FAA committed to share SUPs data with Federal law enforcement agencies, but it has not done so unless criminal activity is suspected (e.g., falsifying records or distributing fraudulent parts). As a result, FAA cannot accurately account for the number of SUPs or track safety-related trends to share with senior FAA management and Federal law enforcement agencies about the risks posed by unapproved parts.

FAA's oversight of industry actions to remove unapproved parts is ineffective. First, FAA does not consistently implement its process for notifying the industry about unapproved parts. The Agency's inspector guidance³ states that issuing Unapproved Parts Notifications (UPN) is FAA's primary means for alerting the industry. However, FAA does not issue UPNs in all cases where unapproved parts are found, which limits its ability to accurately inform the aviation industry about unapproved parts. Second, during their investigations, Agency inspectors do not ensure that operators⁴ take action to destroy or remove unapproved parts from the aviation supply chain before investigations are closed. For example, instead of determining where unapproved parts were located and if they should be quarantined or destroyed, inspectors conducted investigations to determine only whether part(s) were unapproved; then they closed the cases without further action. Finally, FAA does not require the industry to sign up to receive automated notifications so they can keep apprised of unapproved parts that may be in their inventories. For these reasons, FAA cannot be assured that unapproved parts have been removed from the system and no longer pose a threat to safety.

We are making several recommendations to enhance the effectiveness of FAA's oversight of the SUPs program.

BACKGROUND

Unapproved parts can pose a serious threat to aviation safety. The intent of FAA's SUPs Program is to mitigate this threat by preventing unapproved parts from entering the system or, if already in the system, preventing these parts from being installed on aircraft. Reporting SUPs to FAA is voluntary. SUPs reports can originate from many diverse sources, such as public reports to the FAA Hotline and Agency surveillance of certificated repair stations, air carriers, or manufacturers. Non-certificated entities, such as parts distributors, can also submit SUP reports. However, FAA does not regulate parts distributors because they do not hold FAA certificates.

In response to the increasing number of SUPs cases surfacing in the industry, FAA established the SUPs program in 1993. Responsibility for the program fell under the purview of the System Surveillance and Analysis Division where FAA staff analyzed SUPs reports to determine whether the reported parts met the criteria for an investigation.

In 1996, our office issued a report on FAA's the SUPs program and found, primarily, that FAA's approach to monitoring aviation parts and enforcing its

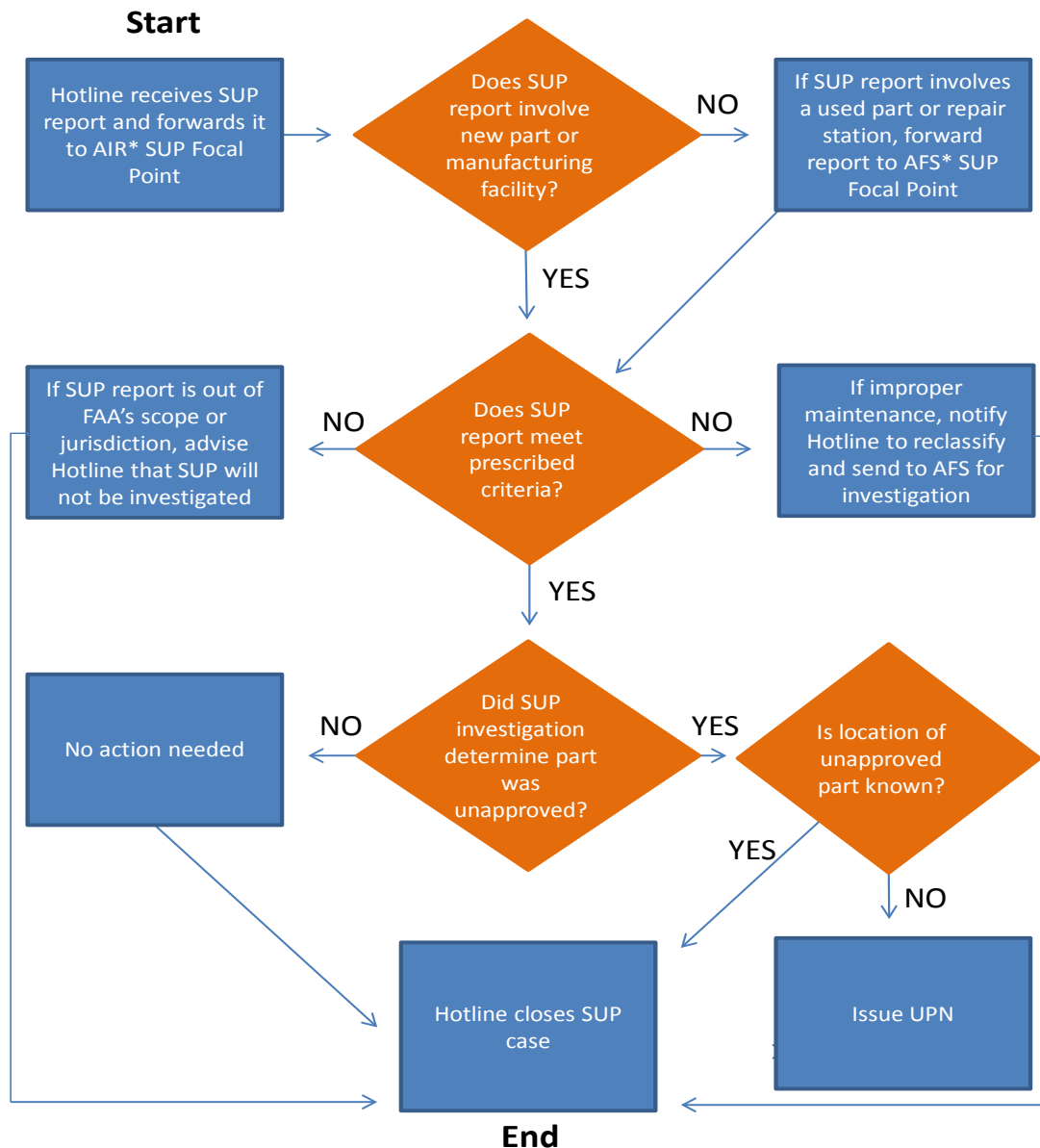
³ Federal Aviation Administration Order 8120.16A, *Suspected Unapproved Parts Program*, June 3, 2016.

⁴ For the purpose of this report, the term "operator" refers to anyone who produces, repairs, or sells aircraft parts, such as manufacturers, repair stations, and parts distributors.

Agency regulations lacked adequate management controls. During our review, FAA convened a SUPs Task Force, which issued a report affirming our findings and the recommendations we had discussed with the Agency. FAA's newly established SUPs Program Office was charged with addressing our concerns by centralizing the expertise and processes for monitoring and removing unapproved parts from the aviation system. According to FAA guidance, this office was intended to serve as an interim step as the Agency worked toward its goal of returning SUPs investigations to inspectors at local manufacturing and repair station oversight offices. In 2007, the program office was disbanded after the Agency determined its functions had been firmly established at FAA offices at the regional, directorate, and local levels.

Since that time, SUPs reports have been sent to FAA through its Aviation Safety Hotline. Once the Hotline receives a report, it is then forwarded to FAA Headquarters' SUPs program officials (known as Focal Points) for review. FAA's Focal Points then must decide whether to conduct a manufacturing or maintenance investigation, as shown in figure 1.

Figure 1. FAA's SUPs Investigation Process



*AIR- Aircraft Certification Service; AFS- Flight Standards Service

Source: FAA

FAA policy also requires SUPs cases to be shared with Federal law enforcement agencies—e.g., DOT's Office of Inspector General (OIG), Federal Bureau of Investigation (FBI)—so the reports can be reviewed for potential criminal activity. Once FAA completes a SUPs investigation and determines the part(s) are unapproved, the Agency may issue a UPN. According to FAA policy, a UPN is the Agency's primary means for alerting the aviation industry about unapproved parts.

FAA'S PROCESSES FOR MONITORING AND INVESTIGATING SUSPECTED UNAPPROVED PARTS ARE INEFFECTIVE

Weaknesses in FAA's recordkeeping, inspectors' non-adherence to guidance, a missing risk indicator in FAA's oversight system, and lack of coordination between FAA Headquarters and Federal law enforcement agencies hinder the overall effectiveness of SUPs investigations and reporting processes. First, FAA does not accurately track data, conduct trend analyses, or perform data analysis of SUPs. Second, inspectors perform SUP investigations with varying degrees of comprehensiveness. Third, FAA's risk-based oversight system is not designed to account for previously identified unapproved parts at manufacturers to increase the frequency of follow-up inspections. Finally, FAA does not routinely share data about unapproved and improperly maintained aircraft parts with Federal law enforcement agencies, which therefore may not be able to investigate criminal activity.

FAA Neither Accurately Accounts for SUPs Nor Conducts Trend Analyses of SUPs Data

FAA's Hotline office does not have an accurate account of reported SUPs due to recordkeeping errors. For example, we identified multiple errors in FAA's Hotline system when we reviewed all 265 SUP entries over a 4-year period from April 2011 to September 2015:

- 16 duplicate entries
- 86 incomplete entries (i.e., case closeout dates were missing)
- 28 invalid entries (i.e., cases reclassified as improper maintenance or do not meet SUPs criteria are still counted as SUPs)

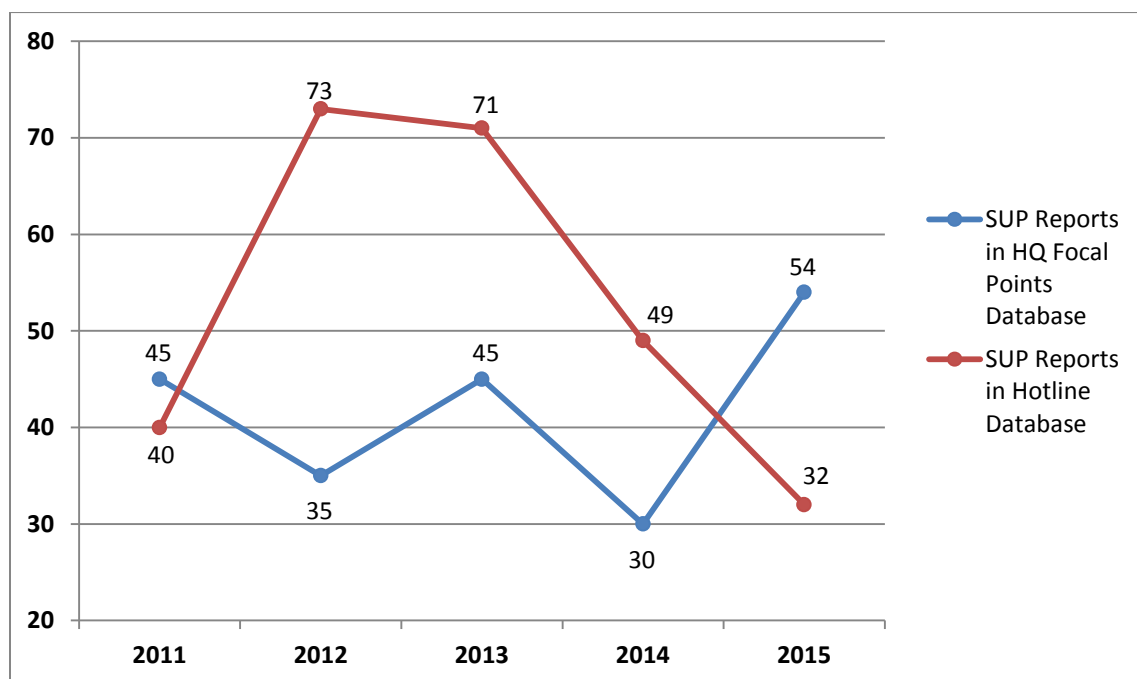
While FAA guidance provides broad direction on data gathering for Hotline submissions, it does not have specific guidance on data entry for SUPs reports. Additionally, FAA personnel responsible for recording and processing Hotline reports are not formally trained on how to record SUPs data. As a result, the quality of data available to FAA to conduct trend analyses is compromised, creating a misleading picture of the current landscape. FAA management, therefore, does not have all the information it needs to understand the magnitude of the SUPs issue and may not be appropriately allocating resources to this safety risk.

FAA also lacks a management control to ensure all SUPs are reported to the Hotline. FAA guidance states that the Hotline office should be the central point of contact, where analysts receive and track SUPs reports in order to analyze data and identify trends. SUPs can be reported through a variety of channels, including

reports made by the public to the Hotline or local inspection offices. Agency guidance also states that field inspectors receiving SUPs reports from complainants should provide them to the Hotline for tracking and resolution. However, FAA senior management acknowledged that staff are not following the guidance, and some reports to local inspection offices never make it to the Hotline. These officials also stated that there is no central repository for SUPs reports. As a result, the Agency cannot be assured that all SUPs reports to local inspection offices have been captured in the Hotline's database.

In addition, the number of SUP reports represented in the Hotline database appears to have decreased over the past 3 years, but the number of reports tracked by SUPs Focal Points over the last 5 years shows no clear pattern of either increasing or decreasing. As shown in figure 2, the Focal Points database shows more SUPs reports than were recorded by the Hotline in both 2011 and 2015.

Figure 2. Disparity in the Number of Reported SUP Cases



Source: FAA

While FAA's senior management asserts that SUPs cases are decreasing, it is not clear from the data that this conclusion can be made.

In addition, FAA does not analyze data for trends related to unapproved parts or evaluate the impact SUPs have on aviation safety, as Agency guidance requires. FAA guidance⁵ specifically directs Hotline staff to analyze data that come through the Hotline and report emerging safety trends to management, but the Agency

⁵ Federal Aviation Administration Order 1100.167B, *The Office of Audit and Evaluation*, February 5, 2014.

lacks a management control to ensure trends are analyzed. However, Hotline personnel told us they have not conducted trend analyses or issued reports to management, because they do not have the capability and resources and they have not received any requests to do so from FAA senior management.

FAA SUP Investigations Lack Uniformity

FAA inspectors conduct SUPs investigations with varying degrees of comprehensiveness. FAA guidance directs inspectors to determine where the part is located, who manufactured the part, whether the part was intentionally misrepresented, and whether the part is still in service. During our review of nine case files⁶, we identified instances where inspectors completed some but not all requirements listed in the guidance. Inspectors did not complete all steps because they determined that some steps were outside the scope of review or unnecessary. As a result, the variance in how inspectors perform SUPs investigations has led to inconsistent outcomes. For example:

- An inspector investigated a report involving five suspected unapproved engine parts, but did not examine the parts or determine their location and whether they were still in service. FAA issued a UPN, but almost 3 years later the inspector conducted surveillance and reviewed documentation from the manufacturer demonstrating the parts were in fact approved. FAA had to rescind the UPN and issue a notice of retraction.
- In comparison, another inspector conducted an investigation on 17 flight control cables. She determined the location and status of eight of the unapproved parts, initiated an enforcement action against the manufacturer, issued a UPN for the nine remaining cables, and closed the case after verifying corrective actions had been taken to prevent future reoccurrence.

FAA's guidance directs inspectors to conduct thorough SUPs investigations, but it lacks a management control to ensure inspectors uniformly acquire the information they need to verify a suspect part's provenance.

FAA's Risk-Based Oversight System Is Not Designed To Incorporate Unapproved Parts in Its Risk Assessment of Manufacturers

FAA's risk-based oversight system does not categorize manufacturers as high risk, even if they have a history of producing and selling unapproved parts. This system is designed to help inspectors determine the overall level of risk associated with a manufacturer's operation, based on the likelihood that it will produce nonconforming parts and the potential impact of such parts being introduced into the system. The results of a manufacturer's risk assessment serve as a basis for

⁶ We reviewed all nine SUPs cases that resulted in FAA inspectors issuing UPNs for the timeframe 2014–2015.

planning and scheduling inspections, with a facility receiving oversight visits anywhere from quarterly to once every 24 to 36 months, depending on the risk level. FAA inspectors must assess 34 risk indicators, each of which prompts them to consider a variety of elements and issues to make an informed judgement about the manufacturer. We determined that there is only one safety risk indicator related to SUPs in the system, as shown in figure 3, but it does not capture whether the manufacturer has been involved with producing unapproved parts.

Figure 3. SUPs Risk Indicator in FAA’s Oversight System

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8120.23
Appendix A

No. 32	SUP/SDR History				
	Have similar designs been the subject of SUP reports or SDRs?				
Possible Ratings	None		Some		Numerous
Score	1	2	3	4	5

Source: FAA

FAA’s SUPs risk indicator emphasizes that inspectors should consider several factors—not just the number of previous SUPs reports—but inspectors are not required to consider whether manufacturers have produced or distributed unapproved parts. Furthermore, our analysis of manufacturer inspection records at two FAA offices showed that even though inspectors completed SUPs investigations in the past year and found unapproved parts, this information did not increase the manufacturer’s overall risk score or escalate the frequency of inspections at that facility for the following year. The lack of a corresponding risk indicator for unapproved parts reduces the effectiveness of FAA’s risk-based oversight and, as a result, SUPs continue to pose a risk to flight safety.

FAA Does Not Routinely Share Data About SUPs or SUPs Cases Reclassified as Improper Maintenance With Federal Law Enforcement Agencies

FAA does not share SUP reports or quarterly investigation reports with applicable law enforcement agencies. This is contrary to a 2004 agreement⁷ between FAA and other Federal agencies to cooperate in investigating and processing SUPs reports to promote the highest level of safety. A SUPs program official told us that he typically sends SUPs reports to law enforcement agencies, such as OIG and

⁷ Letter of Agreement Among The Department of Transportation Office of Inspector General, The Federal Bureau of Investigation, Defense Criminal Investigative Service, National Aeronautics & Space Administration Office of Inspector General, United States Immigration & Customs Enforcement, United States Coast Guard, and Federal Aviation Administration, December 8, 2004.

FBI, if he determines the cases could be related to criminal activities. For example, in six of nine cases for which we reviewed the entire investigation process, only three were sent to OIG investigators. However, according to FAA's guidance and its letter of agreement with six Federal law enforcement agencies, FAA should provide copies of *all* SUP reports selected for investigation to the agencies to permit them to review and, if necessary, conduct their own criminal investigations.

Currently, FAA does not require inspectors to notify law enforcement agencies when SUPs cases are reclassified as improper maintenance, even though these cases can pose the same safety threat as unapproved parts. FAA guidance states that inspectors should contact appropriate law enforcement agencies if evidence of criminal activity is detected during improper maintenance investigations. Improper maintenance cases are investigated separately from SUPs cases, so FAA does not consider them to be part of its letter of agreement with law enforcement agencies. According to OIG investigators, improper maintenance cases could involve criminal intent that may lead to prosecutions, but they only learn about such cases if notified by FAA. From February 2015 (when FAA began tracking the number of SUPs cases it had reclassified as improper maintenance) to the end of September 2015, FAA reclassified 39 of 51 SUPs cases. However, it did not share any of this information with law enforcement agencies—including OIG investigators—even though the letter of agreement encourages information sharing. FAA's policy is "to promote the highest level of aviation safety by eliminating any potential safety risk posed by the entry of unapproved parts into the US aviation community" but its effectiveness is diminished when FAA limits data sharing with its law enforcement partners.

Furthermore, FAA officials have not provided quarterly reports to law enforcement agencies so that agents can support SUPs investigations when criminal violations are discovered, although this is also required by the letter of agreement. We asked for copies of these reports to determine the type of data and information FAA shares with law enforcement agencies. However, a SUPs program official stated that he has not prepared such reports and was unaware if any historical reports existed. Providing these reports could enhance information sharing and trend analysis. As a result, law enforcement agencies are missing opportunities to investigate and prosecute criminal activity related to SUPs and improper maintenance, and unsafe aircraft parts could potentially remain in the supply chain.

FAA'S OVERSIGHT OF INDUSTRY ACTIONS TO REMOVE UNAPPROVED PARTS IS INEFFECTIVE

FAA's oversight of industry actions lacks appropriate management controls to ensure unapproved aviation parts are removed from the supply chain. First, FAA

does not consistently notify the industry about unapproved parts. Second, inspectors do not ensure that operators take actions to destroy or remove unapproved parts from the aviation supply chain. Finally, FAA does not ensure that aviation industry officials have the necessary information to identify and eliminate unapproved parts.

FAA Does Not Consistently Notify the Industry About Unapproved Parts

FAA inspectors do not consistently use UPNs to notify the aviation industry about unapproved parts. FAA's inspector guidance states that UPNs are the primary tool for alerting the industry and are typically issued when the location of unapproved parts are unknown. However, FAA lacks a management control to ensure that inspectors apply this guidance consistently. We randomly sampled 30 reports from all 265 SUPs Hotline entries⁸ and found 14 instances where FAA identified unapproved parts and issued UPNs in 5 of the 14 cases. However, we identified four additional cases in which inspectors did not know the location of the parts and UPNs were not issued. For example, in 1 of those 4 cases, FAA confirmed that 1,000 electrical capacitors had been sold to customers and later were determined to be unapproved. Although the manufacturer issued recall notices, FAA closed the case without ensuring that the parts had been destroyed, removed, or sent back to the manufacturer. The Agency's policy is to promote the highest level of safety by eliminating any potential risk posed by unapproved parts. Contrary to this policy, however, FAA does not consistently use UPNs to notify the industry about parts that do not meet regulatory requirements. As a result, the industry may be unaware that unapproved parts are in the supply chain.

FAA Inspectors Do Not Ensure That Operators Take Appropriate Action To Remove Unapproved Parts From the Supply Chain

Inspectors do not confirm that operators take appropriate action to remove unapproved parts from their inventories. FAA guidance states that inspectors will ensure that parts that do not meet regulatory requirements are "addressed appropriately," such as by requiring operators to delete references to unapproved parts in their equipment lists, remove parts from aircraft, segregate or quarantine parts, or issue recall notices to customers. However, FAA lacks a management control to ensure that inspectors are following guidance to require operators to remove unapproved parts from their supply chains. We identified three of six cases in our review where inspectors conducted investigations and found potential problems, but closed the cases without further action. For example:

⁸ Our sample was derived by obtaining a listing of all 265 Hotline SUPs cases from 2011 to 2015. We used statistical sampling software to generate a random number set, from which we chose the first 30 numbers that corresponded to the SUPs records we reviewed.

- An FAA inspector investigated two separate SUPs cases, but in both instances did not attempt to locate the unapproved parts or confirm that the parts had been removed, quarantined, or destroyed. Instead, he contacted the complainants to clarify details of the SUPs report and closed his investigations after issuing UPNs. We contacted the parts owner in one of the cases and determined he was unaware that the UPN applied to two of his engine control modules because the UPN, as written, referenced incorrect part numbers. Because of this error, the parts owner maintained one of the two unapproved modules in his inventory for more than 2 years after the UPN was issued. He quarantined the part only after we informed him about the UPN. We also determined the other engine control module was sold to a foreign aerospace company where it is still in service.
- In another instance, an FAA inspector investigated whether tens of thousands of privately owned commercial aircraft parts, which were for sale online, were unapproved. The owner purchased the parts from an aircraft manufacturing supplier that went out of business, but because he lacked authorized paperwork, he could not legally resell any of the parts. The FAA inspector investigating the case contacted the parts owner to determine whether any of the parts were sold, but he did not physically account for their location and quantities or confirm that the owner completed his planned actions. Instead, the inspector accepted a letter from the owner stating that he had removed the ad from his eBay site and had not sold any parts. However, as of March 13, 2017—more than 3 years later—the ad for these parts and the owner’s contact information can still be viewed online although the parts are not available for purchase.

Industry Lacks Information Needed To Identify and Eliminate Unapproved Parts

FAA does not require aviation industry officials to register to receive email notifications about unapproved parts. The Agency maintains a list of published unapproved parts on its SUPs Web site, but industry officials may not be aware that FAA has identified, investigated, and confirmed unapproved parts in the supply chain that could be in their own inventories and need to be eliminated. For example, one parts distributor we contacted maintained an unapproved engine control module in his inventory because he did not know about the capability to receive real-time UPN notifications. Other important maintenance-related alerts—such as airworthiness directives (AD)—have more comprehensive instructions on their Web sites, encouraging readers to search for applicable ADs and to sign up for automated alerts. As a result, potentially dangerous parts can remain in the supply chain because company officials do not know these parts have been investigated and found to be unapproved.

CONCLUSION

Ensuring that the hundreds of thousands of aircraft parts installed on airplanes are manufactured or repaired at the highest standards continues to challenge FAA and the aviation industry. Since our first review of the SUPs program in 1996, FAA has taken important steps to standardize the program's administrative and reporting processes but discrepancies and challenges remain. Additionally, the Agency is missing important opportunities to strengthen the effectiveness of its SUPs investigation process and to be more proactive in locating unapproved parts and ensuring that they are removed from the aviation supply chain. FAA can enhance the margin of safety by taking appropriate steps to strengthen its investigation program.

RECOMMENDATIONS

To enhance the effectiveness of FAA's oversight of the SUPs program, we recommend that the Federal Aviation Administrator:

1. Develop guidance and provide training to Hotline employees on how to accurately record specific data about Suspected Unapproved Parts (SUP) in FAA's databases.
2. Develop a management control to ensure that all SUPs reports received by local inspection offices are submitted to the Hotline for processing.
3. Develop a management control to ensure FAA Hotline employees conduct trend analyses in accordance with the Hotline's guidance.
4. Develop a management control to ensure inspectors adhere to guidance when conducting SUPs investigations.
5. Revise FAA's risk-based oversight system to incorporate a risk indicator for manufacturers where unapproved parts have been found.
6. Require FAA Headquarters officials to forward all confirmed SUPs cases to Federal law enforcement agencies, whether or not criminal activity is suspected, in accordance with the letter of agreement.
7. Coordinate with DOT's Office of Inspector General to determine the need for its investigators to receive all improper maintenance cases, including those initially reported as SUPs as well as those reported directly to FAA.
8. Require FAA Headquarters officials to provide quarterly SUPs investigation reports to Federal law enforcement agencies, in accordance with the letter of agreement.

9. Develop a management control to ensure inspectors issue UPNs consistently when notifying the aviation industry about unapproved parts.
10. Develop a management control to ensure inspectors follow existing guidance requiring operators to remove unapproved parts from use and their inventories.
11. Include a “best practice” in the SUPs Advisory Circular to encourage industry to register to receive automated notifications about unapproved parts.

AGENCY COMMENTS AND OFFICE OF INSPECTOR GENERAL RESPONSE

We provided FAA with our draft report on March 31, 2017, and received the Agency’s formal response on April 26, 2017, which is included as an appendix to this report. FAA stated that it concurs with all of our recommendations as written.

FAA further stated that it recently issued new guidance to address recommendation 5. However, we request that the Agency identify where in the recently issued guidance, changes have been incorporated to include unapproved parts as a risk indicator in its risk-based oversight system. Regarding recommendation 6, FAA stated that it will immediately forward all confirmed SUPs reports to Federal law enforcement agencies in accordance with its letter of agreement, which is consistent with the intent of our recommendation.

ACTIONS REQUIRED

We consider recommendation 6 closed and the remaining 10 recommendations resolved but open pending completion of the planned actions. In accordance with DOT Order 8000.1C, we request that FAA provide, within 30 days of this report, the additional information requested for recommendation 5.

We appreciate the courtesies and cooperation of FAA representatives during this audit. If you have any questions concerning this report, please call me at (202) 366-0500 or Tina Nysted, Program Director, at (404) 562-3770.

#

cc: The Secretary
DOT Audit Liaison, M-1
FAA Audit Liaison, AAE-100

EXHIBIT A. SCOPE AND METHODOLOGY

We conducted this review from August 2015 through March 2017 in accordance with generally accepted Government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

To determine a random sampling of FAA Hotline SUP records for our review, we obtained a listing of all Hotline SUPs cases from 2011 to 2015, a total of 265. We used statistical sampling software to generate a random number set, from which we chose the first 30 numbers that corresponded to the SUPs records we reviewed. We performed complete file reviews for all 30 SUPs case files to determine file content and gain an understanding of how FAA inspectors investigated and resolved each case.

Due to resource and time constraints, we limited our review of SUPs reports only to those that contained UPNs. To assess FAA's effectiveness in notifying the industry about unapproved parts, we reviewed all nine UPNs published in 2014–2015, interviewed inspectors from seven Manufacturing Inspection District Offices and Flight Standards Offices responsible for investigating these SUPs cases where the nine UPNs were issued, and analyzed the associated case files.

EXHIBIT B. ENTITIES VISITED OR CONTACTED

Federal Aviation Administration

Headquarters:

Office of Audit and Evaluation (AAE)

Aircraft Certification Service (AIR)

Flight Standards Service (AFS)

Aircraft Certification Service Directorates:

Small Airplane Directorate – Kansas City, Missouri

Transport Airplane Directorate – Seattle, Washington

Flight Standards Service Regional Divisions:

Alaskan Region – Anchorage, Alaska

Western-Pacific Region – Lawndale, California

Manufacturing Inspection District Offices:

Atlanta, Georgia

Orlando, Florida

Seattle, Washington

Vandalia, Ohio

Wichita, Kansas

Flight Standards District Offices:

Anchorage, Alaska

Van Nuys, California

Industry

BAE Systems – Fort Wayne, Indiana

Dukes Aerospace – Northridge, California

VAS Aero Services – Boca Raton, Florida

EXHIBIT C. EXAMPLES OF UNAPPROVED AND IMPROPERLY MAINTAINED PARTS



Example of an unapproved part:

This part was received from a supplier with the original manufacturing label removed and replaced by handwritten part and serial numbers. It was later confirmed that the part number was invalid and does not meet the original manufacturer's specifications.

Source: FAA



Source: DOT OIG

Example of an improperly maintained part:

This part was rejected due to an improper welding technique used to repair a hole.

EXHIBIT D. MAJOR CONTRIBUTORS TO THIS REPORT

<u>Name</u>	<u>Title</u>
Tina Nysted	Program Director
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APPENDIX. AGENCY COMMENTS




Federal Aviation Administration

Memorandum

Date: April 26, 2017

To: Matthew E. Hampton, Assistant Inspector General for Aviation Audits

From: H. Clayton Foushee, Director, Office of Audit and Evaluation, AAE-1 

Subject: Federal Aviation Administration's (FAA) Response to Office of Inspector General (OIG) Draft Report: FAA's Oversight of the Suspected Unapproved Parts (SUP) Program

The FAA oversees the design and production of hundreds of millions of aviation products and parts. In 1993, the FAA developed the SUP program to address potential safety risks posed by the entry of unapproved parts into the aviation system, and to identify and prevent their installation into aircraft and other aviation products. All SUPs are investigated by the FAA which often times result in compliance and enforcement actions. The FAA's surveillance, inspection, and enforcement activities are key elements in maintaining the historically high level of safety in the National Airspace System.

The FAA concurs with all 11 recommendations as written. We plan to implement recommendation 8 by July 31, 2017; recommendations 2, 4, 9, and 10 by September 30, 2017; recommendations 1 and 3 by December 31, 2017 and recommendations 7 and 11 by April 30, 2018. As for recommendations 5 and 6, the FAA has taken immediate action to implement the recommendations and requests that the OIG close the recommendations. To address recommendation 5, on March 6, 2017, the FAA issued Order 8120.23, Revision A, *Certificate Management of Production Approval Holders*. This policy which we provided to the OIG on April 20, 2017, went into effect on April 10, 2017, and includes risk indicators for manufacturers where unapproved parts have been found. To address recommendation 6, the FAA will immediately forward all confirmed SUP cases to Federal law enforcement agencies in accordance with the letter agreement.

We appreciate this opportunity to review the OIG draft report. Please contact H. Clayton Foushee at (202) 267-9000 if you have any questions or require additional information regarding these comments.