Repair Station Liability

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Abstract

What is wrong with contract maintenance, the act of having someone else do the work on an aircraft under your control? Why should you be responsible for something that someone else did? After all, it is not your fault. On the other hand, is it? What does the law say? Consider the ValuJet Flight 592 catastrophe, where a McDonald Douglas DC-9 crashes into the Florida everglades, killing all on board. Was ValuJet solely to blame, or was a third party directly responsible? Who is responsible for the aircraft maintenance? This paper will review the liability a Repair Station has concerning contract maintenance, the judicial aspects of such, and provide conclusions relative to the current regulatory environment.

## Introduction

Prior to the Air Commerce Act of 1926, there was very little in the way of regulation for the burgeoning aviation industry. With a navigation and air traffic control, (ATC), system that was antiquated by today’s standards, most early accidents are popularized and blamed on pilot error. While there have been Repair Stations since the Civil Aeronautics Act of 1938 competition was limited. Many airlines performed most maintenance in house where it was easier to control.

With an increase in technology and the competition that the Airline Deregulation Act of 1978 brought, airlines were constantly searching for ways to cut cost. With specialized maintenance such as jet engine work, sophisticated avionics, and landing gear overhaul to name a few, many airlines sought outside sources to perform these tasks. This would save the airlines from having to make significant investment in tooling and equipment. By the mid 1990’s, the trend reached a zenith.

In 1996, due to a contract maintenance factor, a ValuJet Flight commercial airliner crashed in the Florida Everglades killing all occupants. A new zeal for oversight was born. This paper will review Repair Stations, organizations certificated by the Federal Aviation Administration, (FAA), with the role and responsibilities in contract maintenance being the primary focus. NTSB, civil and criminal case studies will be cited and we will identify legal repercussions of non-compliance. Judicial procedures will be included in the discussion and the paper will summarize findings with recommended practices for a Repair Station to avert litigation.

## Researcher’s Qualifications

I have a Bachelors of Science in Aviation Maintenance Management from Embry-Riddle Aeronautical University. I also have certificates issued by the Federal Aviation Administration, (FAA), as a Commercial and Instrument, Single Engine Land and Multi-Engine Land pilot, and was a certificated Flight Instructor. Additionally the FAA certificated me as an Airframe and Powerplant mechanic in 1981.

These credentials have allowed me to work on turbine powered private aircraft for over 26 years, with 18 years in Quality Control working daily with Federal Aviation Administration (FAA) Regulations. For the past 10 years, I have acted as an Airworthiness Designee for the FAA and as a Conformity Inspection Designee for the FAA while in a capacity with a FAA Designated Organization. Experience as Quality Engineering Supervisor over the past several years has exposed me to our site’s Internal Audit System, Quality Metrics, and Compliance Publications. I am also a member of the American Society for Quality and a member of the Project Management Institute.

## Limitations of This Paper

When this paper refers to ‘14 CFR’ it signifies Title 14 Aeronautics and Space of the Code of Federal Regulations. For example, 14 CFR 13 would identify Volume I, Chapter I, Part 13, Investigative and Enforcement Procedures of Title 14 Aeronautics and Space of the Code of Federal Regulations. This paper will only evaluate issues as they relate to one rule, 14 CFR 145.217, which deals with ‘Contract Maintenance’. The 14 CFR, FAA Orders, Advisory Circulars, and Case Studies will revolve around the rule. Some of the Case Studies utilized provide situational similarity and do not directly address 14 CFR 145.217 due to limited precedent cases specific to the rule. As there are a number of ways that the FAA can promulgate its authority, this paper is limited to the regulatory bodies mentioned above and is further limited to their currency of as of May 15, 2010.

**Contract Maintenance Regulatory Framework**

## Regulatory Background

Orville and Wilbur Wright made their first powered flight in 1903 but it was not until the 1920s that the burgeoning aviation industry advocated for legislative controls and in 1926 the Air Commerce Act was born. The Air Commerce Act of 1926 came under the Secretary of Commerce who was responsible for development of air commerce and the new Aeronautics Branch in the Department of Commerce was responsible for aviation oversight. In 1938, the Civil Aeronautics Act established an independent Civil Aeronautics Authority (CAA), with a three-member Air Safety Board that would conduct accident investigations and recommend ways of preventing accidents. The 1938 Civil Aeronautics Act also gave the CAA power to regulate airline fares and determine the routes individual carriers served.

By 1958 the Federal Aviation Act was enacted, which transferred the Civil Aeronautics Authority's functions to a new independent Federal Aviation Agency responsible for civil aviation safety, thus was the beginning of our modern day FAA. In 1966, the Department of Transportation (DOT) was established by an act of Congress and the Federal Aviation Agency came under its wing. It was at this time that the agency adopted its current name, the Federal Aviation Administration. The National Transportation Safety Board (NTSB) was also initiated with the arrival of the DOT. The NTSB is an independent Federal agency charged by Congress with investigating every civil aviation accident in the United States. The Safety Board determines the probable cause of all U.S. civil aviation accidents and certain public-use aircraft accidents. The NTSB also hears appeals from charges to airmen when action is taken by the FAA.

In 1978, The Airline Deregulation Act turned the aviation world on a completely new course. This act of legislation had monumental impact in developing the airlines as we know them today. Deregulating airline fees and route structures opened up a new, competitive airline industry. The Airline Deregulation Act increased the FAA workload exponentially. Hundreds of agency applications were made after deregulation that the FAA had to review and approve or disapprove. Another effect of the Airline Deregulation Act was an increased demand for repair stations and outsourcing.

## Regulatory Structure

The DOT and the FAA are both under the Executive Branch which is responsible for enforcing the laws of the land. Established in Article II, Section 2, of the Constitution, the Cabinet advises the President on subjects relating to the duties of each member's own office.

## Regulatory Facts

14 CFR 145.217 ‘Contract Maintenance’ states that:

A certificated repair station may contract a maintenance function pertaining to an article to an outside source provided the FAA approves the maintenance function to be contracted to the outside source. In addition, the repair station must maintain and make available to its certificate holding district office the following information: the maintenance functions contracted to each outside facility; and the name of each outside facility to whom the repair station contracts maintenance functions and the type of certificate and ratings, if any, held by each facility (Code of Federal Regulations, 2014).

The rule further states a non-certificated person must follow a quality control system equivalent to the system followed by the certificated repair station. The certificated repair station must remain directly in charge of the work performed by the non-certificated person, and the certificated repair station must verify, by test and/or inspection, that the non-certificated person has performed the work satisfactorily and that the article is airworthy before approving it for return to service.

A certificated repair station may not provide approval for return to service only of a complete type-certificated product following contract maintenance, preventive maintenance, or alterations. FAA Order 8900.1 provides FAA guidance to inspect a repair station’s contract maintenance program. The Order directs the FAA to validate that when providing services to a contracting repair station, the contract maintenance provider must meet all requirements of 14 CFR part 145, § 145.217.

The regulations allow a repair station to contract any maintenance, preventive maintenance, or alteration for which it holds a rating per 14 CFR 145.201(a)(2)):

For the purpose of this section, contracting is defined as work performed by FAA certificated or non-certificated entities when the originating repair station assumes responsibility for the work performed by issuing an approval for return to service. A contract maintenance provider for a maintenance function must not provide a complete repair of a type-certificated product. The FAA must approve all contract maintenance functions, whether to a certificated or non-certificated provider, contracted to an outside source (Code of Federal Regulations, 2013).

To summarize the facts as presented, a Repair Station can contract maintenance to either certificated or non-certificated organizations provided the repair station holds a rating (i.e. Airframe, Powerplant, Limited, rating etc.) for the function to be contracted and if the FAA has approved that maintenance function to be contracted. Sounds easy, but what if you make a mistake?

## Legal Matters14 CFR 13 Investigative and Enforcement Procedures

The requirement for actions taken by the FAA is provided by 14 CFR 13. These actions can range anywhere from Administrative Actions to Legal Enforcement Actions. Administrative Actions provide disposition of certain violations allowing administrative action and do not constitute a formal adjudication of the matter. The FAA does this by issuing the alleged violator the following:

(1) A Warning Notice which recites available facts and information about the incident or condition and indicates that it may have been a violation; or,

(2) A Letter of Correction, which confirms the FAA decision in the matter and states the necessary corrective action the alleged violator has taken or agrees to take. If the agreed corrective action is not fully completed, legal enforcement action may be taken (Code of Federal Regulations, 2013).

Legal Enforcement Actions include consent orders also known as a consent decree which is an agreement between two parties as is allowed by the court. For example, a repair station may agree to stop a particular activity in question without having to admit guilt. Other Legal Enforcement Actions are; civil penalties, certificate action, orders of compliance, cease and desist orders, and orders of denial. Criminal penalties are also available.

The National Transportation Safety Board (NTSB) provides the Office of Administrative Law Judges for offences related to 14 CFR. Description of the Airman Appeals Process according to the NTSB Office of Administrative Law Judges:

* First Appeal, Appeal to Judge: Appeal or petition is filed with the NTSB’s Office of Administrative Law Judges.
* Second Appeal, Appeal to the Full Board: An appeal from the judge’s decision is filed with the Office of Administrative Law Judges, which sends the appeal and case record/docket to Board's Office of General Counsel.
* Third Appeal, Petition to U.S. Court of Appeals: The party appealing the Board’s decision files a petition in the U.S. Court of Appeals (D.C. Circuit or circuit in which the party resides) (National Transportation Safety Board, 2013).

**Case Studies**

## NTSB/AAR-97/06,DCA96MA054, Aircraft Accident Report In-Flight Fire and Impact with Terrain

On May 11, 1996, a McDonald Douglas DC-9-32 operated by Valujet Airlines crashed into the Florida Everglades near Miami. All 110 persons on board perished. The ensuing investigation by the NTSB found, amongst other findings, probable causes. The primary probable cause related to Repair Stations and Contract Maintenance was the fact that SabreTech (a contract maintenance provider to ValuJet) failed to properly prepare, package, and identify unexpended chemical oxygen generators before presenting them to ValuJet for carriage. Also noted as a probable cause was the failure of ValuJet to, “properly oversee its contract maintenance program to ensure compliance with maintenance, maintenance training, and hazardous materials requirements” (National Transportation Safety Board, 1997).

Also included in the NTSB report were recommendations that were directed at the airline and the FAA. These recommendations provided that ValuJet “Include, in its development and approval of air carrier maintenance procedures and programs, explicit consideration of human factors issues, including training, procedures development, redundancy, supervision, and the work environment, to improve the performance of personnel and their adherence to procedures” (National Transportation Safety Board, 1997).

Additionally, the NTSB recommended to the FAA that they “ensure that Part 121 air carriers’ maintenance functions receive the same level of Federal Aviation Administration surveillance, regardless of whether those functions are performed in house or by a contract maintenance facility” (National Transportation Safety Board, 1997). The FAA grounded ValuJet on June 16, 1996 and it was allowed to resume flying again on September 30, but the airline never recovered from the crash. In September 1997, ValuJet retired the name and adopted the Air Tran name from a merger in July of the same year; this all due to a failure of ValuJet to oversee its contract maintenance.

## 271 F3d 1018 United States of America v Sabretech Inc. United States Court Of Appeals for the Eleventh Circuit

SabreTech, Inc. and three of its employees were indicted in June 1999 by a grand jury in Miami, Florida on federal charges including conspiracy, making false statements, and illegally transporting hazardous materials. On May 23, 2001, SabreTech Inc. agreed to pay $1.75-million penalty to settle allegations it violated hazardous-materials rules. October 31, 2001 the United States Court Of Appeals decided the case for the Eleventh Circuit. The court found that SabreTech and its employees did not intend to kill the people when it packed the old oxygen canisters and transported them to the ValuJet aircraft. Since the district court improperly relied on the wrong basis for the alleged criminal activity, SabreTech's convictions on the reckless counts were vacated. A charge of ‘willful failure to train’ count was affirmed and the case was remanded for re-sentencing.

In December 2001, SabreTech pleaded no contest to a hazardous materials charge and pledged $250,000 of donations to the National Air Disaster Alliance and Foundation as well as to United Way. In return, prosecutors dropped 220 murder and manslaughter charges brought against the company by the state.

## NTSB Report DFW06FA056, Julie’s Aircraft Service

On January 16, 2006, Julie’s Aircraft Service assigned three mechanics to perform contract maintenance on a Continental Boeing 737-500, investigating a possible oil leak on the number two engine. Two of the mechanics were located below the engine — counting oil drips from the vent line. With the engine running at 70 percent power, one of the mechanics rose and turned forward, then was sucked into the engine, he was killed instantly.

Julie’s Aircraft Service defense was that the mechanics were working on their own. They were even using their own Airframe and Powerplant certificates to sign off on the work. They were not using the repair station’s certificate. The judge found the mechanics were working within the range of their service by the repair station; therefore, the repair station was accountable for their regulatory violations under a legal concept known as respondent superior. Continental had contracted to Julie’s Aircraft Service, not the mechanics.

Respondeat superior is the legal theory under which an employer is responsible for the actions of the employee. “Normally, this is considered a tort doctrine, but it has been used in FAA regulatory actions in the past to impute an employee’s culpability to the employer” (Dickstein, 2009). The administrative law judge found Julie’s repair station responsible for the Part 43 violations of the employees and was fined $1,100. The true tragedy was an unnecessary loss of life.

## United States Court of Appeals 190 F.3d 571 (D.C. Cir. 1999) Federal Aviation Administration v. National Transportation Safety Board United States Court of Appeals for the District of Columbia Circuit

Appeals are available – or are they?Previously we identified the appeals process from the Office of Administrative Law Judges that provides a structured manner to have your case heard by an increasing level of authority. Recent case study may provide precedent contradicting this process and the foundation of a checks and balance judiciary system. The case revolved around pilot communication with Air Traffic Control, (ATC).

The undisputed facts in the case are that in June of 1994, Captain Richard Lee Merrell was the pilot-in-command of a commercial passenger plane, Northwest Flight 1024. Air traffic control (ATC) instructed it to climb to and maintain an altitude of 17,000 feet. Merrell correctly repeated, or recited back, this instruction to ATC. About a minute later, ATC transmitted an altitude clearance to an American Airlines flight directing it to climb to and maintain an altitude of 23,000 feet. This American Airlines flight promptly and correctly acknowledged this clearance with its own read back; however, Merrell mistakenly understood this instruction to be for his aircraft and read-back the instruction simultaneously.

When two aircraft communications are made at the same time they can be blocked out, garbled, or only the stronger signal is received by ATC. In this particular case, the transmission by Merrell was never heard by ATC. Merrell flew his aircraft to the incorrect altitude assuming his read back was recognized. When ATC noticed Merrill’s deviation, they corrected him but not before he violated the separation minimum required by 14 CFR.

On November 3, 1995, the FAA issued an enforcement order against Merrell. The order alleged that Merrell had violated FAA safety regulations by inter alia, operating an aircraft conflicting to an ATC instruction in an space in which air traffic control is implemented, a violation of 14 CFR 91.123, ‘Compliance with ATC Clearances and Instructions’.

Merrell appealed to the NTSB who ruled in his favor and dismissed the FAA Order. The FAA petitioned the decision, stating the NTSB ruling was in conflict with the FAA's reasonable understanding of its own regulations. This court upheld the FAA interpretation citing Congresses delegation of rulemaking to the FAA, we must concede to the FAA's understandings of its own aviation regulations. The case was remained for further proceedings consistent with the appeals court opinion – The NTSB final rule was consistent with court.

In summary, the court negated the checks and balances of our judicial system and reduced it to a singularity. If the NTSB cannot provide unbiased interpretation of an Order or Rule, should they even be investigating accidents? Should not the FAA have investigated itself in the ValuJet Flight 592 tragedy, and then found itself woefully inadequate in its oversight? Not to invalidate the FAA, but our system of justice is built around a framework of checks and balances. What about due process? I think this case sets a misguided precedent.

**Analysis, Summary and Conclusions**

## Analysis / Summary

By way of facts, case history, and analysis we have validated that a repair station is responsible to a degree for work accomplished for them by other entities. I infer from the ValuJet accident and subsequent case history, that when another repair station performs the work for a third party it will absorb a vast amount of repercussion from the FAA for non-compliances. ValuJet eventually survived with penalties and a restructured organization. SabreTech faced unprecedented prosecution and paid millions of dollars in fines and restitution. Can a repair station obviate itself from impunity when other certificated individuals accomplish work? As evidenced by the Julie’s Aircraft Services, Inc. the answer is no. When the repair station charges others to perform maintenance on their behalf, the repair station maintains responsibility.

## Conclusions

The responsibility follows for work requested of un-certificated organizations as allowed by the law. The repair station must ensure the un-certificated organizations quality system is equal to theirs. They also must be in direct control of the un-certificated organization, and make a determination of airworthiness for the articles worked on. The repair station provides the ultimate ‘stop-gap measure’ for these articles in that they provide the Return to Service. Until an aircraft, engine, propeller, or article is Return to Service it would be difficult to ascertain a violation; improper maintenance can be inspected and corrected. When your organization’s name and signature go on record for the work performed in accordance with the CFR, (the Return to Service), this implies complete ownership for the work accomplished herein.

Reliance on the system is necessary however for properly certificated articles provided by vendors. Parts properly received by approved vendors that are a top-assembly should be accepted carte blanche. In other words, if the repair station has nothing more to do with the article than to properly install it on the aircraft, its responsibility starts and ends with the installation procedure.

When the repair station has to complete the article after repairs by the third party repair station, (thus making it a top-assembly part), and then install it on the aircraft, this is contract maintenance to a certificated party. The initial repair station is ultimately responsible for the article as identified by FAA Order 8900.1. Criminal and tort actions are possible even if you are fully compliant with 14 CFR. If you are found negligent in compliance and receive action from the FAA this sets a further negative precedent for civil courts seeking remedy. As we have seen, an appeals process may not be available for actions from the FAA and the interpretation of alleged violation left solely up to the authority that makes the accusation. So what do you do?

## Recommendations

Know thy vendors, audit them; hold them to the same strict standards you uphold. Maintain statistical data on performance metrics. Consider external elements that can raise red flags. Have they relocated production to a new site recently? Is this site overseas? Does it have the same quality system as the original site? Has the vendor grown, perhaps doubled its size, in the past year? Success can interfere with quality performance.

Train your people! Just because the employees behind the parts counter are not part of the roster of supervisory personnel for the repair station does not mean they can be oblivious to the basic requirements outlined herein. Your buyers, purchasers, and material personnel have to know all of the requirements for contract maintenance.

Have terms and conditions to your purchase order that assure the vendor complies with applicable requirements. Assure that the supplier has the applicable, current, data acceptable to the administrator (except for major repairs in which case the data must be FAA approved). Do have the vendor provide a signed validation of compliance to the purchase order. FAA Order 8900.1 states, “The certificated repair station remains directly in charge of the non-certificated facility work” (Federal Aviation Administration Flight Standards Information Management System, 2013). Your purchasing folks may typically do that. The purchase order directs the vendor and the purchasing department has to know what the FAA has approved. Your audits validate the vendor, and your receiving inspection verifies that the vendor complied with the purchase order. The system must maintain integrity throughout the whole supply chain.

Okay, you have run all of the traps and your repair station is fully compliant. Now what do you do if you receive a civil penalty? Refer to 14 CFR 13, Investigative and Enforcement Procedures. Proceedings are governed by the Rules of Practice, found in 14 CFR 13.16 and 13.201 – 13.235. Respond in the manner required. This can be very specific and the timeline can be very crucial. For example, if the penalty addresses three allegations, you must respond to each allegation, even if you feel none of the allegations are true, respond line item by line item.

Do not forget the Freedom of Information Act. In 1966, Congress enacted the Freedom of Information Act (FOIA), which allows you the right to access federal agency records, (except for records that are exempt). Request the FAA’s Enforcement Investigative Report. The more you know about the allegations the better. Since you are fully compliant, there may simply be a misunderstanding of events. If necessary, seek legal counsel that specializes in aviation litigation. Just as there are specialists in aviation maintenance, there are law firms who specialize in representing matters in aviation.

Finally, remember that FAA requirements are a minimum standard. Industry standards and reasonable due care standards still apply. Are efforts being made that an ordinary prudent or reasonable party would take to avoid an event? Put yourself external to the situation if questionable activity arises. You may meet the regulatory rule, but is it something that is truly the right thing to do? Consider any ethical implications to your actions; be certain that a jury will consider the ethical implication of what you do.

**References**

Code of Federal Regulations. (2013). *Title 14 aeronautics and space, chapter I--federal aviation administration, department of transportation*. Retrieved from http://www. ecfr.gov

Dickstein, J, (2009). *Legal Ease Aviation Law Made Simple – Yes, You Are Responsible for A&P Mechanics*. Avionics News April 2009.

Federal Aviation Administration Flight Standards Information Management System. (2013). *Order 8900.1 - flight standards information management system*. Retrieved from http://www.faa.gov/regulations\_policies/orders\_notices/

Federal Aviation Administration v. National Transportation Safety Board United States Court of Appeals for the District of Columbia Circuit. (1999). *United States Court of Appeals 190 F.3d 571 (1999).* Retrieved from LexisNexis Academic database.

Federal Aviation Administration v. National Transportation Safety Board United States Court of Appeals for the District of Columbia. (1999). *Circuit United States Court of Appeals 190 F.3d 571 (D.C. Cir. 1999).* Retrieved from LexisNexis Academic database.

National Transportation Safety Board. (1997). *NTSB/AAR-97/06,DCA96MA054, Aircraft accident report in-flight fire and impact with terrain.* Retrieved from <http://www> .ntsb.gov.

National Transportation Safety Board. (2013). *Administrative law judges*. Retrieved from <http://www.ntsb.gov/legal/alj.html>

United States of America v Sabretech Inc. United States(2001)*. 11th Cir.* Retrieved from LexisNexis Academic database.

Bibliography

National Transportation Safety Board. (2006). *Continental Airlines (D.B.A. operation of Continental Airlines)*. Retrieved from http://www.ntsb.gov/.

Federal Bureau of Investigation. (2008). *Overview of white-collar crime in the United States.* (FBI Publication No. 843-1165). Retrieved from <http://www.fbi.doc.gov/bbi/trade.htm>

Pritchard, C. L. (2004). *The project management communications toolkit*. Norwood, MA: Artech House.

# Internet Bibliography

http://www.lexisnexis.com

http://www.whitehouse.gov/administration/cabinet

[www.faa.gov](http://www.faa.gov)

<http://fsims.faa.gov/>

[www.dot.gov](http://www.dot.gov)

[www.ntsb.gov](http://www.ntsb.gov)

[www.usa.gov](http://www.usa.gov)

[www.gpoaccess.gov](http://www.gpoaccess.gov)

<http://uscode.house.gov/>

<http://bensguide.gpo.gov/>

<http://www.aviationlawcorp.com/>

<http://www.lectlaw.com/>

<http://www.law.cornell.edu>

<http://www.nytimes.com>

<http://wordnetweb.princeton.edu>

<http://www.cnn.com/TRAVEL/NEWS/9709/24/valujet.presser/>

<http://www.oig.dot.gov/library-item/5056>

<http://www.centennialofflight.gov/essay/Government_Role/FAA_History/POL8.htm>

<http://www.ntsb.gov/alj/appeals-process-description.htm>

http://www.justice.gov/oip/