



## FOREST SERVICE MANUAL NATIONAL HEADQUARTERS (WO) WASHINGTON, DC

### FSM 5700 – AVIATION MANAGEMENT

#### CHAPTER – ZERO CODE

**Amendment No.:** 5700-2020-1

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** Jaelith Hall-Rivera  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by title and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this title was 5710-2017-1 to FSM 5710.

<b>New Document</b>	5700_zero_code	68 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>	5700_zero_code (Amendment 5700-2013-1, 11/20/2013)	20 Pages

#### **Digest:**

Zero code – Revises the entire chapter to better align with the Forest Service mission.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

**Table of Contents**

<b>5701 – AUTHORITY .....</b>	<b>5</b>
<b>5702 – OBJECTIVES.....</b>	<b>6</b>
5702.1 – Doctrine.....	7
5702.11 – Aviation Mission.....	7
5702.12 – Operations .....	7
5702.12a – Standardization.....	7
5702.12b – Technology .....	8
5702.12c – Manuals, Handbooks, and Guides.....	8
5702.12d – Roles .....	8
5702.13 – Leadership and Accountability .....	9
5702.14 – Aviation Safety Management Systems .....	9
5702.15 – Ongoing Learning .....	9
5702.15a – Training and Qualifications.....	10
5702.16 – Communications and Relationships.....	10
<b>5703 – POLICY .....</b>	<b>10</b>
5703.1 – Aviation Safety Management System.....	11
5703.2 – Aircraft.....	11
5703.3 – Training and Qualifications .....	11
5703.4 – All Agency Flight Operations.....	11
5703.41 – Civil Aircraft Operations .....	12
5703.42 – Public Aircraft Operations .....	13
5703.43 – Fixed-Wing Operations.....	13
5703.44 – Helicopter Operations .....	13
5703.45 – Commercial Air Carrier Operations.....	13
5703.46 – Unmanned Aircraft Systems Operations .....	13
5703.5 – Pilot and Aircraft Approval .....	13
5703.51 – Pilot Approvals .....	13
5703.52 – Aircraft Approvals .....	14
5703.53 – Other Approvals.....	14
<b>5704 – RESPONSIBILITY .....</b>	<b>14</b>
5704.1 – All Employees.....	15
5704.2 – Supervisors.....	16
5704.3 – Chief.....	16
5704.31 – Deputy Chief, State and Private Forestry .....	16
5704.31a – Washington Office Director, Fire and Aviation Management.....	17
5704.31b – Washington Office Deputy Director, Aviation, Operations, and Risk Management.....	18
5704.31c – Washington Office Assistant Director, Aviation .....	18
5704.31d – Branch Chief, Airworthiness .....	20
5704.31e – Branch Chief, Aviation Operations.....	22

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

5704.31f – Branch Chief, Pilot Standardization .....	23
5704.31g – Branch Chief, Aviation Business Operations .....	25
5704.31h – Aviation Strategic Planner .....	25
5704.31i – Branch Chief, Aircraft Program Management.....	26
5704.32 – Assistant Director, Doctrine, Learning, and Risk Management .....	26
5704.32a – Branch Chief, Aviation Safety Management System .....	26
5704.33 – Washington Office Directors – Forest Health Protection, Law Enforcement and Investigations, and other Washington Office Directors with Aviation Activities .....	28
5704.33a – Washington Office Programs with Aviation Activities Aviation Managers .....	28
5704.34 – Regional Foresters and/or Their Deputies .....	29
5704.34a – Regional Director, Fire and Aviation Management .....	30
5704.34b – Regional Aviation Officers .....	31
5704.34c – Regional Aviation Safety Managers .....	33
5704.34d – Forest Health Protection Aviation Safety Manager .....	34
5704.34e – Washington Office Programs with Aviation Activities Aviation Managers .....	35
5704.35 – Forest Supervisors.....	35
5704.35a – Forest Staff Officer Responsible for Aviation .....	36
5704.35b – Forest/Unit/Zone Aviation Officer .....	37
5704.36 – Station Directors .....	38
5704.36a – Station Aviation Manager .....	39
5704.37 – Pilots .....	40
5704.38 – Aviation Maintenance Personnel .....	40
<b>5705 – DEFINITIONS AND ACRONYMS .....</b>	<b>40</b>
5705.1 – Definitions.....	40
5705.2 – Acronyms .....	57
<b>5706 – REFERENCES.....</b>	<b>60</b>
5706.1 – Compliance with Law and Regulation.....	60
5706.2 – Manuals.....	60
5706.3 – Handbooks .....	60
5706.4 – Forest Service Standards and Guides.....	61
5706.5 – Interagency and NWCG Aviation Operational Standards and Guides .....	61
5706.6 – Forest Service Aviation Standards and Plans .....	63
5706.7 – Other References.....	64
<b>5707 – AVIATION PROGRAMS .....</b>	<b>65</b>
5707.1 – Airworthiness .....	65
5707.2 – Aviation Business Operations.....	65
5707.3 – Aviation Operations .....	65
5707.31 – Fixed-Wing Programs .....	66
5707.32 – Helicopter Programs .....	66
5707.33 – Unmanned Aircraft Systems Program .....	67

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

5707.34 – Aviation Bases .....	67
5707.4 – Pilot Standardization.....	67
5707.5 – Aviation Safety Management Systems .....	68
<b>5708 – HANDBOOKS.....</b>	<b>68</b>
5708.1 – Aviation Management Handbook.....	68

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

The Forest Service (agency) aviation program is structured for centralized program management at the Washington Office, Regional, and Forest levels, with decentralized implementation at the Regional and Forest levels. This structure is intended to support the Aviation Safety Management System (FSM 5720 and FSH 5709.16, ch. 20), standardization, efficiency, and to ensure effectiveness.

Aviation management includes all Forest Service (agency) activities associated with providing aviation services for natural resource protection, all-hazard response, and management functions of the Agency. Aviation management incorporates leadership, leaders' intent, quality assurance, direction, regulations, and policy.

### **5701 – AUTHORITY**

The Forest Service must abide by all applicable laws, regulations, including but not limited to:

1. The provisions of Title 49 of the CFR (Code of Federal Regulations), as enacted into positive law and as amended, provide the authority for:
  - a. Agency aviation management functions and safety in the operation of civil and public aircraft as defined in Title 49, Subtitle VII, Aviation Programs.
  - b. The rulemaking, enforcement, and investigative responsibilities governing civil aircraft operations.
2. The provisions of Title 49, including the Federal Aviation Act of 1958 as amended, and 14 CFR provides authorization for functions such as aircraft and pilot approvals, operational standards, evaluations, and accident prevention and investigation.
3. The provisions of Title 49, Chapter 401, stipulate the general provisions for aviation programs.
4. The provisions of Title 41 CFR Part 101, establish Federal property management practices, including evaluation, review, and reporting for Federal property management.
5. The provisions of Title 41 CFR Part 102, establish Federal aviation management practices, including evaluation, review, and reporting for Federal aviation programs.
6. Public Law 106-181.
7. FAA Advisory Circular 00-1A, February 12, 2014.
8. FAA FSIMS Vol. 3, Chapter 14 Public Aircraft.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

9. FAA Grant of Exemption No. 392 and No. 392A to the USDA, Forest Service (1965).
10. DOT Hazardous Material DOT-Special Permit 9198.
11. Individual Forest and Unit Land Management Plans.
12. The Federal Managers Financial Integrity Act of 1982 (Pub. L. 97-255) establishes specific requirements for agency heads to establish management controls safeguarding against waste, fraud, and mismanagement for Federal programs.
13. Office of Management and Budget (OMB) Circular A-123 prescribes appropriate management controls as an integral part of the cycle of planning, budget, management, and auditing for Federal programs.

### **5702 – OBJECTIVES**

Aviation resources are some of the many tools available to accomplish land management objectives. The use of aviation resources has value only if it serves to accomplish the agency's mission, goals, and objectives, and can be accomplished safely. The aviation program must place the safety of employees above all else. The Agency's goal is to develop a culture that achieves and maintains a zero accident rate.

The following objectives support this goal:

1. Use an Aviation Safety Management System (ASMS), which includes:
  - a. Safety management policy: Guides aviation safety doctrine, philosophy, principles and practices, provides a framework for aviation plans, assists in the development of local standard operating procedures, and fosters and promotes doctrinal principles.
  - b. Safety risk management: Manages risk to acceptable levels (as identified by the agency) by the identification, assessment, and prioritization of risks followed by coordinated application of resources to minimize, monitor, and control the probability and/or impact of undesirable events.
  - c. Safety assurance: Involves processes for quality control, mishap investigation, and program reviews; provides aviation safety oversight and review; encourages a reporting culture; monitors established standards and procedures; and makes corrections as needed.
  - d. Safety promotion: Promotes safety as a core value with practices that support a positive safety culture. The desired positive safety culture is informed, flexible,

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

learning, just, and is a reporting culture that captures employee operational knowledge and experience.

2. Clearly define the aviation program for the Washington Office, Regions, Stations, Forests, and Districts.
3. Collaborate internally and with cooperators and partners to provide effectiveness and efficiency in policy, strategy, and operations.

### **5702.1 – Doctrine**

Doctrine is fundamental principles (Aviation Mission; Operations—which includes Standardization, Technology, Manuals, Handbooks, Standards, Guides, and Roles; Leadership and Accountability; Aviation SMS; Ongoing Learning; and Communications and Relationships) which guide employee actions in support of agency objectives. Doctrine is authoritative but requires judgment in application. Policies regarding aviation functions and activities are informed by doctrine. Aviation doctrine was initially established in the Foundational Doctrine Fire and Aviation Rotor and Wing conference January, 2006.

#### **5702.11 – Aviation Mission**

The mission of agency aviation is to provide safe, efficient, effective, timely, and coordinated aviation support for agency operations, in support of cooperator and partnership agreements, and to meet current and future needs through innovation and technology in order to sustain the health, diversity, and productivity of the Nation's forests and grasslands.

#### **5702.12 – Operations**

All agency aviation operations, conducted by agency employees, cooperators, partners, and contractors, must be planned properly (effective and efficient), utilize the correct equipment and qualified personnel, and be mitigated down to the lowest level of acceptable risk.

Give first priority to Forest Service aviation missions. Provide aviation missions for other agencies, cooperators, and the public in accordance with legal authorities and give fire aviation missions priority over agency administrative flights.

#### **5702.12a – Standardization**

A standardization program is universally recognized as critical to safe aviation operations. Safety in aviation continues to depend on good crew performance. Good crew performance, in turn, is founded on standard operating procedures that are clear, comprehensive, and readily available to crew members. Agency aviation standards must be developed in a collaborative effort to codify best practices. Agency aircrew standards will accomplish the following:

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

1. Provide practical guidance in aviation training and operations;
2. Delineate and clarify policy;
3. Formalize best practices to be used during normal and emergency procedures;
4. Maintain and enhance CRM and ASMS;
5. Differentiate between procedure and technique; and
6. Ensure training is accomplished in a consistent, safe, and efficient manner.

### **5702.12b – Technology**

The Agency will utilize reliable, compatible, cost-effective technology in aviation operations, and will continuously evaluate, develop, and procure appropriate technologies.

The Forest Service National Technology and Development Program (NTDP, formerly known as Missoula Technology and Development Center and San Dimas Technology and Development Center) provides technology and engineering support to Fire and Aviation Management in the form of project specific funding; funded personnel; equipment and technology testing and evaluation; aerial delivery (airtanker and helitanker) test team; and wildland fire chemicals testing and evaluation.

Utilization of the National Technology and Development Program (NTDP) for aviation specific support is a partnership between FAM and Engineering. Funding and projects (listed above, but not limited to) must be coordinated through the Assistant Director, Aviation.

### **5702.12c – Manuals, Handbooks, and Guides**

Aviation operations require regulations, manuals, handbooks, standards, guides, and checklists to execute and coordinate operations in a safe and effective manner. Where the terms “shall” and “must” are used in approved manuals, handbooks, standards, plans, or guides, compliance with those items is mandatory and not discretionary (FSM 1110.8, ex. 01, Degree of Compliance or Restriction in Directives).

These compliance principles are authoritative; but employees are expected to apply their judgment in order to solve problems.

### **5702.12d – Roles**

Delivering safe, effective, and efficient aviation services requires decision making free from conflicts of interest.



## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

All employees within the aviation program organization must be qualified government personnel.

### **5702.13 – Leadership and Accountability**

Agency leaders must be critical thinkers who possess vision and sound judgment, values, and ethics. Leaders must communicate the intent and vision of Fire and Aviation Management leadership and provide direction to implement that intent and vision. These leaders must exercise initiative and accept responsibility and accountability commensurate with their position. The leaders must know the capabilities and limitations of aviation resources (people and aircraft) and are responsible to evaluate and recommend the appropriate use of aviation resources to accomplish agency objectives and missions. Individuals are accountable for making prudent decisions based on leaders' intent and vision through doctrine, training, and experience.

The Agency has an inherent responsibility to staff aviation management with leaders that possess specialized skills. It is leadership's responsibility to recruit, train, mentor, and retain a highly skilled, diverse workforce of both career and auxiliary aviation positions.

Leaders must promote a safety culture that encourages employees to communicate unsafe conditions, policies, or acts that could lead to accidents without fear of reprisal.

### **5702.14 – Aviation Safety Management Systems**

Agency aviation planning and operations must utilize the Aviation Safety Management System (ASMS) approach to controlling risk. The aviation environment is a complex, high-risk environment. Some hazards, even with reasonable mitigation, can cause harm or death to aviation personnel. The Agency recognizes the inherent risks associated with aviation and will continually refine processes to mitigate those risks. Forest Service Aviation Management will apply the principles of ASMS in this endeavor.

ASMS is not a safety program; rather it is a system that aligns, assesses, and organizes an organization's existing safety processes. ASMS incorporates a proactive approach using hazard identification and risk management to achieve accident prevention.

Forest Service ASMS is defined in the Agency National Aviation Safety Management System Guide (NASMSG).

### **5702.15 – Ongoing Learning**

Ongoing learning is a critical element of a successful ASMS. Aviation personnel must learn from many events, including but not limited to: quality assurance audits, accidents, incidents, near misses, incidents with potential, and Facilitated Learning Analysis (FLA). It is essential that the

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

agency review its successes as well as its failures to promote and strengthen safety culture and to develop best management practices.

The Agency's doctrine-based performance system must teach employees how to think and make good decisions.

### **5702.15a – Training and Qualifications**

Standardized training and qualifications are essential in promoting best business practices to Forest Service aviation operations. Leadership must oversee, manage, and support training standards. Standardized aviation training will promote an industry-leading safety culture that includes professionalism, proficiency, and comprehensive root-cause analysis, which in totality lead to a more refined and sustainable decision-making model.

Through funding and leadership, the Agency must support performance-based training and encourage mentorship to help employees achieve success and safety through education and training.

### **5702.16 – Communications and Relationships**

The Agency will strive toward mutually productive communications and relationships with agency employees, the public, interagency partners, contractors, and cooperators that foster:

1. Common goals and vision;
2. Accurate, honest, purposeful, and consistent communication; and
3. Cooperation across jurisdictional boundaries to accomplish objectives.

### **5703 – POLICY**

The Agency will achieve its objectives using a doctrinal approach that incorporates: agency and interagency aviation policies, the direction in Land and Resource Management Plans, National Interagency Incident Management System (NIIMS), 14 CFR, Federal Aviation Administration (FAA) policy, General Services Administration (GSA) policy, Forest Service policy, and other federal laws and regulations for all aviation programs to assure appropriate, risk-informed decisions and effective management, consistent with land and resource management objectives.

Forest Service aviation policy is approved by the Deputy Chief, State and Private Forestry. Regions, Forests, and units may create local policy supplements which are more restrictive only for responsibilities and administrative procedures. Changes to safety, operations, airworthiness, pilot standardization and aviation training policy must be approved only at the national office level.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

### **5703.1 – Aviation Safety Management System**

The Agency will maintain a standards-based approach for the Aviation Safety Management System (ASMS). Refer to FSM 5720.3 for the policy direction regarding ASMS use.

### **5703.2 – Aircraft**

All agency-owned and operated aircraft are registered to the Washington Office and are assigned to a Region.

All leased aircraft are assigned to a Region.

Regions or the Washington Office will administer aircraft contracts, provide management and oversight, and maximize utilization and efficiency.

All aircraft are agency assets and may be reassigned based on changing priorities, underutilization, or other factors that would improve efficiency.

### **5703.3 – Training and Qualifications**

Only qualified personnel must accomplish and/or supervise agency aviation operations and projects. A qualified evaluator or trainer must supervise trainee participants during aviation operations and projects.

All personnel involved in aviation operations must receive the appropriate training and meet the experience requirements specified in the fire and aviation management qualifications in FSH 5709.16, the Forest Service Fire and Aviation Qualifications Guide, the Interagency Wildland Fire Qualifications System Guide, and/or the Interagency Aviation Training Guide, prior to participating in aviation missions, operations, or projects (Refer to FSM 5706 for additional guidance).

### **5703.4 – All Agency Flight Operations**

All agency flight operations must be approved, with an approved aircraft and an approved pilot. Flight operation approval is accomplished by:

1. Incident Missions: a resource order or an Interagency Aircraft Dispatch Form is required to order aviation resources.
2. Non-incident Missions: a flight request/flight schedule (Aircraft Flight Request/Flight Schedule or NWCG Passenger/Crew and Cargo Manifest, PMS 245) or unmanned aircraft systems (UAS) mission request is required. Refer to FSH 5709.16, chapter 32.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

3. Administrative Use of Aircraft flights also require a Justification for Administrative Use of Aircraft form (FS 5700-10) and a Cost Comparison Travel Worksheet (FS-5700-11)/Documentation of Administrative Use of Aircraft form. Use the U.S. Government Aircraft Cost Accounting Guide with established GSA per diem, city pair fares, and mileage rates to develop the Cost Comparison Travel Worksheet.

For maintenance check flight approvals, refer to FSH 5709.16, chapter 40.

UAS flights will require additional approvals and documentation. Refer to FSH 5709.16, section 36.7.

All agency flight operations must be performed in accordance with:

1. 14 CFR applicable to the mission performed,
2. Agency manuals, handbooks, standards, plans and agency-approved guides, and
3. The terms of the applicable contract, if it is a leased or contracted aircraft.
4. 41 CFR applicable to all travel.

### **5703.41 – Civil Aircraft Operations**

All agency aircraft operations are civil unless specifically meeting the definition of public aircraft operations. All aircraft other than public aircraft are considered civil aircraft (Refer to 14 CFR Part 1.1).

Conduct all agency flight operations defined in 14 CFR, Part 1.1 as “civil aircraft” operations, such as passenger carrying point-to-point, in accordance with the applicable 14 CFRs:

1. Part 39 – Airworthiness Directives
2. Part 43 – Maintenance, Preventative Maintenance, Rebuilding, and Alteration
3. Part 61 – Certification: Pilots, Flight Instructors, and Ground Instructors
4. Part 65 – Certification: Airmen other than Flight Crewmembers
5. Part 91 – General Operating and Flight Rules
6. Part 107 – Small Unmanned Aircraft Systems
7. Part 119 – Certification of Air Carriers and Commercial Operators

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

8. Part 121 – Operating Requirements: Domestic, Flag, and Supplemental Operations
9. Part 125 – Certification and Operations: Airplanes Having a Seating Capacity of 20 or More Passengers or a Maximum Payload Capacity of 6,000 Pounds or More; and Rules Governing Persons Onboard Such Aircraft
10. Part 133 – Rotorcraft External-Load Operations
11. Part 135 – Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons On Board Such Aircraft
12. Part 137 – Agricultural Aircraft Operations

### **5703.42 – Public Aircraft Operations**

Public aircraft operations must be the exception. The definition for public aircraft can be found in FSM 5705 and 14 CFR Part 1.1.

Agency flight operations, as defined in Title 49 U.S.C § 40102 and § 40125, must comply with the 14 CFRs applicable to public aircraft (FSM 5701), except for flight operations conducted under grants of exemption from specific 14 CFRs (FSH 5709.16, ch. 30.2) and for other flight operations exceptions as authorized in FSM 5700 and in FSH 5709.16.

### **5703.43 – Fixed-Wing Operations**

Refer to FSH 5709.16, chapter 30.

### **5703.44 – Helicopter Operations**

Refer to FSH 5709.16, chapter 30.

### **5703.45 – Commercial Air Carrier Operations**

Refer to FSH 5709.16, chapters 30 and 40.

### **5703.46 – Unmanned Aircraft Systems Operations**

Refer to FSH 5709.16, chapter 30.

### **5703.5 – Pilot and Aircraft Approval**

#### **5703.51 – Pilot Approvals**

All Forest Service employee pilots must be approved by mission and aircraft make and model.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

All Forest Service employee pilots must meet agency standards in FSH 5709.16, chapter 50. The Regional Aviation Officer or the Washington Office Branch Chief, Pilot Standardization, must approve agency pilots for agency missions, aircraft make and model, and pilot designations.

All aircraft contracts must include agency pilot standards in the specifications. All contract pilots must be approved for specific missions by a designated inspector pilot.

All cooperator pilots must be approved by dual signature letter from the appropriate Regional Aviation Officer and Department of Interior Office of Aviation Services Regional Director and will be identified in an agreement/Memorandum of Understanding with that cooperator.

Refer to FSH 5709.16, chapter 13 and chapter 50 for pilot approval standards and requirements.

### **5703.52 – Aircraft Approvals**

All Forest Service aircraft must be approved for specific agency missions.

All aircraft contracts must include agency aircraft standards in the specifications. All contract aircraft must be approved for specific missions by a Forest Service designated aircraft inspector.

Forest Service aircraft inspectors are designated by the Regional Aviation Officer or the Washington Office Branch Chief, Airworthiness.

All cooperator aircraft must be approved by dual signature letter from the appropriate Regional Aviation Officer and Department of the Interior Office of Aviation Services Regional Director and will be identified in an agreement/Memorandum of Understanding with that cooperator.

Refer to FSH 5709.16, chapter 13 and chapter 40 for aircraft approval standards and requirements.

### **5703.53 – Other Approvals**

The Chief of the Forest Service or Deputy Chief, State and Private Forestry may approve by letter other Federal WCF aircraft (including pilots) for use by Forest Service Law Enforcement and Investigations employees on official duty while performing joint law enforcement operations and coordinating missions with the respective agencies.

### **5704 – RESPONSIBILITY**

The Agency must establish and maintain an aviation management and oversight program specific to the support and service needs of its mission.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

**5704.1 – All Employees**

All employees involved in aviation activities shall:

1. Ensure their safety as well as that of other personnel.
2. Acquire, know, and adhere to agency aviation policy and regulations (FSM 5700 and FSH 5709.16). Comply with agency aviation policies, when on official duty, performing agency duties on board any organization's aircraft and/or aircraft operated under any other organization's operational control.
3. Utilize the principles of the Aviation Safety Management System (ASMS). Participate in an operational risk-management process that must include a continual assessment of risks.
4. Utilize agency doctrine to guide decision making (FSM 5702.1).
5. When flying, employees must adhere to the following:
  - a. Fly only in carded agency, agency contracted, or approved cooperator aircraft.
  - b. Fly only with carded agency, agency contracted, or approved cooperator pilot(s).
  - c. Approvals are specified in FSH 5709.16, chapters 40 and 50.
  - d. Exemptions to employees flying on non- carded aircraft or with non- carded pilot(s):
    - (1) All Hazard Response (Refer to FSH 5709.16, ch. 30.4).
    - (2) In unusual circumstances, Forest Service personnel may perform a flight in non-approved aircraft with non-approved pilots. The Regional Forester may approve this flight based on a recommendation from the Regional Aviation Officer. Refer to FSH 5709.16, chapter 30.3.
    - (3) A scheduled air carrier airline.
    - (4) An inspector pilot conducting a pilot evaluation flight on a carded aircraft for a non-carded pilot.
5. Immediately report potential and actual problems, incidents, and accidents, and any instances of unsafe equipment or aviation operations to their Supervisor and the appropriate official.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

6. During the course of an aviation operation, flight, or mission, employees are empowered to voice concerns, and receive acknowledgment of the concerns, regarding the safety and operation of the flight. If there is immediate risk to life, the employee must request the flight/flight profile be discontinued as safely as conditions permit.
7. Meet the minimum standards for training and experience for the position they are performing. All aviation-related Incident Command System (ICS) position qualifications are governed by the Forest Service Fire and Aviation Qualifications Guide and the Interagency Wildland Fire Qualifications System Guide (PMS 310-1).
8. Utilize the Interagency Aviation Training Guide for all aviation-related non-fire positions.
9. Not use government aircraft and equipment for personal use, or use personal aircraft for agency missions.
10. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

### **5704.2 – Supervisors**

Supervisors, at all organizational levels, shall:

1. Ensure that aviation users in their units have the appropriate aviation experience and training.
2. Ensure that their aviation program has appropriate aviation supervision.
3. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

First and second level Supervisors of employees who use aircraft to accomplish agency missions must have the appropriate aviation experience and training, as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide.

### **5704.3 – Chief**

The Chief retains the overall authority and responsibility for the aviation management program and provides leaders' intent and direction for the Agency's aviation program.

#### **5704.31 – Deputy Chief, State and Private Forestry**

The Deputy Chief, State and Private Forestry is responsible to the Chief. The Deputy Chief shall:



**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

1. Provide direction, leaders' intent, and administration of agency-wide aviation management programs, policies, training, and procedures;
2. Advise the Chief of current aviation-related issues;
3. Approve Mission Aviation Safety Plans (MASP), or policy identified equivalent, for Washington Office sponsored aviation non-fire operations, testing, and equipment projects;
4. Approve any new agency aviation programs;
5. Approve any Forest Service aviation standards and guides or interagency aviation standards and guides utilized by the Forest Service;
6. Provide liaison for aviation planning and program coordination with cooperators and partners;
7. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

Responsibilities may be delegated to the Washington Office Director, Fire and Aviation Management.

**5704.31a – Washington Office Director, Fire and Aviation Management**

The Director, Fire and Aviation Management, is responsible to the Deputy Chief, State and Private Forestry. The Director, Fire and Aviation Management, shall:

1. Provide oversight to a national aviation program through leaders' intent and direction.
2. Provide liaison for aviation planning and program coordination with cooperators and partners.
3. Ensure appropriate financial management and support for the Agency aviation management program and resources.
4. Approve equipment and procedures for operational testing and operational use.
5. Approve all national aviation safety and management plans and addendums/changes to these plans.
6. Approve Forest Service WCF, contracted, or leased aircraft for airshow static display or flight demonstrations.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

7. Ensure that individuals engaged in aviation operations are trained and qualified to the appropriate level.
8. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

Responsibilities may be delegated to the Deputy Director, Aviation, Operations and Risk Management.

**5704.31b – Washington Office Deputy Director, Aviation, Operations, and Risk Management**

The Deputy Director, Aviation, Operations, and Risk Management, is responsible to the Director, Fire and Aviation Management. The Deputy Director shall:

1. Provide oversight to a national aviation program through leaders' intent and direction.
2. Provide oversight to a national aviation safety program and accident prevention program.
3. Review Commitment and Obligation Request form (FS 6500-224) for all Washington Office funded aviation contracts.
4. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.
5. Supervise the Washington Office, Assistant Director, Aviation.
6. Supervise the Washington Office, Assistant Director, Doctrine, Learning, and Risk Management.

Aviation responsibilities may be delegated to the Washington Office, Assistant Director, Aviation.

**5704.31c – Washington Office Assistant Director, Aviation**

The Assistant Director, Aviation is responsible to the Deputy Director, Aviation, Operations, and Risk Management for Forest Service aviation management. The Assistant Director, Aviation is located at Forest Service Washington Office. The Assistant Director, Aviation shall:

1. Serve as the Agency's National Aviation Management Program Manager;

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

2. Manage all national aviation programs through leaders' intent and direction. This must include, but is not limited to, aviation planning, budget, policy, operations, aircraft airworthiness, pilot standardization, aviation training, and quality assurance;
3. Approve or disapprove equipment and procedures for testing and evaluation;
4. Initiate, review, and approve all national aircraft contracting, leasing, acquisition, and technical requirements;
5. Approve all national aviation operations standards and plans and addendums/changes to those plans;
6. Develop and manage aviation program budget, including national aircraft contracts;
7. Administer national pilot standardization, aviation operations, and airworthiness programs;
8. Maintain a current National Aviation Safety and Management Plan in collaboration with the Branch Chief, Aviation Safety Management System;
9. Maintain a current National Aviation Strategic Plan;
10. Maintain cost-effective management of Working Capital Fund (WCF) aircraft;
11. Annually review aviation business cases as part of the annual budget cycle;
12. Ensure aviation quality assurance across the Forest Service aviation management program;
13. Recruit, train, mentor, and retain a highly skilled, diverse workforce of both career aviation personnel and aviation support personnel for the Washington Office aviation management program;
14. Maintain aviation security policies and procedures;
15. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
16. Request approval of Commitment and Obligation Request forms (FS 6500-224) for all Washington Office funded aviation contracts;
17. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

18. Supervise the Washington Office Aviation Management Division, including:
- a. Branch Chief, Airworthiness – Boise,
  - b. Branch Chief, Aviation Operations – Boise,
  - c. Branch Chief, Pilot Standardization – Boise,
  - d. Branch Chief, Aviation Business Operations,
  - e. Aviation Strategic Planner, and
  - f. Branch Chief, Aviation Program Management.

Responsibilities may be delegated to one or all of the Washington Office Aviation Branch Chiefs, listed above.

**5704.31d – Branch Chief, Airworthiness**

The Branch Chief, Airworthiness, is responsible to the Assistant Director, Aviation, for the management and oversight of airworthiness standards for all WCF, contract, leased, and cooperator aircraft. The Branch Chief, Airworthiness is located at the Washington Office Detached Unit, Boise, Idaho. It is the responsibility of the Branch Chief, Airworthiness, to:

- 1. Develop and approve Agency Aircraft and Avionics Inspector qualifications and training standards;
- 2. Develop and approve airworthiness standards for contracted and WCF aircraft in accordance with agency policy, standards and approved guides;
- 3. Develop and approve pre-use inspection standards for contract and cooperator aircraft;
- 4. Ensure that the modification, repair, and maintenance of Forest Service operated aircraft are completed in accordance with the applicable Parts of 14 CFR, agency policy and approved guides, and that personnel comply with the policy requirements and the approved maintenance and inspection guides for the specific type of aircraft;
- 5. Conduct National oversight and continuing evaluation of the aviation program to accomplish National, Regional, Forest, and District level aviation objectives;
- 6. Coordinate with Forest Service Acquisition Management personnel for contract specification development, contract evaluation, and logistic support in the procurement of aircraft and services;

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

7. Coordinate with FAM Aviation Operations personnel and the National Airtanker and Helicopter Program Managers for the inspection and approval of contract and rental agreement aircraft;
8. Coordinate the national airworthiness program with the Regional Aviation Officers, regional aviation Program Managers, and Regional aviation specialists;
9. Approve aircraft inspection and maintenance programs for each type of WCF aircraft (Refer to FSH 5709.16, sec. 42.2);
10. Ensure Forest Service WCF aircraft are maintained in standard configuration;
11. Establish and approve an inspection and maintenance program for former military, non-FAA certificated WCF aircraft (Refer to FSH 5709.16, sec. 47.2);
12. Approve extensions to inspection frequency limits (Refer to FSH 5709.16, ch. 48.24);
13. Tabulate and disseminate malfunction and deficiency reports for similar type aircraft if needed. (Refer to FSH 5709.16, sec. 45.2);
14. Approve Minimum Equipment Lists (MEL) for aircraft operated by the Forest Service if applicable (Refer to FSH 5709.16, sec. 48.28);
15. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;
16. Supervises:
  - a. Aviation Safety Inspectors, Airworthiness,
  - b. Aviation Safety Inspectors, Avionics,
  - c. Aviation Management Specialist,
  - d. Aerospace Engineer, and
  - e. All Washington Office aviation maintenance personnel.

For more information on the responsibilities and authorities of the Aviation Airworthiness branch, refer to FSH 5709.16, chapter 40.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

**5704.31e – Branch Chief, Aviation Operations**

The Branch Chief, Aviation Operations is responsible to the Assistant Director, Aviation for the management and supervision of aviation operations. The Branch Chief, Aviation Operations is located at the Washington Office Detached Unit, Boise, Idaho. The Branch Chief, Aviation Operations shall:

1. Provide oversight, coordination, and management of aviation operations conducted by the Washington Office and Regions;
2. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
3. Coordinate the national aviation operations program with the Regional Aviation Officers, regional aviation Program Managers, and Regional aviation specialists;
4. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;
5. Supervise:
  - a. National Helicopter Operations Specialist,
  - b. National Helicopter Program Manager,
  - c. National Aerial Supervision Program Manager,
  - d. National Smokejumper Program Manager,
  - e. National Airtanker Program Manager,
  - f. National Aircraft Coordinator,
  - g. National Fixed-Wing Coordinator,
  - h. National Rappel Specialist,
  - i. Aviation Program Specialist,
  - j. Unmanned Aircraft Systems Program Manager, and
  - k. Other Washington Office aviation operations Program Managers and specialists.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

For more information on the responsibilities and authorities of the Aviation Operations branch, refer to FSH 5709.16, chapter 30.

**5704.31f – Branch Chief, Pilot Standardization**

The Branch Chief, Pilot Standardization is responsible to the Assistant Director, Aviation for the management of pilot standardization for all agency and contract pilots. The Branch Chief, Pilot Standardization is located at the Washington Office Detached Unit, Boise, Idaho. The Branch Chief, Pilot Standardization shall:

1. Approve or rescind, in coordination with the Regional Aviation Officer, flight duty status and designations for agency pilots for agency missions and aircraft make and model;
2. Designate Forest Service flightcrew inspectors in coordination with the Regional Aviation Officer;
3. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
4. Coordinate the national pilot and flightcrew standardization with the Regional Aviation Officers, regional aviation Program Managers, and Regional aviation specialists;
5. Coordinate with the National UAS Program Manager for the development and implementation of a National Remote Pilot Standardization and Training Program;
6. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;
7. Supervise:
  - a. National Helicopter Standardization Pilot,
  - b. National Helicopter Inspector Pilots,
  - c. National Fixed-Wing Standardization Pilot,
  - d. National Fixed-Wing Inspector Pilots, and
  - e. Other Washington Office pilot standardization specialists.
8. Provide national leadership for agency inspector pilot qualifications, performance, and training standards;

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

9. Provide management and supervision for the development and implementation of a National Pilot and Aircrew Standardization and Training Program;
10. Designate, in writing, authorized inspector pilots that meet the minimum standards of this chapter. These inspectors are listed on the Forest Service Authorized National Pilot, Aircraft, and Avionics Inspectors List;
11. Designate, in writing, inspector pilots to perform quality assurance inspections for aircrew;
12. Designate, in writing, the following qualifications for agency personnel: initial agency pilot, remote pilot, pilot-in-command (PIC), evaluator pilot, instructor pilot, aircraft commander, flight engineer, loadmaster, and special use mission aircrew designations;
13. Designate, in writing, the following qualifications for contractor operations in WCF aircraft: evaluator pilot, instructor pilot, aircraft commander, copilot, flight engineer, or loadmaster, as required;
14. Perform oversight of ground and flight evaluations of pilots and training records, and flightcrew in all missions. These evaluations are performed by pilots delegated on the Forest Service Authorized National Pilot, Aircraft, and Avionics Inspectors List;
15. Conduct National oversight and continuing evaluation of the aviation program to accomplish National, Regional, Forest, and District level aviation objectives;
16. Coordinate with Forest Service Acquisition Management personnel for contract specification development, contract evaluation, and logistic support in the procurement of aircraft and services;
17. Coordinate with FAM Aviation Operations personnel and the National fixed-wing and helicopter program specialists for the inspection and approval of contract and rental agreement pilots;
18. Perform ground and flight evaluations of new agency pilots and aircrew, and for initial upgrades to Pilot-in-Command (PIC), aircraft commander (AC), instructor pilot/aircrew, and evaluator pilot/aircrew; and
19. Review and recommend approval of the U.S. Forest Service National Pilot Standards.



## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

For more information on the responsibilities and authorities of the Pilot Standardization branch, refer to FSH 5709.16, chapter 50.

### **5704.31g – Branch Chief, Aviation Business Operations**

The Branch Chief, Aviation Business Operations is responsible to the Assistant Director, Aviation for the management and supervision of aviation business operations. The Branch Chief, Aviation Business Operations is located at Forest Service Washington Office in Washington D.C. The Branch Chief, Aviation Business Operations shall:

1. Provide oversight, coordination, and management of aviation business operations conducted by the Washington Office, Regions, and Stations;
2. Meet the training requirements for Aviation Managers found in the Interagency Aviation Training Guide;
3. Coordinate national aviation business operations with the Regional Aviation Officers, Regional Aviation Program Managers, and Regional aviation specialists;
4. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties; and
5. Supervise Washington Office Aviation Business Operations specialists.

For more information on the responsibilities and authorities of the Aviation Business Operations branch, refer to FSH 5709.16, chapter 10.

### **5704.31h – Aviation Strategic Planner**

The Aviation Strategic Planner is responsible to the Assistant Director, Aviation, for the management and supervision of aviation strategic planning. The Aviation Strategic Planner is located at Washington Office in Washington DC. The Aviation Strategic Planner shall:

1. Coordinate and develop aviation strategic planning;
2. Meet the training requirements for Aviation Managers found in the Interagency Aviation Training Guide;
3. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties; and
4. Supervise Washington Office Aviation Management specialists.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

### **5704.31i – Branch Chief, Aircraft Program Management**

The Branch Chief, Aircraft Program Management (APM), is responsible to the Assistant Director, Aviation, for the management and oversight of WCF large airtanker aircraft. The Branch Chief, APM is located at Washington Office in Washington DC. The Branch Chief, APM, must:

1. Provide program planning, onboarding action, oversight, coordination, and management of new WCF large aircraft;
2. Coordinate program planning, onboarding action, oversight, coordination, and management with the Washington Office Aviation Branch Chiefs, Program Managers, aviation specialists and Regions;
3. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
4. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties; and
5. Supervise Washington Office Aviation Management specialists.

### **5704.32 – Assistant Director, Doctrine, Learning, and Risk Management**

The Assistant Director, Doctrine, Learning, and Risk Management is responsible to the Deputy Director, Aviation, Operations, and Risk Management. The Assistant Director, Doctrine, Learning, and Risk Management supervises the Branch Chief, Aviation Safety Management Systems.

Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

Provide oversight, coordination, and direction to the Branch Chief, Aviation Safety Management System.

### **5704.32a – Branch Chief, Aviation Safety Management System**

The Branch Chief, Aviation Safety Management System is responsible to the Assistant Director, Doctrine, Communications, and Risk Management, for the management and supervision of the aviation safety management system. The Branch Chief, Aviation Safety Management System is located at the Washington Office Detached Unit, Boise, Idaho. The Branch Chief, Aviation Safety Management System must:

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

1. Provide oversight, coordination, and direction of aviation safety management system conducted by the Washington Office, Regions and Stations;
2. Meet the training requirements for aviation managers found in the Interagency Aviation Training Guide;
3. Supervise the Aviation Safety Specialist(s) within the Washington Office, Aviation Safety Management System Branch;
4. Maintain the aviation safety management system for Forest Service Aviation and all associated programmatic functions described within the NASMSG;
5. Participate in the Interagency Committee for Aviation Policy (ICAP) Safety Standards and Training Subcommittee;
6. Coordinate the Agency's commitment to the ICAP Gold Standard certificate;
7. Initiate risk assessments, as needed, for new or changing missions or aircraft. Refer to Change Management Guide;
8. Lead process to complete risk assessments. This includes monitoring action plans and measuring their effectiveness in risk management terms;
9. Coordinate with Washington Office aviation staff, Regional Aviation Officers, and Regional Aviation Safety Managers to staff risk assessments;
10. Designate, in writing, authorized Air Safety Investigators (ASIs) and Qualified Technical Investigator (QTIs) that meet the minimum standards of this chapter. These investigators are listed on the Forest Service Authorized National Pilot, Aircraft, Avionics Inspectors and QTI List;
11. Determine the appropriate level of an aviation accident/incident investigation for the purpose of developing lessons learned and identification of systemic defects in coordination with the Regional Aviation Safety Manager;
12. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;
13. The Branch Chief, Aviation Safety Management Systems must:
  - a. Be qualified as an ICAP Aviation Safety Officer; meeting the requirements of 41 CFR Part 101-37.1202 and 1203.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

- b. Be qualified as a Forest Service Qualified Technical Investigator (QTI) or equivalent aviation accident investigator qualification.
- c. Possess experience managing a complex aviation safety program, such as a Regional Aviation Safety Manager, or equivalent, plus one of the following, at a minimum:
  - (1) Commercial pilot certificate issued by the Federal Aviation Administration. Military equivalent is acceptable if the commercial pilot certificate is issued within 12 months of effective date.
  - (2) Current airframe and powerplant certificate (A&P) issued by the Federal Aviation Administration (FAA) with an Inspection Authorization (IA).
  - (3) Previous qualification in one of the following IQCS positions: HEB1, exclusive use HMGB, or ATGS.

For more information on the responsibilities and authorities of the Aviation Safety Management Systems Branch, refer to FSH 5709.16, chapter 20 and the National Aviation Safety and Management Plan.

**5704.33 – Washington Office Directors – Forest Health Protection, Law Enforcement and Investigations, and other Washington Office Directors with Aviation Activities**

Washington Office Directors - Forest Health Protection, Law Enforcement and Investigations, and other Washington Office Directors that conduct aviation activities must appoint, by official correspondence, a full-time or collateral duty aviation manager to coordinate aviation activities within their programs and with the appropriate Regional Aviation Officers and Regional Aviation Safety Managers.

Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

**5704.33a – Washington Office Programs with Aviation Activities Aviation Managers**

The Aviation Manager is responsible to the appropriate Washington Office Director. This appointed position may be full-time or have collateral duties. The Aviation Manager coordinates with the Washington Office Aviation, Regional Aviation Officers, and Regional Aviation Safety Managers.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

**5704.34 – Regional Foresters and/or Their Deputies**

The Regional Foresters are responsible to the Chief. Regional Foresters are responsible for all Forest Service related aviation activities within their regional boundaries and shall:

1. Ensure the Regional Aviation Program is based on National Aviation policy, direction, and leaders' intent. This must include, but is not limited to, aviation planning, budget, policy, operations, aircraft airworthiness, pilot standardization, aviation training, and quality assurance;
2. Recruit, train, mentor, and retain a highly skilled, diverse workforce of both career aviation personnel and aviation support personnel;
3. Establish and maintain a minimum core organization that implements national direction, commensurate with workload, to include:
  - a. Regional Aviation Officer (must not have collateral duties),
  - b. Regional Aviation Safety Manager (must not have collateral duties),
  - c. Regional Unmanned Aircraft Specialist/Coordinator,
  - d. Regional Helicopter Operations Specialist,
  - e. Regional Helicopter Program Manager/Helicopter Inspector Pilot,
  - f. Regional Fixed-Wing Program Manager/Inspector Pilot, and
  - g. Regional Aviation Safety Inspector – Airworthiness.
4. Ensure appropriate financial management of the aviation program and resources;
5. Maintain cost-effective management of Working Capital Fund (WCF) aircraft assigned to the Region;
6. Approve a MASP (or delegate to the appropriate Line Officer where the project will be conducted) prior to commencing Regional Office non-fire projects involving the use of aircraft;
7. Develop the regional/area aviation management goals, objectives, and activities;

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

8. Provide aviation strategic direction based on the national aviation strategy;
9. Approve the Regional/ supplement to the National Aviation Safety and Management Plan (NASMP); and
10. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

Responsibilities may be delegated to Regional/Area Fire Directors.

**5704.34a – Regional Director, Fire and Aviation Management**

The Regional Director, Fire and Aviation Management is responsible to the Regional Forester.

The Regional Director, Fire and Aviation Management shall:

1. Ensure the Regional Aviation Program is based on National aviation policy, direction, and leaders' intent. This must include, but is not limited to, aviation planning, budget, policy, operations, aircraft airworthiness, pilot standardization, aviation training, and quality assurance;
2. Provide aviation assistance to the Forests, Stations, and cooperators;
3. Provide aviation management assistance to eligible cooperators through the Cooperative Fire Protection Program, including aircraft acquisition and support utilizing the Federal Excess Personal Property (FEPP) program;
4. Approve the following required plans:
  - a. Regional Homeland Security Response Plan, and
  - b. Regional Aviation Mishap Response Plan.
5. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

Responsibilities may be delegated to Regional Aviation Officers and Regional Aviation Safety Managers.

6. Review the Regional supplement to the National Aviation Safety and Management Plan (NASMP). This responsibility must not be delegated.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

**5704.34b – Regional Aviation Officers**

The Regional Aviation Officers (RAOs) are responsible to the Regional Director, Fire and Aviation. The Regional Aviation Officers shall:

1. Serve as the Regional Aviation Program Manager;
2. Approve or, in coordination with the Washington Office Branch Chief, Pilot Standardization, rescind flight duty status and designations for agency pilots for agency missions and aircraft make and model;
3. Implement and manage a Regional Aviation Program based on national aviation policy, direction, and leaders' intent. This must include, but is not limited to, aviation planning, budget, policy, operations, aircraft airworthiness, pilot standardization, aviation training, and quality assurance;
4. Provide oversight, coordination, and management for all Forest Service aviation activities within the regional boundaries, to include: Forests, Law Enforcement and Investigations, Stations, Forest Health Protection, and all other Forest Service program areas that utilize aviation;
5. Ensures that the regional aviation program meets national direction. Coordinate with the Washington Office Aviation Branch Chiefs, Program Managers and aviation specialists to provide national program consistency and standardization;
6. Coordinate with the Washington Office Branch Chief, Pilot Standardization, for the assignment of a Regional Fixed-Wing Standardization Pilot. This position is responsible for maintaining Regional pilot, flightcrew, and aircrew training records;
7. Coordinate with the Washington Office to contract aircraft to support regional needs;
8. Provide appropriate regional supplementation to the Agency National Aviation Safety and Management Plan;
9. Review MASPs and Aviation Safety and Management Plans, within the regional boundary, to include: Regional, Forests, Stations, Forest Health Protection, Law Enforcement and Investigations, and all other Forest Service program areas that utilize aviation;
10. Meet the training requirements for Aviation Managers found in the Interagency Aviation Training Guide;

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

11. Provide oversight, coordination, and management of the regional aviation safety program. Foster a safety culture through the development and implementation of the four pillars of ASMS;
12. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;
13. Supervise a minimum core organization that implements national direction, commensurate with workload, to include:
  - a. Regional Helicopter Operations Specialist,
  - b. Regional Helicopter Program Manager,
  - c. Regional Fixed-Wing Program Manager, and
  - d. Regional Aviation Safety Inspector – Airworthiness.
14. Develop and approve the Regional Aviation Operations Plans;
15. Maintain records of all reviews of forest and regional aviation activities and make them readily accessible for national review;
16. Oversee maintenance of Regional pilot, flightcrew, and aircrew training records. This responsibility may be delegated;
17. Designate, in writing, a Regional Standardization Pilot. This position may be shared between regions, or a collateral duty. Refer to 5709.16, chapter 50;
18. Designate, in writing, a Regional Aerial Supervision Coordinator. This position may be shared between regions, or a collateral duty;
19. If necessary, designate, in writing, a Regional UAS Coordinator. This position may be shared between regions, or a collateral duty; and
20. Authorize agency pilot training and proficiency flights through a specific Operations Plan or Mission Aviation Safety Plan.

For more information on the responsibilities of the regional aviation organization, refer to the National Aviation Safety and Management Plan.



**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

**5704.34c – Regional Aviation Safety Managers**

The Regional Aviation Safety Managers (RASMs) are responsible to the Regional Director, Fire and Aviation. The Regional Aviation Safety Managers shall:

1. Provide oversight, coordination, and management of the Regional Aviation Safety Program and foster a safety culture through the development and implementation of the four pillars of ASMS;
2. Meet the training requirements for aviation managers found in the Interagency Aviation Training Guide;
3. Review MASPs and Aviation Safety and Management Plans, within the regional boundary, to include: Regional, Forests, Stations, Forest Health Protection, Law Enforcement and Investigations, and other Forest Service program areas that utilize aviation;
4. Provide aviation safety oversight, coordination, and management for all Forest Service aviation activities within the regional boundaries, to include: Forests, Law Enforcement and Investigations, Stations, Forest Health Protection, and all other Forest Service program areas that utilize aviation;
5. Coordinate the Regional Aviation Safety Program with the Washington Office Aviation Branch Chiefs, Program Managers, and aviation specialists;
6. Provide appropriate regional supplementation to the Agency National Aviation Safety and Management Plan;
7. Prepare regional aviation safety-related plans;
8. Maintain records of all reviews of forest and regional aviation safety activities and make them readily accessible for national review;
9. Provides oversight of the regional aviation training program;
10. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;
11. Must be a member of the National Aviation Safety Council;
13. The Regional Aviation Safety Manager must possess, at a minimum, the following experience/qualifications:

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

- a. Experience as a pilot or crew member, or in aviation operations management/flight program management.
- b. Graduate of an aviation safety officer course provided by a recognized training provider and authority in aviation safety before appointment, or within one year after appointment.
- c. At least, 90 days of firefighting experience.

The RASM must not provide supervision for any aviation operational position or aviation operations program.

For more information on the responsibilities of the Regional Aviation Safety Manager, refer to FSM 5720, FSH 5709.16, chapter 20, and the Aviation Safety Management Systems Guide.

**5704.34d – Forest Health Protection Aviation Safety Manager**

The Forest Health Protection (FHP) Aviation Safety Manager is responsible to the Washington Office Director, Forest Health Protection. The Forest Health Protection Aviation Safety Manager (FHP ASM) provides FHP aviation program management and oversight in coordination with Regional Aviation Officers and Regional Aviation Safety Managers. The FHP Aviation Safety Manager is a member of the National Aviation Safety Manager's Council. The FHP Aviation Safety Manager shall:

1. Coordinate all FHP aviation operations and safety with RAOs and RASMs. Coordination will include operations, flight safety, MASPs, aircraft and pilot inspections and approvals, quality assurance, and interagency and partner cooperation;
2. In coordination with RAOs and RASMs, develop operational plans and risk assessments for all FHP aviation missions, including aerial survey, aerial application, aerial photography/remote sensing;
3. In coordination with RAOs and RASMs, review and update the Regional/Area FHP supplements to the National Aviation Safety and Management Plan;
4. In coordination with RAOs and RASMs, conduct safety and quality assurance reviews for FHP aviation operations;
5. In coordination with RAOs or the Area Aviation Manager, develop FHP specific FRATs;

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

6. Meet Aviation Manager training requirements in accordance with Interagency Aviation Training Guide; and
7. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

### **5704.34e – Washington Office Programs with Aviation Activities Aviation Managers**

The Aviation Manager is responsible to the appropriate Washington Office Director. This appointed position may be full-time or have collateral duties. The Aviation Manager provides aviation program management and oversight in coordination with Regional Aviation Officers and Regional Aviation Safety Managers. The Aviation Manager may be a member of the Regional Aviation Officers and/or National Aviation Safety Council. The Aviation Manager shall:

1. Coordinate all aviation operations and safety with RAOs and RASMs. Coordination will include operations, flight safety, FRATs, aircraft and pilot inspections and approvals, quality assurance, and interagency and partner cooperation;
2. In coordination with RAOs and RASMs, develop operational plans and risk assessments for all program aviation missions;
3. In coordination with RAOs and RASMs, review and update the Regional/Area program supplements to the National Aviation Safety and Management Plan;
4. In coordination with RAOs and RASMs, conduct safety and quality assurance reviews for aviation operations;
5. In coordination with RAOs, develop program specific FRATs;
6. Meet Aviation Manager training requirements in accordance with Interagency Aviation Training Guide; and
7. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

### **5704.35 – Forest Supervisors**

Forest Supervisors are responsible to the Regional Forester, Forest Supervisors shall:

1. Ensure the forest aviation program is based on National/Regional aviation policy, direction, and leaders' intent. This must include, but is not limited to, aviation planning, budget, policy, operations, aviation training, and quality assurance;

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

2. Designate a Forest Aviation Officer. If the position is shared or a collateral duty, it must be designated in writing (Refer to FSM 5704.35b);
3. Approve a MASP (or delegate to the appropriate Line Officer where the project will be conducted) prior to commencing all forest non-fire projects involving the use of aircraft;
4. Develop the forest aviation management goals, objectives, and activities;
5. Provide forest-related strategic direction based on national aviation strategy;
6. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;
7. Approve the following required plans:
  - a. Forest supplement to the National/Regional Aviation Safety and Management Plan (NASMP),
  - b. Aviation Facility Homeland Security Response Plan,
  - c. Forest Aviation Mishap Response Plan, and
  - d. Aviation Base Operational Plans.

**5704.35a – Forest Staff Officer Responsible for Aviation**

The Forest Staff Officer Responsible for Aviation is responsible to the Forest Supervisor. The Staff Officer shall:

1. Implement a forest aviation program through leaders' intent and direction;
2. Provide aviation assistance to the forest, districts, and other cooperators;
3. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;
4. Review the following required plans:
  - a. Forest supplement to the National/Regional Aviation Safety and Management Plan (NASMP),
  - b. Facility Homeland Security Response Plan,

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

- c. Forest Aviation Mishap Response Plan, and
- d. Aviation Base Operational Plans.
- 5. Review the forest supplement to the regional supplement to the National Aviation Safety and Management Plan (NASMP); and
- 6. Meet the training requirements for Aviation Supervisors found in the Interagency Aviation Training Guide.

**5704.35b – Forest/Unit/Zone Aviation Officer**

Forest/Unit/Zone Aviation Officers are responsible to the Forest Staff Officer Responsible for Aviation. The Forest/Unit/Zone Aviation Officer shall:

- 1. Implement and manage the forest aviation program based on national/regional aviation policy, direction, and leaders' intent. This must include, but is not limited to, aviation planning, budget, policy, operations, aviation training, and quality assurance;
- 2. Meet the training requirements for aviation managers found in the Interagency Aviation Training Guide;
- 3. Oversee aviation mission planning, operations, and risk assessment, including fire and non-fire missions and incidents managed by incident management teams;
  - a. Function as the primary point of contact for all forest/unit/zone aviation operations.
  - b. Provide forest/unit/zone orientation briefings to incident management teams, flightcrews, and other aviation support personnel working on the forest/unit/zone.
  - c. Briefings will include forest/unit/zone plans, aerial and flight hazard maps, risk assessments, coordinating with forest/unit dispatch, initial attack responsibilities, aviation emergency and accident response procedures, and other forest/unit/zone specific procedures and processes and other pertinent information.
- 4. Ensure compliance with aviation management, safety policies, and procedures;
- 5. Provide input and follow-up to SAFECOMS involving aviation operations on the Forest;
- 6. Conduct periodic safety evaluations of aviation operations;
- 7. Evaluate aircraft effectiveness, including cost and utilization;

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

8. Administer helicopter and fixed wing contracts and other aviation support contracts;
9. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;
10. Ensure that the following required plans are supplemented, updated annually, reviewed, and approved at the appropriate management level:
  - a. Forest supplement to the National/Regional Aviation Safety and Management Plan (NASMP),
  - b. Aviation Facility Homeland Security Response Plan,
  - c. Forest Aviation Mishap Response Plan, and
  - d. Aviation Base Operational Plans.
11. Coordinate with Regional Office aviation management as necessary; and
12. Coordinate Forest aviation training.

Some Forests employ “service-first” positions to fulfill the Forest Aviation Officer responsibilities. On those units, the position is referred to as a Unit Aviation Officer.

**5704.36 – Station Directors**

Station Directors are responsible to the Deputy Chief of Research and Development. Station Directors shall:

1. Ensure the Station Aviation Program is based on national aviation policy, direction, and leaders’ intent. This must include, but is not limited to, aviation planning, budget, policy, operations, aircraft airworthiness, pilot standardization, aviation training, and quality assurance;
2. Designate a Station Aviation Manager, in writing, if the position is shared or a collateral duty (Refer to FSM 5704.36a);
3. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;
4. Approve the following required plans:
  - a. FRATs,

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

- b. Area Homeland Security Response Plan, and
  - c. Area Aviation Mishap Response Plan.
5. Review the Station Supplement to the National/Regional Aviation Safety and Management Plan (NASMP). This responsibility must not be delegated.

**5704.36a – Station Aviation Manager**

The Station Aviation Manager is responsible to the Station Director and shall:

1. Implement and manage the station aviation program based on national/regional aviation policy, direction, and leaders' intent. This will include, but is not limited to, aviation planning, budget, policy, operations, aviation training, and quality assurance;
2. Coordinate aviation activities with the appropriate Regional Aviation Officers and Regional Aviation Safety Managers;
3. Manage the Station Aviation Program by providing technical and management direction of aviation resources to support National/Regional/Forest Programs;
4. Coordinate all station aviation operations and safety with the RAOs and RASMs. Coordination will include operations, flight safety, FRATs, aircraft and pilot inspections and approvals, quality assurance and interagency and partner cooperation;
5. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties;
6. In coordination with RAOs and RASMs:
  - a. Develop operational plans and risk assessments for all aviation missions including aerial survey, aerial application, aerial photography/remote sensing.
  - b. Review and update the Regional/Area supplements to the National Aviation Safety and Management Plan.
  - c. Conduct safety and quality assurance reviews for aviation operations.
7. In coordination with RAOs, develop FRATs; and
8. Meet the training requirements for aviation managers found in the Interagency Aviation Training Guide.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

### **5704.37 – Pilots**

Refer to FSH 5709.16, chapter 50.

### **5704.38 – Aviation Maintenance Personnel**

Refer to FSH 5709.16, chapter 40.

## **5705 – DEFINITIONS AND ACRONYMS**

Definitions, abbreviations, and acronyms are also contained in 14 CFR, Part 1, and apply to agency aviation operations. The following is a list of aeronautical terms, abbreviations, and acronyms most commonly used in agency aviation manuals, handbooks, standards, plans, and guides.

### **5705.1 – Definitions**

Accident: An unplanned event or series of events that results in death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment (refer to Aircraft Accident).

Acquisition: The process of transferring, leasing, contracting, or purchasing any aircraft.

Administrative Use: The use of a government aircraft for point-to-point transportation of authorized passengers and cargo. This does not include mission flights such as incident/project support or tactical transportation of fire crews, overhead, or other personnel or equipment required for management of an incident or project. Refer to the agency Administrative Use of Aircraft Guide for flight approvals.

Aerial Supervision Module (ASM): An aircraft that contains both a qualified Air Tactical Pilot (ATP) and Air Tactical Supervisor (ATS) on board as a complete module. This module can perform aerial supervision and is authorized to perform low-level leadplane operations.

Air Safety Investigator (ASI): A federal employee who has education, expertise, and experience in aviation accident, mishap, or near miss investigation; has knowledge of environmental, human, and material factors and analysis in incidents; is tasked to investigate the incident and generate the safety investigation report (SIR). May also serve as a Chief Investigator (CI).

Air Tactical Group Supervisor (ATGS): Manages incident airspace and controls incident air traffic. The ATGS is an airborne firefighter who coordinates, assigns, and evaluates the use of aerial resources in support of incident objectives. The ATGS is the link



## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

between ground personnel and incident aircraft. The ATGS is qualified to perform aerial supervision from either an airplane or helicopter.

Air Tactical Pilot (ATP): The ATP is a qualified leadplane pilot who has received specialized training and authorization to function as an ASM crew member. The ATP functions as the leadplane pilot and utilizes Crew Resource Management (CRM) skills to evaluate and share the incident workload with the ATS.

Air Tactical Supervisor (ATS): The ATS is a qualified ATGS who has received specialized training and authorization to function as an ASM crew member. The ATS is an ATGS who also utilizes CRM to evaluate and share the incident workload with the ATP.

Airbase: A location that supports aviation operations (helicopters, airtankers, SEATs, air attack and/or leadplanes).

Aircraft: A powered device that is used, or intended to be used, for flight in the air to perform a mission, to include UAS (including ground stations).

Aircraft/Aviation Dispatcher: A qualified dispatcher who may receive, process, and place orders for aircraft, and provide flight following and other aviation support services.

Aircraft Commander (AC): Refer to pilot-in-command. Generally applies to larger aircraft.

Aircraft Incident: An occurrence, other than an accident, associated with the operation of an aircraft that affects, or could affect, the safety of operations. Aircraft incidents are documented on form FS-5700-14, SAFECOM: Aviation Safety Communiqué, which is also approved for interagency use as form OAS-34 (FSM 5720.45).

Aircraft Incident with Potential: An incident that narrowly misses being an accident by NTSB definition and circumstances involve some aircraft damage, property damage, or minor injury to crew or passengers. Classification of Incidents with Potential is determined by the Branch Chief, Aviation Safety Management Systems.

Aircrew: A person trained with the flightcrew, who is qualified in, and assigned to perform duties onboard the aircraft, and essential for the safe operation of the mission, to include: rappel spotter, short-haul spotter, smokejumper spotter, Air Tactical Group Supervisor or Air Tactical Supervisor.

Airline Service: Use of scheduled commercial airlines to reach a desired destination.

Airspace Conflict: A near mid-air collision, intrusion, or violation of airspace rules.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

Airspace Coordinator: An official representing the Agency to coordinate airspace issues, including assessing the national or geographic area airspace situation and the impact that fire or other incident operations are having on specific FAA classes of airspace, ATC arrival and departure procedures, SUA and MTRs, and other users of the national airspace.

Airstrip: A location that has only a runway, without aviation support services (fuel, fixed base operation, tie downs, maintenance, and so forth).

Airtanker: An aerial delivery system that consists of a fixed-wing aircraft configured for the dispensing of fire retardant or fire suppressant material.

All-hazard: Describing an incident, natural (including wildfire) or manmade, that warrants action to protect life, property, environment, and public health or safety, and to minimize disruptions of government, social, or economic activities.

Approved Aircraft and Pilot(s): Cooperator Aircraft and pilot(s) approved by interagency approval letter issued by Regional Aviation Officers and Department of the Interior/ Office of Aviation Services Regional Directors. The National Office may issue approval letters for active duty or National Guard aircraft activated through National Interagency Fire Center agreements.

Area of Operation (AO): An Area of Operation is an area within a Temporary Flight Restriction where aerial Supervisors may develop holding points, initial points, flight routes, virtual fences, and check points as appropriate to maintain adequate separation of aircraft within the TFR. Generally, aircraft are separated in different AOs by helicopter, airtanker, or water scooper, but that may not always be the case.

Aviation Accident: An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and the time all such persons have disembarked, and in which any person suffers death or serious injury or in which the aircraft receives substantial damage. During a jump sequence, an agency smokejumper is considered to have safely disembarked the aircraft after detaching from the static line of the parachute deployment system and when the parachute canopy has successfully deployed (Refer to 14 CFR, NTSB 830 for definition of reportable accidents).

Aviation Activities: Any Forest Service program, Region, Station, Forest, or unit with aviation activities defined as a WCF, contracted, leased, or cooperator aviation mission that provides a benefit to the Forest Service or is funded completely or in part by the Forest Service.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

Aviation Business System (ABS): An agency electronic payment system.

Aviation Facility: A Forest Service operated site that engages in aviation activities.

Aviation Hazard: Any condition, act, or set of circumstances that exposes an individual to unnecessary risk or harm during aviation operations.

Aviation Management Information System (AMIS): A management information software program that allows users to enter aviation usage and cost reporting information for utilization and accountability tracking.

Aviation Professional: A person with specific or broad aviation experience, to include pilot, maintenance, commercial, or resource agency aircraft operations. An Aviation Professional has experience in aircraft operations, aircraft support programs and has held an aviation position in a natural resource agency, aircraft operating company, or equivalent military organization.

Aviation Safety: Risks associated with aviation activities are reduced and controlled to an acceptable level.

Aviation Safety Inspector (ASI): Airworthiness or Avionics Inspector.

Aviation Safety Management System (ASMS): The formal, top-down, business-like approach to managing safety risk. It includes systematic procedures, practices, and policies for the management of safety (as described in this document it includes the four pillars: safety risk management, safety policy, safety assurance, and safety promotion).

Backcountry Airstrip: Runways that do not have a hard surface runway, whether charted or uncharted.

Carded Aircraft and Pilot(s): Agency and contract aircraft and pilot(s) approved by interagency card issued by a National, Regional or Department of the Interior/Office of Aviation Services airworthiness inspector or pilot inspector respectively.

Category: As used with respect to the certification, ratings, privileges, and limitations of aircrew, a broad classification of aircraft, such as fixed-wing and rotary aircraft. (Source: FAA definitions.)

Check Airman: An agency pilot that conducts agency pilot evaluation flights. Refer to FSH 5709.16, chapter 50.

Check Ride: A practical test that a pilot must pass to receive certification, to maintain, or an endorsement for additional flight privileges. The examinee flies in an aircraft with an

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

authorized evaluator to demonstrate competency in the skills required for the certification. A check ride is one part of an aircrew evaluation, which also includes an oral evaluation and may include a written test.

Civil Aircraft: Aircraft other than public aircraft (14 CFR, Part 1.1).

Civil Twilight (Alaska): Begins in the morning, and ends in the evening when the center of the sun is geometrically 6° below the horizon. This is the limit at which twilight illumination is sufficient for terrestrial objects to be clearly distinguished.

Class: As used with respect to the certification, ratings, privileges, and limitations of aircrew, a classification of aircraft within a category having similar operating characteristics, for example, single engine, multiengine, land, water, helicopter, etc. (Source: FAA definitions.)

Complex Aviation Operations: May include one or more of the following factors: congested airspace, reduced visibility, poor weather, mountainous terrain, hot and high operating conditions, aviation operations in or near military training routes or operating areas, multiple aircraft, multiple zones on a large fire, and/or a mix of aircraft missions.

Contract Aviation Services: Aviation services involving the use of contract aircraft and flightcrews certified by the Federal Aviation Administration (FAA) and approved by the agency for specific missions.

Contractor: A person or company that is procured by the government to provide goods or services. Also referred to as a vendor.

Cooperator: A Federal, Tribal, State, or local agency that participates with another agency(s) in planning and conducting fire or emergency management projects and activities.

Crew Resource Management (CRM): Training and process designed to improve air safety by focusing on interpersonal communication, leadership and team management, and decision-making skills in the flight deck environment.

Daylight: The period between 30 minutes before sunrise and 30 minutes after sunset.

Dispatch Center: A facility from which resources are assigned to an incident.

Doctrine: Doctrine is composed of fundamental principles which guide employee actions in support of national objectives. Doctrine is authoritative but requires judgment in application.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

Emergency: An unexpected occurrence or occasion that is life threatening or has a risk of serious injury and requires immediate action.

Emergency Fuel: An emergency fuel condition exists when any of several low fuel conditions are met. For more explanation, refer to FSH 5709.16, chapter 33.71.

Emergency Operations: Operations conducted in response and support to an emergency.

Essential to the Mission: Personnel and equipment that is absolutely necessary to complete the mission successfully.

Evaluator: An individual that is qualified in evaluating for the purpose of quality assurance.

Evaluator Pilot (EP): An agency pilot designated to conduct agency flightcrew evaluations. Also referred to as a Check Airman or Check Pilot.

Fatal Injury: Any injury that results in death within 30 days of the accident.

Federal Aviation Regulations (FAR): Correctly referred to as 14 CFR, these are regulations that govern aircraft operations and maintenance.

Federal Excess Personal Property (FEPP): Refers to agency-owned property that is on loan to eligible cooperators for the purpose of wildland firefighting. Includes aircraft.

Federal Travel Regulation (FTR): Implement statutory requirements and Executive branch policies for travel by Federal civilian employees and others authorized to travel at government expense.

Federal Traveler: Federal civilian agency employees including Senior Federal Officials. Includes pilots of government aircraft flying federal travelers for Administrative Use flights.

Fixed-wing Flight Manager: Government representative who works jointly with the flightcrew and aircrew to ensure safe, efficient operation.

Fixed-wing Flight Manager – Special Use: Government representative who works jointly with the flightcrew and aircrew to ensure safe, efficient flight management of Special Use missions.

Flight Data: Data obtained from the AFF, ATU, OLM, SAFECOMs, cockpit voice recorder, flight data recorder, and any other recording device, including audio, video, and imagery. Flight data can be obtained from WCF and contracted aircraft.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

Flight Evaluation Board (FEB): A fact-finding proceeding to review a pilot's performance, judgment, compliance, and qualifications in a knowledgeable, fair, and impartial manner. The purpose of an FEB is to determine an agency pilot's ability to safely and effectively perform agency aviation missions.

Flight Following: The method and process through which an aircraft is tracked from departure point to destination. Flight following is the knowledge of the aircraft location and condition at regular intervals with a reasonable degree of certainty such that, in the event of mishap, those on board may be rescued.

Flight Risk Assessment Tool (FRAT): A daily or flight-dictated component of the continuous systematic process of identifying and controlling risk in flying activities.

Flight Tracking: A dispatch or coordination center function using the information provided on the Aircraft Flight Request/ Flight Schedule form to passively track aircraft movement locally or nationally. The aircraft check in at fuel stops or intermediate stops and their final destination. The dispatch/coordination center confirms the aircraft has reached its destination.

Flightcrew: A pilot, flight engineer, flight navigator, or loadmaster, certified by the FAA or military designation, assigned to duty in an aircraft during flight time.

Flightcrew Evaluation: A periodic evaluation of flightcrew conducted by an authorized evaluator pilot that consists of an oral evaluation and check ride, and may include a written evaluation. A flightcrew evaluation is in direct relation to operating aircraft and is not a personnel performance evaluation. Flightcrew evaluations may be related to flightcrew standards or special use missions.

Forest Service Mission: An aviation mission using an Forest Service, contract, partner or cooperator aircraft and pilot.

Functional Check Flight: A flight required by the aircraft manufacturer, supplemental information provided, or as determined by the Branch Chief, Airworthiness and Branch Chief, Pilot Standardization following the overhaul, repair, and/or replacement of any significantly complex aircraft system.

General Aviation (GA): That portion of civil aviation that encompasses all facets of aviation, except air carriers and military.

Government Aircraft: Any aircraft that is operated for the exclusive use of an executive agency and is a:

1. Federal aircraft, which an executive agency owns, bails, loans, or borrows

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

2. Commercial aircraft hired as commercial aviation services (CAS) which an executive agency:

- a. Leases or lease-purchases with the intent to take title,
- b. Charters or rents, or
- c. Hires as part of a full service contract or an inter-service support agreement.

Grant of Exemption (GE): A formal written authority granted to the Chief of the Forest Service to allow deviations from specific 14 CFRs, provided that certain specified conditions are adhered to.

Helicopter Coordinator (HLCO): Coordinates, directs, and evaluates tactical/logistical helicopter operations. The HLCO may provide sole aerial supervision on an incident where only helicopters are assigned, otherwise an ATGS is required.

Hot Retardant Loading (HRL): The loading of retardant with one or more turbine propulsion engines running. No engines on the side of the retardant loading activity may be running. Approval and extensive planning and training are required prior to this operation.

Human Factors: The multidisciplinary effort to increase the knowledge of human capabilities and limitations and to apply it to the design and development of equipment, systems, facilities, procedures, jobs, environments, training, staffing, and personnel management for safe, effective, and efficient human performance, thereby optimizing the attainment of results.

Incident: An occurrence, either human-caused or natural phenomenon, that requires action or support by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources (refer to Aircraft Incident).

Incident Flight: A mission flight in support of an incident.

Incident with Potential: An "in-flight incident" that narrowly misses being an accident by NTSB definition in which circumstances involve some aircraft damage, property damage, or minor injury to crew or passengers. Classification of Incidents with Potential is determined by the US Forest Service, Risk Management Branch.

Inspector Pilot: An agency pilot that is designated to inspect contract and cooperator pilots. Refer to FSH 5709.16, chapter 50.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

Instructor Pilot (IP): A pilot designated by the Agency to instruct other agency pilots. Instructor pilots are authorized to conduct aircraft-specific equipment evaluations, except for initial type ratings.

Interagency Aircraft Dispatch Form: An approved form used to provide detailed information for aircraft dispatch. For example: Tactical Aircraft Request Order (TARO), Kneeboard, ROSS Kneeboard, and FC 106.

Large Transport Operation: Any passenger-carrying operation in an aircraft with more than 19 non-pilot seats.

Leadplane (LP): An aircraft used for leadplane missions flown by a qualified leadplane pilot.

Leadplane Pilot: A pilot qualified to conduct leadplane missions. Coordinates, directs, and evaluates airtanker operations. Authorized to conduct low-level operations. Designated by the Branch Chief, Pilot Standardization.

Line Officer: Managing officer or designee of the Agency, division thereof, or jurisdiction having statutory responsibility for incident mitigation and management.

Low-level Flight (operational definition): Flight below 500' AGL.

Low-level Flight in Mountainous Terrain (agency contract requirements): A flight at 2500' AGL and below in terrain identified as mountainous in 14 CFR, Part 95.11 and depicted in the Aeronautical Information Manual (AIM) Figure 5-6-2 (fixed-wing operations).

Maintenance Deficiency: Equipment defects or failures that affect, or could affect, the safety of operations, or which cause an interruption to the services being performed.

Maintenance Flight: (Also known as a functional check flight). A flight required by the aircraft manufacturer following the overhaul, repair, and/or replacement of any engine, power train, or flight control equipment, and following any adjustment of the flight control systems. Results of the maintenance flight must be reported to and approved by an agency-approved maintenance inspector before the aircraft is returned to service.

Mandatory Availability Period (MAP): The required timeframe that, measured in days, an aircraft must be available for government use.

May: Denotes a preferred or advisable course of action that employees must fully consider, but are able to depart from based on a written finding, as applied to specific



## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

circumstances that the deviation will enhance program management efficiency or better achieve desired results or other objectives. (FSM 1105.1 and FSM 1110.8 – ex. 01)

**Military:** Three separate components make up the US military: the Active, the Reserve, and the National Guard. The Active and Reserve components are under Federal Government control. The National Guard units are under state control, and normally do not operate outside of their state boundaries, unless activated through a state or multi-state Emergency Management Assistance Compact (EMAC).

**Minimum Fuel:** A minimum fuel condition exists when any of several low fuel conditions are met. For more explanation, refer to FSH 5709.16, chapter 33.72.

**Mishap:** A broad term that includes accidents, incidents with potential, and aircraft incidents, but does not include hazards.

**Mishap Response Guide:** A guide that may be used in part or in its entirety as the unit aviation mishap response plan.

**Mission Crew Member:** A person assigned to perform duties unrelated to safe aircraft operation but essential for mission completion; including, but not limited to: helicopter manager, helitack crew, smokejumpers, flight observers, mission evaluators, trainees, and Washington Office and Regional designated quality assurance subject matter experts.

**Mission Flight:** A generic term to refer to all flights. Refer to Special Use Mission Flight and Point-to-point Flight.

**Mission Requirements:** Activities that constitute the discharge of an agency's official responsibilities. Such activities include, but are not limited to, the transport of personnel and/or equipment, training, evacuation (including medical evacuation), intelligence and counter-narcotics activities, search and rescue, transportation of prisoners, aeronautical research and space and science applications, and other such activities. Mission requirements do not include official travel to give speeches, to attend conferences or meetings, or to make routine site visits.

**Modular Airborne Fire Fighting System (MAFFS):** Utilized in Air National Guard and Air Force Reserve C-130s as national surge airtanker capability. Current system is MAFFS II.

**Mountain Flying – Helicopter:** That terrain identified as mountainous in 14 CFR, Part 95, Subpart B – Designated Mountainous Area. Experience operating outside the United States may be considered “Mountain Flying” providing it is conducted in mountainous regions defined as 2,000’ above surroundings containing long slopes, deep valleys, and

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

high ridges. Operating includes maneuvering and numerous takeoffs and landings to pinnacles, ridgelines, and confined areas.

Mountain Flying – Fixed-Wing: Planned VFR flight in mountainous areas following the contours of the earth at altitudes below the height of the surrounding peaks.

Mountainous Area: An area with terrain identified as mountainous in 14 CFR, Part 95, Subpart B – Designated Mountainous Area and depicted in the Aeronautical Information Manual (AIM).

Must: Denotes mandatory direction. Agency employees are required to comply with these directives in carrying out their duties. (FSM 1105.1 and FSM 1110.8 – ex. 01).

National Terrorism Advisory System (NTAS): Communicates information about terrorist threats by providing timely, detailed information to the public, government agencies, first responders, airports, and other transportation hubs and the private sector.

Night: The period of time from 30 minutes after sunset until 30 minutes before sunrise.

Night Vision Device (NVD): Any electro-optical device that is used to detect visible and infrared energy, and provide a visible image. These include night vision goggles, forward-looking infrared, thermal sights, and low-level television.

Non-federally Approved Aircraft: An aircraft not approved for use on lands where the Forest Service has protection responsibilities in a reciprocal or offset agreement.

Non-federal Travelers: (Also referred to as non-government persons.) Anyone who is not employed by the executive branch of the Federal Government, for example: state or local government personnel; cooperators, contractors or their employees; family members of government employees; tribal representatives; general public; foreign nationals; and media representatives. Members of Congress and federal judges are designated as non-federal travelers (OMB Circular A-126).

Off-airport Operations: Consist of landing on any surface not defined as a standard airport or backcountry airstrip.

Off-seaplane Base Operations: Consist of landing or taking off from any uncharted waterway (remote water operations).

Official Travel: Travel to meet agency requirements, required use travel, and other travel for the conduct of agency business (OMB Circular A-126).

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

Operational Check Flight: A flight required by the aircraft manufacturer or supplemental information provided, following routine maintenance or to verify normal operation of the aircraft or systems.

Operational Control: With respect to a flight, the exercise of authority over initiating, conducting, or terminating a flight.

Operational Coordination: Collect daily intelligence regarding aircraft contracts, staffing, payments, carding, maintenance, availability, training and resource movement to facilitate the efficient and effective national aviation response and capability. Daily develop and disseminate resource status, location and staffing reports. Manage aviation resource daily use reports to support NMAC decision making.

### Over-water Operations:

Helicopter – operations conducted beyond power-off gliding distance to shore, to include hovering flight operations over water sources such as ponds, streams, lakes, and ocean coastal waters.

Fixed-wing – operations conducted beyond power-off gliding distance to shore, to include seaplane or amphibious operations conducted on water sources such as rivers, lakes, and ocean coastal waters.

### Over-water Operations (Extended):

Helicopter – operations conducted over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline and more than 50 nautical miles from an off-shore heliport structure.

Fixed-wing – operations conducted over water at a horizontal distance of 50 nautical miles from the nearest shoreline.

Partner: All agencies and organizations that engage in joint decision making with federal agencies in planning and conducting fire and aviation management projects and activities.

Passenger (PAX): Any person aboard an aircraft who does not perform the function of the flightcrew, aircrew, or mission crew member.

Physical Security Analysis: An examination and evaluation of various factors, including risks, vulnerabilities, and threats affecting the security of an asset and/or facility.

Physical Security Self-assessment: Identification and evaluation of vulnerabilities, threats, and assets utilizing the Physical Security checklist contained in FSH 5709.16,

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

Chapter 38.21 “Physical Security Standards” and the Air Tanker Base Self-Assessment Tool.

Pilot-in-command (PIC): The person who:

1. Has final authority and responsibility for the operation and safety of the flight;
2. Has been designated as pilot-in-command before or during the flight; and
3. Holds the appropriate category, class, and type rating, if appropriate, for the conduct of the flight. Also referred to as Aircraft Commander (AC).

Point-to-point Flight (PTP): A flight that originates at one FAA-designated airport, seaplane base, or permanent helibase (identified in the FAA Airport/Facilities Directory or FAA Sectional Aeronautical Charts) with flight route to another FAA-designated airport, seaplane base, or permanent helibase. The flight is conducted for the transportation of persons or cargo for administrative purposes only. A Point-to-point Flight is conducted higher than 500 feet above ground level (AGL), except for takeoff and landing. Any flight deviations for the purpose of conducting mission-related tasks must require the flight be reclassified as a Special Use Mission Flight. These types of flights are typically referred to as Administrative Use of Aircraft Flights, which require the aircraft and pilot be approved for Point-to-point Flight. Point-to-point Flights do not include any Special Use Mission Flight as identified below.

Proficiency Flight: A flight for the purposes of maintaining pilot proficiency. May be Point-to-point or Special Use Mission Flight. Passengers may be carried on Point-to-point Flights.

Public Aircraft Operation (PAO): Limited by the statute (49 U.S.C 40102 and 49 U.S.C 40125) to certain government operations within U.S. airspace. Although these operations must comply with certain general operating rules (including those applicable to all aircraft in the National Airspace System), other civil certification, and safety oversight regulations do not apply. Whether an operation may be considered public is determined on a flight-by-flight basis, under the terms of the statute and considers aircraft ownership, operator, the purpose of the flight and the persons on board the aircraft. Comprehensive definitions can be found in 14 CFR, Part 1.1, 49 CFR, Part 830, and AC 00-01A.

Qualified Non-crew member: Public aircraft operations only. An individual, other than a member of the flightcrew, aboard an aircraft whose presence is required to perform, or is associated with the performance of, a governmental function on an aircraft.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

Qualified Technical Investigator: A Washington Office approved individual having experience in aviation program or safety management, fixed-wing or helicopter operations, or aircraft maintenance, who may be assigned participation as a member of an accident investigation team.

Quality Assurance: The process of verifying or determining whether products or services meet or exceed customer expectations. Quality management includes planning and checking standards, while quality controls are specific standards that mitigate risk.

Ramp Manager: Responsible for providing coordination at the airbase for personnel and cargo movement, and aircraft parking. Coordinates movement on the ramp of all aircraft vehicles and personnel. Maintains the safety of ramp operations.

Readiness Training (RT): A training and standardization tool used to depict flight type and complexity when tracking ground or flight currency and adherence to a flight proficiency model. Readiness Training is grouped into categories such as Operational (Special Use Mission), Emergency Procedures, Instrument Procedures, Night Procedures, Training as Directed by Special Use Mission, and Ground Training with Instructor.

Resource Order: The form used by dispatchers and dispatch coordinators to document the request for ordering or release of resources, and the tracking of those resources on an incident.

SAFECOM: Aviation safety communiqué. The agency form FS 5700-14, SAFECOM: Aviation Safety Communiqué, used to report aviation mishaps or hazards; this form is also approved for interagency use as Form OAS-34.

Second-in-command (SIC): A pilot who is designated to be second-in-command of an aircraft during flight. Also identified as co-pilot.

Senior Federal Official: Refer to OMB circular A-126 for a complete definition. Members of the Senior Executive Service (SES) in the Forest Service or other agencies. Common examples in the Forest Service include the Chief, Deputy Chiefs, Associate Deputy Chiefs, Washington Office Staff Directors, and Regional Foresters. Also includes, Senior Federal Officials appointed by the President with the advice and consent of the Senate or a civilian employee of the Executive Office of the President (EOP). Examples include the Secretary of Agriculture, Assistant/Under Secretaries, or the White House Chief of Staff. Note: Active duty military officers are exempted from this definition.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

Serious Injury: Any injury which:

1. Requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received,
2. Results in the fracture of any bone (except simple fractures of fingers, toes, or nose),
3. Causes severe hemorrhage or nerve, muscle, or tendon damage,
4. Involves any internal organ, and
5. Involves second or third degree burns, or any burns affecting more than 5% of the body surface.

Shall: Denotes mandatory direction. Agency employees are required to comply with these directives in carrying out their duties (FSM 1105.1 and FSM 1110.8 – ex. 01).

Should: Denotes a preferred or advisable course of action that employees must fully consider, but are able to depart from, based on a written finding as applied to specific circumstances that the deviation will enhance program management efficiency or better achieve desired results or other objectives (FSM 1105.1 and FSM 1110.8 – ex. 01).

Simultaneous Loading: The concurrent loading of fuel and retardant with propulsion engines stopped. An onboard Auxiliary Power Unit (APU) may be in operation. Approval and extensive planning and training are required prior to this operation.

Site Manager: The official responsible for managing and supervising a facility.

Site Security Officer: The official responsible for ensuring security at a facility.

Small UAS (sUAS): A small unmanned aircraft weighing less than 55 pounds, including everything that is onboard or otherwise attached to the aircraft and its associated elements (including communication links and the components that control the small unmanned aircraft) required for the safe and efficient operation of the small unmanned aircraft in the national airspace system.

Special Use Mission Aircrew Evaluation: A periodic evaluation of a member of the aircrew conducted by an authorized evaluator pilot to determine competency in the skills required for a special use mission. This evaluation consists of an oral evaluation and check ride, and may include a written evaluation.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

Special Use Mission Flight: Any flight that is not Point-to-point. Special Use Mission Flights are incident or project flights conducted for the express purpose of performing, or directly supporting, an agency for management of an incident or project. Special Use Mission Flights may require special pilot endorsements, flight evaluations, training, and/or specialized aircraft equipment. All UAS missions are considered Special Use Missions. Also referred to as a “Mission Flight.”

Special Use Mission Qualification Training Flight: A flight for the purposes of training for Special Use Mission qualification. Not considered aircraft qualification training flights, so crew members may be carried.

Standardization: A process of developing and implementing policy, procedures, training and operational standards which are similar and consistent. Standards ensure that all processes associated with standardized operation or functions are performed within set rules. This ensures that the operation or function is consistent in quality and comparable with other like operations or functions across organizational and geographic boundaries.

Standards Flightcrew Evaluation: A periodic evaluation of a member of the flightcrew conducted by an authorized evaluator pilot to determine competency in the flightcrew standards required by the agency. This evaluation consists of an oral evaluation and check ride, and may include a written evaluation.

Sterile Cockpit: Procedures by which the crew of an aircraft do not perform any conversations between each other, with other aircraft, or with any ground activity that are not directly related to flying the aircraft in a safe manner.

Substantial Damage: Damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. The following are not considered substantial damage:

1. Engine failure or damage limited to an engine if only one engine on a multi-engine aircraft fails or is damaged,
2. Bent fairings or cowlings,
3. Dented and/or small puncture holes in the skin or fabric,
4. Damage that occurs to rotor or propeller blades during ground operations, or
5. Damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips



## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

Supervisor: First and second level person whose employees use aircraft to accomplish agency programs and projects.

Syllabus: A detailed summary describing the main points of a course of study. A syllabus describes the course content in a sufficient level of detail to ensure that all knowledge areas and required skills are covered adequately. A syllabus specifies performance standards and provides consistent grading criteria across a broad spectrum training program.

Temporary Flight Restriction (TFR): A temporary order, in accordance with CFR 91.137, that limits or restricts the passage of aircraft through a specifically identified airspace over an incident, disaster, or other special event.

Training Flight: A flight intended solely for completing the requirements of a syllabus. In contrast, the intent of operational flights may be to fulfill requirements of a syllabus and/or perform a mission.

Type: As used with respect to the certification, ratings, privileges, and limitations of aircrew, a specific make, and basic model of aircraft, including modifications thereto that do not change its handling or flight characteristics (Source: FAA Definitions).

Unmanned Aircraft System (UAS): An aircraft used or intended to be used for flight in the air that has no onboard pilot. This includes all classes of airplanes, helicopters, airships, and translational lift aircraft with control over 3 axes (FAA Interim Operational Approval Guidance 08-01- Unmanned Aircraft Systems Operations in the U.S. National Airspace System). In addition to the actual aircraft, a UAS also consists of the Ground Control Station (GCS) as defined by 14 CFR Part 107; all electronic components and associated elements that are required for the safe and efficient operation of the UAS in the National Airspace System; E.g. hardware, software, communication links, etc. Agency UAS operations will comply with FAA policy and/or regulations applicable to UAS flight operations.

Vendor Aircrew and Aircraft Performance Standards (VAAPS): Reserved.

Weight Class: Aircraft weight classes are defined as follows:

1. Large Aircraft: An aircraft of more than 12,500 pounds maximum certificated takeoff weight.
2. Small Aircraft: An aircraft less than or equal to 12,500 pounds maximum certificated takeoff weight.



## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

Working Capital Fund (WCF): A revolving account of funds that is established to maintain, repair, and replace agency owned and operated aircraft. Aircraft which are owned and operated by the agency are referred to as WCF aircraft.

### **5705.2 – Acronyms**

A & P: Airframe and Powerplant Certificate

AAI: Avionics Airworthiness Inspector

AC: Advisory Circular (FAA)

ACDP: Aircraft/Aviation Dispatcher

AD: Airworthiness Directive or Assistant Director

ADSS: Aerial Delivery Systems Subcommittee, previously known as the Interagency Airtanker Board (IAB)

AFF: Automated Flight Following

AFM: Aircraft Flight Manual

AGL: Above Ground Level

AIM: Aeronautical Information Manual

ALARP: As Low As Reasonably Practicable

AMOC: Alternate Means of Compliance

ASM: Aerial Supervision Module

ASI: Air Safety Investigator

ATGS: Air Tactical Group Supervisor

ATP: Air Tactical Pilot

ATS: Air Tactical Supervisor

AKP: Airtanker Pilot

ATC: Air Traffic Control

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

ATP: Airline Transport Pilot or Air Transport Pilot or Air Tactical Pilot

ATPR: Airline Transport Pilot Rating

AV: Avionics Airworthiness Inspector Endorsement Level: AV1, AV2, AV3

ABS: Aviation Business System

AMIS: Aviation Management Information System

ASI: Aviation Safety Inspector

ASMS: Aviation Safety Management System

ASTAT: Aviation Safety and Technical Assistance Teams

ATU: Additional Telemetry Unit

CRM: Crew Resource Management

ETA: Estimated Time of Arrival

ETD: Estimated Time of Departure

FAA: Federal Aviation Administration

FEB: Flight Evaluation Board

FAR: Federal Aviation Regulations

FEPP: Federal Excess Personal Property

FRAT: Flight Risk Assessment Tool

FTR: Federal Travel Regulation

GA: General Aviation

GPS: Global Positioning System

GE: Grant of Exemption

HLCO: Helicopter Coordinator

HRL: Hot Retardant Loading

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

IA: Inspection Authorization

IFR: Instrument Flight Rules

IMC: Instrument Meteorological Conditions

IPC: Instrument Proficiency Check

LP: Leadplane

MAFFS: Modular Airborne Fire Fighting System

MAP: Mandatory Availability Period

MASP: Mission Aviation Safety Plan

MEL: Minimum Equipment List

MPW: Mission Planning Worksheet

NASF: National Association of State Foresters

NFPA: National Fire Protection Association

NTAS: National Terrorism Advisory System

NVD: Night Vision Device

OAS: Office of Aviation Services (USDI)

OLM: Operational Loads Monitoring

PAX: Passenger

PIC: Pilot in-command

PTP: Point-to-point Operations

PAO: Public Aircraft Operations

SAFECOM: Safety Communiqué

SB: Service Bulletin

SEAT: Single Engine Airtanker

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

SIC: Second-in-command

sUAS: Small Unmanned Aircraft System

TFR: Temporary Flight Restriction

UAS: Unmanned Aircraft System

VFR: Visual Flight Rules

VMC: Visual Meteorological Conditions

WCF: Working Capital Fund

### **5706 – REFERENCES**

Within the following documents, where “shall” and “must” are used, the guides are mandatory. For definitions of “shall” and “must,” refer to FSM 1110.8 – Exhibit 01. Many of the following documents can be found online at the Forest Service Aviation Library:

[https://www.fs.fed.us/fire/aviation/av\\_library/](https://www.fs.fed.us/fire/aviation/av_library/).

#### **5706.1 – Compliance with Law and Regulation**

The agency must comply with applicable 14 CFR; Public Law 106-181; International Civil Aeronautics Organization regulation; 41 CFR, Part 101-37 – Government Aviation Administration and Coordination; 41 CFR, Part 102-33, Management of Government Aircraft, and agency policy.

#### **5706.2 – Manuals**

1. Aeronautical Information Manual (AIM): Issued by the Federal Aviation Administration; copies are available from the Government Printing Office and commercial sources.
2. Aircraft Flight Manual (AFM)/Pilot's Operating Handbook (POH): The original equipment manufacturer's manual is available in each aircraft operated by the agency.
3. FSM 5700 – Aviation Management Manual.

#### **5706.3 – Handbooks**

1. FSH 5309.11 – Law Enforcement Handbook, Chapter 50 – Actions and Procedures
2. FSH 5709.16 – Aviation Management and Operations Handbook

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

3. FSH 6709.11 – Health and Safety Code Handbook
4. Military Use Handbook

### **5706.4 – Forest Service Standards and Guides**

The most recent Forest Service approved version of the following standards and guides supersedes all previous versions.

1. Aircraft Accident Investigation Guide.
2. Aircraft Inspection Guide: Available from the Washington Office Detached Unit, Boise agency aviation staff.
3. National Aviation Safety Management System Guide.
4. Federal Excess Personal Property (FEPP) Desk Reference Guide.
5. Fire and Aviation Qualifications Guide.
6. Helicopter Flight Evaluation Guide (HFEG): Available from the Washington Office Detached Unit, Boise agency aviation staff.
7. National Law Enforcement and Investigations (LEI) Short-Haul and Hoist (S-H/H) Guide.
8. National Rappel Operations Guide.
9. Professional Helicopter Pilot Guide.
10. Security Standard Requirements Guide: Available from aviation management staff, Washington Office, 1400 Independence Avenue SW, Washington, DC 20250.
11. Special Mission Airworthiness Assurance Guide.
12. WCF Aircraft User Guide.
13. Unmanned Aerial Systems Desk Guide (UASG).

### **5706.5 – Interagency and NWCG Aviation Operational Standards and Guides**

All NWCG/Interagency standards and guides must be approved by the Deputy Chief, State and Private Forestry. The most recent approved version of the standards and guides supersedes all previous versions. Many interagency guides are being renamed to NWCG Standards as the guides

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

are revised. Regardless of the name, if it is current, it is policy if approved. NWCG/Interagency guides can be found at <https://www.nwcg.gov/publications>.

1. NWCG Standards for Airspace Coordination Guide.
2. NWCG Standards for Aviation Transport of Hazardous Materials Guide: Order No. National Fire Equipment System (NFES) 1068.
3. Forest Service Cooperator Aircraft and Pilot Approval Guide for Interagency Fire:
4. NWCG Standards for Aerial Ignition Guide: Order No. Product Management System (PMS) 501.
5. NWCG Standards for Aerial Supervision Guide (NWCG SAS).
6. Interagency Airplane Pilot Practical Test Standards.
7. NWCG Airtanker Base Directory.
8. NWCG Standards for Airtanker Base Operations: Order No. National Fire Equipment System (NFES) 2271.
9. Interagency Aviation Life Support Equipment Guide.
10. Interagency Aviation Mishap Response Guide and Checklist: Order No. National Fire Equipment System (NFES) 2659.
11. Interagency Aviation Training Guide (IAT).
12. NWCG Standards for Fire Unmanned Aircraft Systems Operations: PMS 515.
13. Interagency Firefighting Chemical Aerial Delivery System Guide: Replaces the IAB Criteria in alignment with Interagency Guides.
14. NWCG Standards for Helicopter Operations: Order No. National Fire Equipment System (NFES) 1885.
15. Interagency Helicopter Pilot Practical Test Standards.
16. Interagency Helicopter Rappel Guide (IHRG): Available from the Washington Office Detached Unit, Boise agency aviation staff.
17. NWCG Standards for Single-Engine Airtanker Operations Guide: Order No. PMS 506.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

18. Interagency Smokejumper Operations Guide (ISMOG): Available from the Washington Office Detached Unit, Boise agency aviation staff.
19. Interagency Smokejumper Pilots Operations Guide (ISPOG): Available from the Washington Office Detached Unit, Boise agency aviation staff.
20. NWCG Standards for Aviation Transport of Hazardous Materials: Order No. National Fire Equipment System (NFES) 1068.
21. Interagency Standards for Fire and Aviation Operations (annual revision).
22. NASF Cooperators Aviation Standards for Interagency Fire.
23. National Interagency Mobilization Guide (annual revision).
24. NWCG Guide to Preventing Aquatic Invasive Species Transport by Wildland Fire Operations (PMS 444).
25. NWCG Standards for Interagency Incident Management System.
26. U.S. Forest Service National Flight Operations Guide.

**5706.6 – Forest Service Aviation Standards and Plans**

1. Standards for Aerial Supervision Operations
2. Aircraft Coordination Operations Plan
3. Aviation Base Operations Plan
4. Aviation Crash Rescue Plan
5. Aviation Facility Homeland Security Plan
6. Standards for Amphibious Water Scooper Aircraft Operations
7. Emergency Medical Short-Haul Operations Plan
8. Forest Aviation Mishap Response Plan
9. Forest Service Backcountry Airstrip Operations Plan
10. Forest Service Float Airplane Operations Plan
11. Modular Airborne Firefighting System Operations Plan (MAFFS)

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

12. National Aviation Safety and Management Plan (NASMP)
13. National Infrared Operations Plan (NIROP)
14. National Standards for Airtanker Operations
15. National Night Air Operations Plan
16. National Type 1 and Type 2 Exclusive Use Helicopter Operations Plan
17. Ram-Air Operations Plan (RAOP)
18. Ram-Air Parachute System Transition Operations Plan
19. Ram-Air Training Manual
20. SD3-60 Sherpa Operations Plan
21. Unmanned Aircraft Systems Operations Plan (UASOP)

**5706.7 – Other References**

1. Administrative Use of Aircraft Guide.
2. Aviation Risk Management Workbook.
3. Foundational Doctrine Fire and Aviation Rotor and Wing January 2006.
4. NFPA 30: Flammable and Combustible Liquids Code: Available from the National Fire Protection Association.
5. NFPA 385: Standard for Tank Vehicles for Flammable and Combustible Liquids: Available from the National Fire Protection Association.
6. NFPA 407: Standards for Aircraft Fuel Servicing: Available from the National Fire Protection Association.
7. Office of Management and Budget (OMB) Circular A-76.
8. OMB Circular A-123.
9. OMB Circular A-126.
10. USDA Integrated Physical Security Standards and Procedures Handbook.



## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

11. U.S. Forest Service Vendor Flightcrew and Aircraft Performance Standards.
12. Aviation Contracting Desk Reference: current version.

### **5707 – AVIATION PROGRAMS**

Aviation programs approved for Forest Service operations. Aviation programs include a strategy, objectives, plan, funding, documentation, staffing, and management.

#### **5707.1 – Airworthiness**

1. Operational Loads Monitoring
2. WCF Aviation
3. Aircraft Inspection
4. Aircraft and Equipment Standards
5. Quality Assurance

#### **5707.2 – Aviation Business Operations**

1. Aviation Business Systems
2. Budget Planning and Coordination
3. Policy
4. Defense Logistics Agency (DLA) Fuel Card
5. Aviation Analysis (Aerial Firefighting Use and Effectiveness – AFUE)

#### **5707.3 – Aviation Operations**

1. Automated Flight Following
2. Aircraft Coordination
3. Aviation Technology
4. Quality Assurance

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

**5707.31 – Fixed-Wing Programs**

1. SEAT (Single Engine Airtankers)
2. Airtankers (Medium, Large and Very Large)
3. MAFFS (Modular Airborne Firefighting Systems)
4. Water Scoopers
5. Aerial Supervision (ATGS, Night ATGS, HLCO, Lead Plane, ASM)
6. Reconnaissance/Survey/ Fire Detection
7. Natural Resource (all non-fire missions)
8. Infrared/ Fire Mapping
9. Wildlife Survey and Tracking
10. Point-to-point
11. Cargo Transportation and Para-cargo
12. Smokejumper

**5707.32 – Helicopter Programs**

1. Water and Retardant (tank and bucket)
2. Rappel
3. Cargo (external and internal)
4. Aerial Ignition (helitorch and plastic sphere dispenser)
5. Emergency Medical Short-haul
6. Law Enforcement Hoist
7. Law Enforcement Short-haul
8. Helicopter Coordinator
9. Point-to-point

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER – ZERO CODE**

10. Law Enforcement and Investigations
12. Reconnaissance/Survey/Fire Detection
13. Natural Resource (all non-fire missions)
14. Infrared/Fire Mapping
15. Firewatch
16. Night Air Operations

### **5707.33 – Unmanned Aircraft Systems Program**

Where UAS are not specifically identified, aircraft policy under FSM 5700 must apply. Where FSM 5700 or FSH 5709.16 states aircraft, unless specifically defined, this must include UAS.

Any Forest Service leased, contracted, owned, other Federal agency or cooperator UAS operations operating from or over Forest Service lands must obtain approval through the Forest Service UAS Program Manager.

Refer to FSH 5709.16, chapter 36.7.

### **5707.34 – Aviation Bases**

1. Airbases (airtanker, helicopter or aerial supervision co-located)
2. Airtanker Bases (permanent and temporary)
3. Fixed-wing Bases (permanent and temporary)
4. Helibases Bases (permanent and temporary)
5. Seaplane Bases
6. Smokejumper Bases (permanent and temporary)

### **5707.4 – Pilot Standardization**

1. Pilot Designations
2. Pilot Training
3. Pilot Currency

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER – ZERO CODE**

4. Pilot Inspection/Evaluation
5. Quality Assurance

**5707.5 – Aviation Safety Management Systems**

1. Safety Policy
2. Safety Promotion
3. Safety Assurance
4. Risk Management
5. Quality Assurance

**5708 – HANDBOOKS**

Reserved.

**5708.1 – Aviation Management Handbook**

FSH 5709.16 contains detailed and specific policy direction for:

1. Chapter 10 – Aviation Business Operations.
2. Chapter 20 – Aviation Safety Management Systems.
3. Chapter 30 – Aviation Operations.
4. Chapter 40 – Aircraft Airworthiness.
5. Chapter 50 – Pilot and Flightcrew Standardization.
6. Chapter 60 – Aviation Training.
7. Chapter 70 – Reserved.
8. Chapter 80 – Reserved.
9. Chapter 90 – Reserved.



## FOREST SERVICE MANUAL NATIONAL HEADQUARTERS (WO) WASHINGTON, DC

### FSM 5700 – AVIATION MANAGEMENT

### CHAPTER 5710 – AVIATION BUSINESS

**Amendment No.:** 5700-2020-2

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** JAELITH HALL-RIVERA  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by title and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this title was 5700-2020-1 to FSM 5700\_zero\_code.

<b>New Document</b>	5700_10	11 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>	5700_10 (Amendment 5700-2017-1, 09/25/2017)	45 Pages

#### **Digest:**

5710 – Changes chapter title from “Administration” to “Aviation Business” and sets forth direction. Revises the entire chapter to better align with the U.S. Forest Service mission. Substantive changes listed.

5710.1- 5710.7 – Direction moved to Zero Code of 5700.

5711 – Changes title from “Planning, Documentation, and Procedures” to “Planning” and sets forth direction.

5712 – Changes title from “Pilots, Maintenance, and Avionics Approvals, Qualifications, and Revocations” to “Risk Management” and sets forth direction.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER 5710 – AVIATION BUSINESS**

5713 – Changes title from “Aircraft and Equipment” to “Cooperator Agreements” and sets forth direction.

5714 – Changes title from “Exemptions” to “Aviation Contracts” and sets forth direction.

5715 – Changes title from “Airspace Restrictions” to “Aircraft Administration” and sets forth direction.

5716 – Changes title from “Flight Operations” to “Recordkeeping” and sets forth direction.

5717 – Changes title from “Records and Reports” to “Quality Assurance” and sets forth direction.

5718 – Changes title from “Aircraft Ownership and Financial Management” to “Awards” and sets forth direction.

5719 – Removes Reviews and Evaluations.

**FSM 5700 – AVIATION MANAGEMENT**  
**CHAPTER 5710 – AVIATION BUSINESS**

**Table of Contents**

<b>5710 – AVIATION BUSINESS</b>	<b>4</b>
5710.1 – Authority	4
5710.2 – Objectives	4
5710.3 – Policy	4
5710.4 – Responsibility	4
5710.5 – Definitions	4
5710.6 – References	4
5710.7 – Quality Assurance	4
<b>5711 – PLANNING</b>	<b>4</b>
5711.1 – Aviation Strategic Plan	4
5711.2 – Aviation Safety and Management Plans	5
5711.3 – Programmatic Aviation Operations Plans	5
5711.31 – Operations Plans	6
5711.32 – Base Operations Plans	6
5711.4 – Security Plan	6
5711.5 – Aviation Mishap Response Plans	6
<b>5712 – RISK MANAGEMENT</b>	<b>7</b>
<b>5713 – COOPERATOR AGREEMENTS</b>	<b>7</b>
<b>5714 – AVIATION CONTRACTS</b>	<b>7</b>
5714.1 – Fire Aviation Contract and Agreement Funding	8
5714.2 – Pre-Use Inspections	8
<b>5715 – AIRCRAFT ADMINISTRATION</b>	<b>8</b>
<b>5716 – RECORD KEEPING</b>	<b>9</b>
5716.1 – Reports	9
5716.2 – Inquiries	10
<b>5717 – QUALITY ASSURANCE</b>	<b>10</b>
5717.1 – Programmatic and Operational Oversight: Aviation Management Reviews, Quality Assurance Reviews, and Functional Assistance Trips	10
5717.11 – Aviation Management Reviews	10
5717.12 – Quality Assurance Reviews	11
5717.13 – Functional Assistance Trips	11
<b>5718 – AWARDS</b>	<b>11</b>

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER 5710 – AVIATION BUSINESS**

### **5710 – AVIATION BUSINESS**

Forest Service (agency) aviation business is structured around planning, agreements, contracts, aircraft cost and use reporting, reports, inquiries, reviews and audits, policy, and awards. Aviation business components provide standardization for the structure, organization, and accountability to the overall Forest Service aviation program.

Refer to FSM 5700 and FSH 5709.16.

#### **5710.1 – Authority**

Refer to FSM 5701.

#### **5710.2 – Objectives**

Refer to FSM 5702.

#### **5710.3 – Policy**

Refer to FSM 5703.

#### **5710.4 – Responsibility**

Refer to FSM 5704.

#### **5710.5 – Definitions**

Refer to FSM 5705 and the National Aviation Safety Management System Guide (NASMSG).

#### **5710.6 – References**

Refer to FSM 5706.

#### **5710.7 – Quality Assurance**

Refer to FSM 5717.

### **5711 – PLANNING**

#### **5711.1 – Aviation Strategic Plan**

The Forest Service Aviation Strategic Plan is the overarching document that provides strategic context for all future aviation activities. It complements, enhances, and guides other plans and strategies. It is tied to the Forest Service Strategic Plan.



## **FSM 5700 – AVIATION MANAGEMENT CHAPTER 5710 – AVIATION BUSINESS**

The Aviation Strategic Plan provides an outline of how the Agency will use aviation assets to accomplish the Forest Service mission; accountability and transparency on how well the Agency can accomplish our mission, and defines Aviation Management's vision, mission, values, and goals.

Aviation management goals are focused on safety, people, organization, and technologically advanced assets. These goals are characterized by specific objectives.

Performance Measures are used to define how well the Agency has advanced towards accomplishing each objective.

Strategies define the method or approach taken to accomplish the objectives and are reflective of opportunities and threats.

Action Plans will move the strategies forward and will be specific, measurable, and attainable. Progress will be reported on a regular basis to assist the organization in monitoring our performance.

### **5711.2 – Aviation Safety and Management Plans**

The National Aviation Safety and Management Plan (NASMP) serves as a first tier document for Forest Service programs, regions, forests, and units with aviation activities. Regions, forests, and units will create supplements which tier to responsibilities and administrative procedures in their unit every two years, or more often if substantial program changes have been made. These supplements may be more restrictive, but they must not make responsibilities and administrative procedures less restrictive.

These plans should include, at a minimum:

1. Aviation Management Plan;
2. Organization;
3. Administration; and
4. Aviation Safety Management Systems.

### **5711.3 –Programmatic Aviation Operations Standards or Plans**

National aviation operations standards or plans are required for each program listed in FSM 5707 to define the aviation program and operational considerations. Regions are responsible for Ground-Based Aviation Programs listed in FSM 5707, unless the Washington Office establishes

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER 5710 – AVIATION BUSINESS**

a base to support national aircraft. The Washington Office is then responsible for the base operations plans. For plan requirements, refer to FSH 5709.16, chapter 11.5.

The Washington Office Branch Chief responsible for the programs listed in FSM 5708 is responsible for updating these plans annually, if necessary. The Washington Office Branch Chief responsible for the programs is responsible for initiating review and collecting comments and recommendations for these plans. All operational plans will be reviewed annually by the Washington Office Program Manager, the Washington Office Aviation Branch Chiefs, the Regional Aviation Officer, and the Regional Aviation Safety Manager.

The Regional Aviation Safety Manager and the Regional Aviation Officer must review, and the Regional Forester must approve, the regional supplements when updated, or every two years.

**5711.31 – Operations Plans**

Each program identified in FSM 5707, must have an Operations Plan. Forest Service specific operational procedures, equipment, staffing, and organization must be specified in the Agency or interagency guides. A list of guides can be found in FSM 5706.

Refer to FSH 5709.16, chapter 11.5.

**5711.32 – Base Operations Plans**

Each base must have an operations plan.

Refer to FSH 5709.16, chapter 11.5.

**5711.4 – Security Plan**

Refer to FSH 5709.16, chapters 11.3 and 38.2.

**5711.5 – Aviation Mishap Response Plans**

The Interagency Mishap Response Guide and Checklist (PMS 503) must be used as the template for Forest Service aviation mishap response planning. It is not intended to be all encompassing; rather it provides the minimum essential elements that apply to most aviation mishaps. This plan must be reviewed and updated annually, or as needed.

All personnel involved in aviation activities should be familiar with the Interagency Aviation Mishap Response Guide and Checklist.

All national/regional coordination centers, dispatch centers, and aviation bases must have an updated Interagency Mishap Response Guide and Checklist.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER 5710 – AVIATION BUSINESS**

### **5712 – RISK MANAGEMENT**

Risk management is a critical component of the Agency Aviation Safety Management System (ASMS). All Forest Service aviation missions must manage risk to a level as low as reasonably practicable (ALARP). Three levels of risk management are recognized: strategic, deliberate and time critical.

Refer to FSH 5709.16, chapter 20 for details and requirements.

### **5713 – COOPERATOR AGREEMENTS**

Cooperator agreements must be required for all aviation services conducted on National Forest System Lands. Agreements must use Forest Service pilot and aircraft approval standards, levels of operational requirements and procedures, financial considerations, and safety standards.

Refer to FSH 5709.16, chapter 13.

### **5714 – AVIATION CONTRACTS**

Acquisition Management (AQM) provides acquisition support to all contract aviation activities. AQM supports the national and regional applications for aviation services. AQM support includes the Incident Support Branch (ISB) and contracting officers in several regions.

The ISB and regional contracting officers provide acquisition support to agency aviation staff, on a national and regional basis, for requirements that exceed the Simplified Acquisition Threshold. AQM uses different types of contracts, such as Exclusive Use (EU), Call-When-Needed (CWN), Indefinite Delivery Indefinite Quantities (IDIQ), or Basic Ordering Agreements (BOA)/Blanket Purchase Agreements (BPA) to acquire aircraft and aviation services for Forest Service missions. Contract types are decided after a Contracting Officer analysis is performed to determine the specific needs of the Government.

All Forest Service helicopter and fixed-wing contracts must use an approved contract specification template for aircraft services. These templates must be approved collaboratively by the Washington Office Aviation Branch Chiefs and the Regional Aviation Officers and Regional Aviation Safety Manager Councils.

Mission specific requirements additional to the master specification will be coordinated through the Branch Chiefs, Aviation Operations, and Airworthiness, for inclusion as an exhibit.

Refer to Forest Service Aviation Contracting Desk Reference and FSH 5709.16, chapter 14.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER 5710 – AVIATION BUSINESS**

**5714.1 – Fire Aviation Contract and Agreement Funding**

The Washington Office funds the availability of all exclusive use national fire suppression aircraft contracts. These contracts include, but are not limited to:

1. Airtankers;
2. Helicopter Type 1 – Heavy;
3. Helicopter Type 2 – Medium;
4. Helicopter Type 3 – Light;
5. Water Scoopers;
6. Smokejumper aircraft;
7. Air Tactical Group Supervisor aircraft;
8. Aerial Supervision Module/Leadplane aircraft; and
9. Transport aircraft.

The Washington Office also funds aviation services contracts and agreements, including Defense Logistics Agency aviation fuel purchase, interagency agreements to support Forest Service aviation, aviation studies, applications, and services.

Commitment and obligation of funds for all Washington Office funded aircraft contracts, aviation services contracts and agreements must be reviewed by the Washington Office Assistant Director, Aviation and approved by the Washington Office Assistant Director, Planning and Budget.

**5714.2 – Pre-Use Inspections**

After award of an aircraft contract and any renewal thereof, an inspection of the contractor's equipment and personnel will be made. For more information, refer to the specific contract and FSH 5709.16, chapter 40.

**5715 – AIRCRAFT ADMINISTRATION**

The USDA, Property Management Regulation (PMR) 110-33 supplements Federal Management Regulation 102-33 Management of Government Aircraft. Both documents are agency-wide policy for the use of Government aircraft to accomplish official business. In coordination with

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER 5710 – AVIATION BUSINESS**

the Office of Management and Budget Circular A-126, they restrict the operation of government aircraft to defined official purposes of restricting travel on such aircraft, requiring special review of such travel on government aircraft by senior officials or non-federal travelers under certain circumstances, and codify policies for reimbursement for the use of government aircraft. The transportation of passengers or cargo on Forest Service aircraft must be limited in accordance with these regulations.

FSH 6509.33, chapter 301 Federal Travel Regulation requires that all employees have a travel authorization for any official travel. Each instance of administrative use of a Forest Service aircraft to transport passengers must be justified, documented, and approved, and as such, will comply with the requirements contained in OMB A-126 and FMR 102-33. All documents pertaining to these flights must be maintained by the originating unit and kept on file for two years.

Utilize the Forest Service Administrative Use of Aircraft Guide to provide guidance and clarify the Administrative Use of Aircraft.

For additional direction, refer to FSH 5709.16, chapter 15.

## **5716 – RECORD KEEPING**

### **5716.1 – Reports**

The Forest Service is responsible for the following:

1. Providing responses to Department of Agriculture Office of Inspector General (OIG) audits.
2. Meeting the requirement of the Federal Requirement for Federal Aviation for Interactive Reporting System (FAIRS).
3. Coordinating the approval and documentation for senior executive travel in agency and agency-procured aircraft as required by OMB Circular A-126.
4. Complying with existing records holds and freezes for all records, as applicable.
5. Responding to National Transportation Safety Board recommendations.
6. Creating an annual Forest Service Aviation Program Report each calendar year and submit it to the Director, Fire and Aviation. This is the responsibility of the Aviation Division.
7. Responding to agency accident review board recommendations.

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER 5710 – AVIATION BUSINESS**

8. Per OMB A-126, periodically reviewing the continuing need for all of their aircraft and the cost effectiveness of their aircraft operations in accordance with the requirements of OMB Circular No. A-76. A copy of each agency's review must be submitted to GSA when completed and to OMB with the agency's next budget submission. The Forest Service must report any excess aircraft and release all aircraft that are not fully justified by these reviews. Refer to OMB A-126, 6.c.

This list of reports is not all-inclusive.

### **5716.2 – Inquiries**

The Forest Service is responsible for responding to the following types of inquiries:

1. Congressional inquiries.
2. Freedom of Information Act (FOIA) requests.
3. Internal inquiries.
4. External inquiries.

### **5717 – QUALITY ASSURANCE**

Quality Assurance is auditing to a standard. The standard can be policy, a contract, an agreement, or operational procedures in agency plans and interagency guides.

#### **5717.1 – Programmatic and Operational Oversight: Aviation Management Reviews, Quality Assurance Reviews, and Functional Assistance Trips**

Refer to FSM 1410 for additional direction regarding management reviews.

Aviation management reviews, quality assurance reviews, and functional assistance trips are three quality assurance methodologies used to ensure standardization, accountability and quality assurance in the aviation program. Aviation Supervisors and Managers at all organizational levels will review and monitor the aviation program and activities they are responsible for, utilizing data and comparing operations and outcomes with leaders' intent, policy, risk management, and efficiency.

#### **5717.11 – Aviation Management Reviews**

Aviation management reviews are used to validate aviation strategic goals, aviation priorities, and aviation program focus areas. An aviation management review can also evaluate the overall performance of a field unit program area(s) and develop actions needed to improve efficiency and

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER 5710 – AVIATION BUSINESS**

effectiveness within and between program areas. In addition, each Deputy Chief's review, activity review, or other reviews involving aviation, must provide special emphasis to the use of Forest Service-owned/other government aircraft. Conduct management reviews in each region and the Washington Office every 5 years.

**5717.12 – Quality Assurance Reviews**

Quality Assurance Reviews (also known as Activity Reviews) are one of the programmatic review and quality assurance methodologies used in the Aviation Management Program. Within aviation, they include reviews and audits of aviation programs, including operations and personnel. Examples include follow-up to management reviews, field audits which may include specific aircraft contract compliance, aircraft inspection, flightcrew evaluation, aircrew evaluation, policy review, and standardization assurance.

Refer to 5709.16, chapter 30.17 for additional information.

**5717.13 – Functional Assistance Trips**

Functional Assistance Trips are part of the quality assurance process. Functional assistance trips support the transfer of information in any program or activity, and provide quality assurance in terms of policy, contracts, and operational procedures. Emphasis should be to assist in implementing direction, solving technical or operational problems, exchanging information and determining needs. Examples include, Aviation Safety Technical Assistance Teams (ASTAT), base inspections, operational site visits, preparedness visits, and other similar aviation activities.

Refer to 5709.16, chapter 30.17 for additional information.

**5718 – AWARDS**

Individuals and organizations may be recognized with awards for exceptional performance or acts, service in support of agency aviation safety, length of service, or aircraft mishap prevention.

Refer to FSH 5709.16, chapter 18.



## FOREST SERVICE MANUAL NATIONAL HEADQUARTERS (WO) WASHINGTON, DC

### FSM 5700 – AVIATION MANAGEMENT

#### CHAPTER 5720 – AVIATION SAFETY MANAGEMENT SYSTEM

**Amendment No.:** 5700-2020-3

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** JAELITH HALL-RIVERA  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by title and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this title was 5700-2020-2 to FSM 5700\_10.

<b>New Document</b>	5700_20	06 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>	5700_20 (Amendment 5700-2009-3, 04/10/2009)	21 Pages

**Digest:** 5720 – Revises chapter in its entirety. Direction that was removed is relocated to FSH 5709.16, chapter 20 – Aviation Safety Management System.

5721 – Changes title from “Aviation Safety and Accident Prevention Planning” to “Aviation Safety Policy” and sets forth direction.

5722 – Changes title from “Flight Evaluation Board” to “Aviation Safety Risk Management” and sets forth direction.

5723 – Changes title from “Aviation Accidents and Incidents Investigation, Reports, and Procedures” to “Aviation Safety Assurance” and sets forth direction.

5724 – Changes title from “Aviation Safety and Accident Prevention Awards” to “Aviation Safety Promotion” and sets forth direction.\_

5725 – Removes Aviation Safety Education Program and incorporates direction at FSH 5709.16, chapter 60.



**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER 5720 – AVIATION SAFETY MANAGEMENT SYSTEM**

**Table of Contents**

<b>5720 – AVIATION SAFETY MANAGEMENT SYSTEM .....</b>	<b>3</b>
5720.1 – Authority .....	3
5720.2 – Objectives.....	3
5720.3 – Policy .....	3
5720.31 – Principles for Aviation SMS .....	3
5720.4 – Responsibility .....	4
5720.5 – Definitions.....	4
5720.6 – References .....	4
5720.7 – Quality Assurance.....	4
<b>5721 – AVIATION SAFETY POLICY .....</b>	<b>5</b>
<b>5722 – AVIATION SAFETY RISK MANAGEMENT .....</b>	<b>5</b>
5722.1 – Flight Data Governance .....	5
<b>5723 – AVIATION SAFETY ASSURANCE .....</b>	<b>5</b>
<b>5724 – AVIATION SAFETY PROMOTION.....</b>	<b>6</b>
5724.1 – Aviation Safety Communiqué.....	6
5724.2 – Aviation Safety Award .....	6

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER 5720 – AVIATION SAFETY MANAGEMENT SYSTEM**

### **5720 – AVIATION SAFETY MANAGEMENT SYSTEM**

The Aviation Safety Management System (ASMS) is a business model that guides the Agency through a series of components with associated elements which organize existing processes into a dynamic model predicated on continual improvement. The ASMS fosters a safety culture through the development of a flexible, reporting, learning, and just aviation culture.

Refer to FSM 5700, FSH 5709.16, chapter 20, and the National Aviation Safety Management System Guide (NASMSG).

#### **5720.1 – Authority**

Refer to FSM 5701.

#### **5720.2 – Objectives**

To develop a safety culture that incorporates the four pillars of an ASMS (Policy, Risk Management, Promotion, and Assurance) to achieve and maintain a zero accident rate.

To educate agency employees who engage in aviation activities to incorporate ASMS and risk management tools into daily operations.

#### **5720.3 – Policy**

The policy of the Forest Service requires Aviation Managers to follow the direction in aviation manuals, handbooks, guides, and plans listed in 5706.

Aviation activities must comply with applicable Federal and State laws, regulations, and standards for aviation safety and for reporting and investigating accidents and incidents (FSM 5700; FSH 5709.16; 6730, and Forest Service aviation guides).

The organization must utilize Safety Management System as the guiding safety process for aviation operations. The detailed elements of agency aviation safety must be maintained in the NASMSG. This guide contains best practices to achieve goals and objectives, and contains mandatory policy (FSM 1110.8, FSM 5108)

#### **5720.31 – Principles for Aviation (SMS)**

The following components and elements are the foundational structure of an ASMS:

1. Safety Policy and Objectives.
  - a. Management commitment and responsibility,
  - b. Safety accountabilities,

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER 5720 – AVIATION SAFETY MANAGEMENT SYSTEM**

- c. Appointment of key safety personnel,
  - d. Coordination of emergency response planning, and
  - e. SMS Documentation.
- 2. Safety Risk Management.
  - a. Hazard identification, and
  - b. Safety risk assessment and mitigation.
- 3. Safety Assurance.
  - a. Safety performance monitoring and measurement,
  - b. The management of change,
  - c. Continuous improvement of the SMS.
- 4. Safety Promotion.
  - a. Training and education, and
  - b. Safety communication.

Refer to FSH 5709.16, chapter 20 and the NASMSG.

#### **5720.4 – Responsibility**

Refer to FSM 5704.

#### **5720.5 – Definitions**

Refer to FSM 5705 and the NASMSG.

#### **5720.6 – References**

Refer to FSM 5706.

#### **5720.7 – Quality Assurance**

Refer to FSM 5717.

## **FSM 5700 – AVIATION MANAGEMENT CHAPTER 5720 – AVIATION SAFETY MANAGEMENT SYSTEM**

### **5721 – AVIATION SAFETY POLICY**

SMS is a critical element of management responsibility in determining the Agency's safety policy and SMS also defines how the Agency intends to manage safety as an organizational core function.

1. Policy guides aviation safety doctrine, philosophy, principles and practices.
2. Policy provides framework for aviation plans.
3. Policy assists in the development of local standard operating procedures.
4. Policy will foster and promote doctrinal principles and safety management systems within the Regions.

### **5722 – AVIATION SAFETY RISK MANAGEMENT**

Risk Management is a formal process where hazards are identified, risks analyzed, assessed, prioritized, and the mitigated results documented for decision making and controlling risk to an acceptable level. Risk management is a process of operationalizing and implementing safety into aviation planning activities.

The organization will utilize risk management for planning and implementing aviation operations.

Refer to FSH 5709.16, chapter 12.

#### **5722.1 – Flight Data Governance**

Accident prevention and/or safety inquiry requests for data and information must be formally requested to both the Assistant Director, Aviation and the Branch Chief, Aviation Safety Management System.

Flight data is data from the AFF, OLM, SAFECOMs, or any other flight data collected. Data or information developed as a result of flight data collected will not be used in any punitive manner or enforcement action by the Forest Service against a member of the flightcrew, except for cases of deliberate or criminal acts. Access to flight data is tightly controlled and identifying information is permanently stripped from any records released. The success of safety management and non-punitive reporting depends on cooperation with flightcrews who can provide further insights beyond what the data can reveal.

### **5723 – AVIATION SAFETY ASSURANCE**

Safety Assurance will evaluate the continued effectiveness/improvement of implemented risk control strategies. The SMS assurance process systematically provides aviation leadership confidence that organizational outputs meet or exceed safety requirements. Aviation safety

**FSM 5700 – AVIATION MANAGEMENT  
CHAPTER 5720 – AVIATION SAFETY MANAGEMENT SYSTEM**

assurance ensures compliance through information acquisition, audits and evaluation, employee reporting, data analysis and program/system assessments.

The Agency will employ a robust safety assurance program. Safety assurance involves processes for quality assurance, mishap investigation, and program review to perpetuate the safety management cycle through feedback.

### **5724 – AVIATION SAFETY PROMOTION**

The organization must promote safety as a core value with system safety practices that support a positive safety culture. Leadership will promote a positive safety culture and communicate it throughout the organization. Safety promotion must be accomplished through safety awards, education and communication throughout all aviation related and support functions within the Agency.

#### **5724.1 – Aviation Safety Communiqué**

To enhance a reporting culture, the interagency incident reporting system, Aviation Safety Communiqué (SAFECOM) is the principal means of communicating hazards, identifying trends and enhancing safety awareness. This reporting culture includes items such as lessons learned, policy changes, technical bulletins, and safety alerts. The SAFECOM system is non-punitive and is not to be utilized for contract evaluations/compliance.

#### **5724.2 – Aviation Safety Award**

The Agency must maintain an aviation safety award program in accordance with ASMS principles.

Refer to the NASMSG, Chapter 5.



## FOREST SERVICE MANUAL NATIONAL HEADQUARTERS (WO) WASHINGTON, DC

### FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK

#### CHAPTER – ZERO CODE

**Amendment No.:** 5709.16-2020-1

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** Jaelith Hall-Rivera  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by handbook number and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this handbook was 5709.16-2017-4 to FSH 5709.16\_40.

<b>New Document</b>	5709.16_Zero_Code	3 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>	5709.16_Zero_Code (Amendment 5709.16-2009-1, 04/15/2009)	10 Pages

#### **Digest:**

10 - This amendment substantially revises the entire chapter to better align with the Forest Service mission.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER – ZERO CODE**

**Table of Contents**

<b>01 – AUTHORITY .....</b>	<b>3</b>
<b>02 – OBJECTIVES.....</b>	<b>3</b>
<b>03 – POLICY .....</b>	<b>3</b>
<b>04 – RESPONSIBILITY .....</b>	<b>3</b>
<b>05 – DEFINITIONS.....</b>	<b>3</b>
<b>06 – REFERENCES.....</b>	<b>3</b>
<b>07 – AVIATION PROGRAMS .....</b>	<b>3</b>
<b>08 – HANDBOOKS.....</b>	<b>3</b>

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK CHAPTER – ZERO CODE**

This handbook specifies standards and procedures for Forest Service (agency) flight operations. The direction contained in this handbook applies to aviation activities conducted as contract aviation services and in-service flight operations. For further direction, refer to FSM 5700 and the interagency operations guides listed in FSM 5706.

### **01 – AUTHORITY**

Refer to FSM 5701.

### **02 – OBJECTIVES**

Refer to FSM 5702.

### **03 – POLICY**

All agency flight operations must comply with applicable laws and regulations as referenced in FSM 5706.

### **04 – RESPONSIBILITY**

Refer to FSM 5704, FSH 5709.16, chapter 10.4, chapter 20.4, chapter 30.14, chapter 40.4, chapter 50.4, and chapter 60.4.

### **05 – DEFINITIONS**

Refer to FSM 5705 and the National Aviation SMS Guide.

### **06 – REFERENCES**

Refer to FSM 5706.

### **07 – AVIATION PROGRAMS**

Refer to FSM 5707.

### **08 – HANDBOOKS**

Refer to FSM 5708.





## FOREST SERVICE MANUAL NATIONAL HEADQUARTERS (WO) WASHINGTON, DC

### FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK

#### CHAPTER 10 – AVIATION BUSINESS

**Amendment No.:** 5709.16-2020-2

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** JAELITH HALL-RIVERA  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by handbook number and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this handbook was 5709.16-2020-1 to FSH 5709.16\_zero\_code.

<b>New Document</b>	5709.16_10	26 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>	5709.16_10 (Amendment 5709.16-2017-1, 09/25/2017)	64 Pages

#### **Digest:**

10 - This amendment substantially revises the entire chapter to better align with the Forest Service mission.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 10 – AVIATION BUSINESS**

**Table of Contents**

<b>10 – AVIATION BUSINESS</b>	<b>4</b>
10.1 – Authority	4
10.2 – Objectives	4
10.3 – Policy	4
10.31 – Civil and Public Aircraft Operations	4
10.31a – Civil Aircraft Policy	4
10.31b – Public Aircraft Operations	4
10.32 – Grants of Exemption	5
10.4 – Responsibility	5
10.41 – Washington Office, Branch Chief, Aviation Business Operations	5
10.42 – Washington Office Aviation Management Specialists	5
10.5 – Definitions	6
10.6 – References	6
10.7 – Quality Assurance	6
<b>11 – PLANNING</b>	<b>6</b>
11.1 – Aviation Safety and Management Plans	6
11.2 – Aircraft Acquisition	7
11.21 – Replacement Aircraft Aviation Business Cases	7
11.3 – Homeland Security Response Plans	8
11.31 – Regional Homeland Security Response Plan	8
11.32 – Facility Homeland Security Response Plan	8
11.4 – Aviation Mishap Response Plans	8
11.41 – Aviation Crash Rescue Plan	8
11.5 – Programmatic Aviation Operations Plans	9
11.6 – Mission Aviation Safety Plan	10
11.7 – Approvals for Aviation Program Startup/Change Requests	11
<b>12 – RISK ASSESSMENTS</b>	<b>12</b>
12.1 – Strategic Risk Assessment	12
12.2 – Deliberate Risk Assessment	13
12.3 – Time Critical Risk Assessment	13
12.4 – Strategic Risk Assessment Close-Out Process	14
<b>13 – COOPERATOR APPROVALS AND AGREEMENTS</b>	<b>15</b>
<b>14 – AVIATION CONTRACTS</b>	<b>15</b>
14.1 – Aircraft Contract Coordination	15
14.2 – Flight Services Contracts	15
14.21 – Contract Aviation Master Template	16
14.3 – End Product Contracts	16
14.4 – Determination of Flight Services and End-Product Contracts	17
<b>15 – AIRCRAFT ADMINISTRATION</b>	<b>20</b>

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 10 – AVIATION BUSINESS**

15.1 – Working Capital Fund Aircraft.....	20
15.11 – Other Reports.....	20
15.2 – Contract Aircraft.....	21
15.21 – Contract and Rental Agreement Requirements and Approvals.....	21
15.22 – Contract Aircraft Requirements.....	21
15.3 – Cooperator and Partner Aircraft.....	21
15.31 – Cooperator Approval Letter.....	21
15.32 – Equipment.....	22
15.32a – Smokejumper and Paracargo Aircraft.....	22
15.33 – Avionics.....	22
15.4 – Federal Excess Personal Property Aircraft.....	22
15.5 – Aircraft Cost and Use Reporting.....	22
15.51 – Aviation Business System.....	22
15.52 – FLIGHT.....	23
15.6 – Documentation of Administrative Use of Aircraft.....	23
15.7 – Retention of Performance Planning and Manifest Documentation.....	23
<b>16 – RECORD KEEPING.....</b>	<b>24</b>
16.1 – Record Keeping Policy.....	24
16.11 –Aviation Records.....	24
16.2 – Reports and Inquiries.....	24
<b>17 – REVIEWS AND QUALITY ASSURANCE.....</b>	<b>24</b>
<b>18 – AWARDS.....</b>	<b>25</b>
18.1 – Aviation Awards.....	25
18.2 – National Aviation Award.....	25
18.3 – Regional Aviation Award.....	25
18.4 – Aviation Safety Awards.....	26

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK CHAPTER 10 – AVIATION BUSINESS**

### **10 – AVIATION BUSINESS**

Forest Service (agency) aviation business is structured around plans; agreements; contracts; reports; inquiries; reviews and audits; and policy. Aviation business components provide standardized structure, organization, and accountability to the overall Forest Service Aviation Program.

For further direction, refer to FSM 5700 and FSH 5709.16.

#### **10.1 – Authority**

Refer to FSM 5701.

#### **10.2 – Objectives**

Refer to FSM 5702.

#### **10.3 – Policy**

Refer to FSM 5703.

#### **10.31 – Civil and Public Aircraft Operations**

Forest Service aviation activities include both “civil” and “public” operations.

##### **10.31a – Civil Aircraft Policy**

All Forest Service aircraft operations are civil unless specifically designated public. All aircraft other than public aircraft are considered civil aircraft per 14 U.S. Code of Federal Regulations (14 CFR), Part 1.1. Civil aircraft operations must comply with FSM 5703.2, 5703.3, and 5703.4.

##### **10.31b – Public Aircraft Operations**

Public aircraft operations (PAO) will be the exception. The definition for Public Aircraft can be found in the FSM 5705 and 14 CFR, Part 1.1. The Forest Service will comply with all 14 CFRs in the operation and maintenance of public aircraft with the few exceptions outlined in the Grants of Exemption in FSH 5709.16, Chapter 30.2. Public aircraft operations must comply with FSM 5703.2, 5703.3, and 5703.4.

The FAA considers all contracted aircraft operations to be civil aircraft operations, subject to all Federal aviation regulations, unless certain criteria are met. PAOs are determined under the terms of the statute, 49 U.S.C. 401102 (a) (41) and 40125. Public aircraft status is not automatic.

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**

### **CHAPTER 10 – AVIATION BUSINESS**

Many of the missions conducted by the Forest Service may be PAO as defined by the statute and include firefighting, law enforcement, and biological or geological resource management.

PAO flights must be conducted in compliance with applicable 14 CFR (Federal Aviation Regulations) as directed in Forest Service policy and applicable contract requirements. The FAA retains total oversight and enforcement authority for any Civil Aircraft Operation that may also be conducted under contract.

#### **10.32 – Grants of Exemption**

The FAA granted Exemption No. 392 and 392A to permit the Forest Service to deviate from the provisions of the 14 CFRs, to the extent the Chief of the Forest Service finds necessary, for the expeditious conduct of operations subject to limitations stated in this specific exemption.

Refer to FSH 5709.16, Chapter 30.2.

#### **10.4 – Responsibility**

##### **10.41 – Washington Office, Branch Chief, Aviation Business Operations**

Refer to FSM 5704.

##### **10.42 – Washington Office Aviation Management Specialists**

The Aviation Management Specialist(s) report to the Washington Office Branch Chief, Aviation Business Operations and has the responsibility to:

1. Manage the complete portfolio of the aviation budget, and develop processes to bring more transparency and oversight to individual project expenditures to prevent fiscal overspending.
2. Lead or participate with other FAM leadership and aviation managers to develop and recommend aviation related programs, plans, studies, and specific actions.
3. Participate in FAM program and activity reviews to evaluate conformance with Service-wide direction, responsiveness of aviation programs, management needs, opportunities, cost-effectiveness, and safety.
4. Represent aviation management to assure that aviation concerns and interests are adequately provided for in activities as affirmative action, recruitment, safety, and interagency cooperation.

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**

### **CHAPTER 10 – AVIATION BUSINESS**

5. Respond or coordinate responses to aviation-related correspondence, appeals, protests, congressional inquiries, audits, and requests for information, analysis, or comment.
6. Initiate and coordinate development of aviation management data systems to track costs and utilization of aviation operations.
7. Participate in the development and implementation of aviation policy, guides, and decision memos.
8. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide.

#### **10.5 – Definitions**

Refer to FSM 5705 and the National Aviation Safety Management System Guide (NASMSG).

#### **10.6 – References**

Refer to FSM 5706.

#### **10.7 – Quality Assurance**

Refer to FSM 5717.

### **11 – PLANNING**

Reserved.

#### **11.1 –Aviation Safety and Management Plans**

The National Aviation Safety and Management Plan (NASMP) serves as a first tier document for Forest Service programs, Regions, Forests, and Units with aviation activities. Regions, Forests, and Units must create annual supplements to responsibilities and administrative procedures. These supplements may be more restrictive, but they must not make responsibilities and administrative procedures less restrictive.

The Regions/Area must supplement the NASMP. The Forests/Stations, FHP, LEI, and other Forest Service programs that utilize aviation must supplement the NASMP/regional aviation supplements.

The color codes below are used by aviation programs while supplementing this document:

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

1. Washington Office (Black)
2. Regions/Area (Red)
3. Forests/Stations (Green)
4. Forest Health Protection (Brown)
5. Law Enforcement and Investigations (Blue)
6. Other Forest Service program areas that utilize aviation (Purple)

All supplements, except for National, must be reviewed by the relevant Regional/Area Aviation Officer and Regional/Area Aviation Safety Manager. For minimum plan requirements, refer to FSM 5711.2.

## **11.2 – Aircraft Acquisition**

Aircraft (fixed-wing, helicopter, and unmanned) transfer and acquisition must be approved by the Washington Office Director, Fire and Aviation Management (FAM).

1. The Regional Aviation Officer must request acquisition of aircraft to the Assistant Director, Aviation Management. Acquisition of an aircraft requires an Aviation Business Case initiated by Washington Office Aviation Management.
2. The Washington Office Aviation Management must initiate all aircraft transfers and acquisitions using an Office of Management and Budget, OMB Circular A-11, Business Case (Aviation Business Case).
3. An Integrated Project Team will be designated to develop Aviation Business Cases.
4. Aviation Business Cases will be recommended by the Director, FAM and approved by the Deputy Chief, State and Private Forestry. Additional review and approvals may be required by the agency, the Department of Agriculture, and OMB.
5. Aviation Business Cases for all Forest Service aircraft must be formally revalidated every 5 years.

### **11.21 – Replacement Aircraft Aviation Business Cases**

Aviation business cases for replacement of current WCF aircraft, using WCF funds and/or program funds, must be approved by the Deputy Chief, State and Private Forestry, and must be kept on file for OMB review.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

### **11.3 – Homeland Security Response Plans**

#### **11.31 – Regional Homeland Security Response Plan**

Each Region must develop a Homeland Security Response Plan that details the security actions that each Region will implement, based upon the Homeland Security threat level. The Regional Homeland Security Response Plan must be reviewed by the Fire and Aviation Management staff, Washington Office. The Regional Homeland Security Response Plans are approved by the Regional Fire Director.

Refer to FSH 5709.16, chapter 38.33.

#### **11.32 – Facility Homeland Security Response Plan**

Each aviation facility must develop a Facility Homeland Security Response Plan that is specific to that aviation facility and details the security actions the facility will take for each Homeland Security threat level. The Facility Homeland Security Response Plan must be reviewed by the FAM staff, Washington Office. The Facilities Homeland Security Response Plan is approved by the appropriate Forest Supervisor annually.

Refer to FSH 5709.16, chapter 38.34.

### **11.4 – Aviation Mishap Response Plans**

Forest Service local units must establish procedures to respond to an emergency, documented in an Aviation Mishap Response Plan. The Interagency Aviation Mishap Response Guide and Checklist (PMS 503) must be used as the template for Forest Service aviation mishap response planning. Contact information in the Interagency Aviation Mishap Response Guide and Checklist will be updated annually by April 1<sup>st</sup> of each year. Forest Aviation Officers utilizing aircraft must develop and annually update the Interagency Aviation Mishap Response Guide and Checklist specific to their unit.

#### **11.41 – Aviation Crash Rescue Plan**

Locations with aviation activity must have a formalized Crash Rescue Plan appropriate to the size and scope of their specific operations. This plan must include, at a minimum:

1. Objectives;
2. Locations including remote operating areas;
3. Responsibilities;



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

4. Equipment;
5. Emergency Communication Plan;
6. Staffing; and
7. Training – for simulated emergencies.

### **11.5 – Programmatic Aviation Operations Plans**

The Washington Office Branch Chief, Aviation Operations, is responsible for developing and maintaining these aviation operational plans, with supplements from the Branch Chiefs, Pilot Standardization, Airworthiness, Aviation Safety Management System, and Aviation Business Operations.

The Regions will supplement these plans where appropriate.

In addition to the minimum requirements listed above, the Fixed-Wing and Helicopter Operations Plans, and Aviation Base Operations Plans consist of the specific programs listed in FSM 5707.

All permanent locations conducting aviation operations must develop an Airbase Operations Plan, to be approved by the appropriate Washington Office/Regional/Forest Aviation Officer. Airbase Operations Plans must be developed and updated annually to address aircraft operations.

These plans should include, at a minimum:

1. Authority;
2. Objectives;
3. Aircraft (quantity, make/model, type);
4. Funding;
5. Contracts;
6. Aircraft Program Management;
7. Program sustainment;
8. Mission requirements;
9. Facilities;

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

- 10. Safety Management System;
- 11. Staffing; and
- 12. Logistics.

### **11.6 – Mission Aviation Safety Plan**

Elements of a Mission Aviation Safety Plan are:

1. Supervision. Identify the qualified Mission/Project Aviation Manager.
2. Mission/Project Name and Objectives. Provide a brief description of the project and its objectives.
3. Justification. Indicate why the mission/project will require the use of aircraft in special-use flight conditions/environments and list the most practical alternatives for completion of the project.
4. Mission/Project Date(s). State the date(s) the mission/project will begin and end. These may be approximate, since exact dates of flight may not be known at the beginning of the year.
5. Location. Enter the descriptive location and include a map clearly showing the area where flight(s) will be made; aerial hazards must be clearly indicated.
6. Mission/Projected Cost of Aviation Resources. Enter cost coding, projected flight hours and cost, projected miscellaneous expenses (such as overnight charges or service truck mileage) and total cost of the project.
7. Aircraft. If known, identify vendor(s) that own aircraft to be used, registration number, aircraft type, aircraft data card expiration date and missions for which the aircraft is approved.
8. Pilot(s). If known, identify pilot(s), type of aircraft qualified in, type of missions qualified for and pilot card expiration date.
9. Participants. List individuals involved in flight(s), their qualifications (such as Helicopter Manager, Passenger(s), Helibase Manager, or Fixed-Wing Flight Manager), dates of their last aviation training and their project responsibilities.
10. Flight Following and Emergency Search-and-Rescue. Identify the procedures to be used.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

11. Aerial Hazard Analysis. Provide an aerial hazard analysis for each flight with an attached map.

- a. Require a prior ground and/or aerial hazards survey for flights made in confined areas (such as deep, narrow canyons).
- b. Brief the aerial hazard map with the pilot and provide a copy to the pilot prior to any project flights.
- c. Accomplish necessary planning concerning temporary flight restrictions (TFRs) and coordination with the Federal Aviation Administration and military authorities (if appropriate) prior to project flights.

12. Protective Clothing/Equipment. Identify the protective equipment and clothing necessary for the particular operation and any survival equipment (such as extra water, flotation devices, or sleeping bags) beyond the normal Personal Protective Equipment (PPE) complement that may be required.

13. Load Calculations and Weight-and-Balance.

- a. Include the Load Calculations provided by the pilot, who is responsible for the accurate completion of load calculations.
- b. Ensure that trained aviation personnel have determined that the scheduled aircraft are capable of performing the mission(s) safely and within the capabilities of the type of aircraft needed.
- c. Ensure that manifests and load calculations/weight-and-balance calculations are completed and noted properly by the Helicopter Manager or Fixed-wing Flight Manager as appropriate per the contract, 14 CFR and FSH 5709.16, chapter 30.

14. Risk/Hazard Assessment. Complete a Risk/Hazard Assessment that identifies hazards associated with the operation and the mitigations and controls put in place to reduce or eliminate them. The process for completing this assessment is found in the USDA Forest Service Operational Risk Management Guide.

### **11.7 – Approvals for Aviation Program Startup/Change Requests**

All aviation program startup/change requests must be submitted to the appropriate Washington Office Aviation Branch Chief. Examples of aviation program startup/change requests are:

1. New or changed equipment (aircraft, parachute, and so forth.)

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

2. New contract change (such as, VLAT, LFS Helicopter, Master Spec, and so forth)
3. New or changed process or procedure (such as, rappel standardization, pilot standardization, and so forth)
4. Deviation from standards (such as, LEI exemption, Wire Strike Protection System, and so forth)
5. New or changed policy (for example, doctrinal policy changes, 100 hour, turbine single engine, and so forth)

For the specific steps required to initiate a startup/change request, refer to the National Aviation Safety and Management Plan, 3.20.

## **12 – RISK ASSESSMENTS**

Risk Management is a critical component of the agency's ASMS. Key risk management processes outlined below all work with and build off each other to allow for continual improvement. The Agency risk management process will strive for continuous improvement through proactive learning from the field. Identification of new hazards, determination of risk levels, and effectiveness of mitigations must be collaborated from the local level through the Regional aviation staff to the Washington Office.

Refer to the NASMAG Chapter 3.

### **12.1 – Strategic Risk Assessment**

Strategic risk assessments examine system-wide design and functions as an interconnected process. Strategic risk assessments are conducted by the Washington Office with Regional, program, and subject matter expert involvement.

Strategic risk assessments produce a permanent record of findings and decisions used for long-term planning, organizational decision making, training, and aviation operations. These are maintained by the Washington Office Aviation staff.

The product representing strategic risk assessment is the Risk Management Workbook and the processes to keep that document relevant. Decisions on accepting or rejecting strategic risk are made at the Washington Office level by the accountable executive.

Refer to the NASMSG Guide Chapter 3.

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK CHAPTER 10 – AVIATION BUSINESS**

### **12.2 – Deliberate Risk Assessment**

Deliberate risk assessments focus on specific mission planning, hazard risk management and will be developed and reviewed prior to operations.

The product representing deliberate risk assessment is the MASP. This is where risk is evaluated at the Forest and regional level and an informed risk decision is made by a line officer to accept or reject the risk.

In developing the MASP, as new risk hazards are identified or new mitigation measures discovered, users should incorporate them into mission planning.

MASP should be reviewed by the RAO and RASM. If a user should encounter a new risk hazard at any point of the operation (including pre-planning), operations should be suspended until mitigations can be implemented.

The goals of deliberate risk assessment are to reduce the level of risk as low as reasonably practicable (ALARP) and to provide the approving Line Officer with information to make an informed risk decision.

Refer to the NASMSG Chapter 3.

### **12.3 – Time Critical Risk Assessment**

Time critical risk assessment is the tool that pilots and managers use to assess actual risks specific to the day of flight.

The product representing a time critical risk assessment is a Flight Risk Assessment Tool (FRAT). FRAT is a general term encompassing multiple tools, examples are Green, Amber, Red (GAR), and Operational Risk Management (ORM) worksheets. Time critical decisions on accepting or rejecting risk are made at an operational level by those executing the mission.

A FRAT documents the time critical risk management process of mission planning. A FRAT must be completed at a minimum prior to the first flight of the day, and any time significant changes to any one of the five M's (man, machine, medium, mission, management) occurs in the mission.

While completing a FRAT, if an emerging hazard or higher than expected risk level is identified, the Aviation Manager (for example a helicopter manager, flight manager, project aviation manager, pilot in command), must follow up with the appropriate management level before a mission commences. A FRAT will be reviewed by all project participants and signed (including pilot) and will be retained after mission use and archived by Units for documentation and quality assurance.

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK CHAPTER 10 – AVIATION BUSINESS**

While utilizing a FRAT, as new hazards are identified or new mitigation measures discovered, users should incorporate them into mission planning.

Time critical risk assessment and mitigation processes used to complete a FRAT must be conducted throughout the execution of the mission without necessarily recording the information.

Refer to the NASMSG, Chapter 3.

### **12.4 – Strategic Risk Assessment Close-Out Process**

Once the Strategic Risk Assessment has been completed, the Assistant Director, Aviation, and Assistant Director, Risk Management will deliver the final product to the Director, Fire and Aviation Management. The Director will provide direction for the risk assessment report to be reviewed.

The Strategic Risk Assessment Close-out Working Group (SRACOW) will establish a Subject Matter Expert (SME) group of no more than five SMEs. The SME group will be given direction, parameters and timelines to review the report; identify mitigations that are one time effort and those that are on-going; assess individual mitigation's effectiveness and implementation cost and to develop a Quality Assurance (QA) checklist for long-range monitoring. The SME group will provide the SRACOW with these products in the established timelines.

The SRACOW will review, and either accept the SME products, or a back-and-forth coordination will begin to develop acceptable products. Once the SRACOW agrees on an acceptable QA checklist, the SRACOW will provide the Assistant Director, Aviation and Assistant Director, Risk Management with documentation on the completion of the project. The Assistant Directors will deliver the final product to the Director of Fire and Aviation for Deputy Chief, State and Private Forestry signature. Strategic Risk Assessments should be closed out and formally completed no later than one year from the date of tasking to the SRACOW. A bulleted representation of the process is below:

1. Aviation Strategic Risk Assessment completed and assigned to the SRACOW with the expectation of being formally closed out within one year (Director FAM).
2. Develop SME Group and provide clear direction of assigned tasks (SRACOW). Identify on-going and one time mitigations and assess their viability. (SME)
  - a. Develop QA Checklist (SME).
  - b. Provide products back to SRACOW (SME).

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**

### **CHAPTER 10 – AVIATION BUSINESS**

3. Review, validate and either accept or return SME products (SRACOW). Pass Back Process if needed.
4. Once acceptable products are developed, formally complete and close out the risk assessment through documentation to the Assistant Director, Aviation and the Assistant Director, Risk Management (SRACOW).

## **13 – COOPERATOR APPROVALS AND AGREEMENTS**

The Regional Aviation Officer in coordination with the appropriate Office of Aviation Services Regional Director must send an annual pre-season letter under dual (Regional Aviation Officer and OAS Regional Director) signature to all Cooperators in their region using the approved interagency pre-season letter template.

The Regional Aviation Officer in coordination with the appropriate Office of Aviation Services Regional Director must send an approval letter under dual (Regional Aviation Officer and OAS Regional Director) signature to Cooperators who intend to provide aircraft, pilots and equipment for use on federally protected lands using the approved interagency approval letter template.

All cooperators must be under a Master Agreement or Memorandum of Understanding prior to conducting work for the Forest Service.

## **14 – AVIATION CONTRACTS**

Refer to FSM 5714.

### **14.1 – Aircraft Contract Coordination**

All Nationally-funded exclusive-use aircraft contracts will be coordinated between the Washington Office and the Regional Office. The Washington Office will have oversight and approval for all exclusive use aircraft contracts to ensure expenditure of the funds is aligned with leaders' intent and the agency budget.

Refer to the Washington Office Aviation Contracting Desk Reference for direction on the acquisition processes for aircraft and other aviation services contracts. The desk reference is available from Washington Office Aviation Staff or Washington Office Acquisition Management, Incident Support Branch staff.

### **14.2 – Flight Services Contracts**

Exclusive Use contracts are used when the agency has a definite aircraft or aviation service needed for a specific period of time. During the Mandatory Availability Period (MAP), the aircraft or aviation service is made available for the exclusive use of the Government.

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**

### **CHAPTER 10 – AVIATION BUSINESS**

Call-When-Needed contracts, Basic Ordering Agreements, and Blanket Purchase Agreements are a way for the agency to have a ready access to a pool of aircraft and aviation services that meet a minimum standard. These assets are usually used for non-recurring missions or aviation services, or during periods of surge activity often related to wildland fire suppression. The disadvantages of these types of contract instruments are that the aircraft or aviation services may not be available when needed.

Indefinite Delivery, Indefinite Quantity (IDIQ) contracts are often used for aircraft or aviation services, such as transportation of cargo or personnel, seeding, wildlife surveys, or aerial application of pesticides. Inherent in an IDIQ contract is an unknown component of usage while maintaining a minimum guarantee which limits the Government's obligation under the contract.

Use flight services contracts when appropriate as identified in 14.4 – Exhibit 1.

#### **14.21 – Contract Aviation Master Template**

All aviation contracts must use a Nationally-approved Aviation Master Template (also known as Master Spec). Regions may request supplement revisions through the appropriate Regional Aviation Officer to the applicable Washington Office Program Manager for consideration by the RAO/WO Branch Chief Council.

#### **14.3 – End Product Contracts**

An end-product contract is intended to efficiently and effectively accomplish certain projects with no internal operational controls or specifications from the Forest Service. An end product contract requires the project be completed, but does not specifically define how the project is to be accomplished. Certain aviation operations, such as aerial application of herbicides and insecticides, seed, fertilizer, prescribed burn projects, horses gathered, bridge building, and some Burned Area Emergency Rehabilitation (BAER) projects may be administered in a more efficient and less expensive manner if contracted on an end-product basis, instead of through an agency flight services contract. The end product project may be accomplished using aircraft or not.

Participation by Forest Service employees in end-product contracts is limited to contract administration and quality assurance of the end product goals only.

The decision to use an end-product contract removes the Forest Service from having operational control, thereby placing accountability for any aircraft accident with the operator/contractor.

Use end product contracts when appropriate as identified in 14.4 – Exhibit 1.



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

**14.4 – Determination of Flight Services and End-Product Contracts**

Determine if a project requires a flight services or an end-product contract using 14.4 – Exhibit 1.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

**14.4 – Exhibit 1 – End Product**

If the answer is YES to any question below you must use the flight services process and contract. If the answers are NO, you may use the end-product contract.	Aerial photo remote sensing	Aerial application (spray/seed)	Aerial Ignition	Animal capture (net gun, dart, paintball, etc.)	Animal herding/gathering	Your project *
Are agency personnel going to be on the aircraft for this mission? (1)						
Is a helicopter manager required for this mission? (3)						
Is a “Fixed-Wing Flight Manager” or “flight manager” required for this? (4)						
Are you asking or requiring (written or verbal) the pilot/crew to wear PPE? (5)						
Are you asking for aircraft and pilot requirements (i.e. Cessna 206, or pilot must have PPE and Flight helmet)? (6)						
Are you requiring “pilot standards”? (7)						
Are you directing aircraft maintenance? (8)						
Are you controlling or directing aircraft “movement” (telling the aircraft where to go, how to do the project, how often to check in)? (9)						
Are you requesting exclusive control? Is the aircraft already under government contract? (10)						

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

**14.4 – Exhibit 1 – End Product – Continued**

\* This may include incidental use of aircraft for various missions not identified in the exhibit. When evaluating such missions, local or regional aviation managers can assist in making decisions on type of procurement to use.

1. Agency personnel are assuming operational control of the mission from the aircraft.
2. The Agency has operational control of the mission if agency personnel are managing the aircraft. Helicopter Manager requirements are listed in the **NWCG Standards for Helicopter Operations**.
3. Fixed-Wing Flight Manager or Flight Manager requirements are listed in FSH 5709.16.
4. Requiring personal protective equipment (PPE) assigns operational control to the agency. This is a vendor decision for an end-product contract.
5. Asking for these requirements assumes operational control by the agency. This is a vendor decision for an end-product contract.
6. By placing “pilot standards” (for example, a pilot must have minimum 50 hours in make/model aircraft to be flown) the agency is not only asking for an aircraft to perform the mission, it is also assuming “operational control.” The vendors place their own controls on the mission for the end-product contract.
7. By directing aircraft maintenance (verbal or written) the agency assumes “operational control.” This is a vendor decision for an end-product contract.
8. Controlling or directing aircraft “movement” assumes operational control by the agency. For an end-product contract, simply state that the project starts by X date and finishes by Y date. Have vendor call before the start of the project and notify dispatch (to warn other aircraft working on forest/unit).

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

**14.4 – Exhibit 1 – End Product – Continued**

9. The aircraft cannot be under the exclusive control of the government for an end-product contract. For example:
  - a. Under an end-product contract, NEVER use any flight services contracted aircraft, such as an exclusive use or Call When Needed (CWN) helicopter, that is currently working under that contract. However, if the helicopter is released from contract, the end-product contractor could hire the same vendor to perform the end-product service.
  - b. Under an end-product contract, participation by agency employees is limited to end-product contract administration only.
  - c. Agency Grants of Exemption (Refer to FSH 5709.16, Chapter 30.2) from the Department of Transportation, Federal Aviation Administration (FAA) regulations, do not apply to end-product contracts. If departures from applicable regulations are necessary, the contractor is responsible for obtaining them.

**15 – AIRCRAFT ADMINISTRATION**

**15.1 – Working Capital Fund Aircraft**

The purpose of the WCF is to provide a sustainable funding mechanism for the operation and replacement of agency owned aircraft that support fire suppression and non-fire aviation activities. WCF aircraft are subject to the same regulations regarding capitalization, de-capitalization, and depreciation as other WCF non-expendable personal property.

The Working Capital Fund Accounting Operations Handbook, FSH 6509.11f provides greater detail on how to accomplish day-to-day management, operations, and tasks. The WCF Aircraft User Guide will provide more aircraft specific information.

Refer to US Forest Service Working Capital Fund User Guide for additional WCF information.

**15.11 – Other Reports**

Office of Management and Budget A-126 and Departmental Regulation (DR) 5400-4 require USDA agencies to annually review the continuing need for aircraft and cost effectiveness of aircraft operations. When the continued use of an aircraft is not fully justified, agencies should release underutilized aircraft. The Washington Office, Director of Fire and Aviation Management, is responsible for the review.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

## **15.2 – Contract Aircraft**

### **15.21 – Contract and Rental Agreement Requirements and Approvals**

Requirements for contract or rental agreement pilot and aircraft approvals are as follows:

1. Obtain and utilize contract aviation services only from contractors properly certificated under 14 CFR for the type operation to be conducted.
2. If agency personnel are to be carried, the contractor shall be certified under 14 CFR, Part 135 or 121, as applicable.
3. Aircraft and pilots must be specifically approved by authorized agency or interagency aircraft or pilot inspectors.
4. All requirements and specifications in the contract must be adhered to and not conflict with policy.

### **15.22 – Contract Aircraft Requirements**

Refer to FSH 5709.16, Chapter 40.

## **15.3 – Cooperator and Partner Aircraft**

When utilizing cooperator and partner aircraft:

1. Use of Tribal, State, or local government and military aircraft must be approved with a Cooperator Approval Letter.
2. Proposed use of these aircraft should be requested through the Forest Aviation Officer to the Regional Aviation Officer.
3. Partner (DOI agencies) aircraft must be approved by an OAS Airplane, Helicopter, or Unmanned Aircraft System (UAS) Data Card.

For cooperator aircraft standards, refer to FSH 5709.16, Chapter 40.

### **15.31 – Cooperator Approval Letter**

All cooperator approvals must utilize the approved Cooperator Approval Letter template. The template is available from the Washington Office Branch Chief, Aviation Operations.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

### **15.32 – Equipment**

Refer to FSH 5709.16, chapter 40.

### **15.32a – Smokejumper and Paracargo Aircraft**

Refer to FSH 5709.16, chapter 40.

### **15.33 – Avionics**

Refer to FSH 5709.16, chapter 40.

## **15.4 – Federal Excess Personal Property (FEPP) Aircraft**

The FEPP program refers to Forest Service owned property that is on loan to cooperators for the purpose of wildland and rural firefighting. Once acquired by the Forest Service, it is loaned to eligible cooperators for firefighting purposes. Approximately 70% of FEPP is sub-loaned to local fire departments. For policy guidance regarding FEPP, refer to FSH 3109.12 (aviation specific FSH 3109.14, ch. 40), the FEPP Desk Guide, chapter 40.

The RAO may:

1. Review all State aviation operations plans for compliance with Forest Service and State excess property direction.
2. Help establish minimum standards for pilot qualifications and maintenance for excess property aircraft.
3. Coordinate and/or establish an approved source of parts for excess property aircraft, such as the Department of Defense (DOD).
4. Review State security risk assessments and mitigation plans.
5. Review all acquisition documents prior to transfer of aircraft.

The RASM may:

Review safety program documents.

## **15.5 – Aircraft Cost and Use Reporting**

### **15.51 – Aviation Business System**

Aviation Business System (ABS) must be used to electronically document and process all aviation costs and use. ABS can be accessed at <https://apps.fs.usda.gov/ibs>. ABS is a web based application used by the Forest Service to electronically document and process all contract aviation costs and use. A disconnected client, non-web limited component

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

version, of the application is available for remote use. Some UAS operations may not utilize ABS. Refer to the UAS Operations Plan for direction regarding UAS costs and use.

Aviation Management Information System (AMIS), must be used to electronically document and process all Working Capital Fund (agency owned) aircraft by the unit responsible for managing that aircraft, until ABS is capable of accepting WCF aircraft. AMIS can be accessed at <http://famweb.nwcg.gov/>. Instructions are available in the FAMWEB Help Menu.

End-product contract aircraft costs and use will not be entered into ABS or AMIS.

It is expected that aircraft cost and use data will be entered daily into ABS to assure prompt payment to aircraft vendors.

Data entered into AMIS, reports from ABS, and working capital fund fiscal data from the National Finance Center must be used by the Washington Office, Fire and Aviation Management staff to submit the required inventory, usage, standby, and cost reports into the Federal Aviation Interactive Reporting System (FAIRS) on a quarterly basis.

## **15.52 – FLIGHT**

FLIGHT is the mandatory agency Airtanker Base system of record. It must be used to electronically document and process all aircraft flight and retardant use. FLIGHT can be accessed by requesting an account on the National Interagency Fire Enterprise Geospatial Platform at <https://egp.nwcg.gov/egp>.

FLIGHT is a single program of record for reporting in a web-based infrastructure that meets department security and 508 requirements. It interfaces with the Integrated Reporting of Wildland-Fire Information (IRWIN) for incident information and allows for the capture of daily information in a standardized format with real –time data storage and recovery. FLIGHT also provides an avenue for aviation field personnel to document and share operational information.

It is expected that Airtanker Base aircraft flight and retardant use will be entered daily into FLIGHT as well as the necessary inputs also placed into ABS. Information from FLIGHT will assist agency personnel in validating retardant invoices prior to vendor payment.

## **15.6 – Documentation of Administrative Use of Aircraft**

Refer to Administrative Use of Aircraft Desk Reference.

## **15.7 – Retention of Performance Planning and Manifest Documentation**

As required by Federal Management Regulation, the following documentation requirements must be adhered to:

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**

### **CHAPTER 10 – AVIATION BUSINESS**

1. On incidents, helicopter managers must submit manifests and load calculations and/or any changes in manifests to the helibase manager, who will submit the documents to the Planning Section, Documentation Unit Leader. Documentation must be retained for 24 months.
2. On units, helicopter manifests and load calculations and/or any changes in manifests must be retained at the unit level for 24 months.
3. On incidents and units, fixed-wing manifests and/or any changes in manifests must be documented on the Aircraft Flight Request/Schedule or equivalent document by the originating unit and retained there for 24 months.
4. At the origin of each fixed-wing flight, a complete weight and balance computation and a cargo-loading manifest must be prepared. Units must retain weight and balance documentation for 30 days from the time of flight.

## **16 – RECORD KEEPING**

### **16.1 – Record Keeping Policy**

Refer to FMR102-33.165 and FSH 6209.11\_42\_5000.

#### **16.11 –Aviation Records**

The originating unit must retain aviation records pertaining to aviation activities and operations, including manifests, load calculations, weight and balance, and aviation personnel qualifications.

#### **16.12 – Record Keeping Requirements**

Aviation records must be retained for ten (10) years per FSH 6209.11.

### **16.2 – Reports and Inquiries**

Refer to FSM 5716.1 and FSM 5716.2.

## **17 – REVIEWS AND QUALITY ASSURANCE**

Refer to FSM 5717 and FSH 5709.16, chapter 30.17.



## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**

### **CHAPTER 10 – AVIATION BUSINESS**

## **18 – AWARDS**

### **18.1 – Aviation Awards**

Individuals and organizations may be recognized with awards for exceptional acts or service in support of agency aviation safety and aircraft mishap prevention. There are two categories of aviation safety awards: individual and unit. The award should be commensurate with the service or act (FSH 6109.13, ch. 30).

### **18.2 – National Aviation Award**

The National Aviation Award is for individual(s) and/or group(s) whose achievements or high-quality performance, in support of aviation, merit recognition for their contribution to the Forest Service aviation management program. Accomplishments may include:

1. Innovation in aviation operations, technology, and equipment;
2. Application of doctrine;
3. Best practices which provide superior results to enhance safety and efficiency; and
4. Application of Safety Management Systems.

Individuals or groups may be nominated for the National Aviation Award at the National, Regional, Area, Forest, and Station levels. The nomination must include a justification statement and be submitted to the Washington Office Assistant Director, Aviation, for approval.

Award selections will be submitted by the Washington Office Assistant Director, Aviation, to the Washington Office, Office of Communications for the weekly report.

### **18.3 – Regional Aviation Award**

The Regional Aviation Award is for individual(s) and/or group(s) whose achievements or high-quality performance in support of aviation merit recognition for their contribution to the Forest Service regional aviation management program. Accomplishments may include:

1. Innovation in aviation operations, technology, and equipment;
2. Application of doctrine;
3. Best practices which provide superior results to enhance safety and efficiency; and
4. Application of Safety Management Systems.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 10 – AVIATION BUSINESS**

Individuals or groups may be nominated for the Regional Aviation Award at the Regional or Forest levels. The nomination must include a justification statement and be submitted to the RAO for approval.

**18.4 – Aviation Safety Awards**

Refer to FSM 5724 and FSH 5709.16, chapter 24.



## FOREST SERVICE MANUAL NATIONAL HEADQUARTERS (WO) WASHINGTON, DC

### FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK

#### CHAPTER 20 – AVIATION SAFETY MANAGEMENT SYSTEMS

**Amendment No.:** 5709.16-2020-3

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** Jaelith Hall-Rivera  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by Handbook number and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this Handbook was 5709.16-2020-2 to 5709.16\_10.

<b>New Document</b>	5709.16_20	8 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>	5709.16_20 (Amendment 5709.16-2017-2, 9/25/2017)	41 Pages

#### **Digest:**

20 – This amendment substantially revises the entire chapter to better align with the U.S. Forest Service mission.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 20 – AVIATION SAFETY MANAGEMENT SYSTEMS**

## Table of Contents

<b>20 – AVIATION SAFETY MANAGEMENT SYSTEMS.....</b>	<b>3</b>
20.1 – Authority .....	3
20.2 – Objectives .....	3
20.3 – Policy .....	3
20.4 – Responsibility .....	4
20.41 – Washington Office Branch Chief, Aviation Safety Management Systems .....	4
20.42 – Washington Office Aviation Management Specialists (Aviation Safety Specialists) .....	4
20.43 – Forest Health Protection Aviation Safety Manager .....	5
20.44 – Region and Area .....	5
20.5 – Definitions.....	5
20.6 – References.....	5
20.7 – Quality Assurance.....	5
<b>21 – AVIATION SAFETY POLICY.....</b>	<b>5</b>
<b>22 – AVIATION SAFETY RISK MANAGEMENT .....</b>	<b>5</b>
22.1 – Flight Data Governance .....	5
<b>23 – AVIATION SAFETY ASSURANCE .....</b>	<b>6</b>
23.1 – Aviation Investigation Reviews and Improvement Plans.....	7
<b>24 – AVIATION SAFETY PROMOTION .....</b>	<b>7</b>

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 20 – AVIATION SAFETY MANAGEMENT SYSTEMS**

### **20 – AVIATION SAFETY MANAGEMENT SYSTEMS**

Aviation Safety Management Systems (ASMS) foster a safety culture through the development of a flexible, reporting, learning, just aviation culture. This aviation safety culture is established, maintained, and implemented through integrating and implementing the operational execution of the four pillars of ASMS.

Refer to FSM 5700, FSH 5709.16, and The National Aviation Safety Management System Guide (NASMSG).

#### **20.1 – Authority**

Refer to FSM 5700 Zero Code.

#### **20.2 – Objectives**

To develop a safety culture that incorporates the four pillars of ASMS (Policy, Risk Management, Promotion, and Assurance) that consistently strives to prevent aviation accidents. The Agency is committed to developing, implementing, and continuously improving the aviation program.

In this safety culture, every individual must accept safety as a conscious and ongoing mindset. The goals of the safety culture are to:

1. Continuously seek out and eliminate latent defects through a proactive risk management program.
2. Systematically approach the development of policies, procedures, and practices that assure maximum quality and superior standards in all aviation operations.
3. Clearly define procedures, a hierarchy of responsibilities, and clear lines of reporting to facilitate effective and useful promotion of aviation safety issues.
4. Integrate the ASMS into the Agency fire and aviation management culture.

#### **20.3 – Policy**

Forest Service policy requires aviation managers to follow the direction in aviation manuals, handbooks, and guides listed in FSM 5706. The highest priority is to protect our most valuable resource—our employees. Every Line Officer, Manager, Supervisor, and employee must be responsible for identifying hazards and managing risk exposure by mitigating hazards, continuously assessing risk, and making risk-related decisions at the appropriate level.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 20 – AVIATION SAFETY MANAGEMENT SYSTEMS**

In accordance with International Civil Aviation Organization (ICAO) Doc 9859 Safety Management Manual, the Agency has adopted ASMS as the guiding model for the aviation program. The ASMS is the foundation enabling the Agency to achieve its highest priority. The program will provide resources to continuously improve safety practices, and provide a framework for responsibility and accountability.

Aviation activities must comply with applicable Federal and State laws, regulations, and standards for aviation safety and for reporting and investigating accidents and incidents (FSM 5700, FSH 5709.16, FSM 6730, and United States Forest Service Aircraft Accident Investigation Guide).

The detailed elements of agency aviation safety must be maintained in the NASMSG. This guide contains best practices to achieve goals and objectives, and contains mandatory policy (FSM 1110.8, FSM 5108).

For information on ASMS components and elements, refer to FSM 5720.31.

## **20.4 – Responsibility**

Refer to FSM 5704 and the NASMSG.

### **20.41 – Washington Office Branch Chief, Aviation Safety Management Systems**

Refer to FSM 5704.32a and the NASMSG.

### **20.42 – Washington Office Aviation Management Specialists (Aviation Safety Specialists)**

The Washington Office Aviation Management Specialists are responsible to the Washington Office Branch Chief, Aviation Safety Management Systems. Washington Office Aviation Management Specialists shall:

1. Promote a safety culture through the development and implementation of the four pillars of ASMS.
2. Meet the training requirements for aviation managers found in the Interagency Aviation Training Guide (IATG).
3. Provide aviation safety coordination for all Forest Service aviation activities.
4. Coordinate with the Washington Office aviation Branch Chiefs, Program Managers, and aviation specialists.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 20 – AVIATION SAFETY MANAGEMENT SYSTEMS**

5. Maintain records of reviews, as applicable.
6. Provide coordination with regional aviation training programs.
7. Understand, implement, and maintain the responsible areas of the Forest Service Safety Management System within the scope of their duties.

Refer to the NASMSG.

### **20.43 – Forest Health Protection Aviation Safety Manager**

Refer to FSM 5704.34d and the NASMSG.

### **20.44 – Region and Area**

Regions and Areas must ensure that an ASMS is implemented. The Regional Aviation Safety Manager (RASM) position is on the forefront for responsibility in the ASMS. The RASM must be placed in the organization in a manner that the position does not report to the RAO so that safety duties are separate from operational duties. Refer to FSM 5704 and the NASMSG.

### **20.5 – Definitions**

Refer to FSM 5705 and the NASMSG.

### **20.6 – References**

Refer to FSM 5706.

### **20.7 – Quality Assurance**

Refer to FSM 5717 and the NASMSG.

## **21 – AVIATION SAFETY POLICY**

Refer to FSM 5720 and the NASMSG.

## **22 – AVIATION SAFETY RISK MANAGEMENT**

Refer to the 5720 and the NASMSG.

### **22.1 – Flight Data Governance**

Accident prevention and/or safety inquiry requests for data and information must be requested to both the Assistant Director, Aviation and the Branch Chief, Aviation Safety Management System.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 20 – AVIATION SAFETY MANAGEMENT SYSTEMS**

Flight data is data from the AFF, ATU, OLM, SAFECOMs, cockpit voice recorder, flight data recorder, and any other recording device, including audio, video, and imagery.

Data or information developed as a result of flight data collected will not be used in any punitive manner or enforcement action by the Forest Service against a member of the flightcrew, except for cases of deliberate or criminal acts. The data may be shared with an ongoing aviation safety investigation to aid in the development of organizational learning.

Access to flight data is tightly controlled and identifying information is permanently stripped from any records released. The success of safety management and non-punitive reporting depends on cooperation with flightcrews who can provide further insights beyond what the data can reveal.

### **23 – AVIATION SAFETY ASSURANCE**

The Agency must maintain an effective and relevant Aviation Safety Assurance Program in accordance with Federal Management Regulations (FMR) 102.33. The Aviation Safety Council provides a focal point for Safety Assurance. National and Regional Aviation Safety Managers must provide aviation safety oversight for aviation planning including but not limited to Regional Aviation Safety Management Plans, Forest Supplements and Mission Aviation Safety Plans.

US Forest Service Aviation Safety Assurance Program encompasses the following components and elements:

1. Monitoring of risk and affected controls:
  - a. SAFECOM hazard reporting system; and
  - b. Aviation improvement plans.
2. Internal evaluations and external audits to review aviation management and operations, and the development of corrective actions.
3. Safety performance and analysis.
  - a. Accident and Incident Investigations at the appropriate level in accordance with FMR 102.33;
  - b. Aviation Investigation Review (AIR).
  - c. Safety Summaries



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 20 – AVIATION SAFETY MANAGEMENT SYSTEMS**

4. Aviation Management Review and Evaluation

**23.1 – Aviation Investigation Reviews and Improvement Plans**

The Branch Chief, ASMS, with support from Washington Office Aviation Branch Chiefs, must develop an aviation improvement plan based on recommendations from the AIR.

The Aircraft Accident Investigation Guide, the Aviation Investigation Addendum to the Learning Review Guide, and the NASMSG will establish a team of representatives from each functional area to develop corrective recommendations to be implemented agency-wide.

**24 – AVIATION SAFETY PROMOTION**

Accountable executives and management must implement an ASMS that provides safety resources, to continuously improve safety practices, and to provide a framework for responsibility and accountability. The United States Forest Service Aviation Safety Promotion framework consists of:

1. Aviation Safety Recognition (Awards Program):
  - a. National Airwards; and
  - b. Regional safety awards.
2. Aviation Safety Education;
3. Interagency Aviation Training (IAT);
4. Internal aviation safety training;
5. Communicating and Disseminating Information;
6. Safety Alert, Accident Prevention Bulletin, Lessons Learned, Technical Bulletins,
7. Information Bulletins, Airward News; and
8. Regional aviation safety documents – Safety Summaries, rapid lessons learned.

The Branch Chief, ASMS is authorized to issue National Safety Alert, Accident Prevention Bulletin, Aviation Lessons Learned, Technical Bulletin, and other documents necessary for the timely dissemination of aviation safety information. RASM's are responsible for dissemination of safety information to all affected personnel in the most appropriate and timely manner

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 20 – AVIATION SAFETY MANAGEMENT SYSTEMS**

possible. RASMs may develop the above safety documents appropriate to their level of the organization and must coordinate the development and dissemination of those documents with the Branch Chief, ASMS.

Refer to the NASMSG.



## FOREST SERVICE MANUAL NATIONAL HEADQUARTERS (WO) WASHINGTON, DC

### FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK

#### CHAPTER 30 – AVIATION OPERATIONS

**Amendment No.:** 5709.16-2020-4

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** JAELITH HALL-RIVERA  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by Handbook number and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this Handbook was 5709.16-2020-3 to 5709.16\_20.

<b>New Document</b>	5709.16_30	123 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>	5709.16_30 (Amendment 5709.16-2017-3, 09/25/2017)	46 Pages

#### **Digest:**

30 – This amendment substantially revises the entire chapter to better align with the U.S. Forest Service mission.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**  
**CHAPTER 30 – AVIATION OPERATIONS**

**Table of Contents**

<b>30 – AVIATION OPERATIONS .....</b>	<b>10</b>
30.1 – General .....	10
30.11 – Authority .....	10
30.12 – Objectives .....	10
30.13 – Policy .....	10
30.13a – Use of Agency or Government Aircraft.....	11
30.13b – Use of Agency-owned, Contracted, or Leased Aircraft for Static Displays or Flight/Aerial Demonstrations.....	11
30.13c – Emergency Situations.....	12
30.14 – Responsibility .....	12
30.14a – Washington Office, Branch Chief, Aviation Operations and Regional Aviation Officers .....	12
30.14b – Washington Office Aerial Supervision Program Manager (ASPM) .....	13
30.14c – Washington Office Airtanker Program Manager (ATPM) .....	14
30.14d – Washington Office Airtanker Base Specialist (ATBS) .....	15
30.14e – Washington Office Helicopter Program Manager (HPM) .....	16
30.14f – Washington Office Helicopter Operations Specialist (HOS) .....	17
30.14g – Washington Office Assistant Helicopter Operations Specialist (AHOS)....	19
30.14h – Washington Office Helicopter Rappel Specialist (HRS).....	20
30.14j – Washington Office Aircraft Coordinator (AC).....	21
30.14k – Washington Office Fixed-wing Coordinator (FWC).....	22
30.14l – Washington Office Smokejumper Program Manager (SPM).....	23
30.14m – Washington Office Ram-air Parachute System Specialist (RAMS).....	24
30.14n – Washington Office Unmanned Aircraft Systems Program Manager (UASPM) .....	25
30.14o – Washington Office Unmanned Aircraft Systems Specialist.....	26
30.14p – Regional Unmanned Aircraft System (UAS) Coordinator .....	27
30.14q – Washington Office Aviation Management or Program Specialist .....	27
30.15 – Definitions.....	28
30.16 – References.....	28
30.17 – Quality Assurance.....	28
30.2 – Exemptions .....	29
30.21 – Federal Aviation Administration Grants of Exemption.....	29
30.21a – Grant of Exemption GE-392 .....	29
30.21b – Grant of Exemption GE-392a .....	37
30.21c – Reporting Requirements.....	39
30.22 – Department of Transportation Special Permit Authorization for Hazardous Materials .....	39
30.22a – Training.....	39

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

30.3 – Non-approved Aircraft and Pilots .....	39
30.31 – Non-federally Approved Aircraft (Wildland Fire) .....	39
30.32 – Non-agency Pilots on Forest Service Working Capital Fund (WCF)/Contract Aircraft .....	40
30.4 – All-hazard Response .....	40
30.41 – Search and Rescue and Disaster Events .....	40
30.42 – FEMA All-hazard Response .....	41
30.5 – Employees on Leave Representing the Agency .....	42
30.6 – Personal Protective Equipment .....	42
30.7 – Cooperator, Military, and Foreign Country Flight Operations .....	42
30.71 – Cooperators .....	42
30.72 – Department of Defense Aviation Assets .....	42
30.72a – Military Flightcrews .....	43
30.73 – Federal Executive Agency (non-DOD) Aviation Assets .....	43
30.74 – Flight on Foreign Aircraft on Official Duty .....	43
30.75 – Operations of Agency and Contracted Aircraft in Canada and Mexico .....	44
30.75a – Quick Strike Operations in Canada and Mexico .....	44
30.75b – Agency Owned and Leased Aircraft Operations in Canada .....	44
30.75c – Agency Owned and Leased Aircraft Operations in Mexico .....	45
30.75d – Contract Aircraft Operations in Canada and Mexico .....	45
30.8 – Land Use Policy Relative to Aviation Operations .....	45
30.81 – Land Management Plans .....	46
30.82 – Aquatic Invasive Species Prevention .....	46
30.83 – Fire Chemicals .....	46
30.83a – Retardant Avoidance Areas .....	46
30.9 – Incident Air Operations .....	46
30.91 – Incident Air Operations Positions .....	47
30.91a – Air Operations Branch Director (AOBD) .....	47
30.91b – Air Support Group Supervisor (ASGS) .....	48
30.91c – Air Tactical Group Supervisor (ATGS) .....	48
30.91d – Helicopter Coordinator (HLCO) .....	48
30.91e – Leadplane (LPIL) .....	48
30.91f – Aerial Supervision Module (ASM) .....	49
30.91g – Air Tactical Pilot (ATP) .....	49
30.91h – Air Tactical Supervisor (AITS) .....	49
30.91i – Helibase Manager (HEBM) .....	49
30.91j – Fixed-wing Base Manager (FWBM) .....	49
30.92 – Incident Air Operations Management and Supervision Requirements .....	50
30.93 – Incident Airspace Coordination .....	51
30.93a – Incident Temporary Flight Restrictions (TFR) .....	51
30.93b – Incident Management Team Initial Attack Area .....	52

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

30.93c – Federal Aviation Administration Temporary Towers and Airport Closures	52
30.94 – Incident Emergency Response Planning.....	53
30.95 – Limited Aviation Resources .....	53
30.96 – Incident Special Use Flights for Senior Federal Officials, Members of Congress, and Non-federal Travelers .....	54
30.97 – Aerial Ignition on Incidents .....	54
<b>31 – FLIGHT PLANNING AND FLIGHT MANAGEMENT .....</b>	<b>55</b>
31.1 – Flight Preparation.....	55
31.11 – Equipment.....	55
31.11a – Mobile Electronic Device Use .....	55
31.11b – Aviation Data, Images, and Voice Recordings.....	55
31.11c – Agency Flightcrew .....	56
31.11d – Agency Aircrew .....	56
31.11e – Contract Flightcrew.....	56
31.11f – Additional Aircraft Equipment.....	56
31.11g – Personal Survival Equipment.....	56
31.12 – Instrument Meteorological Conditions .....	57
31.13 – Night Flying .....	57
31.14 – Mission Briefings.....	57
31.15 – Mission Debriefings.....	58
31.16 – Performance Planning.....	59
31.17 – Aircrew Orientation Briefings .....	59
31.18 – Aviation Hazard Maps .....	60
31.2 – Flight Managers .....	61
31.21 – Fixed-wing Flight Manager and Fixed-wing Flight Manager Special Use .....	61
31.21a – Fixed-wing Flight Manager Certification .....	61
31.21b – Fixed-wing Flight Manager Duties.....	61
31.22 – Helicopter Manager .....	62
31.3 – Flight Records.....	62
31.31 – Weight and Balance Computations.....	62
31.32 – Fixed-wing Performance Planning and Manifest .....	62
31.33 – Helicopter Performance Planning, Load Calculation, and Manifest .....	63
31.4 – Smoking .....	63
31.5 – Aviation Fuel .....	63
31.51 – Purchasing Fuel.....	63
31.52 – Fuel Hazards .....	64
31.53 – Fuel Transfer and Storage.....	64
31.54 – Refueling Systems/Methods .....	64
31.54a – Single-Point Refueling .....	65
31.54b – Open Port/Over-the-Wing Refueling.....	65
31.54c – Rapid Refueling for Helicopters .....	65

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**  
**CHAPTER 30 – AVIATION OPERATIONS**

31.6 – Aviation Transport of Hazardous Materials .....	65
<b>32 – FLIGHT DISPATCHING AND FLIGHT FOLLOWING .....</b>	<b>65</b>
32.1 – Latitude and Longitude Standard .....	66
32.2 – Dispatching .....	66
32.21 – General .....	66
32.22 – Aircraft/Aviation Dispatchers .....	67
32.23 – Administrative Use of Aircraft Flight Requests .....	67
32.24 – Mission Flight Requests .....	67
32.25 – Non-Incident Related Flight Requests .....	67
32.26 – Pilot-in-command Duties Relative to Flight Dispatching and Flight Following ..	67
32.27 – Originating Dispatcher .....	69
32.3 – Types of Flight .....	69
32.4 – Agency Flight Plans .....	69
32.41 – Point-to-Point .....	69
32.42 – Overdue or Missing Aircraft .....	70
32.42a – Notifications .....	70
32.42b – Search and Rescue .....	70
32.42c – Local Unit Aviation Incident Response Training and Plans .....	71
32.5 – FAA Flight Plans .....	71
32.51 – FAA Flight Planning Responsibilities .....	71
32.52 – Flight Plan Amendment and Cancellation .....	71
32.6 – Automated Flight Following .....	72
<b>33 – FLIGHT PROCEDURES .....</b>	<b>72</b>
33.1 – Passenger and Cargo Operations .....	72
33.11 – Movement of Personnel in and Around Aircraft .....	72
33.12 – Large Transport Operations .....	73
33.2 – Passenger Briefing .....	73
33.3 – Flights Conducted Under Instrument Flight Rules (IFR) .....	74
33.31 – IFR Requirements .....	74
33.32 – IFR Departure Minimums and Procedures .....	74
33.33 – IFR Destination Airport Weather Minimums .....	75
33.34 – Use of Autopilot System for Passenger-Carrying IFR Flights .....	75
33.4 – Night Flying .....	75
33.5 – Sterile Cockpit .....	75
33.6 – Manipulation of Flight Controls .....	75
33.61 – Pinch Hitter Training .....	75
33.7 – Inflight Fuel Management – Fixed-Wing and Helicopter .....	76
33.71 – Reserve Fuel .....	76
33.72 – Minimum Fuel .....	76
33.73 – Emergency Fuel .....	76
<b>34 – AIRSPACE .....</b>	<b>77</b>

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**  
**CHAPTER 30 – AVIATION OPERATIONS**

34.1 – Airspace Coordination .....	77
34.2 – Fire Traffic Area (FTA) .....	77
34.21 – Firefighting Aircraft Transponder Code .....	77
34.3 – Temporary Flight Restrictions .....	77
34.4 – Airspace Boundary Plan .....	78
34.5 – International Airspace Boundaries .....	78
34.6 – Airspace Conflicts and De-confliction .....	78
34.61 – Airspace Conflicts .....	78
34.62 – Airspace De-confliction .....	79
34.7 – Airspace Agreements .....	79
<b>35 – AVIATION FACILITIES REQUIREMENTS .....</b>	<b>79</b>
35.1 – Classification of Takeoff/Landing Locations .....	79
35.2 – Planning .....	80
35.21 – Mission Facility Requirements .....	80
35.3 – Airbase Operations Plan .....	80
35.4 – Facilities Inspection Guidelines .....	80
35.5 – Aviation Facilities Not Located on Forest Service Land .....	81
<b>36 – FLIGHT OPERATIONS .....</b>	<b>81</b>
36.1 – Flight and Duty Limitations .....	81
36.11 – Standard Flight and Duty Limitations .....	81
36.12 – Interim Flight and Duty Limitations .....	83
36.13 – Administrative Use of Aircraft Operations .....	83
36.13a – Essential to the Mission .....	83
36.13b – Passengers on Special Use Missions .....	83
36.13c – Volunteers .....	83
36.13d – Incident Flights with Persons Other Than Federal Employees in Government Aircraft .....	83
36.2 – Fixed-Wing Aircraft Operations .....	84
36.21 – Fixed-Wing Aircraft Performance Criteria .....	84
36.22 – Low-level Flight Operations (Less than 500 feet AGL) .....	84
36.23 – Reconnaissance .....	85
36.23a – Aerial Observation (Non-Fire) .....	85
36.23b – Fire Detection .....	85
36.23c – Forest Health Protection .....	86
36.23d – National Infrared Operations .....	86
36.24 – Aerial Supervision .....	87
36.3 – Smokejumper Operations .....	87
36.31 – Smokejumper Spotter .....	88
36.32 – Smokejumper Pilots .....	88
36.33 – Smokejumper Aircraft Evaluation .....	88
36.4 – Airtankers .....	88



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

36.41 – Large Airtankers .....	89
36.42 – Very Large Airtankers .....	89
36.43 – Single Engine Airtanker Operations .....	89
36.44 – Airtanker Base Operations and Personnel .....	89
36.44a – Airtanker Bases .....	89
36.44b – Airtanker Base Types .....	90
36.44c – Airtanker Base Staffing .....	91
36.44d – Temporary Airtanker Base Equipment – Portable and Mobile .....	91
36.45 – Airtanker Pilot Evaluation, Approval, and Currency .....	91
36.46 – Airtanker Inspection and Approval .....	92
36.47 – Airtanker Operations .....	92
36.47a – Airtanker Retardant Delivery System Evaluation .....	92
36.47b – Airtanker Rotation .....	92
36.47c – Loading Operations .....	93
36.47d – Simultaneous Fueling and Retardant Loading – Turbine Airtankers .....	93
36.47e – Retardant Hot Loading – Turbine Airtankers .....	94
36.47f – Congested Area Retardant Operations .....	95
36.47g – Safe and Effective Drop Height – Fixed-Wing Airtankers .....	95
36.47h – Jettison Areas .....	96
36.48 – Retardant and Suppressant Guidelines .....	96
36.48a – Approved Retardants and Suppressants .....	96
36.48b – Guidelines for Aerial Application near Waterways .....	96
36.49 – Large Transport Aircraft Operations .....	97
36.49a – Contract Large Transport Aircraft .....	97
36.49b – Agency-owned Large Transport Aircraft .....	97
36.5 – Helicopter Program .....	97
36.51 – Helicopter Performance Criteria .....	98
36.52 – Interagency Helicopter Screening and Evaluation Subcommittee (HSES) .....	98
36.53 – Helicopter Operations .....	98
36.53a – Personal Protective Equipment .....	98
36.53b – PPE Requirements for Helicopters in Extreme Environmental Conditions .....	99
36.53c – Helicopter Minimum Staffing .....	99
36.53d – Rappel Operations .....	100
36.53e – Cargo Letdown .....	100
36.53f – Short Haul and Hoist .....	100
36.53g – Aerial Ignition .....	100
36.53h – Aerial Capture, Eradication, and Tagging of Animals (ACETA) .....	101
36.53i – Snow Operations .....	101
36.54 – Helicopter Coordinator Missions .....	101
36.6 – Law Enforcement and Investigations (LEI) Aviation Operations .....	101
36.61 – Special LEI Aviation Projects .....	101

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**  
**CHAPTER 30 – AVIATION OPERATIONS**

36.62 – LEI Aviation Training.....	101
36.63 – LEI Flights with Civil Air Patrol .....	102
36.64 – U.S. Departments of Homeland Security (USDHS) and Justice (USDOJ) Approvals.....	102
36.65 – LEI Personal Protective Equipment (PPE) during Tactical Operations .....	102
36.66 – LEI Emergency Operations.....	103
36.7 – Unmanned Aircraft Systems.....	103
36.71 – Approval of UAS Aircraft and Pilots.....	104
36.72 – UAS Operations .....	104
36.73 – Unmanned Aircraft Systems Screening and Evaluation Board .....	104
36.8 – Night Flying.....	105
36.81 – Night Air Operations.....	105
36.81a – Night Administrative use of Aircraft Flights .....	105
<b>37 – OPERATIONS REQUIRING SPECIAL FLIGHT TECHNIQUES .....</b>	<b>106</b>
37.1 – Back Country Airstrips, Off-Airport Operations, Off-Seaplane Base Operations ....	106
37.11 – Approval of Backcountry Airstrips.....	106
37.11a – Relative Hazard Index.....	106
37.2 – Mountain Flying.....	107
37.3 – Low-level Flight Operations .....	107
37.31 – Low-level Fixed-wing Flight Operations.....	107
37.31a – Multi-Engine Air tankers and ASM/Leadplanes.....	107
37.31b – Single-Engine Airtankers.....	108
37.31c – Other Low-level Fixed-wing Flight Operations.....	108
37.32 – Low-level Helicopter Flight Operations .....	108
37.33 – Personal Protective Equipment for Low-Level Flights .....	109
37.4 – Amphibious and Seaplane Aircraft Operations .....	109
<b>38 – AVIATION SECURITY .....</b>	<b>109</b>
38.1 – General.....	109
38.11 – Objective.....	109
38.12 – Responsibility .....	109
38.12a – Assistant Director, Aviation, Fire and Aviation Management.....	109
38.12b – Regional Aviation Officers .....	110
38.12c – Site Manager/Site Security Officers.....	110
38.12d – Airspace Liaison .....	111
38.13 – Definitions.....	111
38.14 – References.....	111
38.2 – Physical Security.....	111
38.21 – Physical Security Standards.....	111
38.22 – Security Self-Assessment.....	119
38.23 – Vulnerability Level .....	119
38.3 – Agency Security Response Actions.....	119

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**  
**CHAPTER 30 – AVIATION OPERATIONS**

38.31 – Objective .....	119
38.32 – Policy .....	120
38.33 – Regional, Area, and Station Homeland Security Aviation Response Plan.....	120
38.34 – Facility Homeland Security Response Plan .....	121
38.35 – Homeland Security Response Plan Requirements .....	121

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

## **30 – AVIATION OPERATIONS**

### **30.1 – General**

This chapter establishes aviation standards and procedures for all aviation activities, mission planning, and flight operations, including agency-owned aircraft, flight and pilot services contracts, partner and cooperator aircraft and pilots, aviation personnel, and aviation facilities.

All aviation operations must be conducted in compliance with the following:

1. Applicable portions of 14 U.S. Code of Federal Regulations (14 CFR) Parts 91, 107, 121, 125, 133, 135, and 137, except those Exemptions identified in 30.2.
2. Aircraft flight manual/pilot operating handbooks.
3. Forest Service manuals, handbooks, guides, interagency guides, and standards and contracts. Refer to FSM 5706.

Contract flightcrews and aircrews must comply with 14 CFR under which their operating certificate is based, any direction spelled out in each individual contract and agency operations plans and standards.

#### **30.11 – Authority**

Refer to FSM 5701.

#### **30.12 – Objectives**

Refer to FSM 5702.

#### **30.13 – Policy**

Pilots and aviation users are expected to make sound decisions, including canceling a flight, when conditions or circumstances may cause undue risk.

Each employee, cooperator, and contractor is responsible for conducting aviation operations that are:

1. Approved by management;
2. Planned properly;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

3. Utilize the correct equipment;
4. Use qualified personnel; and
5. Mitigated to a level of risk that is as low as reasonably practicable (ALARP).

Forest Service employees perform challenging work in very high-risk and dynamic environments that are not always predictable. This responsibility can only be realized through participation of every employee. Safety is the first priority, and leadership at all levels must foster a culture that encourages employees to communicate unsafe conditions, policies, or acts that could lead to accidents without fear of reprisal. The four components of Aviation Safety Management Systems (ASMS)—Policy, Risk Management, Assurance, and Promotion—are critical to the success of safe operations.

Refer to FSM 5703.

### **30.13a – Use of Agency or Government Aircraft**

First priority for Forest Service missions must be given to agency-owned or agency leased Aerial Supervision Module aircraft, second priority to Forest Service exclusive use contracted aircraft, third priority to Department of the Interior agency owned and exclusive use contracted aircraft, fourth priority to Forest Service or Department of the Interior call-when-needed contracted aircraft, and last priority to approved cooperator aircraft to accomplish aviation missions (refer to FSM 5703).

Approved cooperator aircraft use on federal incidents is subject to certification that there is significant and imminent threat to life or property (including natural resources) and that no federally contracted aircraft is available to meet the request. Certification is documented through the Cooperator Aircraft Certification Worksheet as referenced in the National Interagency Mobilization Guide and the Interagency Standards for Fire and Fire Aviation Operations.

If the cooperator aircraft meets the criteria above, it may be used on the federal incident until the threat no longer exists or a federally contracted aircraft can replace it on the incident. Fire aviation missions must have priority over agency administrative flights.

### **30.13b – Use of Agency-owned, Contracted, or Leased Aircraft for Static Displays or Flight/Aerial Demonstrations.**

Use of Agency-owned, contracted, or leased aircraft for static displays or flight/aerial demonstrations (fly-bys, water dropping, parachute jumps, rappelling or other aerial demonstrations) must be requested 60 days in advance, by letter, to the Washington Office (WO), Assistant Director, Aviation. A written request must originate from a WO Staff Director or Regional Fire Director and include the following documents:

1. Formal request from the private/public organization requesting Forest Service

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

participation in the static display or flight/aerial demonstration.

2. Final Draft Mission Aviation Safety Plan (PASP). Approval of the MASP will occur if the request is approved.

3. Static Display or Flight/Aerial Demonstration Plan to include objectives, risks (financial, operational and public perception) detailed flight plans (including to and from the event and event flights), estimated costs, pilot designations, and Forest Service messages to be included.

If the request includes contracted or leased aircraft, the appropriate Contracting Officer will also be included in the approval process by Washington Office FAM.

### **30.13c – Emergency Situations**

Individuals who are involved in an event in which there clearly exists an imminent threat to human life, and there is insufficient time to utilize approved methods, may deviate from policy to the extent necessary to preserve life.

When deviation from policy is necessary, all the following actions must apply:

1. Personnel involved in the decision making associated with deviating from policy must do a Time Critical Risk Assessment (refer to definition of Time Critical Risk Assessment in the National Aviation Safety Management System Guide [NASMSG]);
2. Deviations must be documented on form FS-5700-14, Aviation Safety Communiqué (SAFECOM); and
3. The Line Officer shall be notified as soon as practical.

Refer to 30.31.

### **30.14 – Responsibility**

Refer to FSM 5704.

#### **30.14a – Washington Office, Branch Chief, Aviation Operations and Regional Aviation Officers**

Refer to FSM 5704.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**30.14b – Washington Office Aerial Supervision Program Manager (ASPM)**

The Washington Office Aerial Supervision Program manager reports to the Washington Office Branch Chief, Aviation Operations and has the responsibility to:

1. Provide leadership, expertise, standardization, coordination and oversight for the agency aerial supervision program, which includes, air tactical, lead plane, aerial supervision module and helicopter coordinator operations;
2. Develop, manage, coordinate, and implement the budget for the national aerial supervision program;
3. Coordinate national aerial supervision related activities with Washington Office aviation staff, Regional aviation staff and interagency partners and cooperators;
4. Coordinate field Quality Assurance Reviews of aerial supervision activities with Washington Office staff and regional staff;
5. Lead the aerial supervision aircraft contracting process, coordinating with Contracting Officers, Regional subject matter experts, and WO aviation staff during specification and requirements development, solicitation review and finalization and technical evaluation of proposals;
6. Administer aerial supervision aircraft contracts as a contracting officer's representative or contracting officer's technical representative;
7. Coordinate aerial supervision staffing, readiness, availability, capability, and response with the Contracting Officers, WO Fixed-wing Coordinator, and the National Interagency Coordination Center;
8. Lead the development and recommendation of agency and interagency aerial supervision related policy and training. Coordinate with WO aviation staff, Regional aviation staff and interagency partners and cooperators during the process;
9. Lead course development, instruction, and training for national interagency aerial supervision courses, academies, simulations, computer based training and currency coordinating with WO aviation staff, Regional aviation staff and interagency partners and cooperators;
10. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
11. Maintain air tactical group Supervisor currency and qualifications;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

12. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned;
13. Attend regional refresher training sessions to provide national direction, policy and program updates;
14. Understand, implement, and maintain the responsible areas of the FS Aviation Safety Management System within their scope of duties;
15. Serve as team leader for detailed Aviation Management Specialists and other employees for aerial supervision related special work projects and assignments.

**30.14c – Washington Office Airtanker Program Manager (ATPM)**

The Washington Office Airtanker Program manager reports to the Washington Office Branch Chief, Aviation Operations and has the responsibility to:

1. Provide leadership, expertise, standardization, and oversight for the Agency airtanker program, which includes large airtankers, airtanker bases, agency-contracted SEATs and Modular Airborne Firefighting Systems (MAFFS) units and operations;
2. Develop, manage, coordinate, and implement the budget for the national airtanker program;
3. Coordinate national airtanker related activities with Washington Office aviation staff, Regional aviation staff and interagency partners and cooperators;
4. Coordinate field Quality Assurance Reviews of airtankers and airtanker base activities with Washington Office staff and Regional Staff;
5. Coordinate airtanker readiness, availability, and response with the Contracting Officer, Washington Office Fixed-wing Coordinator, and the National Interagency Coordination Center;
6. Lead the airtanker contracting process, coordinating with Contracting Officers and Washington Office aviation staff during specification and requirements development, solicitation review and finalization and technical evaluation of proposals;
7. Administer airtanker contracts as a contracting officer's representative or contracting officer's technical representative;
8. Lead the development and recommendation of agency and interagency airtanker related policy, including guides and operational plans. Coordinate with Washington



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Office aviation staff, Regional aviation staff and interagency partners and cooperators during the process;

9. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;

10. Coordinate with cooperators and partners regarding any airtanker related activities;

11. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned;

12. Understand, implement, and maintain the responsible areas of the FS Aviation Safety Management System within their scope of duties;

13. Serve as team leader for detailed Aviation Management Specialists (may include an Assistant Airtanker Program Manager and Airtanker Base Specialist) and other employees for airtanker or airtanker base related special work projects and assignments.

**30.14d – Washington Office Airtanker Base Specialist (ATBS)**

The National Airtanker Base Specialist reports to the National Branch Chief, Aviation Operations and has the responsibility to:

1. Provide leadership, expertise, standardization, and oversight for the agency airtanker bases, which includes permanent, call-when-needed and temporary bases, Modular Airborne Firefighting Systems (MAFFS) and the national retardant contract;
2. Develop, manage, coordinate, and implement the budget for the national airtanker bases and MAFFS coordinating with the National Airtanker Program Manager and Washington Office aviation staff;
3. Coordinate national airtanker base and MAFFS related activities with the Airtanker Program Manager, Washington Office aviation staff, Regional aviation staff and interagency partners and cooperators;
4. Coordinate field Quality Assurance Reviews of airtanker base activities with the Airtanker Program Manager, National staff and regional staff;
5. Administer aviation contracts as needed as a contracting officer's representative or contracting officer's technical representative;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

6. Lead the development and recommendation of agency and interagency airtanker base and MAFFS related policy, including guides and operational plans. Coordinate with National Airtanker Program Manager, National aviation staff, Regional aviation staff and interagency partners and cooperators during the process;
8. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
9. Coordinate with cooperators and partners regarding any airtanker base related activities;
10. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned;
11. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within their scope of duties;
12. Serve as team leader for detailed Aviation Management Specialists and other employees for airtanker base related special work projects and assignments.

**30.14e – Washington Office Helicopter Program Manager (HPM)**

The Washington Office Helicopter Program manager reports to the Washington Office Branch Chief, Aviation Operations and has the responsibility to:

1. Provide leadership, expertise, standardization and oversight for the agency helicopter program, which includes type 1 (heavy), type 2 (medium), type 3 (light) helicopters, agency owned helicopters, and helicopter operations;
2. Develop, manage, coordinate, and implement the budget for the national helicopter program;
3. Coordinate national helicopter related activities with Washington Office aviation staff, Regional aviation staff and interagency partners and cooperators;
4. Coordinate field Quality Assurance Reviews of helicopters and helicopter base activities with Washington Office staff and regional staff;
5. Lead the helicopter contracting process, coordinating with Contracting Officers, Washington Office aviation staff and regional aviation staff during specification and requirements development, solicitation review and finalization and technical evaluation of proposals;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

6. Coordinate helicopter availability, readiness, capability, and response with the Washington Office Helicopter Coordinator and the National Interagency Coordination Center;
7. Lead the development and recommendation of agency and interagency helicopter related policy, including guides and operational plans. Coordinate with Washington Office aviation staff, Regional aviation staff and interagency partners and cooperators during the process;
8. Lead course development, instruction, and training for national helicopter or helicopter operations courses, academies, simulations, computer-based training, and currency coordinating with Washington Office aviation staff, regional aviation staff, and interagency partners and cooperators during the process;
9. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
10. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned;
11. Attend regional refresher training sessions to provide national direction, policy and program updates;
12. Understand, implement, and maintain the responsible areas of the FS Aviation Safety Management System within their scope of duties;
13. Serve as team leader for the Washington Office Helicopter Operations Specialist, Washington Office Rappel Specialist, and other detailed Aviation Management Specialists and employees for helicopter or helicopter operations related special work projects and assignments.

**30.14f – Washington Office Helicopter Operations Specialist (HOS)**

The Washington Office Helicopter Operations Specialist reports to the Washington Office Branch Chief, Aviation Operations and has the responsibility to:

1. Provide leadership, expertise, standardization and oversight for agency helicopter operations, which includes type 1 (heavy), type 2 (medium), type 3 (light) helicopters, agency owned helicopters, and all helicopter operations;
2. Develop, manage, coordinate, and implement the budget for the national helicopter operations program;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**  
**CHAPTER 30 – AVIATION OPERATIONS**

3. Coordinate national helicopter operations related activities with Washington Office aviation staff, Regional aviation staff and interagency partners and cooperators;
4. Coordinate field Quality Assurance Reviews of helicopters and helicopter base activities with WO staff and Regional Staff;
5. Participate in the helicopter contracting process, coordinating with Contracting Officers, WO aviation staff and Regional aviation staff during specification and requirements development, solicitation review and finalization and technical evaluation of proposals;
6. Coordinate helicopter availability, readiness, capability, and response with the Washington Office Helicopter Coordinator and the National Interagency Coordination Center;
7. Lead the development and recommendation of agency and interagency helicopter operations related policy, including guides and operational plans. Coordinate with Washington Office aviation staff, Regional aviation staff and interagency partners and cooperators during the process;
8. Lead course development, instruction, and training for national helicopter or helicopter operations courses, academies, simulations, computer-based training, and currency coordinating with WO aviation staff, Regional aviation staff, and interagency partners and cooperators during the process;
9. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
10. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned;
11. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within their scope of duties;
12. Serve as team leader for the Washington Office detailed Aviation Management Specialists and employees for helicopter or helicopter operations related special work projects and assignments.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**30.14g – Washington Office Assistant Helicopter Operations Specialist (AHOS)**

The National Assistant Helicopter Operations Specialist reports to the National Branch Chief, Aviation Operations. Supervision is provided by the National Helicopter Operations Specialist. The Assistant Helicopter Operations Specialist has the responsibility to:

1. Provide leadership, expertise, standardization, and oversight for agency helicopter operations, the national emergency medical short-haul program and national helicopter aerial ignition program;
2. Develop, manage, coordinate, and implement the budget for national helicopter operations, national emergency medical short-haul program and national helicopter aerial ignition program with the National Helicopter Operations Specialist;
3. Coordinate helicopter operations, emergency medical short-haul program, aerial ignition program and related activities with National Helicopter Operations Specialist, National Office aviation staff, Regional aviation staff and interagency partners and cooperators;
4. Coordinate field Quality Assurance Reviews of helicopter operations, emergency medical short-haul modules with the National Helicopter Operations Specialist, other National aviation staff and Regional aviation staff;
5. Participate in the contracting process for helicopters coordinating with the Washington Office Helicopter Operations Specialist during emergency medical short-haul and aerial ignition specification and requirements development, solicitation review and finalization and technical evaluation of proposals;
6. Coordinate emergency medical short-haul helicopter and crew capability and response with the National Helicopter Coordinator;
7. Participate in the development and recommendation of agency emergency medical short-haul operations and aerial ignition related policy, including guides and operational plans. Coordinate with National Helicopter Operations Specialist during the process;
8. Lead course development, instruction, and training for emergency medical short-haul training, academies, simulations, and currency coordinating with National Helicopter Operations Specialist during the process;
9. Lead course development, instruction, and training for aerial ignition training, academies, simulations, and currency coordinating with National Helicopter Operations Specialist during the process;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

10. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
11. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned;
12. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within their scope of duties.

**30.14h – Washington Office Helicopter Rappel Specialist (HRS)**

The Washington Office Helicopter Rappel Specialist reports to the Washington Office Branch Chief, Aviation Operations and has the responsibility to:

1. Provide leadership, expertise, standardization, and oversight for agency helicopter rappel operations and training;
2. Develop, manage, coordinate, and implement the budget for the national helicopter rappel program;
3. Coordinate national helicopter rappel related activities with Washington Office aviation staff, Regional aviation staff and interagency partners and cooperators;
4. Coordinate field Quality Assurance Reviews of helicopters, helicopter bases, and rappel activities with Washington Office staff and regional staff;
5. Participate in the helicopter contracting process specific to rappel helicopters, coordinating with Contracting Officers, Washington Office aviation staff and regional aviation staff during specification and requirements development, solicitation review and finalization and technical evaluation of proposals;
6. Coordinate rappel helicopter availability, readiness, capability, response, and booster personnel with the Washington Office Helicopter Coordinator and the National Interagency Coordination Center;
7. Lead the development and recommendation of agency and interagency helicopter rappel related policy, including guides and operational plans. Coordinate with Washington Office aviation staff, regional aviation staff and interagency partners and cooperators during the process;
8. Lead course development, instruction, and training for national helicopter rappel courses, academies, simulations, computer based training and currency coordinating

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

with Washington Office aviation staff, regional aviation staff and interagency partners during the process;

9. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;

10. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned;

11. Understand, implement, and maintain the responsible areas of the FS Aviation Safety Management System within their scope of duties;

12. Serve as team leader for the Washington Office detailed Aviation Management Specialists and employees for helicopter rappel related special work projects and assignments.

**30.14j – Washington Office Aircraft Coordinator (AC)**

The National Aircraft Coordinator reports to the Washington Office Branch Chief, Aviation Operations and has the responsibility to:

1. Provide leadership, expertise, standardization, coordination, and oversight for national aircraft coordination to include staffing, readiness, availability, capability, and response coordinating with the Contracting Officers, Washington Office Helicopter Program Manager, Regional Aviation Staff, and the National Interagency Coordination Center;
2. Develop, manage, and coordinate the collection of daily and annual helicopter use, mission and cost data;
3. Coordinate and schedule administrative use of aircraft flights for the Washington Office. Develop and maintain the required documentation for each flight;
4. Participate in the aircraft contracting process, coordinating with Contracting Officers, Regional subject matter experts, and WO aviation staff during specification and requirements development, solicitation review and finalization and technical evaluation of proposals;
5. Participate in the development and recommendation of agency and interagency helicopter and fixed-wing related policy and training. Coordinate with Washington Office aviation staff, regional aviation staff and interagency partners and cooperators during the process;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

6. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
7. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within their scope of duties;
8. Serve as team leader for National Fixed-wing Coordinator and other employees for fixed-wing and helicopter related special work projects and assignments.

**30.14k – Washington Office Fixed-wing Coordinator (FWC)**

The National Fixed-wing Coordinator reports to the Washington Office Branch Chief, Aviation Operations and has the responsibility to:

1. Provide leadership, expertise, standardization, coordination, and oversight for national fixed-wing aircraft coordination to include staffing, readiness, availability, capability, and response coordinating with the Contracting Officers, Washington Office Air tanker Program Manager, WO Aerial Supervision Program Manager, Regional Aviation Staff, Pilots, and the National Interagency Coordination Center;
2. Develop, manage and coordinate the collection of daily and annual fixed-wing aircraft use, mission and cost data;
3. Coordinate and schedule administrative use of aircraft flights for the Washington Office. Develop and maintain the required documentation for each flight;
4. Participate in the aircraft contracting process, coordinating with Contracting Officers, Regional subject matter experts, and WO aviation staff during specification and requirements development, solicitation review and finalization and technical evaluation of proposals;
5. Participate in the development and recommendation of agency and interagency fixed-wing related policy and training. Coordinate with Washington Office aviation staff, regional aviation staff and interagency partners and cooperators during the process;
6. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
7. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within their scope of duties;



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

8. Serve as team leader for aviation management specialists and other employees for fixed-wing related special work projects and assignments.

**30.14I – Washington Office Smokejumper Program Manager (SPM)**

The Washington Office Smokejumper Program Manager reports to the Washington Office Branch Chief, Aviation Operations and has the responsibility to:

1. Provide leadership, expertise, standardization and oversight for the agency smokejumper program, which includes, parachute systems, Ram-air parachute transition, smokejumper contract aircraft, agency-owned smokejumper aircraft, and operations;
2. Develop, manage, coordinate, and implement the budget for the national smokejumper program;
3. Coordinate national smokejumper related activities with Washington Office aviation staff, regional aviation staff, and interagency partners;
4. Coordinate and communicate smokejumper incident, accident, malfunction, and abnormalities reporting with Washington Office staffs, regional staffs, and interagency partners;
5. Coordinate field Quality Assurance and Smokejumper Base Reviews of smokejumper activities with Washington Office staff and regional staff;
6. Lead the smokejumper aircraft contracting process, coordinating with Contracting Officers, Regional subject matter experts, and Washington Office aviation staff during specification and requirements development, solicitation review and finalization and technical evaluation of proposals;
7. Coordinate smokejumper availability, capability, and response with Regional or smokejumper base staff, Washington Office Operations, the Bureau of Land Management smokejumpers and the National Interagency Coordination Center;
8. Lead the development and recommendation of agency and interagency smokejumper and smokejumper aircraft related policy, including guides and operational plans. Coordinate with Washington Office aviation staff, Regional aviation staff, and interagency partners;
9. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

10. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned;
11. Understand, implement, and maintain the responsible areas of the FS Aviation Safety Management System within their scope of duties;
12. Serve as team leader for the Aviation Management Specialists and other employees for ram-air transition, SD3-60 Sherpa transition and other smokejumper related special work projects and assignments.

**30.14m – Washington Office Ram-air Parachute System Specialist (RAMS)**

The Washington Office Ram-air Parachute System Specialist reports to the Washington Office Branch Chief, Aviation Operations. Supervision is provided by the Washington Office Smokejumper Program Manager. The Ram-air Parachute System Specialist has the responsibility to:

1. Provide leadership, expertise, standardization, and oversight for the Agency Ram-air parachute transition;
2. Develop, manage, coordinate, and implement the budget for the ram-air parachute program and the transition with the Washington Office Smokejumper Program Manager;
3. Coordinate ram-air parachute system related activities with Washington Office Smokejumper Program Manager, other aviation staff, regional aviation staff and interagency partners;
4. Coordinate and communicate ram-air parachute system related incident, accident, malfunction and abnormalities reporting with the Washington Office Smokejumper Program Manager, Washington Office staffs, regional staffs, and interagency partners;
5. Participate in field Quality Assurance and Smokejumper Base Reviews of smokejumper activities;
6. Participate in the ram-air parachute system contracting process, coordinating with Contracting Officers, Regional subject matter experts, and Washington Office aviation staff during specification and requirements development, solicitation review and finalization and technical evaluation of proposals;
7. Lead the development and recommendation of agency and interagency ram-air parachute system related policy, including guides and operational plans. Coordinate

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

with the Washington Office Smokejumper Program Manager, Washington Office aviation staff, Regional aviation staff, and interagency partners;

8. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
9. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned;
10. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within their scope of duties;
11. Serve as team leader for Aviation Management Specialists and other employees assigned to the ram-air parachute transition and related special work projects and assignments.

**30.14n – Washington Office Unmanned Aircraft Systems Program Manager (UASPM)**

The Washington Office Unmanned Aircraft Systems (UAS) Program Manager reports to the Washington Office Branch Chief, Aviation Operations. Responsibilities include, but are not limited to:

1. Provide leadership, expertise, standardization, coordination, and oversight for the agency and interagency UAS program;
2. Develop, manage, coordinate, and implement the budget for the national UAS program;
3. Lead the UAS contracting process, coordinating with Contracting Officers, regional subject matter experts, and WO aviation staff during specification and requirements development, solicitation review and finalization and technical evaluation of proposals;
4. Lead the development and recommendation of agency and interagency UAS related policy and training. Coordinate with Washington Office aviation staff, regional aviation staff and interagency partners and cooperators during the process;
5. Coordinate the evaluation and testing of UAS related equipment and technology with the technology and development centers;
6. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

7. Work leader for detailed Aviation Management Specialists and other employees for UAS related special work projects and assignments;
8. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned;
9. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

**30.14o – Washington Office Unmanned Aircraft Systems Specialist**

The Washington Office Unmanned Aircraft Systems Specialist reports to the National Branch Chief, Aviation Operations. Supervision is provided by the National UAS Program Manager. Responsibilities include, but are not limited to:

1. Provide leadership, expertise, standardization, coordination, and oversight for the Agency and interagency UAS operations;
2. Develop, manage, coordinate, and implement the budget for the National UAS program in coordination with the UAS Program Manager;
3. Support the UAS contracting process, coordinating with Contracting Officers, Regional subject matter experts, the National UAS Program Manager and National aviation staff during specification and requirements development, solicitation review and finalization and technical evaluation of proposals;
4. Lead the development and recommendation of agency and interagency UAS related policy and training. Coordinate with National UAS Program Manager, National aviation staff, regional aviation staff and interagency partners and cooperators during the process;
5. Coordinate the evaluation and testing of UAS related equipment and technology with the technology and development centers;
6. Meet the training requirements for aviation managers as defined by current Forest Service Aviation Policy and the Interagency Aviation Training Guide;
7. Team leader for detailed Aviation Management Specialists and other employees for UAS related special work projects and assignments;
8. Represent the Forest Service on agency and Interagency committees and subcommittees, as assigned;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

9. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

**30.14p – Regional Unmanned Aircraft System (UAS) Coordinator**

Regions may identify a collateral duty position or establish a position responsible for managing the region's UAS program. Responsibilities include, but are not limited to:

1. Maintaining a current regional database of UAS remote pilots and remote pilot trainees in those positions;
2. Coordinate all regional UAS operations with the National UAS Program Manager;
3. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned.

**30.14q – Washington Office Aviation Management or Program Specialist**

The Aviation Management or Program Specialist reports to the Washington Office Branch Chief, Aviation Operations and has the responsibility to:

1. Provide leadership, expertise, standardization, coordination, and administrative support for the Washington Office aviation division coordinating with the WO Branch Chiefs, Washington Office Program Managers and specialists, Regional Aviation Staff, Contracting Officers;
2. Provide administrative oversight and coordination for the Defense Logistics Administration's Aviation Into-plane Reimbursement Card® process, payments and fueling coordination;
3. Review, reconcile, and approve contract aircraft payment packages in the Aviation Business System;
4. Provide Aviation Business System administrative support as requested;
5. Administer aviation contracts as a contracting officer representative;
6. Complete small purchases using the agency purchase card authority;
7. Represent the Forest Service on Agency and Interagency committees and subcommittees, as assigned;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

8. Serve as team leader for detailed employees for aviation support related special work projects and assignments.

### **30.15 – Definitions**

Refer to FSM 5705 and the NASMSG.

### **30.16 – References**

Refer to FSM 5706.

### **30.17 – Quality Assurance**

Quality Assurance is auditing to a standard. The standard can be policy, a contract, an agreement, or operational procedures in agency plans and interagency guides.

Forest Service aviation has implemented Quality Assurance to ensure accountability and monitor the health of the aviation management program. Quality Assurance includes Aviation Management Reviews, Quality Assurance Reviews, and Functional Assistance Trips.

Quality Assurance Reviews and Functional Assistance Trips are the primary quality assurance methodologies used.

Quality Assurance is required within all functional areas of aviation management, to include management, operations, pilot standardization, airworthiness, safety, strategy, business operations, and training. Line Officers, Staff Directors, Aviation Supervisors, and Aviation Managers at all organizational levels must employ a comprehensive quality assurance process that includes:

1. An audit/review process and checklist that emphasizes evaluation and improvement of operations, pilots, aircraft, equipment, and personnel used by the Forest Service.
2. Personnel qualifications and training standards.
3. Operations, pilot, aircraft, and equipment standards and inspection processes, and standards.

Contract compliance.

Quality Assurance Reviews will be scheduled based on known aviation activities in a letter notifying the Regional or Forest Fire and Aviation staff. Actual timing and schedule changes will be coordinated prior to the review between the Washington Office, Regions, and Forests.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Functional Assistance Trips may occur at any time and will be coordinated between the Washington Office, Regions, and Forests.

Refer to FSM 5717.

## **30.2 – Exemptions**

### **30.21 – Federal Aviation Administration Grants of Exemption**

Under Grant of Exemption No. 392, the FAA authorized aircraft and airmen conducting operations for the Forest Service, United States Department of Agriculture, be granted an exception from the Federal Aviation Regulations to permit them to deviate from the provisions of those Regulations to the extent the Chief of the Forest Service finds necessary for the expeditious conduct of those operations, subject to certain limitations, and only to those operations involving emergencies such as fire, flood, or search and rescue, and training for these emergencies.

The FAA further supplemented and amended GE 392 with GE 392a. GE 392a specifically granted aircraft and airmen conducting operations for the United States Forest Service, Department of Agriculture, an exemption from Sections 91.15(a), 91.29(a), 91.33(b)(12), 91.79(c), 103.7, 103.9(a)(1), and 121.117 of the Federal Aviation Regulations (circa 1965), subject to certain limitations. GE-392a extends beyond emergency to non-emergency operations.

#### **30.21a – Grant of Exemption GE-392**

Historical Background: During the recodification of the FAA Regulations in 1965, Special Civil Air Regulation SR-397, which was originally issued March 19, 1953 and amended by letter April 7, 1953, was reissued as Grant of Exemption GE-392. GE-392 “modified and replaced” the authority granted in SR-397. SR-397 was subsequently deleted effective April 1, 1965.

SR-397 had authorized the Chief of the Forest Service, USDA, to deviate as follows:

Special Civil Air Regulation No. SR-397 was adopted by the Civil Aeronautics Board on June 30, 1953, and provided that, “contrary provisions of the Civil Air Regulations notwithstanding, the Chief, Forest Service, United States Department of Agriculture, is authorized to permit aircraft and airmen, while engaged in operations conducted for the United States Forest Service, to deviate from the provisions of the Civil Air Regulations to the extent he finds necessary for the expeditious conduct of such operations.” (This included emergency and non-emergency operations.)

The broad applicability of SR-397, which extended to all Forest Service operations, was narrowed (in GE-392) to extend only to those operations involving emergencies such as fire, flood, or search and rescue, and training for these emergencies. Any other activities that the Forest Service conducted which might require deviations (such as non-emergency operations) were to be handled

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

through the waiver process. Under GE-392, the Chief is authorized to issue the exemptions and notify the FAA; no further FAA approval was needed. Excerpts from GE-392 follow:



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**30.21a – Exhibit 1 – Excerpt from GE-392**

Therefore, pursuant to the authority of Sections 307(e), 313(a), and 601(c) of the Federal Aviation Act of 1958, that has been delegated to me by the Administrator (14 U.S. Code of Federal Regulations, Part 11.53), aircraft and airmen conducting operations for the Forest Service, United States Department of Agriculture, are hereby granted an exception (sic) from the Federal Aviation Regulations to permit them to deviate from the provisions of those Regulations **to the extent the Chief of the Forest Service finds necessary for the expeditious conduct of those operations,** (bold text added) subject to the following limitations (summarized):

- Only to operations involving an emergency, and to training necessary for such operations.
- Auxiliary parachute to be packed by a certificated rigger.
- A copy of each deviation authorized by the Chief, along with applicable sections of 14 CFRs and any operational limitations, to be mailed to the FAA WO and appropriate (affected) FAA Regional Offices.
- A list of operators to whom this exemption extends including each operator's identity, base airport, aircraft that may be used, and the sections of the Federal Aviation Regulations involved, must be furnished, one to each appropriate FAA Regional and District Office.
- Any deviations the Chief might authorize and deliver by phone or telegraph due to the nature of an emergency must be given to the FAA, WO, FS-400.
- This, the sixth limitation, was added as an amendment via SR-392a and requires “The transportation of personnel by air to a staging area shall be conducted by an FAA certificated air carrier or commercial operator.”

Exemption No. 392 was signed by G.S. Moore, Director, FAA Flight Standards Service, March 31, 1965. Effective April 1, 1965 and remains in effect until superseded or rescinded.

Under the authority of Grant of Exemption GE-392, the Chief of the Forest Service has authorized the following deviations from Federal Aviation Regulations:

1. Operation of fixed-wing aircraft below 500 feet.
2. Non-use of seat belts.
3. Removal of aircraft door.
4. Use of unequipped airfields.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**30.21a – Exhibit 2 – Operation of Fixed-wing Aircraft Below 500 Feet**

**AUTHORIZATION TO DEVIATE FROM FEDERAL AVIATION REGULATIONS (FAR 91)**

In accordance with the authority vested in me, Chief of the Forest Service, by Grant of Exemption No. 392, I authorize the following deviation from Federal Aviation Regulations (FAR) as referenced in FAR 91.119, (b) and (c) and 91.313 (e.):

**I authorize the operation of fixed-wing aircraft below 500 feet above the surface and closer than 500 feet to persons, vessels, vehicles, and structures.**

In the United States of America.

For aircraft engaged in emergency operations for the Forest Service, United States Department of Agriculture.

With pilots appropriately certificated and pilots of the U.S. Armed Forces.

And with these limitations:

Deviation is **only allowed** for reconnaissance, aerial surveys, cargo dropping, and aerial application of fire retardants conducted by or for the Forest Service, U.S. Department of Agriculture, subject to the following:

A thorough air survey for hazards, including air conditions, in each operating area must be made prior to low-level flight operations.

All flights below 500 feet altitude must be confined to immediate areas being treated or where operational requirements make low-level flight essential.

All aircraft must follow planned flight courses.

Low-level operations must be conducted only in daylight Visual Flight Rules (VFR) conditions (30 minutes prior to official sunrise until 30 minutes after official sunset).

Prior clearance must be obtained from the appropriate air traffic controller before any flight is made in controlled air space.

Pilots shall avoid creating any unnecessary hazard to persons or property on the ground.

Aerial application of fire retardants in congested areas must be avoided in normal situations. Where such operations are considered necessary owing to special circumstances, they may be authorized subject to these additional limitations:

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**30.21a – Exhibit 2-(continued) Operation of Fixed-wing Aircraft Below 500 feet**

Airtanker operations in congested areas must be conducted only at the specific request of the responsible firefighting agency.

A Forest Service Leadplane with qualified Pilot (LEAD), or Air Tactical Supervision Module (ASM) must be ordered for all airtanker operations in congested areas when a fully qualified initial attack Airtanker Captain is piloting the aircraft. An Air Tactical Group Supervisor (ATGS) may provide temporary aerial supervision until the Leadplane or Air Tactical Supervisor Module (ASM) arrives on the scene, at which time the LEAD or ASM must directly supervise all such airtanker operations.

For all airtanker operations in congested areas, a LEAD or ASM is required if no ATGS is on scene. If an ATGS is on scene, a LEAD or ASM must be ordered.

When conducting pilot training, the designated Forest Service Leadplane Pilot (LEAD) or Air Tactical Supervision Module Pilot trainer must have immediate access to the flight controls, aircraft radios, and on-scene tactical communications.

When conducting Air Tactical Group Supervisor (ATGS) training, the designated Forest Service trainer must have immediate access to aircraft and on-scene tactical radio communications.

The Air Traffic Control (ATC) facility responsible for airspace control in vicinity of a proposed airtanker operation must be notified and a Temporary Flight Restriction, if appropriate, must be requested by the Forest Service or other responsible fire agency through their appropriate dispatch center prior to the commencement of airtanker operations.

No airtanker operation will be conducted unless the controlling platform (Leadplane Pilot (LEAD), Air Tactical Group Supervisor (ATGS), or Air Tactical Supervision Module (ASM)) has established positive communication with the on-scene Incident Commander, or designee.

The Incident Commander, or designee, shall advise the on-scene controlling platform (Leadplane Pilot (LEAD), Air Tactical Group Supervisor (ATGS), or Air Tactical Supervision Module (ASM)), that all nonessential people and movable property have been cleared from the area to be treated by airtankers prior to commencement of retardant application.

The on-scene controlling platform (Leadplane Pilot (LEAD), Air Tactical Group Supervisor (ATGS), or Air Tactical Supervision Module (ASM)) shall personally ascertain that people and movable property will not be placed in hazardous conditions by the proposed airtanker operation before commencement of retardant application.

The first pass of each operational drop series must be preceded by a dry run flown on the same pattern where the planned retardant will drop.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**30.21a – Exhibit 3 – Non-use of Seat Belts**

**AUTHORIZATION TO DEVIATE FROM FEDERAL AVIATION REGULATIONS (FAR 91)**

In accordance with the authority vested in me, Chief of the Forest Service, by Grant of Exemption No. 392, I authorize the following deviation from Federal Aviation Regulations (FAR) as referenced in FAR 91.205, (b)(13):

**I authorize the transportation of smokejumpers, spotters or cargo droppers employed by the Forest Service or by the aircraft operator in aircraft with seats and/or safety belts which are not FAA approved.**

In the United States of America.

For aircraft engaged in missions for the Forest Service, United States Department of Agriculture.

With pilots appropriately certificated in accordance with Federal Aviation Regulations.

With the following limitations:

Deviation specified is permitted only when aircraft is engaged in smokejumper or cargo dropping operations for the Forest Service, U.S. Department of Agriculture.

Smokejumpers for which FAA approved seats and safety belts are not provided must wear smokejumper protective clothing, including mask and headgear, when taking off or landing.

Cargo droppers and spotters for which FAA approved seats and safety belts are not provided must use Forest Service cargo dropper's or spotter's harness as a safety belt during takeoff and landing.

All smokejumper and cargo dropping operations must be in accordance with Forest Service directions.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**30.21a – Exhibit 4 – Removal of Aircraft Door**

**AUTHORIZATION TO DEVIATE FROM FEDERAL AVIATION REGULATIONS (FAR 43)**

In accordance with the authority vested in me, Chief of the Forest Service, by Grant of Exemption No. 392, I authorize the following deviation from Federal Aviation Regulations (FAR) as referenced in FAR 43:

**I authorize the removal of the door on smokejumper and cargo-dropping aircraft.**

In the United States of America.

For aircraft engaged in missions for the Forest Service, United States Department of Agriculture.

With pilots appropriately certificated in accordance with Federal Aviation Regulations.

With the following limitations:

Aircraft operating under this deviation must have the authorization for smokejumper or cargo-dropping operations approved by the Regional Aviation Officer or designee on the aircraft data card.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**30.21a – Exhibit 5 – Use of Unequipped Airfields**

**AUTHORIZATION TO DEVIATE FROM FEDERAL AVIATION REGULATIONS (FAR 121)**

In accordance with the authority vested in me, Chief of the Forest Service, by Grant of Exemption No. 392, I authorize the following deviation from Federal Aviation Regulations (FAR) as referenced in FAR 121, 135.2:

**I authorize transportation of persons between staging areas and airfields not equipped with radio navigational aids and not meeting all of the requirements of FAR 121 and 135.2 for large aircraft.**

In the United States of America.

For civil and public aircraft of U.S. registry engaged in missions for the Forest Service, United States Department of Agriculture.

With pilots appropriately certificated in accordance with Federal Aviation Regulations.

With the following limitations:

Air carrier or commercial operators of large aircraft must operate in full compliance with FAR 121 or 135.2 in point-to-point operations to a staging area which must be the nearest FAR-qualified airport to Forest Service operations.

Deviation permitted is limited to large aircraft carrying personnel for the Forest Service, U.S. Department of Agriculture, and is subject to the additional following provisions:

Aircraft must be specifically designated airplanes (Make, Model, Registration No. and Name of Operator) approved by the R/S/A Aviation Officer to operate to and from individually named airfields.

Pilots shall be limited to those certified in writing by the R/S/A Aviation Officer (in addition to the Forest Service Pilot Qualification Card) to fly specifically designated aircraft types into individually named airfields.

R/S/A Aviation Officers shall coordinate and mutually agree upon the type of aircraft, name of qualified pilot and name of each designated airfield prior to inter-regional use of this deviation.

Flights must be limited to FAA visual flight rules.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **30.21b – Grant of Exemption GE-392a**

#### Historical Background

In a letter dated May 5, 1965, the Chief, United States Forest Service, Department of Agriculture, requested authority to deviate in other than emergency situations from certain provisions of the Federal Aviation Regulations, most of which do not incorporate waiver authority. The resulting Grant of Exemption (Exemption No. 392a) was issued to “supplement” Exemption No. 392. In this request for exemption, the Chief requested relief from 7 Sections of the Federal Aviation Regulations, with specific deviations outlined.

In Exemption No. 392a, the FAA authorized the following:

“Aircraft and airmen conducting operations for the United States Forest Service, Department of Agriculture, are hereby granted an exemption from Sections 91.15(a), 91.29(a), 91.33(b)(12), 91.79(c), 103.7, 103.9(a)(1), and 121.117 of the Federal Aviation Regulations...” with certain limitations.

Exemption No. 392a both supplemented and amended Exemption No. 392.

Exemption 392 (the broad authority granted the Chief to approve deviations to any FARs (14 CFRs) “to the extent the Chief of the Forest Service finds necessary for the expeditious conduct of those (emergency) operations”) was supplemented with 7 additional authorizations to deviate from specific sections of the 14 CFRs. Those specific authorizations involve parachute packing requirements, door-off jump/para-cargo operations, seat belt use by smokejumpers, carriage of gasoline and diesel fuel with passengers on board (now covered by Interagency Aviation Transport of Hazardous Materials, Chapter 2), carriage of gasoline and diesel on cargo flights (now covered by Interagency Aviation Transport of Hazardous Materials, Chapter 2), and flight operations into unapproved airfields.

Exemption No. 392 was amended by Exemption No. 392a by reference and requires that “The transportation of personnel by air to a staging area shall be conducted by an FAA certificated air carrier or commercial operator.”

Exemption No. 392a was signed by Edward C. Hodson, Acting Director, FAA Flight Standards Office, on August 12, 1965 and remains in effect until superseded or rescinded.

Grant of Exemption GE-392a authorizes aircraft and airmen conducting operations for the Forest Service to deviate from the provisions of specific parts of the Federal Aviation Regulations in the performance of non-emergency operations, subject to certain limitations. Excerpts from GE-392a follow:

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**30.21b – Exhibit 1 – Excerpt from GE-392a**

**Aircraft and airmen conducting operations for the United States Forest Service, Department of Agriculture, are hereby granted an exemption from Sections 91.307(a), 91.7(a) and (b), 91.205(b)(12), 91.119(b) and (c), and 121.117 of the Federal Aviation Regulations, subject to the following limitations:**

- a. The exemption extends to the approved parachute-type requirement, but not to the packing requirements, of Section 91.307(a).**
- b. The exemption from Section 91.7(a) and (b) is limited to operation of an aircraft carrying smokejumpers or making paradrops without an outside entrance door to the passenger or cargo cabin.**
- c. The exemption from Section 91.205(b)(12), is limited to smokejumpers and cargo droppers and conditioned upon, for takeoffs and landings, the smokejumpers wearing their protective clothing, including mask and headgear, and the cargo droppers using their harness as a safety belt.**
- d. The exemption from Section 121.117 is limited to those airfields and to those supplemental air carriers or commercial operators, including pilots and aircraft, that are specified in applicable Forest Service regulations, or the equivalent thereof.**

Petitions for non-emergency deviations to FAA Regulations must be submitted to the FAA for approval. Any petition to the FAA for further exemptions from the 14 CFRs must be proposed by the Assistant Director, Aviation, Washington Office.

**NOTE:** throughout the historical 1965 exemptions, where 91.205(b)(12) is referenced, this is a typographical error and should actually refer to (13).



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **30.21c – Reporting Requirements**

Current FAA policy requires operators to report their public aircraft status when performing Forest Service operations. Use of these exemptions falls under the public aircraft operations rule.

### **30.22 – Department of Transportation Special Permit Authorization for Hazardous Materials**

The Agency is a grantee to DOT SP-9198, concerning the transportation of hazardous materials in aircraft under exclusive direction and control of the agency, as specified in the Interagency Aviation Transport of Hazardous Materials Guide (NFES 1068).

The special permit authorization DOT SP-9198 and the Interagency Aviation Transport of Hazardous Materials Guide must be onboard all agency owned, contracted, and leased aircraft at all times.

The procedures established in the Interagency Aviation Transport of Hazardous Materials Guide will be utilized in the support of DOI, Forest Service, military, and cooperators that are party to DOT SP-9198.

Other modes of transportation, aircraft not under the exclusive direction and operational control of DOI or Forest Service, commercial passenger transport (scheduled commercial airline flights), and hazardous materials not specified in the Interagency Aviation Transport of Hazardous Materials Guide must comply with 49 CFR Parts 171-180.

### **30.22a – Training**

All aircraft and personnel operating under the terms of the Department of Transportation Hazmat Exemption (DOT-SP 9198) special permit must be in compliance with the training requirements of the current Interagency Aviation Transport of Hazardous Materials Guide.

## **30.3 – Non-approved Aircraft and Pilots**

### **30.31 – Non-federally Approved Aircraft (Wildland Fire)**

Cooperator aircraft that have not been approved by USDA Forest Service/ Department of the Interior letter may be utilized on federal lands when and where the Cooperator is the protecting agency in a reciprocal or off-set agreement or when Cooperator lands are threatened and the state maintains operational control of the aircraft.

The following conditions apply for non-federally approved aircraft:

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

1. No Federal employees are allowed to ride on board the aircraft.
2. No Federal employee may be assigned to a position that exercises contractual control.
3. The aircraft are approved to have federal personnel load retardant at Federal airtanker bases, regardless of jurisdiction.
4. Federal personnel may provide aerial supervision (ATGS, ASM, HLCO, leadplane) under existing standard procedures and agreements.
5. The aircraft remain under state operational control regardless of the Agency affiliation of the firefighters directing the aircraft on an incident with state jurisdiction.
6. The aircraft flightcrews are approved to interact with federal dispatch personnel as long as the aircraft remains under the operational control of the state or for safety reasons.

Under emergency circumstances, where human life is immediately at risk by wildland fire on lands under Federal protection, a Federal Line Officer can approve the use of non-federally approved aircraft. This exemption must only take place when sufficient federal firefighting aircraft are not readily available to meet the emergency need. Federal Line Officers are encouraged to consult with their agency aviation management personnel to aid in decision-making.

As exemptions are exercised, they must be documented by the approving Federal Line Officer in accordance with their agencies guidance to include submitting a SAFECOM within 24 hours.

### **30.32 – Non-agency Pilots on Forest Service Working Capital Fund (WCF)/Contract Aircraft**

When approved by the Branch Chief, Pilot Standardization, non-agency pilots may instruct and evaluate in Forest Service WCF or contract aircraft.

### **30.4 – All-hazard Response**

All personnel involved with and assisting other agencies with all-hazard response should remain within the scope of their training, certification, and employment.

### **30.41 – Search and Rescue and Disaster Events**

Although search and rescue is not considered an agency mission, personnel are involved from time to time. When agency aircraft become involved, procedures outlined in the applicable Forest aviation safety plan to respond to requests for search and rescue operations must be followed.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Agreements with emergency response agencies, along with proper planning, risk assessments, and briefing the mission prior to an event will significantly reduce risk and improve the odds of success.

The Agency with jurisdiction over local emergency response is usually responsible for search and rescue of overdue or missing person(s).

Pursuant to 16 USC 575, the Secretary of Agriculture is authorized to incur such expenses as may be necessary in searching for person(s) lost within the National Forests or to provide transportation to person(s) seriously ill, injured, or who die within the National Forests to the nearest place where the sick or injured person(s) may be transferred to interested parties or local authorities.

The Agency accepts an all-hazard role as complementary to its overall land management mission. The Agency all-hazard response is based on the assumption that other agencies will fulfill their primary roles and responsibilities with National Interagency Incident Management System (NIIMS) qualified and trained people as outlined in the National Response Framework. The agency will conduct a thorough mission risk analysis of every aviation all-hazard request before committing agency aviation resources.

In all-hazard situations, Forest Service employees may need to ride in non-federally approved Federal, Tribal, State, or local agency, military, cooperator, commercial, or private aircraft. A Regional Forester or their designee must authorize employees to fly on non-federally approved aircraft throughout the duration of the response phase of the incident.

All deviations from Forest Service policy must be documented and submitted on a SAFECOM. Report to their Supervisor and the appropriate forest aviation office. Deviation from Forest Service policy must be the exception and should be framed by a risk management process which weighs the risk versus the benefit and provides risk mitigation, controls, and supervision.

### **30.42 – FEMA All-hazard Response**

The Forest Service has no operational control or administrative/contractual authority over any non-Forest Service aircraft (such as, FEMA, FAA, Military, or other Federal, Tribal, State or local owned, operated, or contracted aircraft).

For operations under ESF4, Forest Service Government Aircraft may be mission assigned by FEMA. Mission assignments will come to ESF4 at the National Response Coordination Center (NRCC),

Regional Response Coordination Center (RRCC), and Joint Field Office (JFO). ESF4 will then place the appropriate resource orders through the standard ordering process.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

### **CHAPTER 30 – AVIATION OPERATIONS**

The Forest Service maintains operational control when directing or managing a specific operation or mission tasked through the process outlined in the preceding paragraph. Forest Service personnel may provide aviation support for non-Forest Service aircraft provided they are trained and qualified within the Incident Qualifications and Certification System to perform the task/ job and formally tasked to do so through the ESF4 mission assignment process. Also refer to FSM 1590, Disaster and Emergency Operations and Homeland Security.

A Regional Forester or their designee shall authorize employees to fly on non-federally approved aircraft throughout the duration of the response phase of the incident.

#### **30.5 – Employees on Leave Representing the Agency**

Whenever an employee is engaged in an activity related to their official duties, regardless of their pay or leave status, they are conducting agency business and are therefore bound by the regulations of the Agency.

Agency employees shall not fly on unapproved aircraft related to their official duties when on annual leave, leave without pay, or volunteer status in order to circumvent agency policy.

Refer to the regulations regarding off-duty activities in accordance with the Standards of Ethical Conduct for Employees of the Executive Branch (5 CFR Part 2635.802-803).

#### **30.6 – Personal Protective Equipment**

Refer to the Interagency Aviation Life Support Equipment (ALSE) Guide, applicable contracts, and applicable operations plans and guides.

#### **30.7 – Cooperator, Military, and Foreign Country Flight Operations**

##### **30.71 – Cooperators**

All cooperator flight operations on Federal lands including federal lands protected by state agencies must be conducted in accordance with agency policy, applicable 14 CFRs, and aircraft flight manual/pilot operating handbooks.

Aircraft must be approved per chapter 40.

Pilots shall be approved per chapter 50.

##### **30.72 – Department of Defense Aviation Assets**

The Washington Office Deputy Chief or Regional Forester, through an agreement with Department of Defense (active and reserve), authorizes aviation assets on National Forest

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 30 – AVIATION OPERATIONS**

System lands. This must be in accordance with the Military Use Handbook and the Forest Service Aviation Military Use Plan.

The Regional Aviation Officers shall approve, in writing, the use of National Guard aviation assets on National Forest system lands in accordance with the Military Use Handbook and the Forest Service Aviation Military Use Plan.

Refer to FSH 5709.16, chapter 47.1 for aircraft approvals and Chapter 55.1 for flightcrew approvals.

### **30.72a – Military Flightcrews**

Military flightcrews shall be briefed on Special Use Mission Tasks (bucket, long line, and other missions, as identified). The Washington Office aviation staff must coordinate these Special Use Mission Task briefings. Special Use Mission Tasks included in the Commander's Task List must require an evaluation with the unit's Standardization Instructor Pilot prior to deployment.

### **30.73 – Federal Executive Agency (non-DOD) Aviation Assets**

The Deputy Chief, State and Private Forestry must approve, in writing, the use of Federal Executive Agency (non-DOD) aviation assets.

Refer to FSH 5709.16, chapter 47.2 for aircraft approvals and chapter 55.2 for flightcrew approvals.

### **30.74 – Flight on Foreign Aircraft on Official Duty**

The Agency is responsible to complete an aviation safety briefing, prior to assignment of employees to foreign countries.

Employees on official duty assignments in foreign countries may find it necessary to fly on foreign aircraft in the performance of their assignment. In such occurrences, employees must implement aviation safety and personal protective equipment (PPE) requirements as available. Examples include but are not limited to use of required PPE during helicopter flights, flight following, passenger briefings, and other actions that are within the scope, training, and experience of the employee.

Employees shall complete a risk assessment and mitigate any unacceptable risks.

Implementation of agency aviation requirements should not impact operations.

This does not apply to aircraft inspection/approval trips to foreign countries.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

## **30.75 – Operations of Agency and Contracted Aircraft in Canada and Mexico**

### **30.75a – Quick Strike Operations in Canada and Mexico**

Quick strike operations are when agency owned, leased, and contract aircraft are ordered through normal procedures, generally through a multi-agency compact agreement, for an operation (generally within 5 miles/8 kilometers or more of the border) where the aircraft return to the U.S. at the end of the mission.

Refer to the specific appropriate agreement.

### **30.75b – Agency Owned and Leased Aircraft Operations in Canada**

Agency owned and leased aircraft require a NAFTA (North America Free Trade Agreement) Authorization and an FAA Letter of Authorization (LOA) to operate and land in Canada. The FAA LOA is limited to Specialty Air Services (SAS) to conduct firefighting and/or forest fire management operations missions. The FAA LOA must be renewed annually.

The LOA for Canada has the following Limitations and Provisions:

1. Only essential crew members may be carried on board the aircraft. Air transportation is not authorized under this registration.
2. Prior to operations insurance must be obtained that meets Canada's standards of proof of insurance and will be carried on board the aircraft when operating.
3. A thorough inspection of the aircraft and special equipment must be made prior to each day's operation.
4. The FAA LOA, the Canadian authorization, and a copy of U.S. DOT Order 97-7-3 must be carried on board the aircraft while conducting these SAS operations.
5. This Letter of Registration must be presented for inspection upon the request of any authorized representative of the Administrator of the Federal Aviation Administration, Transport Canada Civil Aviation or of any State or municipal official charged with the duty of enforcing local laws or regulations.
6. A record of all field approved modifications (FAA Form 337) and Supplemental Type Certificates (STC) must be carried on board the aircraft while conducting these NAFTA Firefighting and/or Forest Fire Management SAS operations in Canada.
7. When maintenance requires the use of a maintenance facility in Canada, this maintenance must be performed at an approved maintenance organization (AMO).

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

S8. survival equipment must be carried to satisfy Canadian Aviation Regulation (CAR) 602.61. This equipment includes provisions for shelter, water, fire, and signaling.

Only Authorized Aircraft listed on the LOA are authorized. Obtain a current copy of the LOA from the Washington Office, Aviation Business Operations Branch.

Only pilots listed on the FAA LOA are authorized to conduct SAS firefighting and/or forest fire management operations.

Flightcrew and aircrew members must have a current official US passport to meet the requirements for Canadian firefighting missions.

Refer to 34.5 for additional information regarding aerial firefighting operations conducted under border agreements.

**30.75c – Agency Owned and Leased Aircraft Operations in Mexico**

Reserved.

**30.75d – Contract Aircraft Operations in Canada and Mexico**

Contractors interested in participating in Canadian or Mexican firefighting or forest fire management SAS operations must submit their own application package to the FAA and to either Transport Canada or the Directorate General of Civil Aeronautics (Mexico). Instructions are contained in FAA Advisory Circular 00-60B.

If contractors are approved for firefighting or forest fire management SAS operations in either Canada or Mexico, notify the contracting officer responsible for the specific contract.

Refer to 34.5 for additional information.

**30.8 – Land Use Policy Relative to Aviation Operations**

Temporary aviation operations on Forest Service lands may be restricted due to Land Management Planning (LMP) direction. FAOs should coordinate with resource managers to identify areas of restriction when developing Operating Plans, Forest Aviation Management Plans, and Mission Aviation Safety Plans (MASPs).

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 30 – AVIATION OPERATIONS**

### **30.81 – Land Management Plans**

The regulation of aviation activities on or over Forest Service managed lands is solely dependent on Land Management Plan (LMP) direction and any applicable 14 CFR.

### **30.82 – Aquatic Invasive Species Prevention**

Aquatic invasive species (AIS) are easily transported in a variety of ways (such as, helicopter buckets, fixed tank helicopters, and SEATs utilizing open water sources, engines and tenders, and other water handling equipment). Agency aviation personnel should become knowledgeable in the preventive measures associated with the prevention of the spread of aquatic plants and invertebrates. Aviation Managers must consult with local unit representatives to acquire information associated with: contaminated water sources, approved water sources, and other pertinent information.

Refer to the current version of the Interagency Guide to Preventing Aquatic Invasive Species Transport by Wildland Fire Operations (PMS 444) for specific prevention and decontamination information.

### **30.83 – Fire Chemicals**

For operational guidelines on use of fire chemicals, refer to Implementation Guidance for the Nationwide Aerial Application of Fire Retardants on National Forest Systems Lands. Refer to [www.fs.fed.us/fire/aviation/](http://www.fs.fed.us/fire/aviation/).

#### **30.83a – Retardant Avoidance Areas**

Additionally, aerial retardant drops are not allowed in mapped avoidance areas for threatened, endangered, proposed, candidate or sensitive species except in cases where human life or public safety is threatened and retardant within an avoidance area could be reasonably expected to alleviate that threat. Maps identifying all retardant avoidance areas (including waterways) can be accessed at: <https://www.fs.fed.us/managing-land/fire/chemicals>. These maps must be provided to dispatch centers, incident commanders, and incident aviation resources.

### **30.9 – Incident Air Operations**

Incident air operations include initial attack, extended attack, and large fire support, as well as all-hazard response. Incident aircraft are used for tactical and logistical needs. Aircraft can be effective tools, but aircraft only support ground-based operations. Tactical operations plans should not rely solely on aircraft for success; environmental conditions, fuel, and mechanical systems can impede aircraft operations.



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Incident management teams should be delegated certain aviation responsibilities from the local line officer. These include initial attack responsibilities (to include aerial response), incident aerial ignition approval, approval of non-federal personnel and Senior Executive Service personnel during incident reconnaissance.

Incident management team aviation personnel must coordinate with the local Forest or unit and regional aviation personnel. The Forest/Unit Aviation Officer is the primary contact for aviation operations on local units. Responsibilities for the Forest/Unit Aviation Officer are located in FSM 5704.36b.

Forest/Unit Aviation Officers must provide an in-briefing to all incoming incident management team personnel assigned to incident(s) on their Forest/Unit, covering the content of 31.17 – Aircrew Orientation Briefings.

The Regional Aviation Officer is responsible for all regional aviation activities, and the Regional Aviation Safety Manager is responsible for all aviation safety. Incident management team aviation personnel must contact the Regional Aviation Officer, or designee, upon arrival in the region.

An Air Operations Branch Director (AOBD) is required or must be ordered for Type 1 or 2 incidents, and will be considered for Type 3 or 4 incidents with complex air operations to include, multiple jurisdictions, a mix of fixed-wing and helicopter aircraft, wildland interface, and air space issues such as geographic area boundaries, military and special use areas and military training routes. On smaller less complex incidents, supervision of air operations is the responsibility of the Operations Section Chief or the Incident Commander.

Air operations branch positions such as Air Support Group Supervisor, Air Tactical Group Supervisor, Helibase Manager, and other support positions must be ordered to provide the necessary management oversight and specific technical and operations expertise to ensure safe and effective operations.

### **30.91 – Incident Air Operations Positions**

Refer to the Wildland Fire Incident Management Field Guide, Chapter 3 for additional positions and detailed position responsibilities.

#### **30.91a – Air Operations Branch Director (AOBD)**

The AOBD supervises all air operations activities associated with the incident. The AOBD reports to the Operations Section Chief and is primarily responsible for providing aviation expertise and oversight, preparing the air operations portion of the Incident Action Plan (IAP), implementing its aviation elements of the IAP, and providing logistical support to aircraft

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

operating on the incident. The AOBD must be included in incident management team operational planning. The AOBD supervises the Air Support Group Supervisor and Air Tactical Group Supervisor.

**30.91b – Air Support Group Supervisor (ASGS)**

The ASGS is responsible for planning and oversight of incident aircraft support functions (helibase, helispot and fixed-wing Air Bases). The ASGS reports to the AOBD. In the absence of the AOBD, the ASGS will be the primary aviation point of contact. The ASGS supervises the helibase manager and fixed-wing base manager.

**30.91c – Air Tactical Group Supervisor (ATGS)**

The ATGS is responsible for managing the resources within incident airspace and coordinating the fixed-wing and helicopter aircraft operations over an incident. The ATGS is an airborne firefighter who coordinates, assigns, and evaluates the use of aerial resources in support of incident objectives. The ATGS reports to the AOBD or to the Incident Commander or Operations Section Chief in the absence of an AOBD. The ATGS supervises aerial supervision modules/lead planes and the helicopter coordinator.

Refer to NWCG Standards for Aerial Supervision (NWCG SAS) for ATGS operations.

**30.91d – Helicopter Coordinator (HLCO)**

The HLCO coordinates, directs, and evaluates tactical/logistical helicopter operations. The HLCO position is typically activated on complex incidents where several helicopters are assigned. A HLCO can increase the span of control of the ATGS by managing helicopters over an incident. The HLCO may provide sole aerial supervision on an incident where only helicopters are assigned, otherwise ATGS is required. When an ATGS is assigned, the HLCO is a subordinate position to the ATGS. If no ATGS is present, the HLCO works for the IC, AOBD, or designee.

Refer to NWCG Standards for Aerial Supervision (NWCG SAS) for HLCO operations.

**30.91e – Leadplane (LPIL)**

Leadplanes make trial runs over the potential drop zone to determine the safe exit for the airtanker considering terrain, smoke, wind, and other factors. The Leadplane checks wind, smoke conditions, and topography, leads airtankers to targets, and supervises their drops. The low level capabilities of the Leadplane enhance the safety and effectiveness of airtanker operations in often turbulent, smoky, and congested fire environments. Leadplanes are a national resource. The Leadplane pilot is qualified and authorized for low level operations. A Leadplane Pilot is not

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

recognized in Incident Command System (ICS), but is recognized in the Forest Service Fire and Aviation Qualifications Guide.

Refer to the NWCG Standards for Aerial Supervision (NWCG SAS) for Leadplane operations.

**30.91f – Aerial Supervision Module (ASM)**

An ASM is a two-person crew functioning as a LPIL and AITS from the same aircraft. The ASM crew is qualified in their respective positions and has received additional training and authorization to perform this mission. An ASM can be utilized as a Leadplane, ATGS, or both, depending on the needs of incident management personnel. An ASM consists of an LPIL/ATP and AITS.

**30.91g – Air Tactical Pilot (ATP)**

The ATP is a qualified Leadplane Pilot who has received specialized training and authorization to function as an ASM crew member. The ATP functions as the Leadplane Pilot and utilizes Crew Resource Management (CRM) skills to evaluate and share the incident workload with the AITS.

**30.91h – Air Tactical Supervisor (AITS)**

The AITS is a qualified ATGS who has received additional specialized training and authorization to function as an ASM crew member. The AITS utilizes CRM to evaluate and share the incident workload with the ATP when configured as an Aerial Supervision Module (ASM).

**30.91i – Helibase Manager (HEBM)**

Ensures the efficiency and safety of helibase operations by providing supervision, support, communications, and logistical management at the helibase. The HEBM reports to the ASGS. The HEBM supervises helicopter managers, aircraft base radio operators, deck coordinator, mix-master, and other positions.

**30.91j – Fixed-wing Base Manager (FWBM)**

Ensures the efficiency and safety of fixed-wing operations by providing supervision, support, communications, and logistical management at a fixed-wing base. Fixed-wing bases are primarily established locally in the form of airtanker bases or air bases. This Fixed-wing Base Manager (FWBM) reports to the local unit aviation officer, or designee.

Occasionally, incidents establish a separate fixed-wing base. The incident FWBM coordinates with airport management, ATGS, ATB manager, and Forest or unit aviation personnel. The

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

incident FWBM reports to the ASGS. The incident FWBM supervises aircraft managers; aircraft base radio operators, parking tenders, and other positions.

Other incident aviation positions should be filled as necessary to perform specific functions and maintain supervision and oversight.

### 30.92 – Incident Air Operations Management and Supervision Requirements

<b>Incident Air Operations Management and Supervision Requirements</b>				
<b>Incident Situation</b>	<b>Air Operations Branch Director</b>	<b>Air Support Group Supervisor</b>	<b>Air Tactical Group Supervisor</b>	<b>Helibase Manager</b>
Type 1 or 2 Incident Management Team with complex air operations as defined below.	Required, or must be on order.	Required, or must be on order.	Refer to the NWCG Standards for Aerial Supervision for additional requirements for aerial supervision positions	Required when: HEB1 if 6+ helicopters assigned HEB2 if 1-5 helicopters assigned
Type 3 and 4 Incidents	Not Required. Should be considered for complex air operations	Not Required. Should be considered for complex air operations	Refer to the NWCG Standards for Aerial Supervision for additional requirements for aerial supervision positions	Required when: HEB1 if 6+ helicopters assigned HEB2 if 1-5 helicopters assigned

**Definitions of terms:**

1. **Required, or must be on order:** Air Operations supervisory resource(s) should be on the incident and in command of the applicable incident aviation resources when air operations are being conducted.
2. **Complex Air Operations:** including but not limited to, multiple jurisdictions, a mix of fixed-wing and helicopter aircraft, wildland interface, and air space issues such as geographic area boundaries, military and special use areas and military training routes.

Refer to the Wildland Fire Incident Management Field Guide (PMS 210) for additional incident air operations information.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **30.93 – Incident Airspace Coordination**

#### **30.93a – Incident Temporary Flight Restrictions (TFR)**

TFRs are controlled by the FAA. TFRs are an area of airspace (defined both laterally and vertically) that has been temporarily or partially closed by the FAA to non-participatory aircraft for a specified period of time. TFRs may be requested in response to the aviation safety need for separation of aircraft for disaster or incident activities. All aircraft must receive a clearance from the controlling agency requesting the TFR or its authorized representative prior to entering the TFR utilizing the FTA communications protocols. TFR's are requested through dispatch centers following established ordering procedures. The FAA will issue the TFR and post a Notice to Airmen (NOTAM).

Multiple "Areas of Operation" (AO) can occur within the TFR at the same time with different block altitudes for aircraft. FTA communications protocols will be utilized within the TFR and AO's. An AO resembles a fire traffic area but is not the same. Aerial Supervisors must develop holding points, initial points, flight routes, virtual fences, and check points as appropriate to maintain adequate separation of aircraft.

Temporary Flight Restrictions should be ordered if the air operations on the incident meet any of the following criteria:

1. Length of operation: Extended operations of more than one operational period are anticipated. In densely populated areas or areas with complex airspace issues, TFRs are recommended to be ordered on initial dispatch.
2. Multiple aircraft are operating on or near the incident. This may include non-incident aircraft.
3. Congested airspace involved: Operations are in the vicinity of high-density civil aircraft operation (airports), Military Training Routes or Special Use Airspace.
4. Incident size and complexity: The incident rapidly grows in size or complexity.
5. Potential conflict with non-operational aircraft: The incident is in or near Visual Flight Rules (VFR) routes, airport approach or departure paths, or known general aviation routes.
6. Extended operations on Military Training Routes.
7. Extended Operations within Special Use Airspace.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

8. Incident aviation management staff must make every effort to consolidate TFR needs, avoid modifications unless absolutely needed and request cancellation of TFRs no longer needed.

Refer to the NWCG Standards for Interagency Airspace Coordination for specific information.

**30.93b – Incident Management Team Initial Attack Area**

Incident management teams (IMT) and Forests or Units must have a clear understanding of aerial initial attack responsibilities and the defined initial attack boundaries. The host Forest or Unit must include discussion about aerial initial attack during the team in-briefing. The incident TFR is a common method to define an IMT's initial attack area.

**30.93c – Federal Aviation Administration Temporary Towers and Airport Closures**

Agency aviation management, prior to ordering an approved Federal Aviation Administration (FAA) Temporary Tower, must validate and document the need. This must be a joint decision between the local Forest or Unit Aviation Officer, Incident Management Team, and the FAA. Local Airport managers, pilots and aircraft managers will also be consulted.

Approved FAA Temporary Towers must be activated to provide advisories on the ingress and egress to the airport to enhance safety. The first priority for temporary towers must be airports supporting incident aviation operations. Secondary priority will be off airport incident aviation operations.

Situations that increase the hazards to both participating and non-participating aircraft may include:

1. Operations being conducted from, or in proximity to, an uncontrolled airport;
2. A high volume of aircraft traffic anticipated in close proximity to each other;
3. A high frequency of non-incident aircraft using common airspace;
4. Special events being conducted adjacent to the incident or at the airport where incident aircraft are operating;
5. Visibility conditions such that flight operations would be enhanced through use of certified controllers; or,
6. Risk assessment of involved airspace indicates the need for Air Traffic Control.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

### **CHAPTER 30 – AVIATION OPERATIONS**

The proximity of an incident to an airport, or the volume of aviation activity generated at an airport by an incident may necessitate the closure of an airport. An airport can only be closed by its “owner”, which may be a private citizen, a municipality, State or other entity. A request to close an airport must be a joint decision between the local Forest or Unit Aviation Officer and Incident Management Team.

Aviation safety or other valid concerns should be described in the request for closure. VFR airport traffic is allowed inside a TFR for aircraft landing and departure under the provisions of the 14 CFR 91.137.

Refer to the NWCG Standards for Airspace Coordination for specific information.

#### **30.94 – Incident Emergency Response Planning**

The incident Air Operations Branch Director must develop written plans for immediate response to aircraft accidents on the incident, missing or overdue incident aircraft, incident aerial emergency medical response, and incident aerial emergency medical evacuation. Response to these situations must be coordinated with the local host unit and the incident medical unit.

Immediate response to the situations listed above requires planning and onsite training. The AOBD and incident aviation staff must plan, brief, and train for these potential situations.

A “ready alert” helicopter must be designated to respond to any potential situations on the incident. The ready alert helicopter should continue to perform standard fire suppression missions and not be held for this anticipated situation.

The ready alert helicopter, helicopter manager, medical personnel, and equipment will be identified in the incident action plan for each operational period. A second ready alert helicopter should be designated if the primary ready alert is out of service, not in position or for other reasons.

#### **30.95 – Limited Aviation Resources**

Incident aircraft and personnel are often in high demand and orders for certain resources may be unable to fill (UTF). Incidents must coordinate with local forests and units, Regional aviation staff and nearby incidents to facilitate the most efficient use of scarce or critical aviation resources.

Sharing or “Lend/Lease” is an effective and efficient way of managing resources that are either unavailable, or where incidents only need identified resources for a limited time. Lend/Lease must be considered on every incident. Lend/Lease can occur between incidents or between units and incidents. The entities involved will agree to specific aircraft or personnel to be loaned, duration, cost accounting, and incident codes.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Resource orders may not be initiated, but notification of the lend/lease must be communicated to the local dispatch center to assist in the coordination. Aviation summary reports will document lend/lease use and costs by the receiving incident.

All shared or lend/lease aircraft must be provided with a briefing prior to departure to the other or next incident. The briefing must contain all of the items in the Interagency Aircraft Dispatch Form and any other pertinent information essential to aircraft safety and effectiveness.

**30.96 – Incident Special Use Flights for Senior Federal Officials, Members of Congress, and Non-federal Travelers**

Senior Federal Officials, members of Congress, and non-Federal travelers flying on incident aircraft under Forest Service operational control, regardless of the mission, must be approved on a Day Trip Authorization by the line officer sponsoring the flight. Approval of these special use flights may be delegated to the assigned incident commander in the incident delegation.

A Day Trip Authorization (FS 5700-12) must be completed, signed by the Line Officer sponsoring the flight, and retained in the incident documentation package.

Any non-Federal travelers assigned to the incident (resource order) are exempt from this policy.

**30.97 – Aerial Ignition on Incidents**

Planning an implementation of aerial ignition on incidents must be coordinated with the local Forest or Unit. Incident management teams must require an aerial ignition plan which must include the following elements.

1. Review and approval list – Who prepared the plan, reviewed by the PSDO/Helitorch Manager, Operations Section Chief and approved by the Incident Commander. Coordinate with the local line management in accordance with the Delegation of Authority (DOA).
2. Objectives – detailed description of burn objectives in terms of size, fire intensity, containment, and meeting incident objectives.
3. Burn Area – Division/Branch, location, estimated size, known flight hazards.
4. Organization Chart – Burn Boss, Holding Supervisor, Ignition Specialist, manager, pilot and other personnel as filled.
5. Aircraft information – N number, make and model, vendor name.
6. Aerial Ignition Device – Make and model.



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

7. Pre-burn reconnaissance flights.
8. Communications – frequencies and communications plan.
9. Helibase and helispot location information – Name, Lat/Long, elevation, description.
10. Ignition Pattern.

The Interagency Aerial Ignition Guide must be used in planning and execution of all aerial ignitions.

## **31 – FLIGHT PLANNING AND FLIGHT MANAGEMENT**

Before beginning a flight, the flightcrew and aircrew will familiarize themselves with the mission requirements, procedures, and rules.

For related information, refer to FSM 5703.4 and 5711.

### **31.1 – Flight Preparation**

Reserved.

#### **31.11 – Equipment**

##### **31.11a – Mobile Electronic Device Use**

Flightcrew and aircrew use of mobile electronic devices for any purpose not directly related to safety of flight or mission use is prohibited during aircraft operations.

##### **31.11b – Aviation Data, Images, and Voice Recordings**

Commercial filming or videotaping (for example, filming for feature films, reality shows, documentaries, television specials, etc.) of aviation operations or assets on National Forest System lands is governed by 36 C.F.R. Part 251 and U.S. Forest Service Manuals 1600 and 2700, and requires the filming entity to apply for, and obtain, a special use authorization prior to the start of any filming, or associated activities.

Any filming, or associated activities, occurring during aviation operations on National Forest Systems, pursuant to a properly acquired special use authorization may be limited or prohibited during a fire fighting or incident support situation at the discretion of the Incident Commander.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 30 – AVIATION OPERATIONS**

Aviation data, images, and voice data collected or stored from radios, sensors, phones, cameras or other audio and image recording devices are the property of the of the USDA Forest Service while on contract.

This will include but not be limited to, Additional Telemetry Units, Automated Flight Following, and Operational Loads Monitoring data and data collected or stored from EO/IR sensors, any cameras, radios or other audio and video recording devices owned by the contractor, contractor representatives, or the Forest Service. Use of the audio and image data outside of the scope of the contract or employment is prohibited.

### **31.11c – Agency Flightcrew**

The Agency must provide employee flightcrew members the equipment required by the 14 CFR. However, pilots flying agency missions are responsible for ensuring:

1. That a flight kit (bag) incorporating the necessary equipment, publications, and charts required by the 14 CFRs is complete, current, and on board the aircraft. Electronic flight bags are authorized.
2. That they possess sufficient personal equipment to perform their preflight duties and operational functions on board the aircraft during day and night operations.

### **31.11d – Agency Aircrew**

The Agency must provide employee aircrew members the equipment required by agency and interagency policy and guides.

### **31.11e – Contract Flightcrew**

Contracted flightcrew members are required to meet the minimum requirements in FSM 5700, FSH 5709.16, Chapter 50, and the applicable aircraft services contract.

### **31.11f – Additional Aircraft Equipment**

Agency aircraft must be equipped with a survival kit, applicable to the flight environment. The contents of the kit must comply with the most current ALSE.

### **31.11g – Personal Survival Equipment**

Agency flight and aircrew members should consider utilizing a personal survival kit, applicable to the flight environment. The recommended contents for the kit can be found in the most current ALSE.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **31.12 – Instrument Meteorological Conditions**

Pilots flying agency missions must use only multi-engine or turbine powered single-engine aircraft for flights in Instrument Meteorological Conditions (IMC) that meet the applicable Instrument Flight Rules (IFR) requirements in Federal Aviation Regulations (14 CFR), Part 135, Part 91, and Part 61, as referenced in FSH 5709.16 and applicable contract requirement.

Additional requirements:

1. When planning the transport of passengers with IMC forecast, the pilot-in-command should consider utilizing a second-in-command.
2. Low-level flight is prohibited in IMC.

### **31.13 – Night Flying**

Pilots flying agency missions must use only multi-engine or turbine powered single-engine aircraft for night flights that meet the applicable requirements in 14 CFR, Part 91 as referenced in FSH 5709.16 or applicable contract requirements. Additional requirements:

1. Reciprocating engine powered single-engine airplane flights at night are authorized only for ferry and cargo-carrying missions at pilot-in-command discretion and in accordance with 14 CFR, Part 91.
2. Night flights will only be accomplished by pilots that are instrument rated and instrument current.
3. Helicopters equipped with Night Vision Devices (NVDs) will operate in accordance with the agency's NVD Operations Plan.
4. Agency syllabus-directed night VFR flights are authorized in approved aircraft.

### **31.14 – Mission Briefings**

Prior to departing on a mission, the following information must be briefed in order based on the Interagency Aircraft Dispatch Form, or equivalent form that includes the information listed below:

1. Incident/Project Name;
2. Date;
3. Time;

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

4. Order #;
5. Descriptive Location;
6. Latitude (Degrees Decimal Minutes);
7. Longitude (Degrees Decimal Minutes);
8. Base Bearing and Distance;
9. Frequencies - Must include Frequency Name, Frequency Number and Rx/Tx Tones if applicable;
10. Air Tactics (Air to Air FM). Victor (Air to Air AM);
11. Air to Ground (FM);
12. Ground Tactics (FM);
13. Command (FM); and
14. Comments/Remarks.

### **31.15 – Mission Debriefings**

Flightcrew, aircrew, mission crew, and dispatch (if available) must accomplish a debriefing/after action review (AAR) after every flight or mission as appropriate. At a minimum AARs/debriefs must include:

1. What was planned?
2. What actually happened?
3. Why did it happen?
4. What can we do next time?

Mission Debriefings/AARs must be open and honest, and have sufficient detail and clarity, so everyone understands what did and did not occur and why.

Most importantly, participants should leave with a strong desire to improve their proficiency.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 30 – AVIATION OPERATIONS**

1. An AAR should be performed as immediately after the event as possible by the personnel involved.
2. The leader's role is to ensure skilled facilitation of the AAR.
3. Reinforce that respectful disagreement is OK. Keep focused on the what, not the who.
4. Make sure everyone participates.
5. End the AAR on a positive note.

### **31.16 – Performance Planning**

The flightcrew will evaluate aircraft performance, departure, enroute and approach data, notice to airmen (NOTAM), Temporary Flight Restrictions (TFRs), and appropriate flight information publications.

Pilots-in-command must:

1. Ensure the aircraft is properly loaded and fueled.
2. Compute weight and balance to ensure aircraft is within weight and balance limitations considering weight, density altitude, and available runway length to determine safe departures and arrivals and ensure all aircraft operations are within manufacturer's allowable gross weights, the performance criteria for the aircraft, and flight manual limitations.
3. Coordinate with the Flight Manager regarding passenger boarding and deplaning requirements. Agency pilots may serve as the Flight Manager.
4. Prior to the flight, ensure that a Flight Risk Assessment is completed for the mission (refer to FSH 5709.16, Chapter 20, for further direction).
5. For helicopter operations, pilots-in-command must compute takeoff performance based on the applicable Hovering In Ground Effect (HIGE) and Hovering Out of Ground Effect (HOGE) parameters to determine safe departures and arrivals.

### **31.17 – Aircrew Orientation Briefings**

All Forests and Units must create an Aircrew/Pilot Orientation Briefing Package. The Aircrew/Pilot Orientation Briefing Package serves as a source of information to provide pilots, aircrews, and Incident Management Teams. Elements of the briefing package should include:

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

1. Leaders' intent.
2. Local frequencies and their use (to include map if available).
3. Contacts, name title, phone (may include vendor information).
4. Local sunrise/sunset charts.
5. Local airport information (to include a map).
6. Local lodging information.
7. Local water sources/dip sites (name, latitude and longitude, ownership, hazards, elevation, contact information).
8. Helispots (name, latitude and longitude, map or aerial photo).
9. Map depicting MTRs and Special Use Airspace.
10. IA size-up card.
11. Local medical evacuation information (including nearest burn and trauma centers).
12. Local Search and Rescue authority, procedures, and contacts.
13. Aviation Hazard Map (map and description).
14. Retardant Avoidance Area Map.
15. Airport crash rescue procedures.
16. Map and description of jettison areas.
17. Local flight following procedures (AFF and/or radio contact).
18. Aviation Operations Plan.
19. Special considerations.

### **31.18 – Aviation Hazard Maps**

The National Wildland Fire Coordinating Group (NWCG) Geospatial Subcommittee (GSC) provides standards for creating Aviation Hazard Maps. For more details on the standards,

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

### **CHAPTER 30 – AVIATION OPERATIONS**

training, resources, and tools, refer to their website:

<https://www.nwcg.gov/committees/geospatial-subcommittee>.

## **31.2 – Flight Managers**

All helicopter and fixed-wing flights must have a Flight Manager assigned.

### **31.21 – Fixed-wing Flight Manager and Fixed-wing Flight Manager Special Use**

A Fixed-wing Flight Manager must be designated at the mission originating departure point for all flights, in order to fulfill the duties outlined in 31.21b. If no Fixed-wing Flight Manager has been assigned, the agency pilot-in-command must be designated as the Fixed-wing Flight Manager.

The Fixed-wing Flight Manager works jointly with the PIC and passengers to ensure safe, efficient flight management on Point-to-point Flights.

The Fixed-wing Flight Manager Special Use works jointly with the PIC and aircrew members to ensure safe and efficient flight management of special use mission flights.

#### **31.21a – Fixed-wing Flight Manager Certification**

The designated Fixed-wing Flight Manager or Fixed-wing Flight Manager Special Use must have completed the applicable Fixed-wing Flight Manager training curriculum. Registration and access to the courses is at: <https://www.iat.gov/>.

#### **31.21b – Fixed-wing Flight Manager Duties**

The Fixed-wing Flight Manager shall:

1. Coordinate with scheduling office, pilot, and users on flight planning.
2. Complete required administrative and operational forms as required for the mission.
3. Ensure required personal protective equipment is available and used correctly, as required by the ALSE guide.
4. Ensure the pilot accomplishes a preflight passenger briefing prior to the flight, and perform a boarding briefing.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

5. Verify that the aircraft and pilot are approved and authorized for the type of operation to be conducted by checking the pilot card, aircraft card, and/or cooperator approval letter.
6. Ensure flight following and resource tracking is performed.
7. Ensure the pilot completes the weight, balance, and manifests.
8. If onboard, assist the pilot in aerial hazard identification.
9. Report any deviations from planned flight or normal operations immediately using SAFECOM.
10. When requested, assist pilot in loading and unloading passengers and cargo.
11. If applicable, ensure flight payment documents are accurate and submitted according to direction found in procurement document.
12. Ensure aviation transport of hazardous materials is in compliance with DOT special permit.

### **31.22 – Helicopter Manager**

Refer to the Interagency Helicopter Operations Guide (IHOG) Chapter 2: Personnel, IV.A., for Helicopter Manager roles and responsibilities.

### **31.3 – Flight Records**

The originating unit must retain mission records on file locally. For records management, refer to FSM 5716 and FSH 5709.16, chapter 16.

#### **31.31 – Weight and Balance Computations**

A weight and balance computation must be completed prior to each flight and retained for 30 days.

#### **31.32 – Fixed-wing Performance Planning and Manifest**

Performance planning must be conducted.

For aircraft carrying passengers or cargo, a load manifest (Aircraft Flight Request/Flight Schedule or NWCG Passenger/Crew and Cargo Manifest, PMS 245) must be prepared before each takeoff. A copy must be retained onboard the aircraft and one copy must be retained by the originating unit.



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **31.33 – Helicopter Performance Planning, Load Calculation, and Manifest**

Performance planning must be conducted.

A load calculation (Form 5700-17/OAS Form 67, Interagency Helicopter Load Calculation) must be utilized. A copy must be retained onboard the aircraft and one copy must be retained by the originating unit.

Refer to the Interagency Helicopter Operations Guide (IHOG) Chapter 7: Helicopter Load Calculations and Manifests, IV for instructions.

### **31.4 – Smoking**

Certain areas on and near aircraft staging areas are designated “NO SMOKING” and should be clearly signed. In the absence of such designations, the following applies:

1. Ground: Smoking is not allowed within 50 feet of any parked aircraft, refueling vehicles, or any flammable or chemical storage area.
2. Aircraft in Flight: Smoking is not allowed on agency or contract aircraft at any time.
3. Electronic Cigarettes: The use of E-cigarettes (vaping) is prohibited within 50 ft. of the aircraft, and prohibited in flight.

### **31.5 – Aviation Fuel**

The PIC is responsible for all fueling operations.

#### **31.51 – Purchasing Fuel**

If Department of Defense contracted fuel is available at an airport, agency employees are required to purchase this fuel for agency Working Capital Fund (WCF) and leased aircraft.

Defense Logistics Agency (DLA) Aviation Into-Plane Reimbursement (AIR) cards are the primary acquisition means for aircraft fuel purchase for WCF agency-owned, leased, and contract turbine aircraft. Usage of DLA contract fuel vendors can provide a savings of retail turbine fuel costs.

The Forest Service must comply with DLA policy regarding DLA established priority use for fuel resources. Pilots operating WCF agency-owned, leased, and contracted aircraft must purchase fuel from aviation fuel resources in the following order:

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

1. Directly from the military.
2. DLA contract fuel vendor.
3. Fuel vendor that is not a DLA contract but will accept the AIR Card as payment.

Deviation from the order of aviation fuel resource priority may be used on a case-by-case basis to maintain fire response capability. Compliance with priority use will resume as soon as possible.

Refer to the Forest Service AIR Card Users Guide for detail information.

### **31.52 – Fuel Hazards**

Aviation grade fuels are subject to the hazardous materials regulations of the Department of Transportation (DOT).

The Material Safety Data Sheets (MSDS) contain specific information for aviation fuels regarding firefighting techniques and Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and DOT regulations. The MSDSs are available from the local fixed-base operator (FBO) and/or the bulk fuel supplier.

### **31.53 – Fuel Transfer and Storage**

Forest Service employees shall follow the most recent recommended fuel transfer and storage procedures that are contained in the National Fire Protection Association publications NFPA, Standard for Tank Vehicles for Flammable and Combustible Liquids (NFPA 385), Storage of Flammable and Combustible Liquids on Farms and Isolated Sites (NFPA 395), and Standards for Aircraft Fuel Servicing (NFPA 407). All Forest Service owned and maintained aviation fuel storage tanks must meet the relevant parts of NFPA 418 for the location of storage facilities. Units should utilize the most current available version of these publications.

Refer to Forest Service Aircraft Inspector Guide.

### **31.54 – Refueling Systems/Methods**

Refer to Forest Service Aircraft Inspector Guide.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 30 – AVIATION OPERATIONS**

### **31.54a – Single-Point Refueling**

Fuel is fed into the aircraft through high-pressure hoses at a single fueling point located on the aircraft. Generally use single-point fueling because the fumes escaping are exiting through the fuel vents, cutting down on the amount of vapors available to support combustion.

### **31.54b – Open Port/Over-the-Wing Refueling**

Although open port/over-the-wing refueling is the most common method used throughout agency aviation operations (including by interagency cooperators) extreme precautions must always be taken when engaged in, or operating near, “open port” or over-the-wing fueling, because:

1. There are increased fuel vapors present due to exposed raw fuel meeting the air between the nozzle and filler hole.
2. The chance of fuel spilling is much greater with open, over-the-wing fueling. The consequence of ignition is much greater than with the closed system from both the raw fuel and fuel vapors.

### **31.54c – Rapid Refueling for Helicopters**

Helicopter rapid refueling must be accomplished in accordance with the interagency helicopter contract standards, all applicable FAA standards, and National Fire Protection Association standards for rapid refueling in NFPA No. 407. Aircraft fuel servicing must be followed and no passengers may be on board during fueling operations.

## **31.6 – Aviation Transport of Hazardous Materials**

Refer to 30.22 and the Interagency Aviation Transport of Hazardous Materials Guide.

## **32 – FLIGHT DISPATCHING AND FLIGHT FOLLOWING**

Agency flight plans are the responsibility of the originating dispatch office and are documented on an Aircraft Flight Request/Schedule.

Flight following is the responsibility of the originating dispatch office and will remain so until transferred through a documented, positive handoff.

It is the pilot’s responsibility to close out a flight plan.

If an aircraft is overdue, it is the receiving dispatcher’s responsibility to initiate aircraft search and rescue actions.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Also reference Agency Flight Plans and Flight Following and Responsibilities in Chapter 50 of the National Interagency Mobilization Guide.

**Incident Missions:**

1. Dispatch must complete an Interagency Aircraft Dispatch Form and send to the appropriate flight manager or PIC.
2. The Flight Manager and the PIC shall collaborate to complete a Flight Risk Assessment Tool (FRAT) prior to the flight.

**Non-incident Missions:**

1. The flight manager and the PIC must collaborate to complete a Flight Risk Assessment Tool (FRAT) prior to the flight.
2. Refer to the US Forest Service Administrative Use of Aircraft Guide.

## **32.1 – Latitude and Longitude Standard**

The aviation standard for communicating latitude and longitude must be: Degrees Decimal Minutes (also known as Degrees Minutes, Decimal Minutes, or Degrees Minutes Tenths), 48°36.12'N 114°08.12'W. Ground units must ensure their GPS is set to Degrees Decimal Minutes before providing coordinates to aircraft.

## **32.2 – Dispatching**

### **32.21 – General**

All flights (other than scheduled commercial air carrier flights and UAS flights operating under Part 107 or USFS/DOI blanket COA authority) will be arranged by a qualified aircraft/aviation dispatcher, appropriate aviation manager, and/or an aircraft/aviation dispatch trainee under the direct supervision of a qualified aircraft/aviation dispatcher, and approved at the appropriate management level.

Refer to 36.6 for flight arranging authority procedures for all UAS operations.

Refer to the appropriate Mobilization Guide to establish a method of flight following for fire and non-fire incidents.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

### **CHAPTER 30 – AVIATION OPERATIONS**

The originating unit must retain flight records on file locally. For records management, refer to FSH 5709.16, chapter 16.

#### **32.22 – Aircraft/Aviation Dispatchers**

All aircraft (except sUAS; refer to 36.62 for additional requirements for sUAS operations) should be dispatched by a qualified aircraft/aviation dispatcher or under the direct supervision of a qualified aircraft/aviation dispatcher. If a qualified aircraft/aviation dispatcher is not immediately available, a qualified initial attack dispatcher (IADP) may dispatch aircraft. Aircraft/aviation dispatchers must meet the training, currency, and qualification requirements in the Forest Service Fire and Aviation Qualifications Guide and the PMS 310-1, and complete the aircraft/aviation dispatcher courses in IAT.

#### **32.23 – Administrative Use of Aircraft Flight Requests**

Refer to the Forest Service Administrative Use of Aircraft Guide.

#### **32.24 – Mission Flight Requests**

All flight requests for mission flights must follow the National Interagency Mobilization Guide, Chapter 50, Geographic Area Mobilization Guide, or Forest Aviation Management Plan, as applicable.

#### **32.25 – Non-Incident Related Flight Requests**

Follow local procedures.

#### **32.26 – Pilot-in-command Duties Relative to Flight Dispatching and Flight Following**

1. Flight Safety: The pilot-in-command has the authority to amend the flight plan when, in the pilot's opinion, the flight cannot continue safely or efficiently.
2. All Flights: The pilot-in-command is responsible for the preflight planning and flight operations in compliance with the applicable 14 CFRs and agency direction in FSM 5700 and this Handbook. The pilot-in-command (or designee) is also responsible for:
  - a. Providing the originating dispatcher with complete details of the proposed flight, including time, route, and destination for unit-initiated firefighting or special use missions.
  - b. Notifying the originating dispatcher using the following standard script:

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

- (1) Call Sign.
- (2) Departure Location.
- (3) Number of People (including the Pilot) on board.
- (4) Fuel on board (hours).
- (5) Estimated time enroute (ETE).
- (6) Destination.
- (7) Automated Flight Following confirmation with dispatch.
- (8) Advising the originating dispatcher's office or enroute dispatcher when any delay will be greater than 30 minutes.
- (9) Checking in, based on agreed upon protocols on the flight request form, by phone or radio.
- (10) Reporting the termination of the flight, based on agreed upon protocols on the flight request form, through the nearest Forest dispatch office or directly to the originating dispatch office by telephone.

3. Flights Under Visual Flight Rules: Pilots-in-command of flights conducted under FAA flight plans for Visual Flight Rules (VFR) are required to report departure and arrival information, number of passengers, positive AFF, Fuel, estimated time enroute, and any extensive delay of one hour or more to a dispatch office. The originating dispatch office is advised that the flight will be conducted under a filed FAA flight plan. Provide the estimated time of departure (ETD), the estimated time of arrival (ETA), and reporting any changes in the resource order, manifest, or planned flight. Reporting must be completed by the most expeditious means to the originating dispatch office during their hours of operation. During periods when the originating dispatch office is closed, the pilot-in-command accomplishes required reporting by advising the answering service or by using other means available to ensure the message has been relayed.

4. Flights Under Instrument Flight Rules: Pilots-in-command of flights conducted under Instrument Flight Rules (IFR) are not required to report to an agency dispatch office, but a courtesy call using the standard briefing script in 2.b. above is encouraged.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **32.27 – Originating Dispatcher**

The originating dispatcher is responsible for:

1. Notifying the receiving dispatcher of the flight schedule, aircraft identification number, pilot's name, and manifest.
2. Determining with the pilot where the agency flight plan is to be closed.
3. Notify the receiving dispatcher the flight is being conducted on a filed FAA flight plan. Include the aircraft identification, pilot's name, manifest information, and planned flight schedule.
4. Inform the pilot of any instructions or information not previously covered in the resource order or verbal instructions.

For additional information, refer to the National Interagency Mobilization Guide, Chapter 50.

### **32.3 – Types of Flight**

There are two types of flights: Special Use Mission and Point-to-point. Refer to 5705 for the definitions of these flights.

### **32.4 – Agency Flight Plans**

All agency aircraft that are instrumented for IFR flight and are flown by current instrument-rated pilots will operate under IFR flight plans, except when:

1. Flight is primarily for VFR training.
2. Time will not permit mission completion under IFR.
3. Mission can only be accomplished under VFR.
4. Excessive Air Traffic Control (ATC) departure, enroute, or terminal area delays are encountered.
5. Hazardous weather conditions must be avoided.

### **32.41 – Point-to-Point**

Point-to-point flights will be tracked by either an FAA-VFR flight plan, an IFR flight plan, or an Agency flight plan. PICs are not required to report to an agency dispatch office, but a courtesy call using the standard briefing script in 32.26 2b is encouraged.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Agency flight plans for Point-to-point flights are documented on a Flight Request/Flight Schedule form. The procedures for accomplishing agency flight tracking are documented in detail in the National Interagency Mobilization Guide.

### **32.42 – Overdue or Missing Aircraft**

An aircraft is considered “overdue” when it fails to arrive within 30 minutes after the Estimated Time of Arrival (ETA) and cannot be located.

An aircraft is considered “missing” when its fuel duration, as reported on their request for flight following, or as reported on their FAA flight plan, has been exceeded, and the aircraft location is unknown. It can also be considered missing if it has been reported “overdue” to the FAA, and the FAA has completed an administrative search for the aircraft without success.

If an aircraft is overdue or missing, the pre-planned emergency response must be initiated, including the Interagency Mishap Response Guide and Checklist.

#### **32.42a – Notifications**

The first person or organization to determine that an aircraft is overdue must initiate overdue aircraft reporting requirements in accordance with a National or Regional aviation safety plan (FSM 5720) and must:

1. Notify the Regional Aviation Officer.
2. Notify the Regional Aviation Safety Manager.
3. Notify the Forest Aviation Officer.
4. Notify the FAA Flight Service Station when the flight has been conducted under agency flight following procedures.
5. Complete a SAFECOM report for all overdue flights.

In the event the aircraft is not located within 1 hour and 30 minutes after becoming overdue, the FAA notifies the Air Force Rescue Coordination Center.

#### **32.42b – Search and Rescue**

Refer to 30.41 for direction regarding Forest Service engagement in search and rescue operations.



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **32.42c – Local Unit Aviation Incident Response Training and Plans**

Aviation Incident Response (AIR) is focused training that simulates response to an actual aircraft mishap or accident. The AIR plan documents the training curriculum, response roles and responsibilities and internal and external coordination needed when the mishap or accident occurs.

Forest Service local units must:

1. Establish an Aviation Incident Response (AIRE) Plan
2. Train and coordinate for the Aviation Incident Response.

The Aviation Incident Response Plan is specific to each unit and must include all personnel involved with aviation activities and accident response including but not limited to: Coordination Centers/dispatch centers, aircraft pilots, managers and crews, aviation officers, duty officers, interagency partners, and local agencies responsible for search and rescue. The AIR Plan must be updated annually at a minimum.

Regional/Program Aviation Safety Manager should be notified immediately of any aviation accident, incident with potential, or NTSB reportable incident.

### **32.5 – FAA Flight Plans**

FAA flight plans are filed by the pilot, opened in flight upon departure, and closed by the pilot with FAA Air Traffic Control (ATC) or Flight Service upon arrival.

#### **32.51 – FAA Flight Planning Responsibilities**

The pilot-in-command must ensure that the preflight planning and the operation of the flight are completed and in compliance with the Federal Aviation Regulations (14 CFRs) and the requirements in 5709.16, chapter 50.

#### **32.52 – Flight Plan Amendment and Cancellation**

The pilot-in-command is responsible for amendments to the original flight plan, closing of the FAA filed flight plan, and/or cancellation with Air Traffic Control (ATC) when, in the pilot's opinion, the flight cannot operate or continue to proceed safely as planned.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 30 – AVIATION OPERATIONS**

### **32.6 – Automated Flight Following**

Automated Flight Following (AFF) must be required in all Forest Service aircraft services contracts and is the primary method of agency flight following. AFF must be utilized, unless the aircraft or the flight following office suffers an AFF failure. At incident/project airbases that do not have AFF available, mission flight following is accomplished by flightcrews and dispatchers using radio systems.

Automated Flight Following (AFF) does not reduce or eliminate the requirement for FM radio capability and radio communication. Refer to the National Interagency Mobilization Guide, Chapter 50 – Automated Flight Following Requirements and Procedures.

AFF for Flight Following use is not required for sUAS.

## **33 – FLIGHT PROCEDURES**

### **33.1 – Passenger and Cargo Operations**

Any personnel not essential for Point-to-point flights must not be on the flight. Each passenger and all cargo must be on a passenger manifest or an aircraft flight request/flight schedule.

Any personnel flying on Special Use Missions must be authorized. Refer to 36.13 for the authorization process.

#### **33.11 – Movement of Personnel in and Around Aircraft**

1. Pilots of fixed-wing aircraft must shut down all engines prior to loading or unloading of passengers, unless otherwise provided for in an approved Forest Service or Interagency guide.
2. Pilots of either a fixed-wing aircraft or helicopter may not leave the cockpit of an aircraft unattended while any engine is running.
3. The Pilot-in-command, Fixed-Wing Base Manager, and Fixed-Wing Flight Manager are jointly responsible for ensuring routes to and from the aircraft are free of hazards; when there are hazards, they must provide other means to safely manage passenger loading and unloading.
4. For helicopter passenger and cargo loading and unloading, refer to the Interagency Helicopter Operations Guide.
5. For smokejumper operations, refer to the Interagency Smokejumper Pilot Operations Guide.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **33.12 – Large Transport Operations**

A Ramp Manager or similarly qualified person must be assigned to all large transport aircraft for the loading and unloading of personnel, baggage, and/or cargo. The Ramp Manager must be available at each location the large transport aircraft boards or deplanes passengers and/or cargo.

The Ramp Manager must coordinate with the flightcrew to ensure that passengers, baggage, and cargo are handled in accordance with the operator's FAA operating certificate and operations manual.

Refer to the Large Transport Aircraft Operations Plan for additional information, requirements, and aircraft make/model specific information.

### **33.2 – Passenger Briefing**

The pilot-in-command must provide the oral briefing required by 14 CFR. This responsibility may be delegated to an aircrew member, flightcrew member, or crew member.

Elements of the briefing should include (when applicable):

1. Smoking on or near aircraft (within 50 ft.) is prohibited.
2. Use of safety belts and shoulder harnesses.

Safety belts must be worn at all times while seated, unless otherwise authorized by the Pilot-in-command for mission operations (such as, smokejumper, rappel, short-haul)

1. Seat back position during takeoff and landing.
2. Location and operation of:
  - a. Passenger entry door and emergency exits,
  - b. Survival equipment and first aid equipment,
  - c. Fire extinguishers,
  - d. Supplemental oxygen, and
  - e. Emergency Locator Transmitter (ELT).

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

5. Propeller, main and tail rotor, jet blast avoidance:
  - a. When a flight involves extended overwater operations, ditching procedures and the use of required flotation equipment, and
  - b. If hazardous materials are to be transported, brief passengers appropriately.

### **33.3 – Flights Conducted Under Instrument Flight Rules (IFR)**

Reserved.

#### **33.31 – IFR Requirements**

For flights in forecasted or actual Instrument Meteorological Conditions (IMC), use only multi-engine or turbine powered single-engine aircraft that meet the applicable Instrument Flight Rules (IFR) requirements in Federal Aviation Regulations (14 CFR), Part 135, Part 91, and Part 61, as referenced in FSH 5709.16 or applicable contracts.

#### **33.32 – IFR Departure Minimums and Procedures**

Agency employee pilots will comply with published nonstandard IFR departure minimums and departure procedures in flight information publications. Agency employee pilots will not depart with less than 1/2 mile, Runway Visual Range (RVR) 2,400 ft. (or 732 meters). When departing an airfield with reported visibility less than that required for the approach in use at the departure field, a takeoff alternate is required. The takeoff alternate must be within one hour single engine cruise of the departure airfield. Flightcrews will not use an airport as a takeoff alternate unless appropriate weather reports or forecasts, or a combination of them indicate that at the estimated time of arrival at the takeoff alternate, the ceiling and visibility at that airport will be at or above the alternate minimums specified in that procedure, or if none are specified, the following standard approach minimums:

1. For a precision approach procedure, ceiling 600 feet and visibility 2 statute miles.
2. For a non-precision approach procedure, ceiling 800 feet and visibility 2 statute miles.

If no instrument approach procedure has been published in 14 CFR, Part 97, and no special instrument approach procedure has been issued by the FAA Administrator to the agency, the ceiling and visibility minimums are those allowing descent from the minimum altitude for IFR operations in VFR conditions.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 30 – AVIATION OPERATIONS**

### **33.33 – IFR Destination Airport Weather Minimums**

No Forest Service pilot may takeoff or begin an IFR or VFR On Top operation unless the latest weather reports or forecasts, or any combination of them indicate that weather conditions at the estimated time of arrival at the next airport of intended landing will be at or above authorized IFR landing minimums.

### **33.34 – Use of Autopilot System for Passenger-Carrying IFR Flights**

In aircraft certificated for single-pilot operations, the autopilot must be operational for passenger-carrying IFR flights. If the autopilot is not operational, but the aircraft is still able to be dispatched per the Minimum Equipment List (MEL), a second-in-command is required for passenger-carrying IFR flights.

### **33.4 – Night Flying**

Refer to applicable 14 CFR Parts 61 and 91, operations plans, contracts, and 36.8.

### **33.5 – Sterile Cockpit**

Sterile cockpit procedures are required for critical phases of flight, and must be briefed by the pilot-in-command prior to every flight.

No flightcrew member may engage in, nor may any pilot-in-command permit, any activity during a critical phase of flight which could distract any flightcrew member from the performance of his or her duties or which could interfere in any way with the proper conduct of those duties.

This may include, but is not limited to, activities such as eating meals, engaging in nonessential conversations within the cockpit and nonessential communications between the cabin and cockpit crews, use of cell phones and/or tablets for other than flight operations, and reading publications not related to the proper conduct of the flight or not required for the safe operation of the aircraft.

### **33.6 – Manipulation of Flight Controls**

The pilot-in-command may not allow any persons not qualified or approved by the agency to manipulate the flight controls of any aircraft during flight.

### **33.61 – Pinch Hitter Training**

Pinch hitter training is designed to train and prepare a non-pilot for emergency situations only.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

The Washington Office Branch Chief, Pilot Standardization must maintain a formal approved list of pinch hitter courses and requirements, updated annually. The Branch Chief must also maintain pinch hitter minimum syllabus requirements.

Candidates for pinch hitter courses must be identified and approved by Regional Aviation Officers.

While taking an approved pinch hitter course, employees are not considered passengers and are authorized to manipulate flight controls.

### **33.7 – Inflight Fuel Management – Fixed-Wing and Helicopter**

#### **33.71 – Reserve Fuel**

VFR reserve fuel is adequate fuel to fly to the first point of intended landing plus, assuming normal cruising speed:

1. Day – additional 30 minutes.
2. Night – additional 45 minutes.

No person may operate an aircraft in IFR conditions unless it carries adequate fuel to fly to the first airport of intended landing plus, assuming normal cruising speed:

1. Helicopter – additional 30 minutes.
2. Fixed-wing – additional 45 minutes.

#### **33.72 – Minimum Fuel**

A minimum fuel condition exists if an aircraft's fuel supply has reached a state where, upon reaching the destination, it can accept little or no delay.

Pilots must declare Minimum Fuel at the first recognition of the impending condition.

#### **33.73 – Emergency Fuel**

The point at which, in the judgment of the PIC, it is necessary to proceed directly to the airport of intended landing due to low fuel. Declaration of a fuel emergency is an explicit statement that priority handling by ATC is both required and expected.

The PIC must submit a SAFECOM.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 30 – AVIATION OPERATIONS**

### **34 – AIRSPACE**

Refer to the NWCG Standards for Interagency Airspace Coordination and 30.9 for specific information related to Incident Air Operations.

#### **34.1 – Airspace Coordination**

Interagency airspace coordination and direction is accomplished through the Interagency Airspace Subcommittee chartered under the National Interagency Aviation Committee (NIAC). Guidance and education is provided through the NWCG Standards for Interagency Airspace Coordination.

#### **34.2 – Fire Traffic Area (FTA)**

The FTA provides a standardized communication protocol with spatial reference points to provide incident air traffic separation in proximity to the incident and while over the incident. FTA protocols standardize communications, clearances, and compliance. The FTA process must be used by all tactical aircraft. Refer to the NWCG Standards for Interagency Airspace Coordination, the Standards for Aerial Supervision, and 30.9.

#### **34.21 – Firefighting Aircraft Transponder Code**

The FAA has provided the 1255 Transponder code as the national designation for firefighting aircraft operations. It is not agency specific. The code must be utilized by aircraft responding to, and operating over, fire incidents supporting suppression operations, unless otherwise directed by Air Traffic Control (ATC). It is not to be used for repositioning or during cross-country flights. Refer to the NWCG Standards for Interagency Airspace Coordination, Chapter 5.

#### **34.3 – Temporary Flight Restrictions**

TFR's are issued by and controlled by the FAA. TFRs are an area of airspace (defined both laterally and vertically) that has been temporarily or partially closed by the FAA to non-participatory aircraft for a specified period of time. TFRs may be requested in response to the aviation safety need for separation of aircraft for disaster or incident activities. All aircraft must receive a clearance from the controlling agency requesting the TFR (or its authorized representative) utilizing the FTA communications protocol prior to entering the TFR. TFR's are requested through dispatch centers following established ordering procedures. The FAA will issue the TFR and post a Notice to Airmen (NOTAM).

The most commonly issued TFR for wildfire is 14 CFR, Part 91,137 (a) 2, which is explicit as to what operations are prohibited, restricted, or allowed. Refer to the NWCG Standards for Interagency Airspace Coordination, Chapter 6, for information on ordering procedures, coordination protocol, and exceptions.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

### **CHAPTER 30 – AVIATION OPERATIONS**

Aviation managers must periodically review TFR protocols, size, application, the effects on general aviation, and the current need. If a TFR is not needed, it should be cancelled to free up the airspace.

Refer to the NWCG Standards for Interagency Airspace Coordination, Standards for Aerial Supervision, and 30.9.

#### **34.4 – Airspace Boundary Plan**

When resources are dispatched by more than one unit (including Regions, Forests, cooperators, states, metropolitan areas) to an incident that shares a common boundary, caution should be exercised to ensure safe separation and communication of responding aircraft. Boundary Plans must be prepared mutually and focus on a 10 NM-wide corridor for mutual or exchanged initial attack areas or zones. The purpose of this plan is to identify such boundaries and initial attack zones and provide a means of communication, coordination, and airspace deconfliction within those areas. Refer to the NWCG Standards for Interagency Airspace Coordination.

#### **34.5 – International Airspace Boundaries**

Agreements between the United States firefighting agencies and the border countries of Mexico and Canada establish guidance and protocols for aerial firefighting operations along the border. Landings outside the United States are not authorized unless agreed upon by the sending and receiving units and the aircraft and pilots meet the requirements in 30.75. Refer to 30.75 for additional information about operations of agency and contract aircraft in Canada and Mexico. Local units are encouraged within the agreements to develop operating plans which define response and response zones. Units must ensure aviation protocols are included in operating plans which adhere to agency policy, provide for airspace management, national security, aerial supervision, and communication procedures.

Refer to the National Interagency Mobilization Guide, Chapter 10 – International Operations.

#### **34.6 – Airspace Conflicts and De-confliction**

##### **34.61 – Airspace Conflicts**

Aviation personnel have a responsibility to identify and report conflicts and incidents through the [Interagency SAFECOM \(Safety Communication\) System](#) to assist in the resolution of airspace conflicts. When a conflict or incident occurs, it may indicate a significant aviation safety hazard. Conflicts may include Near Mid Air Collisions (NMAC), TFR intrusions, and FTA communication non-compliance. Refer to the NWCG Standards for Interagency Airspace Coordination.



## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

### **CHAPTER 30 – AVIATION OPERATIONS**

#### **34.62 – Airspace De-confliction**

Airspace de-confliction can occur for both emergency response and non-emergency aviation activities.

De-confliction can be accomplished through the following measures:

1. Originating units must obtain scheduling information from DOD units that have Special Use Airspace or Military Training Routes and share this information as “hazards” information on the Resource Order or Interagency Aircraft Dispatch Form when the aircraft is dispatched. For non-emergency flights, information may be shared through common communication protocol.
2. Current TFR information can be obtained from various sources, but the user should be aware of any disclaimers regarding the timeliness of the information provided therein.

#### **34.7 – Airspace Agreements**

When Special Use Airspace (SUA’s), Military Training Routes (MTR’s), Slow Routes (SR’s), or Aerial Refueling Routes (AR’s) are located over lands within an agency’s jurisdiction or within their area of normal flight operations (fire or non-fire), the agency should consider instituting an agreement with the appropriate DOD entity that schedules the airspace. Refer to NWCG Standards for Interagency Airspace Coordination, Chapter 8, for further information and a template.

### **35 – AVIATION FACILITIES REQUIREMENTS**

Requirements for aviation facilities are related to the planned mission activities, the size and type aircraft planned for, the support equipment needed, and fuel types and stores required to support the intended operation(s). Types of aviation facilities include permanent airports, airbases, heliports, seaplane bases, and helibases. All aviation facilities will meet minimum standards outlined in the appropriate program area guides (such as, Interagency Helicopter Operations Guide, Interagency Airtanker Base Operations Guide, and Interagency SEAT Operations Guide).

#### **35.1 – Classification of Takeoff/Landing Locations**

All flights that takeoff and land only at an FAA-designated airport, seaplane base, or permanent helibase (identified in the FAA Airport/Facilities Directory or FAA Sectional Aeronautical Charts), for the express purpose of personnel or cargo transport or repositioning, are considered Point-to-point. All flights that takeoff or land at a backcountry airstrip/off-airport/off-seaplane base must be considered a Special Use Mission due to the additional hazards.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

## **35.2 – Planning**

Planning for aviation operations must include the specific facility requirements needed for diversified aircraft and mission support. Fundamental consideration must be given to an adequate and sustained supply of aviation fuel meeting the specific requirements of the intended aircraft operations, such as Av-gas and/or jet fuel. Other considerations must include:

1. Airspace coordination.
2. Airport area congestion.
3. Adequate staging and parking for vehicles.
4. Adequate staging and parking areas for large aircraft/helicopters.
5. Coordination with airport owner, business, and general aviation.
6. Airport and land use agreements.
7. Adequate crash/rescue equipment for the aviation operation.
8. Loading and unloading capabilities for cargo and/or passengers.

### **35.21 – Mission Facility Requirements**

Facilities selected for specific aviation missions must be capable of meeting the size, weight, and footprint of the type of operation and type of aircraft used. Additional consideration must be given to the environmental sensitivity of the adjoining area and population, such as noise over congested areas and retardant spills. A facility maintenance plan must be prepared and submitted to the regional engineering unit responsible for approving the plan.

## **35.3 – Airbase Operations Plan**

Any Forest Service unit that has a permanent aviation facility must have an Airbase Operations Plan. Refer to FSM 5711, FSH 5709.16, chapter 11, and FSH 6709.11.

## **35.4 – Facilities Inspection Guidelines**

For guidelines on facilities inspection for fixed-wing airport operations, refer to the Interagency Airtanker Base Operations Guide (IABOG), Interagency Helicopter Operations Guide (IHOG) for helicopter operations (Chapter 8), and FSH 7309.11, Buildings and Related Facilities Handbook for additional criteria.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 30 – AVIATION OPERATIONS**

### **35.5 – Aviation Facilities Not Located on Forest Service Land**

Aviation facilities that are leased, owned, or used on non-Forest Service land fall under the jurisdiction of the governing entity of that land. Use of the facilities and/or the land must be covered by an agreement.

### **36 – FLIGHT OPERATIONS**

Flights are categorized as either Point-to-point flights or Special Use Missions. For definitions, refer to FSM 5705.

Point-to-point flights do not require any special pilot endorsements or aircraft equipment. These are civil flights and must be conducted in accordance with 14 CFR, Parts 91, 121, or 135, as applicable.

Special Use Missions are any flight that is not Point-to-point. They require special pilot endorsements, flight evaluations, and specialized aircraft equipment. For all Special Use Missions, all pilots must be specifically approved in writing for that mission.

Operations must be conducted in accordance with 14 CFR, Parts 91, 107, 133, and 137, as applicable to civil and public aircraft operations, except as provided for in Exemptions 392 and 392a (30.2).

Operation as “public aircraft” does not alter the requirement for compliance with the rules for civil aircraft (14 CFR, Parts 91, 107, 133, and 137) and the aviation regulations of the States in which the aircraft are operated, except as provided for in the preceding paragraph.

Refer to 36.7 and the National UAS Operations plan for UAS flight operations policy.

#### **36.1 –Flight and Duty Limitations**

##### **36.11 – Standard Flight and Duty Limitations**

1. All flightcrew members flying Forest Service missions are limited to the following tours of duty, and all work-related time must count toward these limitations:
  - a. Duty includes flight time, ground duty of any kind, and standby or alert status at any location. This restriction does not include “on-call” status outside of any required rest or off-duty periods.
  - b. Flight time must not exceed a total of 8 hours per duty day.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

- c. Assigned duty of any kind must not exceed 14 hours in any 24-hour period.
  - d. Flightcrew members accumulating 36 hours of flight time in any 6 consecutive days or less are required to have the following day off. Maximum cumulative flight hours must not exceed 42 hours in any 6 consecutive days.
  - e. Within any 24-hour period, flightcrew members must have a minimum of 10 consecutive uninterrupted hours off duty immediately prior to the beginning of the next duty day.
  - f. During any 14-consecutive-day period, flightcrew members must be off duty for two 24-hour periods from the time of last duty. The 24-hour off-duty periods need not be consecutive.
2. Two-pilot crews flying Point-to-point missions (airport to airport) are limited to 10 hours flight time in any duty day. Pilots flying two-pilot crew missions, who may be assigned to fly other types of Forest Service missions during the same duty period, are limited to the flight hour limitations in the preceding paragraphs 1a through 1f of this section.
3. Effect of Delays.
- a. 11 consecutive hours of rest if the flight time limitation is exceeded by not more than 30 minutes;
  - b. 12 consecutive hours of rest if the flight time limitation is exceeded by more than 30 minutes, but not more than 60 minutes; and
  - c. 16 consecutive hours of rest if the flight time limitation is exceeded by more than 60 minutes.
4. If the planned flight will cause the pilot to exceed their maximum flight or duty time limitations, that pilot will not depart and will contact their Supervisor in order to make arrangements to the flight schedule.
5. This section only applies to pilots that are required to staff an aircraft as a flight crewmember.

Refer to the Interagency Incident Business Management Handbook for additional guidance.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **36.12 – Interim Flight and Duty Limitations**

Refer to Standards for Fire and Aviation Operations, Chapter 16 – Interagency Interim Flight and Duty Limitations.

### **36.13 – Administrative Use of Aircraft Operations**

Personnel must use agency owned or other government aircraft for administrative purposes when such use is advantageous to the government. Authorize, justify, and document each instance of administrative use as required by the USDA Property Management Regulation 110-33, FSH 6509.33, OMB Circular A-126, 41 CFR 102-33, 41 CFR 301-70, 41 CFR 301-10, and 41 CFR 300-3.

Refer to the Administrative Use of Aircraft Guide to provide guidance and clarify the administrative use and reporting of aircraft.

#### **36.13a – Essential to the Mission**

The only personnel considered essential to the mission are the flightcrew, the air crew, and the mission crew members.

#### **36.13b – Passengers on Special Use Missions**

Washington Office aviation program managers, not qualified in the mission but who have direct oversight of special use mission operations, may be authorized on a very limited basis, to fly on operational flights with formal written approval from the Washington Office Director, Fire and Aviation.

Regional Aviation Officers and Regional Aviation Safety Managers, with direct oversight of special use mission operations, may be authorized, on a very limited basis, to fly on operational flights with formal written approval from the Regional Fire Director. This approval must be in coordination with the Washington Office Assistant Director, Aviation.

#### **36.13c – Volunteers**

When under a volunteer services agreement traveling on official business, volunteers are federal travelers. For guidance, refer to the Administrative Use of Aircraft Guide.

#### **36.13d – Incident Flights with Persons Other Than Federal Employees in Government Aircraft**

Senior Federal Officials, members of Congress, and non-Federal travelers (including special use mission aircrew) flying on Forest Service aircraft or under Forest Service operational control,

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

### **CHAPTER 30 – AVIATION OPERATIONS**

regardless of the mission, must be approved on a Day Trip Authorization (FS 5700-12) by the line officer sponsoring the flight.

Refer to the Administrative Use of Aircraft Guide for specific requirements and reporting for non-federal travelers.

## **36.2 – Fixed-Wing Aircraft Operations**

### **36.21 – Fixed-Wing Aircraft Performance Criteria**

1. All aircraft operations must be within manufacturer's allowable gross weights, the performance criteria for the aircraft, and flight manual limitations in accordance with the operating rules the flight is operating under.
2. Single engine aircraft used for special use missions must have a power loading of not more than 13.5 pounds per horsepower.
3. Multi-engine aircraft used for special use missions must be capable of at least 200 horsepower per engine; any engine developing less than 240 horsepower must be turbo/supercharged.
4. Regional Aviation Officers may grant special approvals for single- and multi-engine aircraft not meeting the requirements for use in that Region based on a risk assessment for the mission to be performed, in accordance with FSH 5709.16, chapter 20. These conditions must be noted on the Aircraft Approval Card.
5. Special Use Mission Exception: Smokejumper missions may use a 0.6% second segment climb gradient during day, Visual Flight Rules flights.

If aircraft cannot meet these requirements, they must be downloaded either in fuel and/or payload until they meet the requirements.

### **36.22 – Low-level Flight Operations (Less than 500 feet AGL)**

The only fixed-wing low-level flight missions authorized are:

1. Para-cargo.
2. Aerial Supervision Module (ASM) and Leadplane profile operations.
3. Aerial retardant, water, and foam application.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

4. Operational Procedures:
5. A high-level recon must be made prior to low-level flight operations.
6. All flights below 500 feet must be conducted only within the area of operation.
7. PPE is required for all fixed-wing, low-level flights. Helmets are not required for multi-engine airtanker crews, smokejumper pilots, and ASM flight/aircrew members. Refer to the Aviation Life Support Equipment Handbook for specific Special Use Mission requirements.

### **36.23 – Reconnaissance**

#### **36.23a – Aerial Observation (Non-Fire)**

Aerial observation flights are used to survey, observe, map, photograph, and otherwise gather information for agency resource management purposes. The aerial observer plans the intended route of flight, objectives, and expected duration, and coordinates with the Pilot-in-command.

The aerial observer has the responsibility to:

1. Trace the planned flight route on a map to note the terrain, drainages, rivers, and other landmarks suitable for navigation.
2. Ensure the pilot understands the aspects to be observed from the observer's side of the aircraft.
3. Maintain contact with local dispatch and/or the area coordination center and accomplish flight following in accordance with agency policy.

For non-fire missions, the aerial observer must be an IAT qualified aircrew member.

#### **36.23b – Fire Detection**

Only qualified aerial observers (AOBS) are authorized to perform aerial fire detection. The purpose of an aerial fire detection flight is to:

1. Gather and relay information.
2. Detect, map, and size up fire.
3. Provide ground resources with intelligence.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

4. Provide recommendations to the appropriate individuals.

Flights with a “Recon, Detection, or Patrol” designation should communicate with tactical aircraft only to announce location, altitude, and to relay their departure direction and altitude from the incident. Only qualified Aerial Supervisors (ATGS, ASM, HLCO, and Lead) are authorized to provide aerial supervision and coordinate incident airspace operations.

Refer to the Forest Service Fire and Aviation Qualifications Guide.

### **36.23c – Forest Health Protection**

FHP utilizes light fixed-wing aircraft and helicopters to conduct aerial reconnaissance, aerial photography, and aerial application. The purpose of these operations is to gather information regarding forest health conditions and manage pests in accordance with FSM 2100 and FSM 3400.

Agency personnel are not permitted on board restricted category aerial application aircraft and full PPE is required for aerial application pilots operating low level.

Operational altitudes:

1. Aerial Application in either fixed-wing or helicopter, low level (below 500 feet AGL).
2. Fixed-wing Aerial Survey 1,000 to 2,000 feet above ground level (AGL).
3. Helicopter Aerial Survey in accordance with IHOG, used in special circumstances and may be low level.
4. Fixed-wing Aerial Photography and Remote Sensing, highly variable up to ~18,000 feet.

All FHP Special Use Missions must, at a minimum, utilize a qualified FWFM Special Use for fixed-wing, or qualified Helicopter Manager-Resource for helicopter.

### **36.23d – National Infrared Operations**

The National Infrared Operations (NIROPS) collects and processes high resolution airborne infrared imagery and fire detection data.



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Refer to the National Infrared Operations Guide (NIROPS), Infrared Operations Pilot Training Guide, and National Interagency Mobilization Guide.

### **36.24 –Aerial Supervision**

Aerial supervision resources are utilized to enhance safety, effectiveness, and efficiency of aerial/ground operations. These air supervision resources conduct operations in accordance with the Standards for Aerial Supervision.

Aerial supervision includes the following positions:

1. Air Tactical Group Supervisor;
2. Helicopter Coordinator;
3. Aerial Supervision Module; and
4. Leadplane.

Refer to the Standards for Aerial Supervision, 310-1, and the U.S. Forest Service Fire and Aviation Qualifications Guide for aerial supervision training and qualification requirements.

### **36.3 – Smokejumper Operations**

Smokejumpers are aurally-delivered firefighters that are rapidly deployed by fixed-wing aircraft and parachute. They are normally configured by planeload, depending on aircraft type and smokejumper availability. Smokejumpers can operate from permanent or spike base locations.

For additional information, refer to:

1. Interagency Smokejumper Operations Guide (ISMOG).
  - a. Forest Service National Smokejumper Training Guide;
  - b. Forest Service Ram-air Training Manual; and
  - c. Forest Service Ram-air Operations Plan (RAOP),
2. Policies and procedures prescribed in the FSM 5100/5700.
3. Interagency Standards for Fire and Aviation Operations Handbook.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

4. Interagency Smokejumper Pilot Operations Guide (ISPOG).
5. Forest Service Fire and Aviation Qualifications Guide.

### **36.31 – Smokejumper Spotter**

Smokejumper spotters receive advanced training and are qualified to drop smokejumpers and paracargo from an aircraft. They must be an experienced and active smokejumper, certified as an FAA Senior Rigger, capable of leading squads of smokejumpers on fire and work assignments, and provide oversight for spike base operations. Familiarization training is required on mixed load configurations for both FS-14 and Ram-air parachute systems.

Refer to the ISMOG and the U.S. Forest Service National Smokejumper Training Guide (Chapter 3) for smokejumper spotter training and qualification requirements.

### **36.32 – Smokejumper Pilots**

Smokejumper/paracargo pilots must complete specialized training and obtain certification to perform the required mission.

Refer to the National Smokejumper Aircraft Contract, Aviation Management Handbook (FSH 5709.16, chapter 50), and the Interagency Smokejumper Pilot Operations Guide (ISPOG) for qualification and training requirements for smokejumper/paracargo pilot(s).

### **36.33 – Smokejumper Aircraft Evaluation**

Smokejumper aircraft are evaluated and recommended for approval by the Smokejumper Aircraft Screening and Evaluation Subcommittee (SASES). This is an interagency subcommittee under the National Interagency Aviation Committee (NIAC) and is comprised of Forest Service, Bureau of Land Management (BLM), Office of Aircraft Services (DOI) and National Technology and Development Program (NTDP) subject matter experts.

The subcommittee evaluates and recommends approval for smokejumper and para-cargo aircraft and accessories to the contracting agency through NIAC. Refer to FSM 5704 for approval authority.

### **36.4 – Airtankers**

Airtankers are used for initial attack, extended attack, and large fire in direct support of ground resources.

Refer to the Forest Service Large Airtanker Operations Plan for Airtanker Management.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 30 – AVIATION OPERATIONS**

### **36.41 – Large Airtankers**

Large airtankers (LATs) are defined as turbine, multi-engine fixed-wing aircraft converted to function as retardant or water delivery airtankers. LATs are ICS Type 1 airtankers with 3,000 to 5,000 gallon retardant capacity. LATs are up to 165,000 pounds normal operating weight, which includes payload, flightcrew, and 2.5 hours of fuel.

The primary purpose for LATs is initial attack of new and emerging wildfires.

Airtankers greater than 165,000 and up to 350,000 pounds normal operating weight will be addressed when proposed on a case-by-case basis.

### **36.42 – Very Large Airtankers**

Very large airtankers (VLATs) are defined as turbine, multi-engine fixed-wing aircraft converted to function as retardant or water delivery airtankers. VLATs are not ICS typed and carry more than 8,000 gallons of retardant. VLATs are greater than 350,000 pounds normal operating weight, which includes payload, flightcrew, and 2.5 hours of fuel.

The primary purpose for VLATs is large fire support. VLAT PICs are not initial attack rated and cannot drop on fires without the services of a leadplane or aerial supervision module on scene.

### **36.43 – Single Engine Airtanker Operations**

The primary mission of a Single Engine Airtanker (SEAT) is initial attack.

Refer to the Standards for Single Engine Airtanker Operations and the Standards for Aerial Supervision for SEAT operational considerations and SEAT Manager responsibilities. Refer to the NWCG PMS 310-1 for qualifications.

### **36.44 – Airtanker Base Operations and Personnel**

The airtanker base manager supervises ground operations in accordance with the Standards for Airtanker Base Operations.

#### **36.44a – Airtanker Bases**

Airtanker Bases (ATBs) are generally managed by local forests with national and regional oversight. The host forest is responsible for ensuring all established facilities are maintained and operated per the Forest Service policy, Interagency Airtanker Base Operations Guide (IABOG), and the Occupational Safety and Health Administration (OSHA) standards. Airtanker Base Managers (ATBMs) are responsible for development of a base operations plan based on regional direction.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Airtanker bases not permanently established, not in the Interagency Airtanker Base Directory, and used on an on-call or temporary basis must have an operations plan as outlined in the Interagency Airtanker Base Operations Guide. Approval of the actual airport, in terms of large airtanker performance, must be pre-approved by the Washington Office Airtanker Program Manager in coordination with regional aviation staff.

All airtanker bases—permanent, call-when-needed, and temporary—will have overweight authorizations or waivers if large airtankers exceed the published weight-bearing capacity. The written authorization or waiver must come from the airport authority and be in place prior to large airtanker operations. Overweight authorizations and waivers will address runways, taxiways, and ramps and be specific to airtanker Max Gross Landing Weight and Max Gross Taxi Weight. The Forest Service must not be held liable for airtanker operations unless the Forest Service or the airtanker vendor cause damage due to operator error or negligence.

Airtanker Base facilities, base operations, procedures, ramp operations, aircraft maneuvering, emergency procedures, ATB job descriptions, and dispatch information can be found in the Interagency Airtanker Base Operations Guide (IABOG), found at:  
<http://www.nwcg.gov/sites/default/files/products/pms508.pdf>.

### **36.44b – Airtanker Base Types**

There are three basic types of airtanker bases, permanent, call-when-needed, and temporary.

Permanent Base: A base that has permanent infrastructure installed in an identified area to service airtankers and support aircraft. In addition, the base will have permanent personnel whose main role is to act as management for the base and its facilities.

Call-when-needed Base: A base that has permanent infrastructure installed in an identified area to service airtankers and support aircraft. The base does not have permanent personnel whose main role is to act as management for the base but could have personnel identified at the local level who have collateral duties to the base.

Temporary Base: Designation for an airport identified as having the capacity to serve the need of loading airtankers and that has been approved for this purpose. The airport would have little if any infrastructure to support the loading of airtankers and the corresponding equipment would have to be delivered and set up. This term would be used regardless of the ownership of the mixing and loading equipment. Personnel could be identified at the local unit to facilitate the management of the temporary base or personnel from outside of the area may be utilized in the management of the base.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **36.44c – Airtanker Base Staffing**

There are three configurations for staffing an airtanker base, full time, seasonal, and call-when-needed.

Full Time: The base is at least minimally staffed in a configuration that allows a very short to immediate availability to provide support year round.

Seasonal: The base is minimally staffed in a configuration that allows very short to immediate availability and support only during a “season,” based on local historic need.

Call-when-needed: The base is staffed only when fire severity or activity occurs.

None of the terms is descriptive of an airtanker base. These terms are only descriptive of the staffing. Seasonal and call-when-needed staffing are generally used at temporary bases.

### **36.44d – Temporary Airtanker Base Equipment – Portable and Mobile**

There are two type of retardant mixing and loading equipment, Portable and Mobile.

Portable Airtanker Base (PAB): currently refers to operations, standby facilities, and retardant mixing equipment that can be transported to a location and set up.

Mobile Retardant Base (MRB): currently refers to a portable retardant mixing plant available through the national retardant contract.

Neither term is descriptive of an airtanker base. These terms are only descriptive of the types of equipment and facilities that may be in use at a temporary airtanker base. A base is not identified by the method that equipment and facilities are procured or obtained.

### **36.45 – Airtanker Pilot Evaluation, Approval, and Currency**

Refer to 5709.16, chapter 50 for airtanker pilot evaluation and approval for contract and cooperator aircraft. Additional information is also contained in the specifications of the applicable contract.

Airtanker pilots-in-command, co-pilots, and flight engineers (when applicable) must maintain flightcrew readiness and proficiency. Refer to 5709.16, chapter 50 and the applicable contract for proficiency flight requirements.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **36.46 – Airtanker Inspection and Approval**

Refer to 5709.16, chapter 40 for airtanker inspection and approval for contract and cooperator aircraft. Additional information is also contained in the Forest Service Special Use Mission Airworthiness Assurance Guide and specifications of the applicable contract.

### **36.47 – Airtanker Operations**

For airtanker operations, follow the Forest Service Large Airtanker Operations Plan, Interagency Airtanker Base Operations Guide, Interagency Standards for Fire and Fire Aviation Operations (Red Book), and the National Interagency Mobilization Guide. In addition to federally contracted airtankers, MAFFS (military) and cooperator aircraft may be utilized to supplement the federal fleet through established agreements.

#### **36.47a – Airtanker Retardant Delivery System Evaluation**

Airtanker retardant delivery systems, helitanker water delivery systems, and water scoopers are evaluated and recommended for approval by the Aerial Delivery System Subcommittee (ADSS). This is an interagency subcommittee under the National Interagency Aviation Committee (NIAC) and is comprised of Forest Service, Bureau of Land Management (BLM), and Office of Aircraft Services (DOI) subject matter experts.

The Aerial Delivery Test Team (ADTT) is a unit under ADSS and supports the testing and evaluation of the static and grid test drops required by ADSS criteria. ADTT completes and documents the testing and provides a report to the ADSS for consideration. ADTT is primarily staffed by Forest Service National Technology and Development Program subject matter experts.

The ADSS evaluates proposed airtankers, helitankers, and water scooper aircraft and their delivery systems and recommends approval for the aircraft and retardant delivery system to the contracting agency. Refer to FSM 5704 for approval authority.

#### **36.47b – Airtanker Rotation**

The national airtanker fleet is composed of Exclusive Use (EU), Call When Needed (CWN), Forest Service (FS) owned Large Airtankers (LATs), and Single-Engine Airtankers (SEATs). All VLATs, LATs, and SEATs operating from the same base must be dispatched in first in/first out rotation, based on the type of airtanker requested (VLAT, LAT, or SEAT).

Airtankers that are not Initial Attack (IA) qualified will not be dispatched to IA fires unless a Lead Plane or Aerial Supervision Module (ASM) is on scene upon the arrival of the non-IA qualified airtanker.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Forest Service contracted airtankers, when assigned to incidents managed by other agencies or cooperators remain under the direction of the Contracting Agency. Forest Service contracted airtankers are bound by their contract and agency policy, and will be treated fairly and equitably during their assignment with other Federal, Tribal or State agencies.

Refer to the Interagency Standards for Fire and Fire Aviation Operations (Red Book), Chapter 16.

### **36.47c – Loading Operations**

All Forest Service owned, contracted, and MAFFS airtankers must be loaded with a mass flow meter in the loading line(s) to measure retardant weight in pounds. All airtankers operating on lands under Forest Service protection must be loaded with a mass flow meter.

Report each retardant load total weight to the airtanker pilot-in-command. Use retardant load total weight in the preflight completion of the aircraft's weight and balance computation. Follow the requirements for retardant/water metering:

1. Maintain retardant/water mass flow meters at each airtanker base, and ensure their capability to record the weight of the retardant loaded into an airtanker in pounds prior to flight.
2. Mass flow meters at airtanker bases must be calibrated, at a minimum, every 24 calendar months. Airtankers must not be loaded if the mass flow meter has not been calibrated within the previous 24 calendar months.

Forest Service owned, contracted, and MAFFS airtankers must be operated and loaded only from approved airtanker base locations. This approval must be granted in writing by the Regional Aviation Officer. The approval must also identify airtanker bases that are capable of logistically and operationally supporting SEATs, LATs, VLATs, and MAFFS. The criteria for approval are outlined in the Large Airtanker Operations Plan.

Refer to the IATBOG, and the airtanker base operations supplement for updated information, operational considerations, related direction, and specific base operations and procedures.

### **36.47d – Simultaneous Fueling and Retardant Loading – Turbine Airtankers**

Simultaneous loading is the concurrent loading of fuel and retardant with propulsion engines stopped. An onboard Auxiliary Power Unit (APU) may be in operation.

Simultaneous loading for turbine airtankers is authorized with the following actions.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**  
**CHAPTER 30 – AVIATION OPERATIONS**

1. Cooperator – The cooperator aircraft has been evaluated and approved by the Regional Aviation Officer (RAO) in a Cooperator Letter for this purpose. The cooperator will provide documentation of a risk assessment and operating practices for their particular airtanker and comply with those policies during this activity. The risk assessment will be provided to the RAO and reviewed by the National Airtanker Program Manager, the RAO, and the Regional Aviation Safety Manager (RASM).
2. Contractor – will provide documentation of a risk assessment and operating practices for their particular airtanker and comply with those policies during this activity. The risk assessment will be provided to the Contracting Officer and reviewed by the National Airtanker Program Manager and the Branch Chief, Aviation Safety.
3. Each airtanker base that intends to conduct Simultaneous Loading will develop a supplement to the Airtanker Base Operations Plan which will describe the training and practices to be used. The supplement will be reviewed by the Regional Aviation Officer (RAO).
4. Base personnel who will participate in this operation will be trained using the Simultaneous Loading supplement, and a record of personnel trained for this operation must be maintained at the airtanker base.
5. Simultaneous loading must be requested by the Base Manager (or Base Manager's representative), on a case-by-case basis.
6. A documented pre-operational briefing must occur between the flightcrew, Base Manager (or Base Manager's representative), and local airport fuelers prior to any simultaneous loading operation. This briefing will include a review of the Simultaneous Loading Operations supplement, contractor procedures, and airport procedures.
7. Only the Auxiliary Power Unit may be running, no propulsion engines may operate.

**36.47e – Retardant Hot Loading – Turbine Airtankers**

Retardant Hot Loading is the loading of retardant with one or more propulsion engines running. Retardant Hot Loading for turbine airtankers is authorized with the following actions:

1. Cooperator – The cooperator aircraft has been evaluated and approved by the Regional Aviation Officer (RAO) in a Cooperator Letter for this purpose. The cooperator will provide documentation of a risk assessment and operating practices



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

for their particular airtanker and comply with those policies during this activity. The risk assessment will be provided to the RAO and reviewed by the National Airtanker Program Manager, the RAO, and the Regional Aviation Safety Manager (RASM).

2. Contractor – will provide documentation of a risk assessment and operating practices for their particular airtanker and comply with those policies during this activity. The risk assessment will be provided to the Contracting Officer and reviewed by the National Airtanker Program Manager and the Branch Chief, Aviation Safety.
3. Each airtanker base that intends to conduct Retardant Hot Loading will develop a supplement to the Airtanker Base Operations Plan which will describe the training and practices to be used. The supplement will be reviewed by the Regional Aviation Officer (RAO).
4. Base personnel who will participate in this operation will be trained using the Retardant Hot Loading supplement, and a record of personnel trained for this operation must be maintained at the airtanker base.
5. Retardant Hot Loading must be requested by the Base Manager (or Base Manager's representative), on a case-by-case basis.
6. A documented pre-operational briefing must occur between the flightcrew, Base Manager (or Base Manager's representative) prior to any Retardant Hot Loading operation. This briefing will include a review of the Retardant Hot Loading Operations supplement, contractor procedures, and airport procedures.
7. No engines on the side of the Retardant Hot Loading activity may be running.

**36.47f – Congested Area Retardant Operations**

Conduct all aerial retardant operations over congested areas in accordance with the agency Grant of Exemption 392 (30.21a, Exhibit 1). For related direction, refer to 14 CFR, Part 137.51.

**36.47g – Safe and Effective Drop Height – Fixed-Wing Airtankers**

Safe and effective drop height increases from the minimum as the coverage level (6 to 8) increases. All retardant must be dropped from a safe and effective drop height that enables the retardant to enter the fuel surface vertically. The following are minimum drop heights for airtankers above the ground or canopy cover, whichever is higher:

1. VLAT 200';

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

2. LAT 150'; or
- 3, SEAT 60'.

**36.47h – Jettison Areas**

Refer to the local Airtanker Base Operations Plan and contact the local Airtanker Base Manager.

**36.48 – Retardant and Suppressant Guidelines**

**36.48a – Approved Retardants and Suppressants**

Only retardant, gels, or foams that are on the Forest Service Wildland Fire Chemicals Qualified Products List (QPL) may be used on Federal lands, to include Federal land protected by other agencies. Products not on the QPL may be used on non-federal land at the discretion of the local agency.

Products must be blended or mixed at the approved ratio specified in the QPL by approved methods, prior to being loaded onto the aircraft. Inaccurate mixing of fire chemicals may negate the suppressant or retarding properties, which is not cost effective and may be a safety factor.

Airtanker base managers must monitor fire chemical specifications and mixing to ensure the fire chemicals meet the requirements noted in the QPL. Any deviations from the specifications and mixing must be reported to Wildland Fire Chemicals Systems.

Aerial delivery of foam is no longer approved by the Forest Service. Other partner agencies and cooperators may also restrict or prohibit use of foam.

The QPL is maintained on the Wildland Fire Chemical Systems (WFCS) web site:  
<http://www.fs.fed.us/rm/fire/wfcs/index.htm>.

**36.48b – Guidelines for Aerial Application near Waterways**

Avoid aerial application of retardant, gel, or foam within 300 feet of any waterway or body of water, including lakes, rivers, streams and ponds, whether or not they contain aquatic life. Exceptions to these guidelines are allowed when life is threatened and use of retardant, gel, or foam is reasonably expected to alleviate the threats.

For operational guidelines on use of fire chemicals, refer to the Interagency Standards for Fire, Implementation Guide for Aerial Application of Fire Retardant, and Fire Aviation Operations Handbook, Chapter 12.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

## **36.49 – Large Transport Aircraft Operations**

### **36.49a – Contract Large Transport Aircraft**

Contract large transport aircraft are used to rapidly move up to 120 personnel long distance in support of wildland fires and all-hazard incidents. These aircraft are contractually required to meet 14 CFR, Part 121 commercial air carrier, or Part 125 regulations, as well as Forest Service specific requirements.

These flights are considered Special Use Missions, because they are ordered incident flights to directly support an incident.

Refer to 33.12, and the Large Transport Aircraft Operations Plan for additional information.

### **36.49b – Agency-owned Large Transport Aircraft**

Agency-owned Large Transport Aircraft are used to rapidly move up to 20 people in support of wildland fire and all-hazard incidents. These aircraft meet FAA and Forest Service requirements for transport category aircraft.

They can be used to move incident management teams, single crews, aerial delivered firefighter booster crews, large cargo loads, and small support vehicles.

A loadmaster is required for all passenger or cargo flights.

These flights can be either Special Use Missions, if they are ordered incident flights to directly support an incident, or administrative use Point-to-point flights.

## **36.5 – Helicopter Program**

All helicopter operations must be conducted in accordance with the Interagency Helicopter Operations Guide (IHOG), the applicable helicopter operations guides and plans, and the aircraft contract.

Flightcrews and aircrews must operate in accordance with the minimum standards established in the Interagency Helicopter Pilot Practical Test Standards.

The applicable Hover out of Ground Effect (HOGE) chart will be used for initial attack operations, first time into remote landing site, or when the pilot deems that environmental conditions warrant use of HOGE chart.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **36.51 – Helicopter Performance Criteria**

Minimum helicopter performance must meet the following criteria:

<b>Contract</b>	<b>Type</b>	<b>Altitude</b>	<b>Temperature</b>	<b>HOGE/ HOGE-J</b>	<b>Payload (lbs.)</b>	<b>Other Criteria</b>
<b>EU</b>	1	8000'	25° C	HOGE-J	5000	Tier 1
	1	7000'	20° C	HOGE-J	3300	Tier 2
<b>CWN</b>	1	7000'	20° C	HOGE-J	3300	
<b>EU</b>	2	7000'	20° C	HOGE	1650	Bucket/Rappel
	2	7000'	20° C	HOGE	1200	Tank
<b>CWN</b>	2	5000'	30° C	HOGE-J	1600	
<b>EU</b>	3	7000'	30° C	HOGE	900	
<b>CWN</b>	3	5000'	30° C	HOGE	400	

Allowable payload(s) include using a standard pilot(s) weight of 200 pounds and fuel for one hour and thirty minutes (01+30).

Helicopters must be turbine-powered only.

### **36.52 – Interagency Helicopter Screening and Evaluation Subcommittee (HSES)**

Helicopters are evaluated and approved by the Interagency Helicopter Screening and Evaluation Subcommittee, a subcommittee of the National Interagency Aviation Committee (NIAC) under NWCG. This is a group of Forest Service, Department of the Interior, and State members. The HSES evaluates helicopters and related accessories for potential use in the interagency fleet or contract helicopter operations.

The subcommittee evaluates and recommends approval for helicopters and accessories to the contracting agency through NIAC. Refer to FSM 5704 for approval authority.

### **36.53 – Helicopter Operations**

#### **36.53a – Personal Protective Equipment**

Follow the direction on the use of personal protective equipment (PPE) described in the Interagency Helicopter Operations Guide (IHOG) (NFES 1885) or Interagency Aviation Life Support Equipment Guide.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**36.53b – PPE Requirements for Helicopters in Extreme Environmental Conditions**

Helicopter operations may occur in environmental conditions where required PPE does not adequately protect employees from the extreme environment or weather.

Required PPE may be excepted as identified in the table below:

<b>Environmental Conditions</b>	<b>Permissible PPE Exceptions</b>
Snow, Extreme Cold	<ul style="list-style-type: none"><li>• Leather, Rubber, or Synthetic Insulated Winter Footwear extending over the ankle</li><li>• Ski Boots</li><li>• Synthetic Outerwear</li></ul>
Bogs, Marshes, Fens, Muskegs	<ul style="list-style-type: none"><li>• Leather, Rubber, or Synthetic Water Resistant Footwear extending over the ankle</li></ul>

Fire resistant clothing, such as fire resistant cotton, polyamide, aramide, polybenzimidazole, Kevlar, or blends thereof must be worn as a protective layer against the skin when PPE exemptions listed above are used.

Agency employees must be informed of the increased personal hazard that is associated with wearing non-fire resistant clothing or footwear when the full complement of PPE is not worn.

The MASP for the project must document PPE exception(s) and reference this policy.

**36.53c – Helicopter Minimum Staffing**

Changing a Standard Category helicopter to Limited Use is only applicable to Call-When-Needed helicopters and must not be used for Exclusive Use helicopters<sup>2</sup>. Utilization of Limited Use must be for wildland fire assignments when helitack personnel assigned to staff the CWN helicopter may be in route to the incident.

	<b>Type 1</b>	<b>Type 2</b>	<b>Type 3</b>
<b>Limited Use</b>	1	1 <sup>1</sup>	1 <sup>1</sup>
<b>Helitack</b>	NA	15	7 <sup>2</sup>
<b>Rappel</b>	NA	15	NA
<b>Short-haul</b>	NA	NA	10

<sup>1</sup> The Regional Aviation Officer may approve CWN helicopters in Limited Use for wildland fire assignments.

<sup>2</sup> Region 8 may staff exclusive use and CWN suppression (PR) and fuels (HF) type 3 helicopters with a minimum of 3 helitack when operating within the Region. Any assignments outside of the Region will require a full module of 7 helitack personnel.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Each unit hosting an exclusive-use helicopter is responsible for providing essential management, overhead, equipment, facilities, and the resources necessary to fully support the helicopter crew. Helicopter personnel responsibilities are outlined in the IHOG, and their training and currency requirements are contained in the Forest Service Fire and Aviation Qualifications Guide and PMS 310-1.

**36.53d – Rappel Operations**

Rappellers are aerially delivered firefighters that are rapidly deployed by helicopter landing or deployed by hovering helicopter and rope near an incident.

Rappellers are a national resource certified, staffed, and equipped to increase capacity to any of the rappel bases or be deployed by any of the type 2 rappel aircraft available in the system.

Rappel activities must be conducted in accordance with the Interagency Helicopter Rappel Guide and the Forest Service National Rappel Operations Guide.

**36.53e – Cargo Letdown**

Cargo letdown must be conducted in accordance with the Forest Service National Rappel Operations Guide.

**36.53f – Short Haul and Hoist**

The Forest Service has approved short-haul operations for Law Enforcement and Investigations (LEI) and Emergency Medical missions.

Hoist operations are only approved for LEI missions.

LEI short-Haul and hoist operations must be conducted in accordance with the IHOG and the Forest Service, National Law Enforcement and Investigations Short-Haul and Hoist (S-H/H) Guide.

Emergency medical short-haul operations must be conducted in accordance with the IHOG and the Forest Service Helicopter Emergency Medical Short-Haul Operations Plan.

**36.53g – Aerial Ignition**

Aerial ignition operations and projects must be conducted in accordance with the Interagency Aerial Ignition Guide and the IHOG.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **36.53h – Aerial Capture, Eradication, and Tagging of Animals (ACETA)**

ACETA operations must be conducted in accordance with the Department of Interior, Office of Aviation Services, ACETA Handbook.

### **36.53i – Snow Operations**

Snow operations must be conducted in accordance with the Interagency Helicopter Operations Guide, Snow Operations chapter.

### **36.54 – Helicopter Coordinator Missions**

The Helicopter Coordinator (HLCO) coordinates, directs, and evaluates tactical/logistical helicopter operations. Refer to 30.91d for specifics on the Helicopter Coordinator position.

## **36.6 – Law Enforcement and Investigations (LEI) Aviation Operations**

The LEI personnel must follow the FSH 5309.11, chapter 50, FSM 5700, and FSH 5709.16 for all aviation operations.

Local LEI personnel that are required to utilize aircraft to support aviation operations should discuss all aspects of the operation with the FAO or UAO well in advance of operations.

All transport of hazardous materials during LEI operations must follow the Interagency Aviation Transport of Hazardous Materials Guide.

### **36.61 – Special LEI Aviation Projects**

Occasionally there are “special” law enforcement aviation missions that are not covered in a standard FRAT. If any proposed flights are not covered by an appropriately established aviation plan, then a FRAT will be prepared. This includes the use of aviation resources for Flight Service Contracts. The responsible individual will prepare a FRAT and submit the plan for review and approval. All LEI operations will have a FRAT prior to commencing operations. Line Officers must be informed of law enforcement and investigator non-covert aviation activities within their area of responsibility.

### **36.62 – LEI Aviation Training**

LEI personnel involved with aviation activities must receive and be current in required aviation training outlined in the Wildland Fire Qualification System Guide, the Forest Service Fire and Aviation Qualifications Guide, the Interagency Aviation Training Guide, and the LEI National Short-haul Guide, commensurate with the aviation position they will fill, prior to any aviation operations.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **36.63 – LEI Flights with Civil Air Patrol**

The Civil Air Patrol (CAP) can transport Forest Service LEI employees in accordance with the FSM 1534.12, Exhibit 01, MOU Between the Drug Enforcement Administration, the US Forest Service, the Civil Air Patrol, Inc., and the US Air Force; however, there must be written operating procedures established.

LEI personnel must utilize aircraft and pilots that have been approved for use by a letter of approval from the Regional Aviation officer. Not all CAP pilots and/or aircraft will be approved for use.

Certain LEI operations could lead to actions in conflict with Forest Service policy; refer to 30.13a.

### **36.64 – U.S. Departments of Homeland Security (USDHS) and Justice (USDOJ) Approvals**

LEI employees on official duty are allowed to fly aboard USDHS and USDOJ agency aircraft, while performing joint law enforcement operations and coordinating missions with DHS and DOJ agencies.

Agreements with USDHS and USDOJ regarding joint law enforcement aviation operations must be used to provide overall operational requirements and procedures for all agencies.

Field Level LEI employees must notify the Regional Special Agent in Charge. Washington Office LEI employees must notify the Director of LEI.

All flights under this authorization must include notification of the appropriate Regional Aviation Officer where the flight occurs.

### **36.65 – LEI Personal Protective Equipment (PPE) during Tactical Operations**

Follow the direction on the use of personal protective equipment (PPE) described in the Interagency Helicopter Operations Guide (IHOG) (NFES 1885). Approved PPE must be prescribed by the incident commander, operations Supervisor, or their designee per FSM 5300. Law enforcement personnel are authorized to wear the following for special tactical operations, for emergency flights, or on flights that are short in duration:

1. Battlefield dress uniform (BDU),
2. Forest Service uniform, or
3. Approved utility uniform.



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **36.66 – LEI Emergency Operations**

The LEI personnel must follow the FSH 5309.11, chapter 52.15 – Emergency Operations.

### **36.7 – Unmanned Aircraft Systems**

Unmanned Aircraft Systems (UAS) operating in the national airspace system are considered by the Federal Aviation Administration (FAA) as aircraft, regardless of size. Accordingly, any planned use (including through agreements), acquisition, contracting, or leasing of UAS must be coordinated with the Forest Service Washington Office, Fire and Aviation Management, Assistant Director Aviation and/or the Washington Office, UAS Program Manager.

Additionally, the appropriate Regional Aviation Officer (RAO) must be included in any discussion about proposed UAS operations.

All UAS operations are considered Special Use Missions and must comply with the applicable agency requirements, FAA regulations, and agency policy for privacy, reporting, tracking, data management, and transparency.

The FAA has published 14 CFR Part 107, which provides requirements for non-hobby small UAS (sUAS).

Any Forest Service leased, contracted, or owned UAS will operate within the provisions of 14 CFR Part 107 or under a Certificate of Authorization (COA) from the FAA before operating within the national airspace system.

Forest Service COA applications or use of an Agency blanket COA must be submitted to the FAA by the Forest Service Washington Office, Fire and Aviation Management, Technical Contact. The FAA lead time for a new COA is approximately 90 days. Changes to an existing COA can occur using the emergency COA process and at a minimum takes 24 to 48 hours.

All contracts for UAS flight services must go through the aircraft contracting process administered by the Washington Office Acquisition Management – Incident Support Branch (Boise) contracting office.

Initial requirements to utilize a UAS on National Forest System land:

1. Coordinate with RAO and WO, submit mission request to RAO/WO.
2. Complete a risk assessment per agency policy.
3. Complete a Mission Aviation Safety Plan (MASP).

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

4. Determine airspace authorization required and submit COA request as applicable.
5. Complete a Flight Risk Assessment Tool (FRAT) that includes the mission requirements.

Additionally, non- fire missions require a cost comparison, JHA, and a list of safety & cost-effective considerations.

### **36.71 – Approval of UAS Aircraft and Pilots**

Aircraft must be approved per FSH 5709.16, chapter 40.

Pilots must be approved per FSH 5709.16, chapter 50.

The Department of the Interior and bureau UAS will be considered Partner aircraft.

State and local agencies meeting both FAA and USFS requirements will be considered Cooperator UAS.

### **36.72 – UAS Operations**

All UAS operations must comply with the applicable FAA regulations and agency policy for privacy, reporting, tracking, data management, and transparency.

The National UAS Operations Plan provides operational guidelines and further references to policy.

The Interagency Fire Unmanned Aircraft Systems Guide must be used for all UAS operations on wildland fires.

All sUAS missions will adhere to the PASP or Operations Plan, as applicable.

The remote PIC must coordinate all sUAS flights with the Unit Aviation Officer and local unit dispatch. Conduct sUAS flights in accordance with approved operations and safety plans.

### **36.73 – Unmanned Aircraft Systems Screening and Evaluation Board**

Reserved.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

## **36.8 – Night Flying**

Requirements for all pilots flying agency night missions are in accordance with 14 CFR 135.229, as follows:

No pilot of an aircraft carrying passengers at night may take off from, or land at, an airport, unless:

1. The pilot has determined the wind direction from an illuminated wind direction indicator or local ground communications, or in the case of takeoff, that pilot's personal observations.
2. The limits of the area to be used for landing or takeoff are clearly shown:
  - a. For airplanes, by boundary or runway marker lights; and
  - b. For helicopters, by boundary or runway marker lights, or reflective material.

## **36.81 – Night Air Operations**

Night Special Use Mission flights are authorized by an operations plan approved by the Washington Office Assistant Director, Aviation. Where applicable, additionally comply with Fire Scope Night Flying Guidelines.

1. The restrictions in 36.7 do not apply to helicopters operating with Night Vision Devices (NVDs). Low-level helicopter flight operations will primarily be conducted using NVDs; temporary unaided flight is allowed when excessive illumination exists and becomes hazardous to NVD-aided flight.
2. Night Low-level fixed-wing flight operations are not allowed. Refer to 37.3.
3. Use only multi-engine or turbine-powered single engine fixed-wing aircraft for night special use mission flights and meet the requirements of 36.8.

## **36.81a – Night Administrative use of Aircraft Flights**

Use only multi-engine or turbine-powered single engine fixed-wing aircraft for night administrative use of aircraft flights and meet the requirements of 36.8.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

## **37 – OPERATIONS REQUIRING SPECIAL FLIGHT TECHNIQUES**

### **37.1 – Back Country Airstrips, Off-Airport Operations, Off-Seaplane Base Operations**

For the purpose of Forest Service aviation operations, an airport includes those locations that are charted on a VFR sectional and have at least one hard surface runway (concrete or asphalt) or are a charted seaplane base. Airports other than these need additional authorization and are considered Backcountry Airstrips, Off-airport, or Off-seaplane Base operations.

Backcountry Airstrips are defined as runways that typically do not have a hard surface runway, whether charted or uncharted. Backcountry Airstrips are designated as such by RAO letter and require agency authorization for agency and vendor pilots to use when conducting Forest Service aviation missions.

Off-airport operations consist of landing on any surface not defined as an Airport or Backcountry Airstrip.

Off-seaplane Base operations consist of landing or taking off from any non-charted waterway (remote water operations).

Backcountry Airstrips, Off-airport and Off-seaplane Base operations may have additional risks due to blind approach and departure paths, short and/or narrow landing surfaces, unimproved surfaces, remote locations, and hazardous terrain and obstacles that may require a non-standard traffic pattern and/or confined area maneuvering at minimum airspeeds. In addition, Off-seaplane base takeoff and landing areas can have unknown water depths and hazards. These airstrips may be considered very hazardous and/or demand exceptional or unique aircraft performance. Off-airport/seaplane Base operations require a high level of skill and proficiency to operate safely.

Refer to FSH 5709.16, chapter 50, for Backcountry Airstrip, Off-airport, and Off-seaplane Base pilot qualifications.

#### **37.11 – Approval of Backcountry Airstrips**

Backcountry Airstrips that are approved/not approved for Forest Service operations must be identified by letter from the RAO, in coordination with their aviation staff. The list will be updated as airstrips are built, charted, closed, or removed from the RAO designation letter.

##### **37.11a – Relative Hazard Index**

All Backcountry Airstrips on National Forest System Lands must have a Relative Hazard Index (RHI) completed by the Regional aviation staff, and approved by the Regional Aviation Officer

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

at least every two years. Backcountry airstrips that lack a current RHI are not authorized for use in Forest Service aviation operations.

## **37.2 – Mountain Flying**

Standards and procedures for mountain flying techniques are contained in the Pilots Handbook for Smokejumper and Interagency Smokejumper Pilot Operations Guide.

Helicopter:

1. Preferred mountain flying training courses include: Canadian Mountain Flying Course and the United States Military Mountain Flying Course.
2. Mountain Flying Computer Based Training can be found online:  
<http://onlinetraining.nwcg.gov/node/175>.
3. Standards are located in the Interagency Helicopter Practical Test Standards.
4. Pilots must be endorsed for mountain flying operations.

Fixed-wing:

1. Standards are located in the Interagency Fixed-wing Practical Test Standards.
2. Pilots shall be endorsed for mountain flying operations.

## **37.3 – Low-level Flight Operations**

### **37.31 – Low-level Fixed-wing Flight Operations**

#### **37.31a – Multi-Engine Air tankers and ASM/Leadplanes**

Multi-engine airtankers, water scoopers, and ASM/Leadplanes must be dispatched to arrive over a fire (with no aerial supervision on scene) not earlier than 30 minutes after official sunrise and not later than 30 minutes before official sunset. Drop operations must only be conducted during daylight hours. Drop operations are permitted after official sunset but must have concurrence by the involved flightcrews. In addition, aerial supervision (lead, ASM, or ATGS) must be on scene. Daylight hours are defined as 30 minutes prior to sunrise until 30 minutes after sunset. Empty multi-engine airtankers may return to base after daylight hours.

In Alaska, multi-engine airtankers and water scoopers are not authorized to drop retardant/water during periods outside of civil twilight.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

### **37.31b – Single-Engine Airtankers**

Single-engine Airtankers (SEATs) are limited to flight during official daylight hours.

### **37.31c – Other Low-level Fixed-wing Flight Operations**

Low-level fixed-wing flight operations must be conducted only in daylight Visual Meteorological Conditions (VMC).

Except for takeoff and landing, pilots shall not fly fixed-wing aircraft below 500 feet above ground or canopy level, except for the following approved training practices, firefighting and Special Use Missions:

1. Para-cargo drops; or
2. Aerial Seeding/Spraying.

### **37.32 – Low-level Helicopter Flight Operations**

Low-level helicopter flight operations must be conducted only in daylight Visual Flight Rules (VFR) conditions, except for the exception listed in 36.8.

Except for takeoff and landing, pilots must not fly helicopters below 500 feet above ground or canopy level, except for the following approved training practices, firefighting and Special Use Missions:

1. Aerial delivery of retardant, water and water enhancers;
2. Aerial Ignition – helitorch and plastic sphere dispenser or similar aerial ignition devices;
3. Rappel and Short-haul;
4. Cargo Letdown;
5. Aerial Seeding/Spraying; or
6. External load delivery of cargo.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 30 – AVIATION OPERATIONS**

### **37.33 – Personal Protective Equipment for Low-Level Flights**

Personnel participating in low-level flights (below 500 feet above ground level excluding takeoff and landing) must wear the personal protective equipment specified in the appropriate operations guide at all times during such flights. Refer to IHOG, ISOG, IASG, and the ALSE Handbook.

### **37.4 – Amphibious and Seaplane Aircraft Operations**

Amphibious and Seaplane Aircraft Operations must be conducted in accordance with agency operations plans specific to the mission.

Amphibious Water Scooping Aircraft (Water Scoopers) operate in accordance with the Water Scooping Aircraft Operations Plan. This plan does not cover Fire Boss (Air Tractor Single Engine Airtankers on Floats) which are contracted by the Department of the Interior or state agencies.

Forest Service DeHavilland DHC-2 Beavers hosted in the Eastern Region (9) and Pacific Northwest /Alaska Regions (6/10) operate in accordance with the applicable Regional Operations Plan.

Other contract amphibious and seaplane aircraft operations must have an operations plan specific to their mission(s) approved at the regional level.

## **38 – AVIATION SECURITY**

### **38.1 – General**

#### **38.11 – Objective**

Provide an aviation security program, which includes:

1. Aviation facilities and aircraft security standards.
2. Aviation security adjustment plans that respond to changes in Homeland Security threat levels.
3. Quick response emergency procedures.

#### **38.12 – Responsibility**

##### **38.12a – Assistant Director, Aviation, Fire and Aviation Management**

The Assistant Director, Aviation, Fire and Aviation Management, has the responsibility to:

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

1. Establish aviation security policies and procedures for the Forest Service.
2. Ensure that timely information about aviation security is shared with Forest Service personnel and aviation personnel as directed by the USDA Homeland Security and Emergency Coordination (OHSEC) Staff, the Department of Homeland Security, and the Forest Service Law Enforcement and Investigations Staff.

The Assistant Director, Aviation, may delegate some of these responsibilities.

### **38.12b – Regional Aviation Officers**

Regional Aviation Officers have the responsibility to:

1. Ensure the implementation of all aviation security procedures in the Region.
2. Maintain a list of Forest Service Aviation Site Managers/Site Security Officers and alternates for all Forest Service aviation facilities.
3. Serve as point of contact for Director of Fire and Aviation Management, Washington Office, on all aviation security matters.
4. Conduct the physical security analysis utilizing the physical security standards checklist in 38.21 Exhibit 1 to determine vulnerabilities and develop physical security recommendations.
5. Track the physical security assessment dates for each base to ensure assessments are performed every five (5) years.

The Regional Aviation Officer may delegate some of these duties and responsibilities.

### **38.12c – Site Manager/Site Security Officers**

The Site Manager/Site Security Officers (SM/SSO) have the responsibility to ensure implementation of all the applicable aviation security procedures and policies for their sites, either directly or by delegating responsibility to an agency designee. The SM/SSO has the responsibility to:

1. Complete the risk assessment process for the facility.
2. Oversee maintenance of physical and procedural security measures for the aviation facility.
3. Ensure development of Homeland Security Response Plans.



**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

4. Register for email notification of the National Terrorism Alert System (NTAS) at <http://www.dhs.gov/alerts>.

### **38.12d – Airspace Liaison**

Reserved.

### **38.13 – Definitions**

Refer to FSM 5705 and the NASMSG.

### **38.14 – References**

Refer to FSM 5706.

## **38.2 – Physical Security**

Forest Service Aviation permanent facilities are considered to be Facility Security Level II unless specifically designated otherwise. FSL designation changes will be coordinated with the USDA OHSEC and the Assistant Director, Aviation, Fire and Aviation Management.

### **38.21 – Physical Security Standards**

The Interagency Security Committee provides a series of Security Criteria for FSL II facilities. 38.21 Exhibit 1 provides minimum recommended Security Countermeasures for an airtanker base and can be used in conjunction with the FSL II security criteria for other aviation facilities or for airtanker bases during increased threat conditions.

38.21 Exhibit 1 can be used as the physical security checklist.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**38.21 Exhibit 1 – Physical Security Checklist**

<b>Facility Perimeter</b>
<p><b>Fencing:</b></p> <ul style="list-style-type: none"><li>• Minimum 6-foot chain link fence with 3-strand barbed wire top guard pointing away from the protected area at permanent airtanker facilities.</li><li>• Fencing must meet or exceed the requirements specified within the FAA approved airport security plan.</li><li>• Fence and top guard must be properly maintained.</li></ul>
<p><b>Access Control:</b></p> <ul style="list-style-type: none"><li>• Gates must be locked and/or controlled at all times.</li><li>• Locks may include high security lock, keypads, or an HSPD-12 approved card reader and must be properly maintained.</li></ul>
<p><b>Lighting:</b></p> <ul style="list-style-type: none"><li>• Minimum of 3 foot candles for building entrances of permanent facilities while facility is active.</li><li>• Minimum of 1 foot candle for parking lots and circulation areas.</li></ul>
<p><b>Signage:</b></p> <ul style="list-style-type: none"><li>• “NO TRESPASSING” or similar signs posted in prominent locations surrounding perimeter of facility.</li><li>• Areas with restricted access should have appropriate signs posted.</li><li>• Building exits that lead to restricted areas should be signed accordingly.</li><li>• Signs should be multi-lingual in appropriate locations.</li></ul>

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**Lock and key control:**

- Facility must utilize a “key control” system
- Number of keys available must be limited
- Keys may not be duplicated without approval
- Excess keys must be located in secure and locked location
- Key Custodian must be appointed
- Complete inventory of keys must be performed annually

**Security Plan:**

- The base/facility must have a Security Plan that is properly coordinated with the airport authority and/or local law enforcement
- The security plan should be updated and re-validated annually

**Personnel Access:**

- Security plan must identify any areas of facility that are “Restricted.”
- Identification system must be used for areas of facility deemed “Restricted.”
- Color coded shirts, hats, jackets, etc.
- LincPass Credentials.
- Other techniques.
- A government employee must escort personnel without proper LincPass Credentials and/or ID.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**Parking:**

- Access to parking in sensitive areas of facility must be limited and controlled
- ID check
- ID badge/ID card
- Security guard
- Other procedures

**Surveillance, monitoring, and site supervision:**

- Security plan must specify the level and type of surveillance and monitoring provided
- Facility personnel, private security, Forest Service law enforcement, local law enforcement, National Guard, etc.
- Facilities used to respond to type II and larger incidents will provide security 24/7

**Retardant and Hazmat Storage**

**Retardant Mixing Station:**

- Tanks and valves that could be used to drain tanks must have a positive locking mechanism and/or tamper proof/tamper evident seals
- Security plan must specify pre-use inspection procedures
- Mixing Station should be illuminated

**Materials storage:**

- Hazardous material should be properly stored in lockable containers and/or storage tanks
- Utilize tamper-proof/tamper-evident seals and/or locks
- Distribution of hazardous materials monitored by authorized persons

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**Personnel Access**

**Guests/Visitors:**

- Restricted area access
- Guests and visitors shall be escorted at all times by an employee with LincPass.
- Verify and document identification information for all guests and visitors.
- Check and document information.
- Signature/initials of who verified information.
- Date and time of visit.
- Supervision provided for all visitors while at facility.

**Building and Hangar Security**

**Access Control:**

- Buildings must be properly locked and/or controlled at all times.
- Locks may include high security lock, keypads, or HSPD-12 approved card readers, and must be properly maintained.
- Intrusion Detection Systems (IDS) should be utilized to include the proper use of door contacts, glass break sensors, and/or motion detection.
- Doors must have security astragals to protect locks from being pried open and exposed hinges must have security screws installed.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**Surveillance and Monitoring Services:**

- Intrusion Detection Systems (IDS) should be utilized to include the proper use of door contacts, glass break sensors, and/or motion detection.
- IDS should annunciate to a response force such as Airport Authority, Facility personnel, private security, Forest Service law enforcement, local law enforcement, National Guard, etc.
- Facilities used to respond to type II and larger incidents will provide security 24/7.

**Fire Alarms and Suppression:**

- Fire alarms must be installed in Operation Buildings and Hangars.
- Fire extinguishers should be properly placed, maintained, and inspected annually.

**Aircraft**

**Government Owned Aircraft:**

- After hours: Aircraft must be properly locked and secured.
- Aircraft must be secured in locked hangar where available.
- Proper locks include but are not limited to propeller locks, door locks, wheel locks, etc.
- UAS must be secured for accountable property or WCF aircraft standards, as appropriate.

**Contract Aircraft:**

- Statement of Work for Contract Aircraft must stipulate that the contractor is responsible to properly secure their aircraft when not in use.
- After hours: Aircraft must be properly locked and secured.
- Aircraft must be secured in locked hangar where available.
- Proper locks include but are not limited to propeller locks, door locks, wheel locks, etc.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**Information Protection**

**Security Codes and Information:**

- Ensure protection of security codes.
- Update/change security codes regularly.

**Personally Identifiable Information (PII):**

- PII must be properly secured in lockable containers.
- PII must be properly destroyed with a cross-cut paper shredder when it is no longer needed.

**IT Security:**

- Laptops must be properly secured when not in use to include but not limited to locked cabinets, laptop cables, lockable desk drawers, etc.
- Computers must be equipped with LincPass Card Readers.

**Temporary Facilities and Helibases**

**Temporary Tanker Bases:**

- When aircraft are at the facility overnight, facility must either meet minimum standards detailed above or provide 24-hour coverage by security personnel.
- Forest Service, local law enforcement, private security, county, city, National Guard, etc.
- Facilities used to respond to type II incidents will provide security 24/7.

**Helibases:**

- Facility monitored by personnel at site.
- Security plan should consider increased security, such as providing security personnel 24/7, during ongoing incidents.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

**Undeveloped and Remote Sites**

- There are a number of ways an aircraft may be disabled and secured. One method is to use security personnel to guard aircraft during non-operational periods. Another method utilized to secure aircraft may incorporate the use of a mechanical device.
- However, with recent concerns in securing and locking aircraft, there may be two key 14 CFRs that may be overlooked.
- The first is 14 CFR Part 23.679, which states: "If there is a device to lock the control system on the ground or water (a) there must be a means to- (1) give unmistakable warning to the pilot when the lock is engaged."
- The second 14 CFR, Part 23.783 (c) (6) states: "Auxiliary locking devices that are actuated externally to the airplane may be used but such devices must be overridden by the normal internal opening means."
  - All agricultural spray application aircraft must be disabled when not in use so that they cannot be started and/or operated by anyone other than authorized personnel.
  - All aircraft will have a keyed locking shut-off device for the fuel system to prevent aircraft operation.
  - Security will be provided by the contractor during off-duty hours.
- Following are a few recommendations that may be used, in part or whole, to secure various types of aircraft.
  - Aircraft, where hangars are available, should be locked inside.
  - Aircraft cabin doors will be locked.
  - Flight logbooks and credit cards should be removed when not in use.
  - Small expensive items, such as hand-held GPS units, should be removed and secured when not in use.
  - Pre-flight inspections will include checks for tampering of any sort.
  - Keys will be managed in secure locations only.



## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

### **CHAPTER 30 – AVIATION OPERATIONS**

#### **38.22 – Security Self-Assessment**

The Manager of each Forest Service aviation facility must utilize 38.21 – Exhibit 1 to complete a security self-assessment every five years, or when major changes to the facility have occurred, such as change in tenant organizations, large construction, etc.

After completion, the self-assessment checklist must be submitted with identified threats, vulnerabilities, and mitigations to the Regional Aviation Management Staff. After review by the Regional Aviation Staff, a copy of the self-assessment checklist and a mitigation strategy will be provided to OHSEC and the Aviation Management Staff, Washington Office.

#### **38.23 – Vulnerability Level**

Based upon the completed self-assessment, the Forest Service Aviation Site Manager/Site Security Officer must categorize the facility into one of the following:

1. High Vulnerability Level. No meaningful security measures present.
2. Medium Vulnerability Level. Some security measures, either physical or procedural, are present.
3. Low Vulnerability Level. Adequate security measures, both physical and procedural, are present but could be improved.

If additional security measures are needed, consult OHSEC for further recommendations.

#### **38.3 – Agency Security Response Actions**

##### **38.31 – Objective**

1. To ensure the Forest Service is prepared to increase security standards at agency aviation facilities in response to Homeland Security National Terrorism Advisory System (NTAS) Alerts. NTAS replaces the color-coded Homeland Security Advisory System (HSAS). This new system will be more effective in communicating information about terrorist threats by providing timely, detailed information to the public, government agencies, first responders, airports, and other transportation hubs, and the private sector.
2. To develop and implement appropriate Agency-specific protective measures required by the Department of Homeland Security. NTAS Alerts will be issued through state, local and tribal partners, the news media and directly to the public via the following channels:
  - a. The official DHS NTAS webpage – <http://www.dhs.gov/alerts>.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

- b. Email signup at – <http://www.dhs.gov/alerts>.
- c. Social media:
  - (1) Facebook – <http://facebook.com/NTASAlerts>.
  - (2) Twitter – <http://www.twitter.com/NTASAlerts>.
- d. Data feeds, web widgets, and graphics, such as, <http://www.dhs.gov/alerts>.

The public can also expect to see alerts in places, both public and private, such as transit hubs, airports, and government buildings.

### **38.32 – Policy**

- 1. The Forest Service must design responses to threats based on the Agency-specific protective measures required by the Department of Homeland Security.
- 2. The Forest Service must immediately adjust the level of aviation security any time a national threat level changes.

### **38.33 – Regional, Area, and Station Homeland Security Aviation Response Plan**

Each Region, Area, and Station must develop a Homeland Security Aviation Response Plan that details the security actions that each Region will implement, based upon NTAS Alerts or as necessary. The Regional, Area, and Station Aviation Response Plan must be reviewed by the Fire and Aviation Management staff, Washington Office.

The Homeland Security Regional Aviation Response Plan should have, as a minimum:

- 1. Key points of Regional aviation facilities;
- 2. Key contacts;
- 3. Emergency notification, equipment, personnel, and evacuation information;
- 4. Regional responsibilities, including response to NTAS alerts and security breaches;
- 5. Hazardous materials handling;
- 6. Information protection; and

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

7. Description and records of self-inspections, drills and exercises, and response training.

### **38.34 – Facility Homeland Security Response Plan**

Each aviation facility must develop a Facility Homeland Security Response Plan that is specific to that aviation facility and details the security actions the facility will take for each Homeland Security alert. The Facility Response Plan must be reviewed by the respective Regional Aviation staff.

The response plan should have, as a minimum:

1. Facility description, including diagrams of facility site plan, drainage, and evacuation plan;
2. Facility information, including its name, type, location, owner, operator information;
3. Key contacts;
4. Emergency notification, equipment, personnel, and evacuation information;
5. Responsibilities;
6. Facility access and security (such as, fences, lighting, alarms, guards, emergency cut-off valves, locks, and so forth);
7. Materials handling;
8. Information protection; and
9. Description and records of self-inspections, drills and exercises, and response training.

### **38.35 – Homeland Security Response Plan Requirements**

Upon receipt of an NTAS Alert including their facilities, a Risk Assessment for that alert must be performed. Listed below are measures that each aviation Homeland Security Response Plan may consider in response to applicable National Terrorism Alert System (NTAS) Alerts. These are listed in an increasing threat order, so that if the risk assessment shows a low threat, Managers might only need to take the first few actions. The Physical Security Criteria for Federal Facilities Standard provides different countermeasures to achieve different Levels of

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

Protection (LOP). The Design-basis Threat provides additional information to assist in evaluation of threats.

1. Continue to conduct physical security assessments of facilities and ensure employees are following protocols in the regional and aviation facility Response Plans.
2. Ensure that assessed standards are in place and maintained.
3. Forward information to personnel relative to the alert received.
4. Use emergency checks to ensure communications equipment is operable.
5. Assess additional security needs based on specific targets or threats.
6. Evaluate intelligence in conjunction with the FBI and other information sources to assess effects on the agency.
7. Disseminate alert, intelligence, and security information to representatives.
8. Maintain communications with Federal, Tribal, State, and local law enforcement.
9. Update security codes at facilities.
10. Provide additional training and readiness information to identified target areas or affected individuals.
11. Evaluate and confirm intelligence received in conjunction with the FBI and other information sources to assess potential effects on the Agency. Provide continuous dissemination of alerts and intelligence to appropriate representatives and field units.
12. Ensure that assessed standards in the regional and aviation facility Homeland Security Response Plan are in place and maintained.
13. Arrange for additional security measures, such as adding more security personnel, based on identified targets or threats.
14. Notify law enforcement and emergency personnel to be on standby.
15. Evaluate abandoning bases that may be likely targets.
16. Evaluate readying alternate bases in strategic locations.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 30 – AVIATION OPERATIONS**

17. Evaluate Agency aircraft status to determine availability of aircraft and pilots and ensure pilot assignments are made for each aircraft.
18. Prepare to relocate aircraft to alternate locations in order to meet current mission requirements and the high condition orange threat level.
19. Evaluate circumstances and determine the need to contact appropriate homeland security representatives and/or law enforcement and to evaluate placement of additional equipment to meet mission requirements and the high condition orange threat level.
20. Update security codes and alert notices at all facilities.
21. Notify law enforcement, Geographic Area Coordination Centers, and other appropriate personnel of the status and availability of aircraft.
22. Lock down secondary access points to facilities in order to provide a single entry-point.
23. Establish an Airspace Liaison with the Air Traffic Services Cell at the Air Traffic System Command Center (ATSCC) when Security Control of Air Traffic and Navigation Aids (SCATANA), Emergency Security Control of Air Traffic (ESCAT), or a similar emergency airspace control mechanism is activated. This Airspace Liaison must coordinate flight priorities for firefighting emergency operations exempted under SCATANA/ESCAT.
24. Close facilities or areas according to threat and ability to maintain security.
25. Redirect law enforcement and emergency response personnel as needed to protect critical facilities and resources.
26. Prepare to leave bases that could be targets or activate temporary bases in strategic locations.
27. Restrict access to facilities to assigned personnel only.



**FOREST SERVICE HANDBOOK  
NATIONAL HEADQUARTERS (WO)  
WASHINGTON, DC**

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND  
MAINTENANCE**

**Amendment No.:** 5709.16-2020-5

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** Jaelith Hall-Rivera  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by handbook number and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this handbook was 5709.16-2020-4 to 5709.16\_30.

<b>New Document</b>	5709.16_40	33 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>	5709.16_40 (Amendment 5709.16-2017-4, 09/25/2017)	30 Pages

**Digest:**

40 – This amendment substantially revises the entire chapter to better align with the U.S. Forest Service mission.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

**Table of Contents**

40.1 – Authority .....	4
40.2 – Objective .....	5
40.3 – Policy .....	5
40.4 – Responsibility .....	5
40.41 – Washington Office, Branch Chief, Airworthiness .....	5
40.42 – Aviation Safety Inspector, Airworthiness, or a Regional Aviation Maintenance Program Manager.....	7
40.43 – WCF Fleet Aviation Maintenance Technician .....	7
40.44 – Aviation Safety Inspectors, Avionics .....	8
40.45 – Aeronautical/Aerospace Engineer .....	9
40.46 – Airworthiness Management Specialist/Analyst.....	9
40.5 – Definitions.....	10
40.6 – References.....	10
40.7 – Quality Assurance.....	10
<b>41 – AIRWORTHINESS PERSONNEL QUALIFICATIONS AND DESIGNATIONS ....</b>	<b>10</b>
41.1 – Aircraft Inspector Qualifications .....	10
41.11 – Aircraft Inspector Designations .....	10
41.12 – Aircraft Maintenance Technician Qualifications.....	11
41.2 – Avionics Inspector Qualifications.....	12
41.21 – Avionics Inspector Designations .....	12
41.22 – Forest Service Approved Avionics Inspectors Employed by Other Agencies ....	13
41.3 – Delegation of Inspection Authority .....	13
41.4 – Maintenance and Avionics Personnel Training.....	13
<b>42 – AIRCRAFT AND EQUIPMENT STANDARDS.....</b>	<b>14</b>
42.1 – Aircraft Maintenance Standards .....	14
42.11 – Aircraft Return to Use after Maintenance.....	15
42.12 – Maintenance, Operational, and Functional Check Flights.....	16
42.13 – Engine Installation and Run-In .....	17
42.2 – Standards, Inspections, and Approvals for Forest Service Contracted Aircraft .....	17
42.21 – General Aircraft and Equipment Standards .....	17
42.22 – General Avionics Standards.....	19
42.3 – Special Use Mission Aircraft Modifications.....	20
<b>43 – CONTRACT AIRCRAFT INSPECTION AND APPROVAL MANAGEMENT .....</b>	<b>20</b>
43.1 – Point-to-Point Aircraft Approvals.....	20
43.11 – Commercial Air Carriers.....	21
43.12 – Forest Service Contracted Airtankers .....	21
43.2 – Special Use Mission Flights.....	22
43.3 – Authorized Aircraft Inspectors .....	22
<b>44 – CONTRACT AIRPLANE DATA AND APPROVAL RECORDS.....</b>	<b>22</b>

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

44.1 – Aircraft Pre-Use Inspection Discrepancy Report .....	22
44.2 – Aircraft Approval Cards .....	23
44.3 – Aircraft Contract Status Report .....	23
44.4 – Aircraft Inspection Forms Management .....	23
44.51 – Airtanker Approval Card .....	24
<b>45 – INSPECTION RECORDS AND REPORTING.....</b>	<b>24</b>
45.1 – Applicable Forest Service Guides.....	24
45.2 – Reporting Malfunctions and Maintenance Deficiencies.....	24
45.3 – Contract Specifications Familiarity .....	25
45.4 – Contractor’s FAA Operating Authority .....	25
45.5 – Aircraft Inspectors’ Review of Records .....	25
45.6 – Facilities Inspections, Contract and Rental Agreement Operators .....	26
45.7 – Avionics Inspection .....	26
<b>46 – STANDARDS FOR FOREST SERVICE COOPERATOR AIRCRAFT .....</b>	<b>26</b>
46.1 – Standards for Cooperator Aircraft Offered for Federal Use (including Federal Excess Personal Property).....	26
46.11 – Airworthiness of FEPP Aircraft.....	27
46.11a – Modification of FEPP Aircraft.....	27
46.2 – Non-federally Approved Aircraft .....	27
<b>47 – OTHER FEDERAL AGENCY AIRCRAFT .....</b>	<b>28</b>
47.1 – Department of Defense Aviation Assets.....	28
47.2 – Federal Executive Agency (non-DOD) Aviation Assets.....	28
<b>48 – AIRCRAFT OWNERSHIP AND FINANCIAL MANAGEMENT .....</b>	<b>28</b>
48.1 – Acquisition of Aircraft.....	28
48.11 – Replacement Aircraft Aviation Business Cases .....	28
48.12 – Working Capital Fund (WCF) Aircraft.....	28
48.12a – Modification of WCF Aircraft .....	29
48.2 – Maintenance Records.....	29
48.21 – Aircraft Flight Log 5700E Documentation and Maintenance Reporting Requirements .....	30
48.22 – Airworthiness Directives, Service Bulletins and Additional Continued Airworthiness Requirements.....	31
48.23 – Parts and Components Approval .....	31
48.24 – Inspection Frequency .....	32
48.25 – Other Documentation.....	32
48.26 – Reporting Malfunctions and Maintenance Deficiencies.....	32
48.27 – Maintenance of WCF Aircraft While Out of Region.....	32
48.28 – Minimum Equipment List (MEL).....	33



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

Forest Service aircraft airworthiness includes standards, inspections, and maintenance. Forest Service aviation personnel and users must make appropriate use of aircraft and related equipment. Appropriate use (within type design) is use that the aircraft and related equipment were anticipated to perform when specifications were developed. Any alternate use (outside of type design) that was not incorporated into the specification must be accounted for prior to employing the aircraft in that use.

#### **40.1 – Authority**

Additional information about authority and laws pertaining to Forest Service Aviation may be found in FSM 5701. The following Federal requirements concern aircraft maintenance and inspection for civil and public aircraft.

1. Title 14 of the U.S. Federal Regulations (14 CFR), Parts 1, 39, 43, 45, 65, 91, and 107. Part 1 contains general information and definitions for aeronautics and space. Part 39 provides a legal framework for the Federal Aviation Administration's system of airworthiness directives. Part 43 includes the maintenance, preventive maintenance, rebuilding, and alternation of aircraft. Part 45 specifies the requirements for marking products and articles. Part 65 encompasses the certifications and requirements for airmen other than crew members. Part 91 deals with the general operating and flight rules.
2. Title 41 of the U.S. Code of Federal Regulations, Chapter 101. This subpart sets forth introductory material concerning the Federal Property Management Regulations System: its content, types, publication, authority, applicability, numbering, deviation procedure, as well as agency consultation, implementation, and supplementation.
3. Title 41 of the U.S. Code of Federal Regulations, Chapter 102, Federal Management Regulation (FMR). This section includes updated regulatory policies originally found in the Federal Property Management Regulation (FPMR). However, it does not contain FPMR material that describes how to do business with the General Services Administration (GSA). "How to" materials on this and other subjects are available in customer service guides, handbooks, brochures, and Internet websites provided by GSA.

In addition, direction for aviation reviews and evaluations are derived from the Interagency Committee on Aviation Policy (ICAP). This committee established common aviation safety standards and guidelines that guide program evaluations for all Federal executive department agencies.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

## **40.2 – Objective**

Assure that appropriate standards are employed and adhered to for aircraft, equipment, and maintenance personnel utilized by the Forest Service, whether Working Capital Fund (WCF) Fleet, contracted, or cooperator provided.

## **40.3 – Policy**

Employ comprehensive standards that ensure implementation of:

1. Personnel qualifications and training standards,
2. Aircraft and equipment standards and inspection processes, and
3. An approval process that emphasizes continuing review and evaluation of aircraft, equipment, and personnel used by the Forest Service.

For additional direction, refer to FSM 5703.

## **40.4 – Responsibility**

Refer to FSM 5704.

### **40.41 – Washington Office, Branch Chief, Airworthiness**

It is the responsibility of the Washington Office, Washington Office Branch Chief, Airworthiness, (Washington Office detached Unit, Boise, ID), to:

Provide national leadership for:

Agency Aircraft and Avionics Inspector qualifications and training standards;

Aircraft and equipment standards development for all aircraft operated by the Forest Service; and

Aviation maintenance programs.

1. Ensure that the modification, repair, and maintenance of Forest Service operated aircraft are completed in accordance with the applicable Parts of Title 14, Code of Federal Regulations, and that personnel comply with the policy requirements and the approved maintenance and inspection guides for the specific type of aircraft;

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

2. Conduct National oversight and continuing evaluation of the aviation program to accomplish National, Regional, Forest, and District level aviation objectives within the scope of the airworthiness program;
3. Coordinate with Forest Service Acquisition Management personnel for contract specification development, contract evaluation, and logistic support in the procurement of aircraft and services;
4. Coordinate with FAM Aviation operations personnel and the national fixed-wing and helicopter program specialists for the inspection and approval of contract and rental agreement aircraft and facilities;
5. Approve aircraft inspection and maintenance programs for each type of Forest Service WCF aircraft;
6. Establish and approve an inspection and maintenance program for former military, non-FAA certificated aircraft owned by the Forest Service;
7. Ensure Forest Service WCF Fleet aircraft are maintained in standard configuration. Oversight and financial management of WCF aircraft includes the responsibility to review aircraft rates, manage the replacement account, approve modifications and repairs, and so forth.
8. Approve extensions to inspection intervals;
9. Authorize Regional Maintenance Program Managers to apply to the FAA for Special Flight Permits in accordance with 14 CFR Part 21.197;
10. Approve Agency Special Flight Permits for agency non-certificated aircraft using criteria in 14 CFR Part 21.197 as guidance;
11. Tabulate and disseminate malfunction and deficiency reports for similar type aircraft;
12. Approve Minimum Equipment Lists (MEL) for each type of aircraft operated by the Forest Service;
13. Understand, implement, and maintain the responsible areas of the Forest Service Safety Management System within the scope of their duties.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

**40.42 – Aviation Safety Inspector, Airworthiness, or a Regional Aviation Maintenance Program Manager**

Refer to section 41.1 for direction on qualifications. It is the responsibility of the Aviation Safety Inspector, Airworthiness, or a Regional Aviation Maintenance Program Manager to:

1. Provide leadership for the:
  - a. Inspection, maintenance, and repair of Forest Service WCF Fleet aircraft assigned to their region and ensure assigned Forest Service aircraft are maintained in the standard configuration as determined by the Branch Chief, Airworthiness;
  - b. Has the authority to remove an aircraft from service if there is any non-compliance with policy, regulations, or threat to the safety of the aircraft, persons, or property;
  - c. Inspection and approval of contracted aircraft; and
  - d. Inspection and the recommendation for the approval of cooperator aircraft;
2. Provide oversight and continuing evaluation of the aviation program to accomplish National, Regional, Forest, and District level aviation objectives within the scope of the airworthiness program.
3. Monitor regional Aviation Safety Communiqués (SAFECOMs):
  - a. Comment as appropriate.
  - b. Communicate significant issues regionally and/or nationally.
4. Establish and maintain a current aviation technical library specific to the types of WCF aircraft assigned to the Region.
5. Delegate inspection authority. Inspectors may delegate their inspection authority to properly qualified personnel for the inspection of contract aircraft operated by the Forest Service as provided in section 41.3.
6. Understand, implement, and maintain the responsible areas of the Forest Service Safety Management System within the scope of their duties.

**40.43 – WCF Fleet Aviation Maintenance Technician**

Refer to section 41.12 for direction on qualifications. When dictated by Regional needs, each Region operating Forest Service WCF aircraft may have a qualified WCF Fleet Aviation Maintenance Technician responsible for:

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

1. The inspection, maintenance, and repair of the Forest Service WCF Fleet aircraft assigned to their Region and to ensure assigned Forest Service aircraft are maintained in the standard configuration as determined by the Branch Chief, Airworthiness;
2. Maintain a current aviation technical library specific to the assigned WCF aircraft;
3. Understand, implement, and maintain the responsible areas of the FS Safety Management System within the scope of their duties.

**40.44 – Aviation Safety Inspectors, Avionics**

Refer to section 41.2 for direction on qualifications. Each Forest Service Region that operates aircraft must have access to a qualified avionics inspector. It is the responsibility of Aviation Safety Inspectors, Avionics to:

1. Ensure that standards are established for avionics equipment and systems, and provide leadership regarding avionics standards for equipment and systems for Forest Service, cooperator, or contracted aircraft in support of the National and Regional Aviation Programs;
2. Provide inspection, oversight, and continuing evaluation of the aviation program to accomplish National, Regional, Forest, and District level aviation objectives;
3. Conduct pre-use inspections of contract aircraft avionics at the direction of the Aviation Safety Inspectors, Airworthiness.
  - a. Ensure aircraft avionics maintenance is being performed in compliance with the contract specifications and the operator's FAA-approved avionics maintenance program;
  - b. Document that the aircraft avionics are within the required maintenance and flight checks;
  - c. Ensure that the aircraft avionics comply with the applicable FAA Airworthiness Directives, Mandatory Service Bulletins, and Military Technical Orders, as applicable;
4. Ensure assigned Forest Service aircraft meet the National standard avionics configuration, unless otherwise approved by the Branch Chief, Airworthiness;
5. Establish and maintain a current aviation library meeting the needs of fleet, interagency, and incident avionics;

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

6. Delegate inspection authority. Avionics Inspectors may delegate their inspection authority to properly qualified personnel for the inspection of contract aircraft operated by the Forest Service as provided in section 41.3;
7. Understand, implement, and maintain the responsible areas of the Forest Service Safety Management System within the scope of their duties.

#### **40.45 – Aeronautical/Aerospace Engineer**

The Aeronautical/Aerospace Engineer is responsible to the Branch Chief, Airworthiness.

It is the responsibility of the Aeronautical/ Aerospace Engineer to:

1. Provide oversight of Forest Service-owned Type Certificate Data Sheets (TCDS) and Supplemental Type Certificates (STC) and the Forest Service Operational Loads Monitoring (OLM) Program;
2. Assist in the evaluation of solicitations, proposed new equipment, and aircraft repairs and modifications;
3. Interface with engineering representatives from the FAA, and aircraft and equipment manufacturers; and
4. Understand, implement, and maintain the responsible areas of the FS Safety Management System within the scope of their duties.

#### **40.46 – Airworthiness Management Specialist/Analyst**

The Airworthiness Management Specialist/Analyst is responsible to the Branch Chief, Airworthiness. The Airworthiness Analyst is responsible for analyzing and evaluating aviation cost and use data to ensure the financial solvency of the Forest Service fleet which assures that airworthiness requirements are properly funded and attainable. It is the responsibility of the Airworthiness Analyst to:

1. Interface with Washington Office and Regional representatives in relation to aviation business cases; managing projects; financial analysis and assessment of compliance with laws and regulations;
2. Completes the Federal Aviation Information Reporting Systems (FAIRS) reporting and working capital fund analysis and reports;
3. Assist in the formulation, evaluation of solicitations for proposed new or existing applications, and management of those projects;

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

4. Provide oversight of Airworthiness Branch databases including the Forest Service Operational Loads Monitoring (OLM) database and the aircraft carding database, AvCheck;
5. Understand, implement, and maintain the responsible areas of the FS Safety Management System within the scope of their duties.

#### **40.5 – Definitions**

Refer to FSM 5705.

#### **40.6 – References**

Refer to FSM 5706.

#### **40.7 – Quality Assurance**

Aviation Managers at all organizational levels must employ a comprehensive quality assurance process that includes:

1. Airworthiness personnel qualifications and training standards;
2. Aircraft and equipment standards and inspection processes;
3. An audit/review process that emphasizes evaluation and improvement of aircraft, equipment, and personnel used by the Forest Service.

Refer to FSM 5717 and the Aircraft Inspection Guide regarding Reviews, Evaluations, and Quality Assurance.

### **41 – AIRWORTHINESS PERSONNEL QUALIFICATIONS AND DESIGNATIONS**

#### **41.1 – Aircraft Inspector Qualifications**

Aircraft inspectors must possess a current airframe and powerplant certificate (A&P) issued by the Federal Aviation Administration (FAA). Additionally, Inspectors must hold and maintain an Inspection Authorization (IA) issued by the FAA (40.42).

##### **41.11 – Aircraft Inspector Designations**

The Branch Chief, Airworthiness, or the Regional Aviation Officer must designate, in writing, authorized aircraft inspectors that meet the minimum standards of this chapter. These inspectors

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

are listed on the Forest Service Authorized National Pilot, Aircraft, and Avionics Inspectors List. Aircraft inspectors may have the following designations:

<b>MA</b>	<b>Maintenance Airplane</b>
MA1	Airtanker Initial Approval
MA2	Smokeyjumper Aircraft Initial Approval
MA3	Specially Equipped Light Fixed-Wing Initial
MA4	Return To Contract Availability Approval
MAA	IS-BAO Accredited Auditor, Fixed Wing
<b>MH</b>	<b>Maintenance Helicopter</b>
MH1	Type I Helicopter Initial Approval
MH2	Type II Helicopter Initial Approval
MH3	Type III & IV Helicopter Initial Approval
MH4	Return To Contract Availability Approval
MHA	IS-BAO Accredited Auditor, Helicopter
<b>MU</b>	<b>Maintenance Unmanned Aircraft Systems (UAS)</b>
MU1	UAS Initial Approval
MU4	Return To Contract Availability Approval

#### **41.12 – Aircraft Maintenance Technician Qualifications**

Only personnel meeting the qualifications of 14 CFR 43.7 and 65.83 with appropriate ratings (Airframe and/or Powerplant) must inspect, maintain, repair, or alter Forest Service WCF aircraft. Ensure that all maintenance personnel have the competencies appropriate to the levels of maintenance performed and the frequency with which the maintenance is performed. Initial and recurrent training for these competencies must be documented in the individual's training file.



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

## **41.2 – Avionics Inspector Qualifications**

1. Avionics inspectors must maintain qualifications, hold a current and valid Federal Communications Commission (FCC) certification General Radiotelephone Operator License (GROL), and avionics proficiency.
2. Avionics inspectors must have the knowledge and experience of each avionics system being inspected.
3. Avionics inspectors must have access to, and use, the appropriate calibrated test equipment to verify the integrity of the avionics systems requiring approval. The inspector must be thoroughly knowledgeable in the use of all avionics test equipment used during inspections. Basic test equipment includes: dual impedance headset, AUX-FM adapter, portable radio, communications service monitor, and other test equipment that may be required to satisfactorily inspect required avionics systems.

## **41.21 – Avionics Inspector Designations**

1. Approval. The Branch Chief, Airworthiness, or Regional Aviation Officers may approve Forest Service employees as avionics inspectors. These inspectors are listed on the Forest Service Authorized National Pilot, Aircraft, and Avionics Inspectors List found at: <http://fsweb.wo.fs.fed.us/fire/fam/aviation/>.
2. Avionics Inspector Designations. Only those personnel with the appropriate avionics endorsement may inspect avionics in aircraft.

AV1 Designation: An AV1 designation is required to perform conformity checks and approve avionics on point-to-point aircraft and reconnaissance aircraft without an installed FM transceiver. Designation requires any of the following: Airframe and Powerplant license, AV2 Designation, or AV3 Designation.

AV2 Designation: An AV2 designation is required to perform functional testing and provide follow-on approval of avionics on reconnaissance airplanes with an installed FM transceiver, Type IV air tactical airplanes, and rotorcraft not approved for passengers. An AV2 designation does not permit the initial approval of avionics during any contract or agreement period. Designation requires: the appropriate equipment, avionics training and pass or fail ability for the avionics systems being inspected; or an AV3 Designation.

AV3 Designation: An AV3 designation is required to conduct performance testing, approve avionics on all aircraft not listed under AV1 or AV2, and provide initial

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

approval of avionics for aircraft listed under AV2. Examples of aircraft which require AV3 for avionics approval are leadplanes, airtankers/helitankers, scoopers, smokejumpers, helicopters approved for passengers, and Type I, II, and III air tactical aircraft. Designation requires: the appropriate test equipment, advanced training in avionics systems, and either an FCC General Radiotelephone Operator License or an appropriately rated repair station license.

AV4 Designation: Personnel with an AV4 designation are authorized to return aircraft to contract availability for avionics issues.

#### **41.22 – Forest Service Approved Avionics Inspectors Employed by Other Agencies**

1. Qualifications. The Branch Chief, Airworthiness may authorize Avionics Inspectors employed by other agencies or cooperators, provided their avionics inspector standards are commensurate with those required by Forest Service Avionics Inspectors.
2. Designations. The Branch Chief, Airworthiness may grant approval or disapproval for each individual, specifying each person's avionics designation and document the approval in writing.
3. Revocation. Avionics Inspector approval may be revoked by the Branch Chief, Airworthiness, or an authorized designee, such as the Regional Aviation Officer.

#### **41.3 – Delegation of Inspection Authority**

Aircraft and Avionics Inspectors may delegate their Forest Service inspection authority to properly qualified personnel as long as they meet the minimum experience and training requirements found in 41.1 and 41.2, and are designated by the Regional Aviation Officer or the Washington Office Branch Chief, Airworthiness.

#### **41.4 – Maintenance and Avionics Personnel Training**

1. Within the first year after hire, all Aircraft Maintenance and Avionics Inspectors are required to attend FAA Academy courses (online and classroom training). In the event the FAA is not offering the courses in the required timeframe, or under certain circumstances, this may be extended until the course(s) are offered or equivalent training is accomplished. The current courses and prerequisites are listed in the inspector task books.
2. Aircraft and Avionics Inspectors hired after January 1, 2013 must complete the current Task Book for those positions prior to being added to the Forest Service Authorized National Pilot, Aircraft, and Avionics Inspectors List.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

3. Each aircraft inspector and Avionics Inspector must receive a minimum of 24 hours of technical training annually or 48 hours bi-annually.
4. Each Inspector is required to attend the Forest Service or Interagency Inspectors workshop annually. With prior coordination with the Branch Chief, Airworthiness, an alternate means of compliance (AMOC) for inspector workshop attendance can be formulated and accomplished. This AMOC may not be used for two consecutive years.

## **42 – AIRCRAFT AND EQUIPMENT STANDARDS**

The Forest Service primarily relies on Federal Aviation Administration (FAA) maintenance, inspection, and certification standards for all basic aircraft, additional equipment, and alterations. These are minimum standards. Based on the needs of the Forest Service, higher or more robust standards can be imposed to assure the airworthiness of aircraft the Forest Service operates. This may be in the form of a later FAA certification requirement that is above and beyond what was needed for initial FAA certification of an aircraft, additional equipment, or an alteration because of special use mission needs or additional risk mitigation.

These standards will be incorporated and implemented through policy documents for fleet aircraft and put into practice through contract specification for contract aircraft. Collaborative efforts with interagency partners have produced cooperator standards that are required for cooperator aircraft that are used by the Forest Service. Because portions of the Forest Service-owned fleet and cooperator aircraft are former military aircraft, which are not FAA certificated, an equivalent standard for those aircraft must be acceptable.

### **42.1 – Aircraft Maintenance Standards**

Maintain all Forest Service WCF, leased, and contracted aircraft in accordance with FMR 102.33 and applicable 14 CFR requirements. Regions with WCF aircraft assigned must establish and maintain maintenance procedures in a Regional Maintenance Procedures Guide (MPG) as specified in the FS Aircraft Inspector Guide (AIG). The Regional MPG must contain detailed and documented procedures to ensure the following standards are met. Aircraft maintenance programs must, as a minimum, include the following requirements:

1. Implement the Forest Service approved inspection program to ensure each type of aircraft are maintained in an airworthy condition and are completed within the approved intervals.
2. Include documented procedures that ensure all required inspections and maintenance are performed with the required frequency and level of quality that are auditable. This includes a Required Inspection Item (RII) List approved by the AWB Branch Chief for each make and model of WCF aircraft incorporated in the Regional MPG (48.23).

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

3. Maintain the FS approved system that documents the status of life-limited parts and overhaul time requirements for airframes, aircraft engines, propellers, and rotors (48.22).
4. Ensure aircraft conform to the appropriate Type Design and are maintained in a properly altered condition. This includes the standardized configurations of accessories, equipment, and paint schemes for like make/model approved by the Branch Chief, Airworthiness.
5. Do not approve the use of any aircraft unless it is in compliance with the standards for replacement times of life-limited parts and overhaul frequencies.
6. Comply with all applicable Federal Aviation Administration (FAA) Airworthiness Directives (ADs), 14 CFR 91.417 (a) (2) (v), and Service Bulletins (SBs) with a time compliance requirement, referenced in an FAA Special Airworthiness Information Bulletin (SAIB), or are designated mandatory by the manufacturer.
7. Accomplish functions assigned in the FS Internal Evaluation Program (IEP) that is part of the Forest Service Safety Management System.

#### **42.11 – Aircraft Return to Use after Maintenance**

1. Working Capital Fund (WCF) Aircraft. An authorized aircraft inspector must approve all WCF aircraft with mechanical or equipment deficiencies prior to returning them to service.
2. Contracted Aircraft.
  - a. Contractor authorized aircraft maintenance personnel must approve for “return to service” for all contracted or leased aircraft with mechanical or equipment deficiencies.
  - b. A Forest Service approved aviation inspector must approve the aircraft for “Return to Contract Availability.”

Depending on the complexity of the maintenance or repair, “Return to Contract Availability” approval may be given verbally with an electronic follow-up.

3. Foreign Government Aircraft.
  - a. Aircraft owned or operated by a foreign government that are approved for use by the Forest Service must follow the same return to availability process as contracted aircraft of the same type or mission.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

- b. Aircraft maintenance personnel must approve for “return to service” for these aircraft with mechanical or equipment deficiencies.
  - c. A Forest Service approved aviation inspector must approve the aircraft for “Return to Availability.”
  - d. Depending on the complexity of the maintenance or repair, “Return to Availability” approval may be given verbally with an electronic follow-up.
4. Department of Defense Aircraft. The Forest Service does not approve or return to availability DOD aircraft.

#### **42.12 – Maintenance, Operational, and Functional Check Flights**

- 1. Working Capital Fund (WCF) Fleet Aircraft. Do not approve Forest Service-WCF aircraft for return to service until a maintenance flight check has been performed following any repair or alteration that has appreciably changed the aircraft flight characteristics or operating limitations. Refer to 14 CFR, part 91.407 for related direction.
- 2. Contracted Aircraft. Do not approve Forest Service contracted aircraft for return to contract availability until a maintenance flight check has been performed following any repair or alteration that has appreciably changed the aircraft flight characteristics or operating limitations and has been approved for return to service (signed off) by contractor maintenance personnel (FSM 5714).
- 3. The following are applicable to all Forest Service WCF Fleet and contracted aircraft:

An operational check flight must be conducted by a pilot qualified in the type of aircraft with only those persons on board essential to the evaluation.

The Pilot performing the check flight must make the appropriate entries in the aircraft records (form FS-5700E, Aircraft Maintenance Log, for Forest Service fleet or leased aircraft) describing the reason for the check flight and the results of the operational check.

The pilot must coordinate with maintenance personnel prior to the operational check flight to discuss the maintenance performed and the aircraft systems required to be checked.

Operational check flights must be performed in daylight visual flight rules (VFR) conditions. The aircraft must return to the departure airfield where the pilot must review the check flight results with maintenance personnel. Maintenance personnel must make a final check of the work performed before releasing the aircraft.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

The entire process must be documented in writing in a log entry that meets the requirements of 14 CFR, Part 43.

Fixed-Wing Aircraft. Check flights must be conducted (but are not limited to those situations) when the following maintenance activities have occurred on fixed-wing aircraft:

1. Engine removal and installation.
2. Propeller removal and installation.
3. Any maintenance or alteration that appreciably changes the flight characteristics or operation of the aircraft.

Helicopters. Check flights must be conducted (but are not limited to these situations) when the following maintenance activities have occurred on helicopters:

1. Engine removal and installation.
2. Rotor removal and installation.
3. Any maintenance or alteration that appreciably changes the flight characteristics or operation of the aircraft.

#### **42.13 – Engine Installation and Run-In**

Piston engine installations that are new, rebuilt, or overhauled must accumulate 3 hours of operating time, which includes 2 hours of flight time, prior to Forest Service use.

#### **42.2 – Standards, Inspections, and Approvals for Forest Service Contracted Aircraft**

##### **42.21 – General Aircraft and Equipment Standards**

The standards below do not apply to small UAS (sUAS), which must meet FAA Part 107 airworthiness requirements and be approved by the Branch Chief, Airworthiness or their designee.

1. Aircraft furnished to the Forest Service under a contract or rental agreement must possess a standard category airworthiness certificate for flights carrying agency personnel.
  - a. Helicopters powered with reciprocating engines must not be approved.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

- b. Helicopters carrying passengers must be equipped with FAA approved wire strike protection systems.
  - c. Helicopters carrying passengers must be equipped with engine inlet air filtration system/particle air separator.
  - d. Contract Type 1 helicopters may be approved for the transportation of agency personnel, including helicopter managers. If not approved, this restriction does not apply to:
    - (1) Forest Service Helicopter Inspector Pilots only in the performance of their pilot evaluation or carding duties.
    - (2) Military (National Guard or Active Duty) Type 1/ heavy helicopters used to transport firefighters during fire incidents or in support of FS Law Enforcement and Investigations (LEI) operations.
    - (3) DHS, DOJ Type 1/ heavy helicopters used to transport FS Law Enforcement and Investigations (LEI) operations.
2. Aircraft used for passenger carrying operations must be on a 14 CFR Part 135 certificate and be equipped in accordance with the applicable 14 CFR Part 135 requirements.
3. Military Surplus Restricted Category helicopters must not be approved to carry agency personnel.
4. Aircraft must not be operated with inoperative equipment, unless it has an approved minimum equipment list, as required by 14 CFR, Part 91.213, Inoperative Instruments and Equipment, or unless otherwise approved by the Branch Chief, Airworthiness.
5. Aircraft upholstery, paint, and Plexiglas must be in good condition.
6. Aircraft must not be approved if any engine, component, or propeller time in service exceeds the manufacturer's recommended time between overhaul, unless approved under an FAA time extension in hours or calendar months.
7. New, rebuilt, or overhauled piston engines in fixed-wing aircraft must accumulate 3 hours of operating time, including 2 continuous hours in flight, prior to Forest Service use.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

8. An FAA approved shoulder harness is required for each front seat occupant.
9. A flight meter or recording tachometer displaying actual flight time in hours and tenths is required.
10. A first aid kit is required.
11. Dual controls, if essential for initial pilot performance evaluation are required.
12. Aircraft must be reweighed on the following schedule:
  - a. Single engine airplanes (12,500 or less) must be reweighed every 5 years.
  - b. All other aircraft must be reweighed every 36 months.
13. Light fixed-wing aircraft procured by the Forest Service must meet the minimum requirements in the Light Fixed-Wing Solicitation Master Specification (Light FW Master Spec.).
14. Helicopters procured by the Forest Service must meet the minimum requirements in the Helicopter Solicitation Master Specification (Helicopter Master Spec.). Aircraft approved for interagency fire must meet Interagency Helicopter Fire Standards.

#### **42.22 – General Avionics Standards**

The standards below do not apply to sUAS, which must meet FAA Part 107 airworthiness requirements and be approved by the Branch Chief, Airworthiness or their designee.

1. As a minimum, aircraft must be equipped with the following functioning avionics equipment for day visual flight rules (VFR) operations:
  - a. One 760-channel VHF-AM transceiver for fixed-wing and helicopter operations.
  - b. Two 760-channel VHF-AM transceiver for fixed-wing fire operations.
  - c. An Automated Flight Following (AFF) System.
  - d. One VHF-FM transceiver for fire operations.



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

2. Single engine turbine and multi-engine fixed-wing aircraft must meet 14 CFR Part 135 requirements for night and instrument flight rules (IFR) for passenger flights, prior to dispatch or use for that type of mission.
3. Avionics must be installed so as not to interfere with passenger space, comfort, or safety, yet be easily accessible for servicing.

### **42.3 – Special Use Mission Aircraft Modifications**

The Forest Service requires modifications to owned and contracted aircraft to appropriately perform agency special use missions. The aircraft's performance in these mission requires a defined deliverable in accordance with established agency and interagency standards. Additionally these modifications have to comply with both Forest Service and FAA airworthiness standards while delivering the needed product or service to the Forest Service Fire organization. The Airworthiness Branch will partner with representatives from the National Technology and Development Program (NTDP) in the development and agency approval of equipment and systems in their respective special use missions, for example, Smokejumper, Rappel, and Large Airtankers (retardant delivery systems).

## **43 – CONTRACT AIRCRAFT INSPECTION AND APPROVAL MANAGEMENT**

The Regional Aviation Officer or the Branch Chief, Airworthiness, or their designated inspectors of aircraft must approve all contract and rental agreement aircraft used to fly Forest Service missions. Aircraft must be inspected and approved in accordance with the guidelines and procedures established in this policy handbook, the Forest Service Aircraft Inspection Guide, and the contract standard. Aircraft approval is documented by an Airplane, Helicopter, Airtanker, or UAS Data Card.

Fixed-wing aircraft under contract that are used for passenger and/or cargo transportation must be certified and operated under 14 CFR, Parts 119, 121, 125, or 135, as applicable.

Helicopters under contract that are used for passenger and/or external/internal cargo transportation must be certified and operated under 14 CFR, Parts 133, 135, and/or 137, as applicable.

### **43.1 – Point-to-Point Aircraft Approvals**

Contract aircraft flying only point-to-point missions under the applicable provisions of 14 CFR Parts 119, and 135, as applicable with passengers and/or cargo may be issued designations without inspection, provided they meet the requirements, policies, and direction found in FSM 5703 and in the Guides listed in FSM 5706. Point-to-point designations are identified on the

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

Point-to-Point Airplane Data Cards. Point-to-Point Airplane Data Cards may be approved for up to 2-calendar years.

1. The contractor is responsible for providing aircraft meeting the requirements of the procurement document.
2. Forest Service aircraft inspectors are responsible for reviewing the contractor's aircraft documentation to ensure, through verification with the FAA if required, that the aircraft fully comply with the requirements of the contract. Forest Service verification of the contractor's compliance with FAA requirements of the contract must not be considered an airworthiness inspection.
3. Aircraft approval must be documented by the following required information:  
  
Aircraft type and registration number.

Point-to-point mission approvals; Visual Flight Rules Day, Night, Instrument Flight Rules, and so forth. A copy of the documentation must be available in each aircraft for passenger review on demand.

Noncompliance with provisions of the Forest Service contracts/rental agreements and procedures or the terms of the procurement document must be reported to the procurement official and the FAA, as appropriate.

#### **43.11 – Commercial Air Carriers**

For official travel on flights with scheduled airlines (14 CFR 121) or scheduled commuter airlines (14 CFR 135.2), aircraft approval requirements (carded or approved by letter) are not required.

#### **43.12 – Forest Service Contracted Airtankers**

1. Airtankers contracted by the Forest Service must have a Standard or Restricted Airworthiness Certificate for the aircraft issued by the Federal Aviation Administration (FAA).
2. Each aircraft and/or tank installation must have a TC and/or STC issued for the specific aircraft make and model and tank retardant system.
3. Airtankers must conform to the applicable version of the Forest Service Airworthiness Assurance Guide.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

4. Aircraft used in airtanker operations must meet the retardant delivery system performance criteria established by the Aerial Delivery System Subcommittee (ADSS).
5. Any modification or alteration which may affect aircraft performance, flight characteristics, operational limitations, or retardant delivery performance must be recommended by the ADSS and approved by the Forest Service.

### **43.2 – Special Use Mission Flights**

Agency inspections and approvals are required each calendar year for aircraft approved to perform special use mission flights. For definition, refer to FSM 5705.

### **43.3 – Authorized Aircraft Inspectors**

Only those persons recommended by the Regional Aviation Officers and approved by the Branch Chief, Airworthiness must inspect and approve contract aircraft. These inspector designations, along with their names, agency, regions, locations, and authorizations appear on the Forest Service Authorized National Pilot, Aircraft, and Avionics Inspectors List maintained by the Forest Service.

Cooperator aircraft inspectors may be included on the Forest Service Authorized National Pilot, Aircraft, and Avionics Inspectors List, when recommended by the Regional Aviation Officer and approved by the Branch Chief, Airworthiness. This need will be determined by the Regional Aviation Officer and the Branch Chief, Airworthiness. The inspectors must meet all Forest Service inspector qualifications, training, and recurrent requirements.

Forest Service regions may use aircraft approved by the DOI for specific Forest Service special use mission flights without re-inspection.

## **44 – CONTRACT AIRPLANE DATA AND APPROVAL RECORDS**

Aircraft inspectors must complete form FS-5700-21, Airplane Data Record, FS-5700-21a, Helicopter Data Record, or form FS-5700-21b, Unmanned Aircraft Systems Data Record for each aircraft inspected, except airtankers. Airtankers must be approved using form FS 5700-30 (44.5). This may be done in hard copy or electronically. Maintain forms for appropriate retention period per FSH 6209.11.

### **44.1 – Aircraft Pre-Use Inspection Discrepancy Report**

Forest Service aircraft inspectors must complete the applicable information on form FS-5700-33 (44.4), Aircraft Pre-Use Inspection Discrepancy Report, including:

1. Report discrepancies, including references to the contract.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

2. Sign and date the completed inspection.
3. Forward a copy to the appropriate contracting officer and ensure the operator receives a copy of the report.
4. Instruct the operator to return a copy to the inspector when (if applicable) all discrepancies are corrected.

#### **44.2 – Aircraft Approval Cards**

Provided the aircraft is free of discrepancies at the time of approval, the aircraft inspector may complete form FS-5700-21, Airplane Data Record, FS-5700-21a, Helicopter Data Record, or form FS-5700-21b, Unmanned Aircraft Systems Data Record and issue a card to the contractor, which must be kept with the aircraft. A copy of the data record must be retained by the aircraft inspector and a copy sent to the contracting officer or their representative. Refer to 44.5 for airtanker approvals.

#### **44.3 – Aircraft Contract Status Report**

Complete form FS-5700-32, Aircraft Contract Status Report, and document the status of approval, corrective actions not needing re-inspection, and re-inspection requirements.

#### **44.4 – Aircraft Inspection Forms Management**

1. Forest Service aircraft inspectors have the responsibility to ensure all applicable aircraft inspection forms, status reports, and approval cards are complete, and the contractor has been briefed as to the status of each aircraft.
2. Inspectors must ensure the contractor has received the appropriate copies of each inspection form and status report. When discrepancies have been identified, the Inspectors must ensure that the contractor is fully briefed on the nature of the discrepancies and on what corrective action is necessary before issuing form FS-5700-21, Airplane Data Record; or form FS-5700-21a, Helicopter Data Record; or form FS-5700-4, Aircraft Approval Card, for airtankers; or form FS-5700-21b, Unmanned Aircraft Systems Data Record for UAS.
3. Aircraft inspectors must maintain copies of the inspection documentation for each aircraft. The Forest Service Contracting Officer receives the complete file.

#### **44.5 – Airtanker Inspection Form**

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

Document airtanker inspections by completing form FS-5700-30, Airtanker Inspection Form, or revised 5700-21 series form. Ensure all entries recorded are accurate and include the operator's name, contract number, item number, and designated operator's base.

1. Review the aircraft log books and maintenance records for current time/life status of all components (including structural components) and the inspection status (including airframe structural inspections).
2. Record the engine serial numbers and the time since overhaul or new installation for each engine attached and for each propeller.
3. Identify the assigned flightcrew, including the flight engineer and a mechanic, when applicable.
4. Complete the remarks section; indicate the number of discrepancies identified on the inspection form, Aircraft Pre-Use Inspection Discrepancy Report; sign; and date the form at the time of pre-use inspection.

#### **44.51 – Airtanker Approval Card**

Provided the airtanker is free of discrepancies at the time of approval, the aircraft inspector may complete form FS-5700-4, Aircraft Approval Card, and issue a card to the contractor which must be kept with the airtanker. A copy must be retained by the aircraft inspector and a copy by the contracting officer or their representative.

### **45 – INSPECTION RECORDS AND REPORTING**

#### **45.1 – Applicable Forest Service Guides**

In addition to the aircraft inspection policy established in this chapter, aircraft inspectors must use the Forest Service Aircraft Inspection Guide and the Forest Service Airworthiness Assurance Guide to ensure compliance with policy.

#### **45.2 – Reporting Malfunctions and Maintenance Deficiencies**

Forest Service aircraft inspectors have the responsibility to ensure contractors submit an FAA Form 8010-4, Malfunction or Defect Report, or file electronically in the FAA's Service Difficulty Reporting (SDR) system any maintenance deficiency identified in 14 CFR Part 21.3(c), 135.415, or for those discrepancies they consider significant.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

### **45.3 – Contract Specifications Familiarity**

Aircraft inspectors must be familiar with the appropriate contract specifications when inspecting an aircraft for use.

1. Initial inspections of aircraft should be accompanied by a Contracting Officer Representative thoroughly familiar with the provisions of the contract, if they are available.
2. Aircraft inspectors must use an Airworthiness Branch approved checklist developed from the contract specifications to ensure the contractor understands the Government's expectation for contract compliance.

### **45.4 – Contractor's FAA Operating Authority**

Aircraft inspectors must verify the contractor's FAA operating authority by reviewing the operating certificates (14 CFR, Parts 121, 133, 135, 137, and 145, as applicable). Aircraft inspectors must ensure the following publications specifications and personnel and equipment listings are in place:

1. Approved operations and maintenance manuals.
2. Federal Aviation Administration-approved operations specifications.
3. Current list of approved aircraft by serial identification numbers.
4. Current list of maintenance personnel, certificate numbers, experience, and training record.

### **45.5 – Aircraft Inspectors' Review of Records**

Aircraft inspectors must review the following records:

1. Aircraft, engine, gearbox, and propeller or rotor logbooks.
2. Maintenance records.
3. Applicable FAA Airworthiness Directives and Manufacturer's Service Bulletins.
4. Aircraft weight and balance data for currency and compliance with the contract or rental agreement specifications.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

4. Aircraft performance charts, which ensure the aircraft performs within the contract or rental agreement specifications.
5. Required Special Use Mission equipment.

#### **45.6 – Facilities Inspections, Contract and Rental Agreement Operators**

Ensure that all contract and rental agreement aircraft services meet Forest Service policy and the operational and safety standards required by the FAA-approved operating authorities and specifications.

#### **45.7 – Avionics Inspection**

Document the inspection on the appropriate checklist.

1. Complete all applicable contract items on the report and indicate in the boxes provided whether the avionics equipment is approved or whether re-inspection is required; or
2. In the case of re-inspection, indicate if the avionics equipment is approved after correction of the discrepancy, or if the equipment is rejected after re-inspection.

### **46 – STANDARDS FOR FOREST SERVICE COOPERATOR AIRCRAFT**

#### **46.1 – Standards for Cooperator Aircraft Offered for Federal Use (including Federal Excess Personal Property)**

All cooperator contracted aircraft offered for use on National Forest system lands must meet current airworthiness standards in the applicable Forest Service or Department of the Interior Call When Needed aircraft services contracts.

Cooperator owned aircraft, including Federal Excess Personal Property and non-certificated aircraft must meet NASF Cooperator Aviation Standards for Interagency Fire or the applicable Call When Needed contract standard (as applicable) if the NASF standard does not have an applicable standard for the aircraft offered.

Cooperator owned New Production Restricted Category aircraft may be approved for carrying agency personnel based on review of the Cooperator program and scheduled quality assurance reviews.

Cooperators must be approved by letter under dual (Regional Aviation Officer and OAS Regional Director) signature based on this standard following review by a designated Regional aircraft inspector. Regional Aviation Officers may make certain exemptions for mission equipment only if minor or it only impacts the approving agency (i.e. radio, hook) and not the

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

Interagency Fire community at large. Exemptions must be documented in the cooperator approval letter.

Forest Service regions may use aircraft approved by the DOI for specific Forest Service special use mission flights without re-inspection.

Cooperator airtankers must meet equivalent Forest Service Airtanker Contract standards and be under a Master Agreement between the Forest Service and the cooperating agency.

#### **46.11 – Airworthiness of FEPP Aircraft**

1. Regulation 14 CFR 91.403 provides that “the owner or operator of an aircraft is primarily responsible for maintaining that aircraft in an airworthy condition...” When the States have operational control, as outlined in 14 CFR Part 1, the Forest Service is not responsible for airworthiness of FEPP aircraft. Under these circumstances the Forest Service expects the States, as operators, to comply with the maintenance and airworthiness requirements of 14 CFR 91.403.
2. If a FEPP aircraft is used for any purpose on National Forest system lands or Forest Service Direct Protection Areas, the Forest Service requires that aircraft must meet equivalent aircraft contract standards for airworthiness, regardless of the ownership or operator of the aircraft.

#### **46.11a – Modification of FEPP Aircraft**

Any modification to a FEPP aircraft must meet equivalent aircraft contract standards for airworthiness. The State must receive approval from the Forest Service for any modification that affects or enhances performance prior to installation/modification. The request must be submitted to the Regional Aviation Officer and requires approval by the Branch Chief, Airworthiness.

Regardless of modification, all FEPP aircraft must retain their original military model designations unless an FAA Airworthiness Certificate has been issued to the serial number specific aircraft for an FAA Type Certificated model.

#### **46.2 – Non-federally Approved Aircraft**

Refer to FSH 5709.16, chapter 30.31.



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

## **47 – OTHER FEDERAL AGENCY AIRCRAFT**

### **47.1 – Department of Defense Aviation Assets**

The Washington Office Deputy Chief or Regional Forester, through an agreement with Department of Defense (active and reserve), authorizes federally activated aviation assets on National Forest system lands. This must be in accordance with the Military Use Handbook and the Forest Service Aviation Military Use Plan.

The Regional Aviation Officer must approve, in writing, the use of state activated National Guard aviation assets on National Forest system lands. This must be in accordance with the Military Use Handbook and the Forest Service Aviation Military Use Plan.

Refer to FSH 5709.16, chapter 55.1 for flightcrew approvals.

### **47.2 – Federal Executive Agency (non-DOD) Aviation Assets**

The Deputy Chief, State and Private Forestry must approve, in writing, the use of Federal Executive Agency (non-DOD) aviation assets.

Refer to FSH 5709.16, chapter 55.2 for flightcrew approvals.

## **48 – AIRCRAFT OWNERSHIP AND FINANCIAL MANAGEMENT**

### **48.1 – Acquisition of Aircraft**

Acquisition of aircraft, including UAS, will be approved by the Washington Office Director, Fire and Aviation Management (FSH 5709.16, chapter 11.2).

### **48.11 – Replacement Aircraft Aviation Business Cases**

Aviation business cases for replacement of current WCF aircraft, using WCF funds and/or program funds, must be approved by the Deputy Chief, State and Private Forestry, and must be kept on file for OMB review.

### **48.12 – Working Capital Fund (WCF) Aircraft**

Manage all Forest Service owned and operated aircraft (except UAS costing \$25,000 or less) through the Working Capital Fund (WCF) in accordance with FSM 6580, FSH 6509.11f, and the WCF Aircraft User Guide. All WCF aircraft are owned by the agency and hosted by a region or the Washington Office.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

All UAS costing \$25,000 or more and with a useful life of more than two years must be managed through the WCF. This is the cost for the entire system, including airframe, sensors, ground station, and other support equipment.

The purpose of the WCF is to provide a sustainable funding mechanism for the operation and replacement of agency owned aircraft that support fire suppression and non-fire aviation activities. WCF aircraft are subject to the same regulations regarding capitalization, de-capitalization, and depreciation as other WCF non-expendable personal property.

The Working Capital Fund Accounting Operations Handbook, FSH 6509.11f provides greater detail on how to accomplish day-to-day management, operations, and tasks, and the WCF Aircraft User Guide provides more aircraft specific information.

Working Capital Fund (WCF) aircraft that are owned, leased, bailed, or borrowed must have:

1. The same equipment requirements as contracted aircraft performing those same special use missions.
2. Standardized configurations of accessories, equipment, and paint schemes for like make/model approved by the Branch Chief, Airworthiness.
3. An operations plan, specific to the aircraft missions. Refer to FSH 5709.16, chapter 30.
4. Working Capital Fund aircraft operated by the Forest Service must be maintained in accordance with the OEM's most recent revision of inspection program applicable to the serial number of aircraft being inspected or an inspection program approved by the Branch Chief, Airworthiness.

#### **48.12a – Modification of WCF Aircraft**

Proposed aircraft modifications or configuration changes must be approved in writing by the Branch Chief, Airworthiness or designee. Proposed modifications must be submitted by the Regional Aviation Officer where the aircraft is hosted.

#### **48.2 – Maintenance Records**

1. Ensure that each Forest Service aircraft carries a maintenance record (FS-5700E, Aircraft maintenance Log) for recording flight hours, time in service, maintenance discrepancies, current aircraft inspection, and special aircraft inspection status in accordance with 14 CFR, Part 91.417. Flightcrew members are required to initial and date maintenance discrepancies entered into the maintenance log.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

2. Ensure that previously noted discrepancies have been corrected by a maintenance sign-off or placed in deferred status prior to further flight. This is the responsibility of the pilot-in-command.
3. Ensure that maintenance personnel document the inspections and maintenance performed in the appropriate maintenance record (guides or forms) or logs, such as airframe, engine, and propeller. Include this documentation as part of the permanent maintenance record (maintained at the aircraft's base of operations) containing all pertinent maintenance information, including but not limited to:
  - a. A listing of Airworthiness Directives (ADs) issued by the FAA and the manufacturer's Service Bulletins, which are applicable to the type of aircraft, engine, propeller or rotor, and equipment. Include in the listing the date and method of compliance and, if recurring, the next date/time due.
  - b. Retain a copy of the completed inspection records, such as inspection guide, maintenance discrepancy list, and other records associated with the inspection, at base of operations for the aircraft.
  - c. Retain all 5700E for WCF, Leased, Bailed, or Contracted aircraft at the assigned base of operations unless directed otherwise.

**48.21 – Aircraft Flight Log 5700E Documentation and Maintenance Reporting Requirements**

Flightcrew members must document the aircraft flight log (5700E) and accomplish the following for Forest Service WCF Fleet, Leased, or Bailed aircraft:

1. Complete all applicable sections of the 5700E.
2. Initial and date maintenance discrepancies entered into the 5700E.
3. Report Operational Loads Monitoring data as specified by the program identified for the aircraft either electronically or mail as directed by the Regional AMI.
4. Send a copy of the 5700E either electronically or by mail to the Regional AMI every 14 days or 40 flight hours.
5. Report flight times, cycles, and maintenance discrepancies to the responsible entity for maintenance of the aircraft as directed by the Regional AMI.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

## **48.22 – Airworthiness Directives, Service Bulletins and Additional Continued Airworthiness Requirements**

1. Each WCF aircraft must comply with all applicable Federal Aviation Administration (FAA) Airworthiness Directives (ADs) and ensure they are documented in accordance with 14 CFR 91.417 (a) (2) (v). This also includes ADs applicable to a civil certificated model derivative of a non-certificated WCF aircraft.
2. Each WCF aircraft must be in compliance with all Service Bulletins (SBs) with a time compliance requirement, referenced in an FAA Special Airworthiness Information Bulletin (SAIB), or are designated mandatory by the manufacturer.
3. Each aircraft's maintenance schedule must include mandatory component retirement, replacement, or overhaul time as specified in the OEM Airworthiness Limitations Section or equivalent OEM document and must be in compliance with them.
4. Each maintenance schedule must also include or have incorporated all recommended and/or required manufacturer programs such as Continued Airworthiness Program (CAP), Structural Inspection Documents (SID), Supplemental Structural Inspection Documents (SSID), Corrosion Prevention and Control Programs (CPCP), Electrical Wiring Interconnection Systems (EWIS) and must be in compliance with them.
5. Aircraft must be reweighed on the following schedule:

Single engine airplanes (12,500 or less) must be reweighed every 5 years.

All other aircraft must be reweighed every 36 months.

## **48.23 – Parts and Components Approval**

Install only FAA-approved and traceable parts or components on certified aircraft. Former military aircraft may have Department of Defense (DOD) approved components and parts installed, provided the integrity of the parts, traceability, and condition can be verified, and they comply with the requirements of FMR 102.33.

1. Life-limited parts must be retired at the appropriate time. Shelf life-limits must also be adhered to.
2. Overhaul time-controlled parts or systems in accordance with the approved inspection program.

Refer to Forest Service Aircraft Inspection Guide for further direction.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

#### **48.24 – Inspection Frequency**

Complete all required inspections within the approved time limits. The Branch Chief, Airworthiness may approve extensions when the safety of flight is not compromised (40.41).

#### **48.25 – Other Documentation**

Each Forest Service unit operating and/or maintaining aircraft must have current and applicable documents (manuals) covering the aircraft, operations, inspection, and/or maintenance that unit performs. These documents must include original equipment manufacturer (OEM) flight and maintenance manuals for the aircraft operated, 14 CFRs, and inspection guides and service publications for the maintenance and operations conducted.

#### **48.26 – Reporting Malfunctions and Maintenance Deficiencies**

1. Report to the Branch Chief, Airworthiness all maintenance deficiencies or malfunctions occurring during operations or maintenance periods that are significant enough to affect not only that individual aircraft but also similar aircraft types used by the Forest Service.
2. Clearly describe and document significant deficiencies by completing the FAA Malfunction and Defect Report (FAA Form 8010-4); and if the deficiency has the potential to cause an aviation-related mishap (FSM 5720), it must also be reported using the Forest Service SAFECOM reporting system.

#### **48.27 – Maintenance of WCF Aircraft While Out of Region**

With prior coordination, the authority for the following items may be delegated to the receiving Region's Regional aircraft inspector.

1. The hosting Region has the responsibility to schedule maintenance, preventative maintenance, and inspections while the Region's aircraft are out of the Region.
2. The hosting Region has the responsibility to ensure all record entries are made on the appropriate airframe, engine, propeller, and accessory forms, and on form FS-5700E while the Region's aircraft are out of the Region.
3. The Region where the WCF aircraft are hosted must retain the responsibility to ensure the airworthiness of the aircraft while operating in their Region or in other Regions.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 40 – AIRWORTHINESS: AIRCRAFT STANDARDS, INSPECTIONS, AND MAINTENANCE**

**48.28 – Minimum Equipment List (MEL)**

Aircraft must not be operated with inoperative equipment, unless it has an approved minimum equipment list, as required by 14 CFR, Part 91.213, Inoperative Instruments, and Equipment, or unless otherwise approved by the Branch Chief, Airworthiness.



## FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK

### CHAPTER 50 – AIRCREW STANDARDIZATION

**Amendment No.:** 5709.16-2020-6

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** Jaelith Hall-Rivera  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by handbook number and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this handbook was 5709.16-2020-5 to 5709.16\_40.

<b>New Document</b>	5709.16_50	47 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>	5709.16_60 (Amendment 5709.16-2013-1, 09/03/2013)	14 Pages

#### **Digest:**

50 – Establishes new chapter and sets forth codes, captions, and direction for Aircrew Standardization. Revises, consolidates, organizes, and codes direction on aircrew standardization formerly coded in FSH 5709.16, chapter 60 and FSM 5710.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

## Table of Contents

50.1 – Authority .....	5
50.2 – Objectives .....	5
50.3 – Policy .....	5
50.4 – Responsibility .....	5
50.41 – Washington Office Branch Chief, Pilot Standardization .....	5
50.42 – National Standardization Pilots.....	6
50.42a – National Fixed-wing Standardization Pilot.....	6
50.42b – National Helicopter Standardization Pilot .....	6
50.43 – Inspector Pilots.....	7
50.43a – Fixed-wing Inspector Pilots (FWIP) .....	7
50.43b – Helicopter Inspector Pilots (HIP).....	8
50.44 – Regional Standardization Pilots.....	9
50.45 – Regional Fixed-Wing Instructor Pilots .....	10
50.46 – Regional Fixed-Wing Evaluator Pilots .....	10
50.47 – Forest Service Pilots .....	11
50.48 – All Forest Service Flightcrew Members .....	11
50.5 – Definitions.....	11
50.6 – References.....	11
50.7 – Quality Assurance.....	11
<b>51 – AGENCY FLIGHTCREW .....</b>	<b>11</b>
51.1 – Pilots .....	11
51.11 – Instructor Pilots.....	12
51.12 – Evaluator Pilots.....	12
51.13 – Inspector Pilots.....	12
51.14 – Administratively Determined (AD) Pilots .....	13
51.15 – Forest Service Employees Not Primarily Employed as Pilots.....	13
51.2 – Medical Certificates .....	14
51.3 – Flight Time Requirements, Currency, and Pilot Qualifications .....	14
51.31 – Hiring, In-service Placement, and Promotion.....	14
51.32 – Agency Pilot Currency Requirements .....	14
51.32a – Fixed-Wing Pilots .....	14
51.32b – Helicopter Pilots.....	15
51.32c – Helicopter Inspector Pilots.....	17
51.32d – Unmanned Aerial Systems Pilots .....	17
51.33 Employee Pilot Duty Assignments .....	17
51.33a – GS-7 (For developmental pilot positions only) 2199.....	17
51.33b – GS-2181-9.....	18
51.33c – GS-2181-11 .....	18
51.33d – GS-2181-12.....	19



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 50 – AIRCREW STANDARDIZATION**

51.33e – GS-2181-13 .....	20
51.34 – Fixed-Wing Pilots Operating Multiple Aircraft.....	20
51.35 – Helicopter Pilots Operating Multiple Aircraft .....	21
51.36 – Pilot-in-command of Multiple Aircraft.....	22
51.37 – Second-in-command of Multiple Aircraft .....	23
51.38 – Special Use Missions .....	24
51.38a – Backcountry Airstrip Pilot Qualifications.....	24
51.38b – Off-Airport and Off-Seaplane Base (Remote Water Operations) Pilot Qualifications .....	25
51.4 – Contract Pilots Flying Agency Aircraft .....	26
51.5 – Loadmaster.....	26
<b>52 – AGENCY FLIGHTCREW TRAINING AND EVALUATIONS .....</b>	<b>26</b>
52.1 – Flightcrew Training .....	26
52.11 – Flightcrew Training and Proficiency Flight Approval.....	28
52.11a – Washington Office .....	28
52.11b – Regional Office.....	28
52.12 – National Standardized Syllabi.....	28
52.2 – Pilot Training and Qualification Records .....	28
52.3 – Logging Pilot Flight Time .....	29
52.4 – Flightcrew Evaluations .....	29
52.41 – Failure of Flightcrew Evaluation .....	30
52.42 – Suspension and Revocation of Flight Qualifications.....	31
52.43 – Flight Evaluation Board (FEB).....	31
52.43a – Convening a Flight Evaluation Board.....	32
52.43b – Timeliness of Action.....	33
52.43c – Operating Procedures of Board Chairperson .....	34
52.43d – Flight Evaluation Board Findings.....	35
52.43e – Flight Evaluation Board Recommendations .....	36
52.43f – Review of Flight Evaluation Board Report .....	36
52.43g – Flight Evaluation Board Final Action(s).....	37
52.43h – Reconvening a Flight Evaluation Board .....	38
<b>53 – AGENCY FLIGHTCREW PROCEDURES .....</b>	<b>38</b>
<b>54 – VENDOR CONTRACTS AND FLIGHTCREW .....</b>	<b>39</b>
54.1 – Vendor Contracts .....	39
54.11 – Vendor Safety Briefing .....	39
54.11a – Vendor Safety Briefing Content.....	39
54.2 – Vendor Pilot Approvals .....	40
54.21 – Vendor Pilot Approval Forms.....	41
54.22 – Suspension/Revocation .....	41
54.23 – Reinstatement.....	42
54.24 – Alternate Means of Compliance (AMOC).....	42

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

54.24a – Prerequisites for Requesting 100 Flight Hour AMOC.....	42
54.24b – Pilot 100 Flight Hour AMOC Approval .....	42
54.24c – Other AMOC Approvals .....	43
54.24d – Pilot Not Granted an AMOC .....	44
54.25 – Failure of Aircrew Evaluation .....	44
54.3 – Authority and Responsibility .....	44
54.4 – Required Flightcrew Members .....	45
<b>55 – MILITARY, OTHER FEDERAL AGENCY, AND COOPERATOR FLIGHTCREW APPROVAL.....</b>	<b>45</b>
55.1 – Department of Defense Flightcrews .....	45
55.2 – Federal Executive Agency (non-DOD) Flightcrews.....	46
55.21 – Flightcrew Members Carded by the Department of the Interior.....	46
55.3 – Cooperator Flightcrew Approval .....	46
55.4 – Suspension/Revocation of Approval.....	47
<b>56 – UNMANNED AIRCRAFT SYSTEMS .....</b>	<b>47</b>
56.1 – Remote Pilots (UAS) .....	47

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK CHAPTER 50 – AIRCREW STANDARDIZATION**

Standardization is a process of developing and implementing policy, procedures, training, and operational requirements which are similar and consistent. Standardization is essential to promote professionalism, consistency, predictability, and safety throughout the Forest Service aviation program. This chapter sets forth the standards for fixed-wing, helicopter, and unmanned aircraft system pilots, flightcrew, and aircrew (agency, partner, cooperator, and vendor).

### **50.1 – Authority**

Refer to FSM 5701.

### **50.2 – Objectives**

Refer to FSM 5702.

### **50.3 – Policy**

The Agency will achieve its objectives using a doctrinal approach that incorporates agency and interagency aviation policies, the 14 U.S. Code of Federal Regulations (CFR), and Federal laws and regulations for pilot, flightcrew, and aircrew standardization. This is to ensure appropriate, risk-informed decisions, effective management, and standardization consistent with the Agency's aviation missions in the administration and protection of public lands.

All agency pilots, flightcrew, and aircrew will comply with 14 CFR Parts 61, 91, and 107 as a baseline for U.S. Forest Service professional aviation operations. Agency direction must at a minimum complement, and potentially enhance, the aforementioned regulations. Exceptions to this concept of operations must only be through a Grant of Exemption. Conflicts in guidance should be immediately elevated to the appropriate Supervisor for resolution. Until the noted conflict is resolved, adhere to 14 CFR Parts 61, 91, and 107 or the more restrictive and conservative guidance.

### **50.4 – Responsibility**

Responsibilities related to standardization are listed in this section.

#### **50.41 – Washington Office Branch Chief, Pilot Standardization**

Refer to 5704.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

**50.42 – National Standardization Pilots**

**50.42a – National Fixed-wing Standardization Pilot**

The National Fixed-wing Standardization Pilot reports to the Washington Office Branch Chief, Pilot Standardization and has the responsibility to:

1. Provide leadership and oversight for the development and implementation of a National Fixed-wing Pilot Standardization and Training Program;
2. Perform ground and flight evaluations of pilots, flightcrew, and aircrew in all missions;
3. Perform ground and flight evaluations for initial upgrades to pilot-in-command (PIC), aircraft commander (AC), instructor pilot/aircrew, and evaluator pilot/aircrew;
4. Establish the content and methodology of the National Fixed-wing Inspector Pilot and Agency Fixed-wing Pilot Training Program;
5. Authorize in writing fixed-wing pilot Alternate Means of Compliance (AMOC) in accordance with policy;
6. Initiate, lead, and conduct the annual National Fixed-wing Standardization Workshop;
7. Initiate, lead, and conduct special use mission workshops for inspector pilots, as needed;
8. Oversee development and recommend approval of the U.S. Forest Service National Fixed-wing Pilot Standards Operations Plan;
9. Conduct a Quality Assurance (QA) flight evaluation every 24 months for fixed-wing inspector pilots;
10. Conduct a QA review of agency pilot, flightcrew, and aircrew training records;
11. Understand, implement, and maintain the responsible areas of the FS Aviation Safety Management System within the scope of their duties.

**50.42b – National Helicopter Standardization Pilot**

The National Helicopter Standardization Pilot reports to the Washington Office Branch Chief, Pilot Standardization and has the responsibility to:

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

1. Provide leadership and oversight for the development and implementation of a National Helicopter Pilot Standardization and Training Program;
2. Will designate, in writing, qualified agency instructor pilots and inspector pilots. This will be approved by the Branch Chief, Pilot Standardization;
3. Maintain and approve single/multiple aircraft PIC authorizations for agency helicopter inspector pilots in agency aircraft. Designate Special Use Mission PIC authorization for agency pilots;
4. Establish the content and methodology of the National Helicopter Inspector Pilot (HIP) and Agency Helicopter Pilot Training Program;
5. Authorize helicopter pilot Alternate Means of Compliance (AMOC) as appropriate in accordance with policy;
6. Initiate, lead, and conduct the Interagency Helicopter Inspector Pilot Standardization Workshop and the Forest Service Helicopter Inspector Pilot Workshop;
7. Initiate, lead, and conduct special use mission workshops for agency-approved helicopter inspector pilots, as needed;
8. Receive a QA review from an individual designated by the Branch Chief, Pilot Standardization every 24 months;
9. Conduct a QA review and/or Special Use Mission flight evaluation for agency-designated HIPs every 24 months;
10. Conduct a QA review of agency helicopter pilot, flightcrew, and aircrew training records;
11. Understand, implement, and maintain the responsible areas of the FS Aviation Safety Management System within the scope of their duties.

### **50.43 – Inspector Pilots**

#### **50.43a – Fixed-wing Inspector Pilots (FWIP)**

National and Regional Office fixed-wing inspector pilots have the responsibility to:

1. Provide leadership and oversight to assist in the development and implementation of the inspector pilot training program;

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 50 – AIRCREW STANDARDIZATION**

2. Perform contract pilot inspections;
3. In coordination with the Contracting Officer, approve or suspend authorization of vendor pilots to operate airplanes under agency/interagency contracts and agreements;
4. Administer vendor aircrew evaluations for the purpose of authorizing agency or interagency special use missions;
5. Provide evaluation and technical oversight of vendor pilots, aircraft, and equipment used in agency or interagency missions;
6. Serve as an agency aviation subject matter expert on aviation boards, incident and accident investigations, contract compliance inspections, and Aviation Safety and Technical Assistance Teams (ASTAT), as needed;
7. Act as a liaison with the military, commercial airplane industry, cooperators, and interagency partners, as needed;
8. Provide the National Fixed-wing Standardization Pilot with recommendations for an Alternate Means of Compliance (AMOC);
9. Conduct a QA review of agency pilot, flightcrew, and aircrew training records, as directed by the Branch Chief, Pilot Standardization;
10. Perform pilot evaluations/inspections, briefings, and interagency pilot approvals, based on the applicable aircraft contract or cooperator agreements;
11. Attend the National Fixed-wing Inspector Pilot Workshop every 24 months;
12. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

**50.43b – Helicopter Inspector Pilots (HIP)**

National and Regional Office helicopter inspector pilots have the responsibility to:

1. Provide leadership and oversight to assist in the development and implementation of the helicopter inspector pilot training program;
2. Approve or suspend authorization of vendor pilots to operate helicopters under agency/interagency contracts and agreements, in coordination with the Contracting Officer;

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

3. Administer helicopter pilot evaluations for the purpose of authorizing agency/interagency special use missions. Provide evaluation and technical oversight of helicopter pilots, aircraft, and equipment used in agency/interagency missions;
4. Serve as an agency aviation subject matter expert on aviation boards, incident/accident investigations, ASTAT, FAST, and contract compliance inspections;
5. Act as a liaison with the military, commercial helicopter industry, cooperators, and interagency partners;
6. Provide the National Helicopter Standardization Pilot with recommendations for an AMOC;
7. Receive a QA review from the National Helicopter Standardization Pilot every 24 months;
8. Perform pilot evaluations/inspections, briefings, and interagency pilot approvals, based on the applicable aircraft contract or cooperator agreements;
9. Attend either the National Helicopter Inspector Pilot Workshop or the Interagency Helicopter Inspector Pilot Workshop every 12 months;
10. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

#### **50.44 – Regional Standardization Pilots**

Regional Standardization Pilots are responsible to the Regional Aviation Officer (RAO), and have the responsibility to:

1. Provide leadership and oversight for the development and implementation of a Regional Pilot Standardization and Training Program that aligns with the National standardization program;
2. Recommend agency instructor and inspector pilot designations to the Regional Aviation Officer;
3. Perform duties at the National workshops;
4. Oversee the maintenance of regional pilot and flightcrew training records;

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 50 – AIRCREW STANDARDIZATION**

5. Coordinate with the National Office to provide leadership and oversight in the creation of training materials and syllabi required for the safe and effective execution of the Forest Service aviation mission;
6. Coordinate with the National Office to organize and lead special use mission workshops and training sessions for inspector pilots; and
7. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

**50.45 – Regional Fixed-Wing Instructor Pilots**

Regional fixed-wing instructor pilots have the responsibility to:

1. Provide ground and flight instruction for pilots, flightcrew, and aircrew that aligns with the Regional and National Fixed-wing Pilot Standardization and Training Program;
2. Provide aircraft equipment evaluations for pilots, flightcrew, and aircrew;
3. Demonstrate the highest level of performance and quality control. Ensure that standards are being met, intervene where standards are not being met, and escalate issues to the appropriate National/Regional standardization pilot;
4. Create training materials as required for the safe and effective execution of the Forest Service aviation mission in support of the Regional and National Fixed-wing Standardization Program; and
5. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

**50.46 – Regional Fixed-Wing Evaluator Pilots**

Regional fixed-wing evaluator pilots have the responsibility to:

1. Perform ground and special use mission flight evaluations of pilots, flightcrew, and aircrew that aligns with the Regional and National Fixed-wing Pilot Standardization and Training Program;
2. Demonstrate the highest level of performance and quality control. Ensure that standards are being met, intervene where standards are not being met, and escalate issues to the appropriate National/Regional standardization pilot; and



## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**

### **CHAPTER 50 – AIRCREW STANDARDIZATION**

3. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System within the scope of their duties.

#### **50.47 – Forest Service Pilots**

Reserved.

#### **50.48 – All Forest Service Flightcrew Members**

All Forest Service flightcrew members have the responsibility to:

1. Maintain flight and training records, and make them available on Supervisor's request.
2. Bring emerging pilot and flightcrew standardization issues to the attention of the appropriate Regional Aviation Officer/Washington Office Branch or the Washington Office Branch Chief, Pilot Standardization through the National Standardization Pilot.

#### **50.5 – Definitions**

Refer to FSM 5705.

#### **50.6 – References**

Refer to FSM 5706.

#### **50.7 – Quality Assurance**

Refer to FSM 5717.

### **51 – AGENCY FLIGHTCREW**

#### **51.1 – Pilots**

Agency pilots must be initially evaluated by the Washington Office Branch Chief, Pilot Standardization or the respective National Standardization Pilot, or designee, in accordance with the appropriate guide. Their inspector, instructor/evaluator, pilot in command, and all mission designation must be approved in writing by the Washington Office Branch Chief, Pilot Standardization. In addition:

1. Agency pilots must be appropriately rated for the category and class of aircraft assigned.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

2. All pilots, with the exception of Unmanned Aircraft Systems (UAS), must have, at a minimum, an FAA commercial pilot certificate and instrument rating within the appropriate category and class, as well as any required endorsements. UAS pilots must be appropriately certificated in accordance with 14 CFR, Part 107 and the Agency UAS Operations Plan.
3. For aircraft greater than 12,500 pounds maximum takeoff weight (MTOW) or an aircraft requiring a type rating, the pilots must possess appropriate aircraft type ratings, and either (a) a valid FAA commercial pilot certificate and instrument rating, or (b) an Airline Transport Pilot (ATP) certificate.

### **51.11 – Instructor Pilots**

1. All instructor pilots must possess a current FAA certified flight instructor certificate with the appropriate category, class, and type rating if required (to include required endorsements) for any aircraft in which they instruct. Fixed-wing instructor pilots must hold an instrument instructor certificate.
2. All instructor pilots will be recommended by the Regional Aviation Officer to the respective National Standardization Pilot for consideration and approval.
3. Fixed-wing and helicopter instructor pilots must maintain aircraft currency in the category and class, and type rating if required, for the aircraft in which they are instructing. Refer to 51.3 for agency currency requirements.
4. All instructor pilot designations are specific to aircraft and special use mission. Instructor pilots are restricted from providing instruction in any type of aircraft and/or special use mission for which they are not specifically designated.

### **51.12 – Evaluator Pilots**

Evaluator pilots are mission instruct pilots and must meet the same requirements for instructor pilots in 51.11.

### **51.13 – Inspector Pilots**

1. All inspector pilots must possess a current FAA certified flight instructor certificate. Inspector pilots will be familiar with the aircraft type, performance characteristics and performance planning charts for any aircraft in which they conduct inspections. Fixed-wing inspector pilots must additionally hold an instrument instructor certificate.

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK CHAPTER 50 – AIRCREW STANDARDIZATION**

Current inspector pilots who do not possess an FAA certified flight instructor certificate are exempt from this requirement until they obtain the certificate, or they retire from the Agency.

2. The Washington Office Branch Chief, Pilot Standardization; National Standardization Pilot; and National inspector pilots may perform inspector pilot duties for any special use mission as designated on the Forest Service Approved Inspectors list.
3. Fixed-wing inspector pilots must be current in the special use mission type they are evaluating. Fixed-wing inspector pilots current as Leadplane or Air Tactical Pilots or Smokejumper Captains are considered current special use mission inspector pilots. Fixed-wing pilots who are not current must demonstrate proficiency in the tasks outlined in the Interagency Practical Test Standards Guide.
4. Regional fixed-wing inspector pilots will be recommended in official correspondence by the Regional Aviation Officer to the National Fixed-wing Standardization Pilot for consideration and approval.
5. Candidates for helicopter inspector pilot designations must be Federal or State employees who have the necessary ratings and qualifications and who meet the requirements of this chapter.
6. Helicopter inspector pilots shall be designated by the Helicopter Standardization Pilot, with approval from the Branch Chief, Pilot Standardization.

### **51.14 – Administratively Determined (AD) Pilots**

All pilots hired under Administratively Determined (AD) Emergency Firefighting authority to perform pilot services in aircraft owned, leased, or rented by the Agency, must be considered agency employee pilots and must meet all agency pilot qualification requirements listed in 51.1.

### **51.15 – Forest Service Employees Not Primarily Employed as Pilots**

All agency employees not primarily employed as pilots but who qualify as collateral duty pilots (for example, a GS-2101) must meet all appropriate agency pilot qualification requirements in this chapter for the make/model of aircraft being flown before being authorized to perform pilot services in aircraft owned, leased, or rented by the Agency.

Forest Service employees not employed as pilots operate small UAS utilizing a Government aircraft for government benefit will meet training requirements as specified in FSH 5709.16, chapter 60, as well as all agency remote pilot qualification requirements in 56.1. Approval of remote pilots (UAS) must be on the approval card.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

## **51.2 – Medical Certificates**

Agency personnel performing pilot duties aboard government aircraft must have a current first or second class FAA medical certificate.

## **51.3 – Flight Time Requirements, Currency, and Pilot Qualifications**

### **51.31 – Hiring, In-service Placement, and Promotion**

All agency pilots must comply with Office of Personnel Management (OPM) qualification and classification standards, and flight time requirements in hiring, in-service placement, and promotion. More stringent requirements may be specified for positions requiring a higher level of experience, including specific aircraft ratings, training, or unique aviation qualifications.

The Branch Chief, Pilot Standardization may waive flight hour requirements or other qualifications in accordance with OPM policy.

### **51.32 – Agency Pilot Currency Requirements**

#### **51.32a – Fixed-Wing Pilots**

Fixed-wing agency pilots must meet all applicable flight time and training requirements listed in 51.32a, exhibit 01 prior to an operational mission.

#### **51.32a - Exhibit 01**

#### **Fixed-Wing Pilot Flight Time and Training Requirements**

<b>Minimum Annual Requirements (Hours):</b>	
Flight Time <sup>1</sup> (last 12 months)	100 <sup>2</sup> in the preceding 12 months
Flight Time in Category	24 in the preceding 12 months
Emergency Procedures Training Professional Simulator School <sup>3</sup>	Every 12 calendar months
Aircraft Standards Evaluation (Equipment/Instrument)	Every 12 calendar months (at least every 24 calendar months for each aircraft) <sup>4</sup>
Special-Use Aircrew Mission Evaluation	Every 12 calendar months for each mission
<sup>1</sup> Pilots unable to attain 100 flight hours must request an Alternate Means of Compliance (AMOC) through the National Fixed-wing Standardization Pilot. If approved, pilot will undergo recurrent flight training and a proficiency flight evaluation in order to re-establish designation as PIC. The request for this waiver must be made through the pilot's chain of command. This AMOC is only to be used in extenuating circumstances such as long-term medical grounding and slow fire-seasons. An AMOC should be the exception to the rule, not a tool used to reduce training flight hour requirements.	

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

<sup>2</sup> When the position requires operation as PIC of large multi-engine airplanes (GTOW > 12,500 pounds) then at least 25 hours must have been flown in such large airplanes.

<sup>3</sup> For single engine aircraft for which a simulator is not available emergency procedures training requirements will be documented and approved by the Branch Chief, Pilot Standardization.

<sup>4</sup> If a pilot flies a single aircraft, a single standards aircrew evaluation is required every year. If a pilot flies two (2) different aircraft, a standards aircrew evaluation in each aircraft is required every other year. If a pilot flies three (3) different aircraft, the potential exists for two (2) standards aircrew evaluations per year.

**Preceding 6 Calendar Months Requirements:**

Six (6) Instrument Approaches and holding in actual IMC, or in simulated conditions with a qualified pilot acting as a safety pilot. A pilot who has failed to meet the instrument experience requirements for more than six calendar months must reestablish instrument currency only by completing an instrument proficiency check.

**Preceding 90 Day Minimum Requirements<sup>5</sup>:**

Three (3) Takeoffs/Landings

Three (3) Night Takeoffs/Full-Stop Landings

One (1) Hour

<sup>5</sup> Requirements must be accomplished in category, class, and type, if type rating is required. For currency in float/tailwheel aircraft, requirements must be accomplished in similarly configured aircraft.

**Preceding 60 Day Minimum Requirements (Hours):**

Flight Time Category	10 <sup>6</sup>
----------------------	-----------------

<sup>6</sup>. A pilot who has failed to meet the 60 day flight hour requirement has a 30 day grace period in which to regain currency without an instructor pilot. To regain currency after the grace period, the pilot must complete the appropriate refresher syllabus.

**Other Requirements:**

National Fixed-wing Standardization Workshop	Every 24 calendar months
--	--------------------------

National Inspector Pilot Workshop (inspectors only)	Every 24 calendar months
---	--------------------------

Standardization Branch approved Crew Resource Management (CRM) training	Every 36 calendar months
---	--------------------------

## 51.32b – Helicopter Pilots

Agency helicopter pilots must:

1. Meet flight time and training requirements listed in 51.32b Exhibit 01.
2. In addition to minimum OPM flight time requirements, helicopter pilots at GS-2181 must meet Forest Service minimum requirements listed in 51.32b, exhibit 02, plus any additional requirements.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

**51.32b - Exhibit 01**

**Helicopter Pilot and Flightcrew Flight Time Requirements**

<b>Minimum Annual Requirements (Hours):</b>	
Flight Time <sup>1</sup> (every 12 calendar months)	24 in the preceding 12 months
<b>Preceding 90 Day Minimum Requirements:</b>	
	3 Takeoffs/Landings 3 Takeoffs/Landings Night (full stop)
<b>Other Requirements:</b>	
Factory School <sup>2</sup>	Every 12 calendar months <sup>3</sup>
National Interagency Helicopter Inspector Pilot Standardization Workshop OR Helicopter Pilot Workshop	Every 12 calendar months
Crew Resource Management (CRM)	Every 36 calendar months
<sup>1</sup> Helicopter pilots unable to attain 24 flight hours must request an AMOC through the National Helicopter Standardization Pilot. <sup>2</sup> A flight review (equipment check) in any aircraft type may be substituted for the annual Factory School training. <sup>3</sup> Annually, each helicopter pilot must attend helicopter Factory School or an equivalent course approved by the Standardization Branch.	

**51.32b - Exhibit 02**

**Helicopter Pilot and Flightcrew GS 12/13/14 Flight Time Requirements**

	<b>Minimum OPM Requirement</b>	<b>Minimum Forest Service Requirement</b>
PIC, helicopter	1,500	1,500
Helicopter preceding 12 months	100	100
FAA weight class	None	100*
Make and model	None	50* <sup>1</sup>
Make, model, series, last 12 months <sup>2</sup>	None	10*
Mountain flying (FSM 5710.5)	None	200*
Turbine helicopter operations	None	100*
<sup>1</sup> Flight hour requirements may be reduced by 50% if the pilot submits evidence of satisfactory completion of the manufacturer's approved pilot ground and flight procedures training in the applicable make and model. * Denotes a Forest Service requirement beyond OPM requirements.		

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

**51.32c – Helicopter Inspector Pilots**

Agency helicopter inspector pilots must:

1. Meet flight time and training requirements listed in 51.32c, exhibit 01.

**51.32c - Exhibit 01**

**Helicopter Inspector Pilot Time Requirements**

<b>Minimum Annual Requirements:</b>	
Flight Time <sup>1</sup> (last 12 months)	24 <sup>2</sup> Flying Hours
<sup>1</sup> If a HIP is acting as an agency helicopter pilot, they must meet the flight time requirements in 51.32b.	
<sup>2</sup> For HIP annual flying time, the target requirement is 6 hours of flying time per quarter.	
<b>Preceding 90 Day Minimum Requirements:</b>	
Acting as PIC (day)	3 Takeoffs/Landings
Acting as PIC (night)	3 Takeoffs/Landings Night (full stop)
<b>Other Requirements:</b>	
Factory School <sup>3</sup>	Yearly <sup>4</sup>
National Interagency Helicopter Inspector Pilot Standardization Workshop OR Helicopter Pilot Workshop	Yearly
Crew Resource Management (CRM)	Every 3 years
<sup>3</sup> A flight review (equipment check) in any aircraft type may be substituted for the annual Factory School training.	
<sup>4</sup> Annually, each helicopter pilot must attend helicopter Factory School or an equivalent course approved by the Standardization Branch.	

**51.32d – Unmanned Aerial Systems Pilots**

Agency UAS pilots must meet the training, qualifications, currency, and proficiency requirements listed in the Forest Service UAS Operations Plan.

**51.33 Employee Pilot Duty Assignments**

**51.33a – GS-7 (For developmental pilot positions only) 2199**

Pilots at the GS-7 level are hired primarily as trainees and can perform only limited flight missions. They may serve as flightcrew members in the following capacity, provided they have at least a commercial pilot certificate in the appropriate category and class, an instrument rating, and meet the currency requirements of 51.32.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

1. Serve as PIC, Visual Flight Rules (VFR) point-to-point or reconnaissance flight assignments in light single-engine aircraft.
2. Serve as copilot on light twin-engine aircraft and transport category aircraft.
3. Employee pilots at the GS-7 level may not be assigned Aerial Supervision Module/Leadplane, Smokejumper, or Seaplane responsibilities due to the complexities involved in these missions.

In the event a GS-7 pilot candidate is unable to comply with the check ride and currency requirements, the pilot must remain in training status without mission assignments until successfully completing all the requirements. Repeated failure can result in personnel action, such as reassignment or termination.

**51.33b – GS-2181-9**

Pilots at the GS-9 level are hired in career ladder (9/11/12) positions with expectations for advancement after extensive training in a variety of Forest Service mission activities. They may serve as flightcrew members in the following capacity, provided they have at least a commercial pilot certificate in the appropriate category and class, an instrument rating, and meet the currency requirements of 51.32.

1. Serve as PIC in light single- and multi-engine aircraft with a maximum certified takeoff weight of 12,500 pounds or less.
2. Copilot assignments in transport category aircraft.

Employee pilots at the GS-9 level may not be assigned Aerial Supervision Module/Leadplane, Smokejumper, or Seaplane Pilot-in-Command responsibilities due to the complexities involved in the mission.

**51.33c – GS-2181-11**

Pilots at the GS-11 level are hired in career ladder (9/11/12 or 11/12) positions with expectations for advancement after completion of applicable time-in-grade requirements and training qualification in a variety of Forest Service mission activities. They may serve as flightcrew members in the following capacity, provided they have at least a commercial pilot certificate in the appropriate category and class, an instrument rating, and meet the currency requirements of 51.32.



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 50 – AIRCREW STANDARDIZATION**

1. PIC of light single- and multi-engine aircraft 12,500 pounds or less maximum certified takeoff weight for VFR point-to-point missions, and IFR missions for any aircraft for which they are qualified and approved.
2. Copilot assignments in transport category aircraft.
3. PIC for Special Use Missions other than Leadplane, Air Tactical, Smokejumper, or Seaplane. Exception: Pilots at the GS-11 level who have completed mission specific training and qualification in one or more of these missions, but lack time-in-grade experience, may act as PIC in the appropriate mission, but must be promoted to the GS-12 level upon reaching time-in-grade.
4. Instructor Pilot in light single- and multi-engine aircraft, provided they currently hold a Certified Flight Instructor (CFI) certificate with a Single Engine or Multi-Engine Instructor (MEI) rating and a Certified Flight Instructor Instrument (CFII) rating.
5. Employee pilots at the GS-11 level may not be assigned as Aerial Supervision Module/Leadplane, Smokejumper, or Seaplane instructor pilots due to the complexities involved in the mission.

**51.33d – GS-2181-12**

Pilots at GS-12 level must meet time in grade requirements and be fully qualified as PIC in the Aerial Supervision Module/Leadplane, Smokejumper, or Seaplane mission. They may serve as flightcrew members in the following capacity, provided they have at least a commercial pilot certificate in the appropriate category and class, an instrument rating, and meet the currency requirements of 51.32.

1. PIC of transport category aircraft, provided they have an Airline Transport Pilot Certificate (ATP) and the appropriate type rating.
2. GS-12 pilots may function as Aerial Supervision Module/Leadplane, Smokejumper, or Seaplane mission instructor, evaluator and/or inspector pilots provided they maintain the training, proficiency, and special use mission qualification.
3. May function as instructor pilots in transport category aircraft provided they currently hold a Certified Flight Instructor (CFI) certificate with Multi-Engine Instructor (MEI) rating, a Certified Flight Instructor Instrument (CFII) rating, and the appropriate type rating.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

**51.33e – GS-2181-13**

Pilots at GS-13 level must meet time-in-grade requirements and be assigned duties as National/Regional Program Manager or Standardization Pilot, or be classified at the GS-13 level based on additional OPM standards.

**51.34 – Fixed-Wing Pilots Operating Multiple Aircraft**

Fixed-wing pilots may be designated in and act as PIC and/or Second-In-Command (SIC) in no more than three (3) aircraft “groups” as defined in 51.34, exhibit 01.

For purposes related to standardization and training programmatic oversight, the Washington Office Branch Chief, Pilot Standardization, National Standardization Pilot, and National inspector pilots are authorized to operate, instruct, and evaluate in multiple aircraft without numerical restriction.

**5134 - Exhibit 01**

**Examples of Fixed-Wing Groups**

<b>Group</b>	<b>Model</b>
Transport Category Airplane	Any series which falls under the Type Rating or is considered by the FAA in common with another type rating (i.e. CASA C-235 and C-295)
Multi-Engine Turboprop	
Beechcraft	B65-A90, 90, 99, 100, and 200
Cessna	Any 400 series
Fairchild	SA 226-227 Series
Piper	Cheyenne Series
Rockwell Commander	680T, 690V, 680W, and 690
Multi-Engine General Purpose	
Beechcraft	B50, 55, 56, 57, 58, 60, 70, and 95
Cessna	T303, C310, 320, 340, and 400 Series
Cessna	336 and 337
Piper	PA-23, PA-30, PA-31, PA-34, PA-39, and PA-44
Rockwell Commander	500, 560, 680, 685, and 720
Single-Engine General Purpose	All single-engine airplanes of not more than 12,500 pounds MTOW, other than turbine-powered airplanes. The type of operation may require specific training, such as seaplane, ski-plane, or tailwheel.
Additional Forest Service Groups	
De Havilland	DHC-6-400, 300, and 200 series
Shorts	SD3-30, SD3-60, C-23

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

### **51.35 – Helicopter Pilots Operating Multiple Aircraft**

For helicopter pilots-in-command qualified in more than one “group” of aircraft, 6-month proficiency checks must be given alternately in each aircraft. Examples of defined groups are displayed in 51.35, exhibit 01.

#### **51.35 - Exhibit 01**

#### **Examples of Helicopter Groups**

<b>Make</b>	<b>Model</b>
Agusta	A-119
Agusta	AW-139
Bell	47 Series (All Recips)
Bell	47 Series (Soloy)
Bell	206A, 206B, 206B3
Bell	206L, 206L1, 206L3, 206L4
Bell	407
Bell	204, 205, UH-1, All Series
Bell	212, 412
Bell	214
Bell	210
Boeing	BV-107-II, KV-107-II
Boeing	BV-234, CH-47
Boeing	369 (500) Series
Boeing	MD-600N
Boeing	MD-900, 902
Enstrom	28 Series
Eurocopter	SA-315, SA-316, SA0319 (Alouette/Lama)
Eurocopter	SA-318
Eurocopter	AS 350 Series (A-star)
Eurocopter	AS-355 Series (Twin Star)
Eurocopter	SA-341 (Gazelle)
Eurocopter	SA-360
Eurocopter	SA-365 (Dauphin)
Eurocopter	SA-330, AS-332 (Puma)
Eurocopter	MBB-105 Series
Eurocopter	BK-117 Series
Eurocopter	EC-145
Eurocopter	ED-135
Eurocopter	EC-120
Eurocopter	BO-105

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

<b>Make</b>	<b>Model</b>
Hiller	12 Series (Recips)
Hiller	12 Series (Soloy)
Hiller	FH-1100
Hughes/Schweizer	269 (300) Series (Recips)
Schweitzer	330
Sikorsky	S-55, H-19 (Recip), S-55T
Sikorsky	S-58, H-34 Series (Recip), S-58T Series
Sikorsky	S-62
Sikorsky	S-61 Series, SH-3
Sikorsky	S-64, CH-54
Sikorsky	CH-53
Sikorsky	S-76 Series
Sikorsky	S-70, Uh-60 Series

### **51.36 – Pilot-in-command of Multiple Aircraft**

Fixed-wing and Helicopter pilots may be designated as PIC in no more than three (3) groups of aircraft at any one time. No restrictions apply to remote pilots.

The respective National Standardization Pilot will review and recommend all multiple aircraft PIC designations to the Washington Office Branch Chief, Pilot Standardization. The Washington Office Branch Chief, Pilot Standardization may further limit the ability to be qualified in multiple aircraft for reasons such as mission complexity, aircrew experience, or when significant differences within aircraft make and model exist.

If a need for a change in an aircrew member's designated aircraft qualification is required, the following procedures must apply:

1. The pilot must meet the applicable Forest Service requirements associated with the request.
2. The request will be submitted through the pilot's chain of command to the National Standardization Pilot and will include which aircraft designation should be removed and replaced along with justification for the new designation.
3. The pilot must have completed an authorized ground school in the previous three (3) months for the aircraft being requested.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

4. The pilot must complete the approved syllabi for both the equipment and the special use mission before completing the required evaluations.
5. The pilot must accomplish a standards aircrew evaluation prior to operating as PIC.
6. The pilot must accomplish a special use mission aircrew evaluation prior to acting as PIC on any special use mission training or operational flights.
7. This requirement may be temporarily waived if the flight is conducted under the direct supervision of a current and qualified instructor.

The pilot must be appropriately designated as PIC in the requested aircraft.

**51.37 – Second-in-command of Multiple Aircraft**

1. A pilot who has passed their initial standards aircrew evaluation may be assigned in writing by the Regional Aviation Officer to operate as a SIC of up to three (3) aircraft defined by group after satisfactory completion of the following:
  - a. The pilot must have completed an authorized ground school in the previous three (3) months prior to designation.
  - b. The pilot must complete the approved syllabi for the equipment and/or special use mission before completing the required evaluations.
  - c. The pilot must accomplish a standards aircrew evaluation prior to operating as SIC.
  - d. The pilot must accomplish a special use mission aircrew evaluation prior to acting as SIC on any special use mission operational flights.
2. A designated PIC may act in the capacity of SIC on an aircraft certificated for either single or dual pilots when conducting flights commensurate with their current aircrew evaluation(s).
3. In aircraft where the certificate or operations manual requires two pilots, the SIC must hold the appropriate category and class, and type rating if required, along with an instrument rating.
4. The SIC must maintain currency in the aircraft.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

### **51.38 – Special Use Missions**

Any flight that is not point-to-point is considered a Special Use Mission. Special use mission flights are incident or project flights conducted for the express purpose of performing, or directly supporting, an agency for management of an incident or project. Special use mission flights may require special pilot endorsements, flight evaluations, training, and/or specialized aircraft equipment.

To act as PIC on a special use mission, the pilot must meet all requirements of this handbook and successfully complete the appropriate standards and mission flightcrew evaluations, as applicable.

Examples of special use mission flights include but are not limited to: dropping retardant or water (including scooper operations), aerial supervision, low-level flight below 500 feet, mountain flying, airtanker mission, Infrared (IR), reconnaissance, survey, aerial photo, night vision device (NVD), night tactical missions, all external loads, smokejumper and cargo delivery, back country airfield operations, off airport operations, search and rescue, counter narcotics activities, research, rappel, short-haul, tactical transport of fire crews, overhead, all UAS flights, or other personnel or cargo required for management of an incident or project, seaplane operations, and water landings.

#### **51.38a – Backcountry Airstrip Pilot Qualifications**

Pilots must maintain proficiency and currency for high-complexity backcountry airstrips within the preceding 24 months prior to backcountry missions. Pilots must not be dispatched for backcountry missions without meeting currency requirements.

Initial Pilot Approval Requirements:

1. Minimum of 200-hours pilot experience in category in typical terrain and density altitudes. This must include agency-approved backcountry airstrip training.
2. Pass an initial flight evaluation performed by an authorized USDA Forest Service or DOI/OAS instructor/inspector pilot. A flight evaluation must require a successful take-off and landing at a minimum of two backcountry airstrips.

Currency Requirements:

1. A pilot may acquire currency in any pilot station.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

2. Pilots shall complete a minimum of 5 takeoffs and 5 landings at 2 different backcountry airstrips in the preceding 12 months, before being qualified to takeoff with cargo/passengers. Pilots can maintain currency with cargo/passengers aboard.
3. Pilots shall have a flight evaluation from an authorized USDA Forest Service or DOI/OAS inspector/instructor pilot every 36 months.
4. Pilots will maintain proficiency for high complexity airstrips within the preceding 24 months prior to backcountry missions carrying passengers. Refer to FSH 5709.16, 37.1.
5. Pilots shall not be dispatched for backcountry missions without meeting currency requirements.

**51.38b – Off-Airport and Off-Seaplane Base (Remote Water Operations) Pilot Qualifications**

Pilots shall be endorsed for this operation.

**Initial Pilot Approval Requirements:**

1. Currency is based on aircraft Category and Class.
2. Minimum of 200-hours pilot experience in typical terrain and density altitudes. This must include agency-approved off-airport training.
3. Pass an initial flight evaluation performed by an authorized USDA Forest Service or DOI/OAS Instructor/Inspector Pilot. A flight evaluation must require a successful take-off and landing at a minimum of two off-airport locations.

**Currency Requirements:**

1. Currency is based on aircraft Category and Class. A pilot may acquire currency in any pilot station.
2. Pilots shall complete a minimum of 5 takeoffs/landings at 2 different off-airport locations in the preceding 12 months.
3. Pilots shall have a flight evaluation from an authorized USDA Forest Service or DOI/OAS inspector/instructor pilot every 36 months.

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK CHAPTER 50 – AIRCREW STANDARDIZATION**

### **51.4 – Contract Pilots Flying Agency Aircraft**

Reserved.

### **51.5 – Loadmaster**

Reserved.

## **52 – AGENCY FLIGHTCREW TRAINING AND EVALUATIONS**

### **52.1 – Flightcrew Training**

1. The Washington Office Pilot Standardization Branch must:
  - a. Oversee the development, implementation, and approval of aviation training and evaluation requirements in coordination with Regional Standardization Pilots and Instructor Pilots specific to all Forest Service special use missions.
  - b. Approve aviation training, qualification requirements, and national syllabi. After approval, the National Standardization Pilots, Regional Standardization Pilots, and Instructor Pilots must implement these training plans.
  - c. Coordinate with the National UAS Program Manager to develop, implement, and approve UAS training and evaluation requirements.
2. National standardized syllabi must identify initial, recurrent, refresher, and upgrade aviation training needs, both general and mission-specific.
  - a. Only flightcrew who have successfully completed the appropriate syllabi and have been appropriately designated may act as qualified flightcrew in their respective position on operational flights. Flightcrew who are gaining experience or are in an upgrade program may participate in training or operational flights if under the direct supervision of a qualified and current instructor for the respective position.
  - b. The following general training requirements apply to both aircraft and special use mission designations. Additional training requirements may exist for special use missions.
    - (1) Instructor – In order to be qualified as an aircrew instructor, the candidate must complete individual ground training and flight training syllabi. The instructor must receive their initial instructor evaluation from a designated National Standardization



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 50 – AIRCREW STANDARDIZATION**

Pilot. Additional aircraft instructor designations may be added through joint approval of the National Standardization Pilot and the respective RAO.

After initial designation as an instructor, all subsequent flightcrew evaluations must be conducted with the candidate performing duties as an instructor. Subsequent flightcrew evaluations will consider ground and flight instruction and will be conducted by a designated instructor pilot for equipment evaluations, or an evaluator pilot for mission evaluations.

(2) Evaluator – In order to be qualified as a flightcrew evaluator, the candidate must complete individual ground training and flight training syllabi. The evaluator must receive their initial evaluation from a designated National Standardization Pilot. Additional mission evaluator designations may be added by the Washington Office Pilot Standardization Branch.

After initial designation as an evaluator, all subsequent flightcrew evaluations must be conducted with the candidate performing duties as an evaluator or instructor. Subsequent flightcrew evaluations will consider ground and flight instruction and will be conducted by a representative authorized to conduct ground and flight evaluations on behalf of the National Standardization Pilot.

(3) Fixed-Wing Inspector Pilot – Fixed-wing inspector pilots must be trained in accordance with the Fixed-Wing Inspector Pilot (FWIP) Syllabus. Refer to the Washington Office Pilot Standardization Branch for the training syllabus.

(4) Helicopter Inspector Pilot – Helicopter inspector pilots must be trained in accordance with the Helicopter Inspector Pilot (HIP) Syllabus. Refer to the Washington Office Pilot Standardization Branch for the training syllabus.

1. National Fixed-wing Standardization Workshop. Designated fixed-wing pilots must attend this workshop annually. This workshop satisfies training requirements for CRM, safety, and instrument training. Individual topics that focus on agency emphasis items, aircrew and aircraft trend data, or other special training should be considered as complementary agenda items. Knowledge assessments should be considered at every workshop to assess the effectiveness of training.

2. National Interagency Fixed-Wing Inspector Pilot Workshop. Designated fixed-wing inspector pilots must attend this workshop biennially. The purpose of this workshop is to ensure National standardization in all fixed-wing operations. The workshop is organized and facilitated by the National Fixed-wing Standardization Pilot in cooperation with the Office of Aviation Services (OAS).

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**

### **CHAPTER 50 – AIRCREW STANDARDIZATION**

3. National Interagency Helicopter Inspector Pilot Standardization Workshop. Designated helicopter inspector pilots must attend this workshop biennially. The purpose of this workshop is to ensure National standardization in all interagency helicopter operations. The workshop is organized and facilitated by the National Helicopter Standardization Pilot in cooperation with the Office of Aviation Services (OAS).
4. Forest Service Helicopter Inspector Pilot Workshop. The purpose of this workshop is to provide continuing education and standardization on special use missions for pilots and inspector pilots. The workshop is organized, funded, and facilitated by the National Helicopter Standardization Pilot on an annual basis, if needed.

## **52.11 – Flightcrew Training and Proficiency Flight Approval**

### **52.11a – Washington Office**

Washington Office pilot training and proficiency flights must be approved in a specific Operations Plan or Mission Aviation Safety Plan (MASP).

### **52.11b – Regional Office**

Regional pilot training and proficiency flights must be approved in a specific Operations Plan or MASP.

## **52.12 – National Standardized Syllabi**

A National standardized syllabus must be developed for each flightcrew position on each aircraft make, model, and series for each special use mission. Syllabi must clearly define expected performance standards and emphasize training to proficiency and standards, with the goal of finding a responsible balance between capability and cost.

## **52.2 – Pilot Training and Qualification Records**

All agency pilot competency records must be maintained in the pilot's training and qualification record and must contain at least the following:

1. A master list of pilot's training and qualification requirements.
2. Record of initial and refresher training flights.
3. Record of initial and recurrent flight evaluations.
4. Record of standards checks.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

5. Record of mission qualification evaluations.
6. Record of simulator/training device training.
7. Record of flight time (FS 5700-25).
8. Interagency Aviation Training (IAT) certificates and qualifications.
9. Workshops and training certificates.

The official pilot training and qualification record must contain at least two years of the above information. Older information may be archived.

Pilot training and qualification records contain Personally Identifiable Information (PII), and must be secured against unauthorized access. The RAO must designate an employee to maintain pilot training and qualification records for the Region. It is the individual pilot's responsibility to ensure that all records are sent to the designated employee and are kept up to date.

The Washington Office Pilot Standardization Branch will provide quality assurance visits to the regions to review pilot training and qualification records at least every 3 years.

All employee training and qualification records must meet the requirements stated in the FSH 5109.17 for all NWCG qualifications.

### **52.3 – Logging Pilot Flight Time**

Forest Service employee pilots must record the breakdown of flight time as required in 14 CFR 61.51 and must document the breakdown on form FS-5700-25, Record of Individual Flying Time.

### **52.4 – Flightcrew Evaluations**

All flightcrew evaluations must consist of an oral evaluation and check ride (simulator or flight) and may include a written evaluation. Every evaluation must cover the topics defined by the FAA for the highest level of FAA certificate the pilot holds. For example, a pilot who holds an ATP certificate must demonstrate a knowledge and performance level that at a minimum meets the FAA Practical Test Standards. The same pilot is also responsible for any agency requirements or expectations that exceed those of the FAA.

1. Standards and special use mission evaluations must be conducted by the last day of the month on a 12-month cycle. Evaluations should be accomplished within the 3-month window prior to the currency expiration of the flightcrew evaluation. Failure to complete

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 50 – AIRCREW STANDARDIZATION**

any evaluation prior to the end of the relevant cycle will require the flightcrew member to conduct an AMOC approved by the Washington Office Pilot Standardization Branch.

2. When accomplishing an equipment-related flightcrew position upgrade or when adding an equipment-related qualification, the standards evaluation must be considered accomplished and the 12-month cycle must be reset.
3. Special use mission evaluations must be considered accomplished and the 12-month cycle reset when the flightcrew member upgrades to PIC, Instructor Pilot, or Evaluator Pilot in the mission.
4. Standards and special use mission flightcrew evaluations may be accomplished simultaneously if all required items are accomplished and the Evaluator Pilot is current and qualified to conduct the individual evaluations.
5. Unscheduled aircrew evaluations in the form of any and all components (written, oral, simulator, and/or flight) may be conducted with no advance notice by the Washington Office Branch Chief, Pilot Standardization, the National Standardization Pilot, or an Evaluator Pilot who has coordinated with the Branch Chief or the respective National Standardization Pilot. An aircrew member receiving an unscheduled evaluation will be notified prior to initiation of the evaluation. This evaluation must reset the evaluation cycle for the related mission.

#### **52.41 – Failure of Flightcrew Evaluation**

1. If flightcrew member fails an evaluation, the Evaluator Pilot and the unit's Standardization Pilot must consult with the National Standardization Pilot who must define additional training and steps required before the aircrew member may be reevaluated. The National Standardization Pilot must identify the Evaluator Pilot who will reevaluate the aircrew member.
2. If a flightcrew member fails a standards evaluation, all qualifications of that flightcrew member must be suspended until the aircrew member successfully completes a standards evaluation.
3. If a flightcrew member fails a special use mission evaluation, all special use mission qualifications of that flightcrew member must be suspended until the flightcrew member reattempts and successfully completes the evaluation.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

## **52.42 – Suspension and Revocation of Flight Qualifications**

A flightcrew member's flight qualifications may be suspended for up to 30 days by the Washington Office Branch Chief, Pilot Standardization. Suspension longer than 30 days must be coordinated between the Washington Office and the affected Region.

## **52.43 – Flight Evaluation Board (FEB)**

The purpose of a Flight Evaluation Board (FEB) is to determine an agency pilot's ability to safely and effectively perform agency aviation missions. An FEB is a fact-finding proceeding to review a pilot's aviation performance, judgment, compliance, and qualifications in a knowledgeable, fair, and impartial manner. An FEB will not be commissioned based on personnel issues or conducted as an adversarial proceeding.

1. An FEB must be commissioned for the following reasons:
  - a. Consistent failure to meet minimum aviation performance standards in ground or flight,
  - b. Intentional violation of agency aviation policy and/or FAA regulations,
  - c. Repetitive demonstration of aviation-related behaviors that are not consistent with a safety or professional aviation culture; or
  - d. A self-requested FEB may be initiated by the pilot (Pilot Self-Requested FEB).
2. An FEB may be commissioned for the following reasons:
  - a. Lack of judgment in performing pilot duties, or
  - b. Pilot exhibits habits, traits of character, or personality characteristics that make it undesirable to continue their flying duties.
3. Scope: An FEB is an administrative, fact-finding proceeding conducted to ensure all information relevant to a pilot's qualifications is reviewed and evaluated in a knowledgeable, fair, and impartial manner.
4. Findings for Pilot Disqualifications: Recommendations by an FEB to disqualify a pilot from flight status must be based on clear, factual, and logical findings as to the pilot's ability to safely and effectively perform agency missions. Apply the following guidelines in formulating recommendations for action:

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

- a. Recommendations to disqualify a pilot from flight status should consider the incident that triggered the initiation of the FEB, the circumstances surrounding the incident, and the pilot's aviation record accrued while in Federal service.
- b. Incidents or actions that clearly demonstrate willful or wanton disregard for established rules, regulations, or procedures, or otherwise unacceptable performance, may be grounds for disqualification from aviation services.
- c. When applicable, also consider the pilot's potential to perform appropriately after receiving additional training and flying experience.

**52.43a – Convening a Flight Evaluation Board**

1. A Flight Evaluation Board may be requested by the Washington Office Branch Chief, Pilot Standardization, or Regional Aviation Officer. The requesting official's unit is responsible for all travel and other associated costs the board may generate. The convening official must be the Washington Office Branch Chief, Pilot Standardization. The convening official may assign an appropriate representative to coordinate administration of the FEB.

2. Pilot Self-Requested FEB: A pilot who has been removed from flight status due to a personal issue unrelated to job performance may submit a request for an FEB to their Supervisor. This request must be considered by the second level Supervisor, the appropriate aviation safety manager, and the Washington Office Branch Chief, Pilot Standardization. The convening official must make final determination on the merits of convening an FEB.

A pilot receiving disciplinary action related to safety, technical competence and/or flying skills may request an FEB review through the Washington Office Branch Chief, Pilot Standardization. The convening official must make final determination on the merits of convening an FEB.

3. Board Membership and Selection: The Washington Office Branch Chief, Pilot Standardization, must select the board members and ensure that board members have not been directly involved in the case and are current FAA qualified pilots. The FEB must provide a fair and impartial evaluation.

- a. The board must be composed of at least three (3) agency pilots who hold the same category and class certifications and are not assigned to the same unit as the pilot being evaluated.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

- b. At a minimum, one pilot board member must be current in the same type of aircraft and mission as the pilot being evaluated and hold the same level of designation within the Agency (evaluator, instructor, inspector).
- c. Consultants, or non-voting technical specialists, may be included as advisors to the board.
- d. The convening official must not serve as a member of the board.
- e. The pilot being evaluated may request a union representative (provided the pilot is a bargaining unit employee) or other representation that would ensure the pilot receives a fair and impartial evaluation.
- f. A Federal Aviation Administration (FAA) designated flight surgeon or medical officer may be appointed as a non-voting member of the board when a suspected medical problem may be a contributing factor in the pilot's performance.
- g. If aviation management officials suspect there is probable cause for an adverse action related to the pilot's conduct or performance, a personnel employee relations specialist must be appointed as a non-voting member. In this situation, the board must be the primary investigating body, and the employee relations specialist must take statements, as appropriate, and assemble documents creating a case file. The board's recommendation(s) must become part of the case file.
- h. The convening official must select one of the voting members to act as the Board Chairperson.

### **52.43b – Timeliness of Action**

1. Convening an FEB: Convene the board at the earliest practical date and no later than 10 working days from appointment of the board.
2. Pilot Notification: Notify the pilot in writing that an FEB has been convened. This notice of intent must include:
  - a. Specific information relative to the reason(s) for convening the FEB, including allegations and/or references;
  - b. The time when the pilot is directed to appear before the board;
  - c. The location of the meeting;

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

- d. Instructions for acknowledgment of the notification; and
  - e. Information on the pilot's rights in presenting the pilot's side of the issue.
2. Pilot's Voluntary Removal from Flight Status: A pilot subject to an FEB hearing may voluntarily request to be taken off flight status in lieu of convening an FEB. Should this course of action be elected, the pilot must prepare a written request for voluntary removal from flight status within five (5) working days of receipt of the notification letter.
- a. Upon receipt of the pilot's request for voluntary removal from flight status, the convening official must immediately suspend the pilot from flight status and defer convening the FEB until further action is determined.
  - b. In the event the pilot's request for voluntary removal from flight status is disapproved, the pilot will be advised in writing of the denial and of the intention to proceed with the FEB.
3. Previous Flight History Review: The FEB must take into consideration the pilot's performance history, as well as all other pertinent facts, prior to making any recommendations to the convening official.

**52.43c – Operating Procedures of Board Chairperson**

The Board Chairperson must conduct the FEB in accordance with the following procedures and timeline:

1. Evaluation Preparations: Prior to convening the FEB, the Board Chairperson must:
  - a. Specify the time and place where the FEB will convene.
  - b. Make arrangements for a meeting location consistent with the gravity of and privacy requirements for the proceedings.
  - c. Accommodate the pilot's request for any information relative to the pilot's case.
  - d. Evaluate requests for delay in convening the board.
2. Board Proceedings: During the FEB, the Board Chairperson must:
  - a. Convene the FEB.



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

- b. Explain the purpose of the evaluation to the board members and pilot.
  - c. Define the evaluation process and procedures.
  - d. Conduct the evaluation in an orderly manner.
  - e. Ensure the pilot is allowed to present the pilot's side of the issue(s).
  - f. Ensure board members avoid informal conversation or comments pertaining to the proceedings outside of the process.
  - g. Conduct the evaluation and develop recommendations in closed session.
  - h. Ensure the findings of the board are complete and factual, clearly stated, and fully supported by the evidence.
  - i. Ensure the recommendations of the board are consistent with the limits of the board's authority.
  - j. Adjourn the board.
3. Post-Evaluation Duties: The Board Chairperson prepares the Flight Evaluation Board (FEB) report, ensures its completeness and accuracy, and ensures that all members have signed the report. Complete the FEB report as soon as possible, but no later than 5 working days from the day the board adjourns. The Washington Office, Director of Fire and Aviation Management or Regional Director of Fire and Aviation Management may authorize additional time due to unforeseen circumstances. When additional time is required, specify the reason for the delay in the report.
4. The Board Chairperson is also responsible for distributing the FEB report to the appropriate personnel (refer to 52.43f) for review and comment prior to a determination of final action.

**52.43d – Flight Evaluation Board Findings**

The FEB is responsible for the accuracy of the information used in the evaluation of pilot performance and must fully consider any extenuating circumstances surrounding the facts, including those that the pilot may present. Information on extenuating circumstances aids the board in determining if the pilot had complete control over the factors involved. Members of the FEB must use their professional knowledge, insight, and common sense. Each finding must be supported by evidence of record and must include, at a minimum:

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

1. Factual information of specific instances that support a conclusion the pilot cannot safely perform aviation duties.
2. Supporting testimony and evidence of unsafe past performance.
3. Evidence that the pilot did or did not have complete control over the circumstances leading to convening of the FEB.
4. Written comments on the allegations or points of question, stated separately in brief, clear language and including specific dates, places, and events.

**52.43e – Flight Evaluation Board Recommendations**

The FEB must prepare a written report containing the FEB's recommendations.

1. FEB Report Recommendations: Recommendations of the FEB must be consistent with the relevant findings supporting the determination(s) for:
  - a. Continued aviation services as a pilot,
  - b. Additional training required,
  - c. Interim measures, such as disqualification from certain aircraft types or removal from specific mission duties, based on other mitigating circumstances, or
  - d. Disqualification from flight status as an agency pilot.
2. Minority Report: In the event of disagreement among the board members, a minority report may be prepared that clearly states the scope of the disagreement(s), findings, and recommendations. Board members supporting the minority opinion must be identified in the report.

**52.43f – Review of Flight Evaluation Board Report**

Before final action is taken, the recommendations and findings of the FEB must be reviewed at the Washington Office and Regional Office level as appropriate by the following positions:

1. Washington Office Branch Chief, Pilot Standardization: Prior to any other notifications, the findings and recommendations of all FEBs must be provided to the Washington Office Branch Chief, Pilot Standardization for review and comment.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**  
**CHAPTER 50 – AIRCREW STANDARDIZATION**

2. Convening Official: The findings and recommendations of the FEB must be provided to the convening official for review and comment.
3. Washington Office: The findings and recommendations of all FEBs must be provided to the Director of Fire and Aviation Management; Assistant Director, Aviation; and Branch Chief, Aviation Safety Management System for review.
4. Regional Office: The findings and recommendations of the FEB must be provided to the Regional Director of Fire and Aviation Management, Regional Aviation Officer, and Regional Aviation Safety Manager (RASM) for review.
5. Aircrew Member: The findings and recommendations of the FEB must be provided to the aircrew member who is the subject of the FEB.

**52.43g – Flight Evaluation Board Final Action(s)**

The Washington Office Assistant Director, Aviation, or the Regional Director of Fire and Aviation Management for the affected unit is responsible for determining final action(s) based on the findings and recommendations of the FEB and any additional comments provided by reviewers of the report.

1. Responsibility: Findings and recommendations of the FEB must be submitted to the appropriate official as follows.
  - a. If an FEB is conducted for a Washington Office pilot, the board findings and recommendations, along with the review comments of the Washington Office Branch Chief, Pilot Standardization and the convening official, must be provided to the Washington Office, Director of Fire and Aviation Management.
  - b. If an FEB is conducted for a Regional Office pilot, the board findings and recommendations, along with the review comments of the Washington Office Branch Chief, Pilot Standardization and the convening official, must be provided to the Regional Director of Fire and Aviation Management.
2. Agreement with Findings and Recommendations: Provided the Washington Office Assistant Director, Aviation (for a Washington Office assigned pilot), or the Regional Director of Fire and Aviation Management (for a regional pilot) agree with the findings and recommendations of the FEB, the respective Director may include additional comments and/or recommendations when dating and signing acceptance of the report.

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK CHAPTER 50 – AIRCREW STANDARDIZATION**

The Line Officer of Human Resources Management has the authority for taking adverse actions in cases involving FEB recommendations approved by aviation management officials.

3. Disagreement with Findings and Recommendations: In the event the Washington Office Assistant Director, Aviation, or the Regional Director of Fire and Aviation Management does not concur with the FEB findings and recommendations, the respective director must identify specific areas of contention and explain the reasons in the written comments.
4. Statement of Corrective Action: Where the FEB makes a finding of lack of proper supervision or supervisory error, the Washington Office Assistant Director, Aviation, or the Regional Director of Fire and Aviation Management must include a statement relative to the corrective action to be taken or contemplated.
5. Final Action: The Washington Office Assistant Director, Aviation, or Regional Director of Fire and Aviation Management must either implement the recommendations of the FEB or implement their own course of action with supporting documentation.
6. Report Retention: The Director responsible for aviation management in the respective unit must maintain a file copy of all FEB activity for an appropriate retention period. Do not include an FEB report in a pilot's official personnel folder. FEB reports are exempt from FOIA and are covered by the Privacy Act. Full disclosure of the findings of the FEB, supporting documentation, and final corrective action must be made available to the pilot.

### **52.43h – Reconvening a Flight Evaluation Board**

The convening official may reconvene an FEB provided:

1. Initial board action was not in compliance with established procedures, or prejudicial errors concerning the rights of the pilot occurred in the initial proceedings.
2. New information that could materially affect the findings and recommendations of the FEB is discovered and brought to the attention of the convening official.
3. The pilot has been allowed 10 days to prepare a response to notice of the convening official's intent to reconvene the FEB.

## **53 – AGENCY FLIGHTCREW PROCEDURES**

Agency flightcrew procedures must be in accordance with the respective Interagency and Agency operations guides and plans.

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK CHAPTER 50 – AIRCREW STANDARDIZATION**

### **54 – VENDOR CONTRACTS AND FLIGHTCREW**

#### **54.1 – Vendor Contracts**

Vendor flightcrews including aircraft services contracts and pilot services contracts must meet or exceed all of the requirements set forth in their respective FAA operator certificate and the applicable contract. They also must comply with the applicable Practical Test Standards.

Refer to the applicable contract for flight time requirements, currency, and pilot qualifications for vendor flightcrews.

#### **54.11 – Vendor Safety Briefing**

A safety briefing with the vendor pilot must be conducted as part of the initial and continuing vendor pilot credential process.

1. All vendor pilots shall receive a safety briefing following initial approval and annually at the beginning of the contract or rental agreement period.
2. Vendor pilot shall keep written documentation of the briefing signed by the inspector pilot.

#### **54.11a – Vendor Safety Briefing Content**

Vendor safety briefings should at a minimum include the following topics, as applicable:

1. Pilot flight and duty limitations.
2. Evidence of appropriate loading, weight, and balance requirements provided by the contractor's representatives.
3. Safe and effective mission altitudes and accuracy criteria.
4. Regulations about persons other than flightcrew members aboard the aircraft.
5. Use of personal protective equipment and how it should be worn.
6. Check-in prior to entering the incident area and procedures over the incident.
7. Initial attack procedures and the importance of locating persons and property on the ground.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

8. Flight operations in congested areas.
9. Engine shut down during fueling, loading, and unloading.
10. Geographic area briefing, including hazards that may affect safety of flight and the location of approved jettison areas.
11. Effective use of contract-required avionics equipment.
12. Demonstrate proper use of a Flight Risk Assessment Tool (FRAT).

## **54.2 – Vendor Pilot Approvals**

1. Forest Service or interagency inspector pilots must verify that vendor pilots meet the experience and qualification requirements under the contract.
2. Forest Service or interagency inspector pilots must approve in writing (refer to 54.21 below) vendor pilots provided to the Forest Service under contract or rental agreement.
3. All vendor pilot approvals must be conducted by an agency or interagency inspector pilot designated to approve that special use mission according to the individual agency's requirements.
4. Point-to-point flight operations by vendor pilots engaged in 14 CFR, Part 135 operations may be approved for a period not to exceed 24 calendar months from the date of approval.
5. For other than point-to-point flight operations, vendor pilots may be required annually by an agency or interagency inspector pilot or the contracting officer to demonstrate competency and proficiency in flight for the make and model of aircraft and for the special use mission to be flown under the contract or agreement. Vendor pilots must complete a ground and flight evaluation to determine contract compliance at least once every three (3) years.
6. More stringent requirements may be specified for pilot positions requiring a higher level of experience, including specific aircraft ratings, training, or unique aviation qualifications.
7. Vendor pilots, except airtanker pilots, are approved for a one year period; approval must not exceed 12 calendar months from the date of approval.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

8. Vendor pilots are required to present their pilot approval documents upon request.

#### **54.21 – Vendor Pilot Approval Forms**

1. Each vendor pilot being evaluated must complete the applicable Pilot Qualifications Card (form FS-5700-20, 5700-20a, or OAS 30U).
2. The inspector pilot must complete the applicable Interagency Pilot Qualification Card to document approval of a vendor pilot.
3. Copies of the application form and approval card/form must be maintained by the Regional/National Inspector Pilot.

#### **54.22 – Suspension/Revocation**

1. The Contracting Officer, in coordination with the Washington Office Branch Chief, Pilot Standardization, may suspend a vendor pilot who fails to follow safe operating practices, does ineffective work, exhibits conduct detrimental to the purpose for which contracted, or is under suspension or revocation by another Government agency.
2. Upon involvement in an Aircraft Accident or NTSB Reportable Incident (refer to 49 CFR Part 830), a vendor pilot under contract with the Agency must be suspended from performing pilot duties under the contract and any other activity authorized under the interagency pilot qualification card(s) issued to the pilot, pending the outcome of an incident investigation.
3. Upon involvement in an Incident-with-Potential as defined under mishaps, a pilot operating under contract with the Agency may be suspended from performing pilot duties under the contract and any other activity authorized under the interagency pilot qualification card(s) issued to the pilot, pending the outcome of an incident investigation.
4. When a pilot is suspended, and when requested, the interagency pilot qualification card(s) must be surrendered to the Contracting Officer or the Washington Office Branch Chief, Pilot Standardization or their representative. Suspension will continue for up to 90 days or until:
  - a. The investigation findings and decision indicate no further suspension is required and the interagency pilot qualification card(s) is returned to the pilot; or
  - b. Revocation action to cancel the interagency pilot authorization(s) is taken by the issuing agency in accordance with agency procedures.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

### **54.23 – Reinstatement**

When appropriate, an inspector pilot may re-issue a vendor pilot's card with approval from the Washington Office Branch Chief, Pilot Standardization or the respective National Standardization Pilot.

### **54.24 – Alternate Means of Compliance (AMOC)**

Some pilot requirements may be waived using an Alternate Means of Compliance (AMOC). Final waiver authority resides with the National Standardization Pilot.

For example, an AMOC may be utilized for fixed-wing pilots who do not meet the current policy or the contract requirements of 100 flight hours within the preceding 12 months. Refer to 51.3.

In the event an AMOC is required for something other than the 100 flight hour requirement, refer to 51.3.

#### **54.24a – Prerequisites for Requesting 100 Flight Hour AMOC**

1. Pilots shall have been carded or authorized for special use missions in the previous carding cycle (one year).
2. In the previous 12 months, a pilot shall have 25 hours as PIC, and 24 hours in category in the previous six months.

#### **54.24b – Pilot 100 Flight Hour AMOC Approval**

1. The company seeking an AMOC will submit a letter to the appropriate inspector pilot, requesting an AMOC for any pilot not meeting the 100-hour flight requirement in the preceding 12 months. Documentation supporting the minimum pilot requirements listed above and an explanation of why the pilot was unable to meet this requirement must be included in this letter. An AMOC is only to be used in extenuating circumstances such as long-term medical grounding and slow fire seasons. An AMOC should be the exception to the rule, not a tool used by vendors to save money by not giving their pilots appropriate training and currency.
2. The inspector pilot must review all contractual required documentation and assess the pilot's experience and past performance.
3. The inspector pilot will send documentation recommending the AMOC to the respective National Standardization Pilot for review.



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

4. The respective National Standardization Pilot will send documentation of approval/denial to the inspector pilot.
5. Any pilot approved under the AMOC must successfully complete a proficiency flight evaluation administered by an authorized interagency inspector pilot.
  - a. An AMOC flight evaluation may only be waived after the inspector pilot submits a written justification to the appropriate National Standardization Pilot and receives written approval to waive the AMOC flight evaluation. In the event the inspector pilot and the National Standardization Pilot are unable to reach concurrence regarding the AMOC flight evaluation, an evaluation must be administered.
  - b. The evaluation flight should be administered by the inspector pilot conducting the preliminary review of the contractor's AMOC request.
1. If the flight evaluation is successful, the inspector pilot will document on FS-5700-20 or FS-5700-20(a) that Block 28 will be waived.
2. The inspector pilot can then issue the pilot an Interagency Aircraft Qualifications Card.

**54.24c – Other AMOC Approvals**

1. The company seeking an AMOC will submit a letter to the appropriate inspector pilot requesting an AMOC for any pilot not meeting a requirement as being eligible for waiver. Documentation explaining why the minimum pilot requirements cannot be met and a proposed train-to-proficiency plan must be included in this letter.
2. The inspector pilot must review all contractually required documentation and assess the pilot's experience and past performance.
3. The inspector pilot will send documentation recommending an AMOC to the National Standardization Pilot for review.
4. The National Standardization Pilot will send documentation of approval/denial to the inspector pilot.
5. evaluation administered by an authorized interagency inspector pilot.
6. If the flight evaluation is successful, the inspector pilot will document on FS-5700-20 or FS-5700-20(a) that Block 28 will be waived.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

7. The inspector pilot may then issue the pilot an Interagency Aircraft Qualifications Card.

**54.24d – Pilot Not Granted an AMOC**

If the pilot will not be granted an AMOC, the requesting company will be notified immediately and issued a formal letter by the Contracting Officer. The Washington Office Assistant Director, Aviation; Branch Chief, Pilot Standardization; and Branch Chief, Aviation Operations must also be notified via carbon copy (cc) of the notification letter to the company.

**54.25 – Failure of Aircrew Evaluation**

If a vendor aircrew member fails an evaluation, the inspector pilot and the vendor's chief pilot must consult with the National Standardization Pilot who must define additional training and steps required before the pilot may be reevaluated. The National Standardization Pilot must identify the inspector pilot who will reevaluate the pilot. If continued issues exist, removal of the contract aircrew will be coordinated between the National Standardization Pilot, respective program manager, and the Contracting Officer.

**54.3 – Authority and Responsibility**

1. The PIC is responsible for the safety of the aircraft, loading and unloading of occupants and cargo. The pilot must comply with the directions of the government, except when in the pilot's judgment compliance will be a violation of applicable federal or state regulations or contract provisions. The pilot has final authority to determine whether the flight can be accomplished safely and must refuse any flight or landing which is considered hazardous or unsafe.
2. The pilot is responsible for computing the weight and balance for all flights and for assuring that the gross weight and center of gravity do not exceed aircraft limitations. Pilots must be responsible for the proper loading and securing of all cargo. Load calculations must be computed and completed by the pilot using performance charts in the appropriate Pilot's Operating Handbook, Operator's Manual, or Technical Order, depending on the aircraft.
3. Smoking is prohibited within 50-feet of fuel servicing vehicle, fueling equipment, or aircraft.
4. Pilot(s) will use an approved cockpit checklist for all flight operations.

## **FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK**

### **CHAPTER 50 – AIRCREW STANDARDIZATION**

5. Equipment such as radios, survival gear, fire tools, etc., must be located in or on the aircraft in such a manner as to potentially not cause damage or obstruct the operation of equipment or personnel. All cargo must be properly secured.
6. Passenger Briefing: Before each takeoff, the PIC must ensure that all passengers have been briefed in accordance with the briefing items contained in 14 CFR 135. Briefing must include the following: Personal Protective Equipment (PPE), Shut-Off Procedures for Battery and Fuel, and Aircraft Hazards.
7. Flight Plans: Pilots must file and operate on a FAA, ICAO, or agency flight plan. Contractor flight plans are not acceptable. Flight plans must be filed prior to takeoff when possible.
8. Flight Following: Pilots are responsible for flight following with the FAA, ICAO, or in accordance with Forest Service or DOI-Bureau approved flight following procedures, which includes Automated Flight Following (AFF) and radio check-ins.
9. Manifest: Prior to any takeoff, the PIC must provide the appropriate Forest Service or Department of Interior (DOI) dispatch office or coordination center with current passenger and cargo information.
10. Fuel Reserve: To provide adequate fuel reserve all operations must comply with 14 CFR 91 for VFR (20-minutes reserve for helicopter or 30-minutes reserve for fixed-wing).

#### **54.4 – Required Flightcrew Members**

Flight Engineers must receive the required training from the company to accomplish their mission. Vendor companies must send the associated inspector pilot documentation of completed training. These individuals are not issued a card.

### **55 – MILITARY, OTHER FEDERAL AGENCY, AND COOPERATOR FLIGHTCREW APPROVAL**

#### **55.1 – Department of Defense Flightcrews**

The Washington Office Deputy Chief or Regional Forester, through an agreement with Department of Defense (active and reserve), authorizes federal- or state-activated flightcrews on National Forest system lands. This must be in accordance with the Military Use Handbook and an applicable military aviation operations plan.

The Regional Aviation Officer must approve, in writing, the use of state-activated National Guard flightcrews on National Forest system lands. This must be in accordance with the Military Use Handbook and an applicable military aviation operations plan.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

Approval may be for each individual or for all pilots of the organization and must specify the approved mission types.

The U.S. Army designation of Readiness Level 1 (RL1) or equivalent designation within other military service branches with a corresponding Commanders Task List that includes the specific mission, e.g. fire suppression (water bucket / tank operations), must be considered comparable to Forest Service standards required of contractor and agency pilots. Military aircraft must be flown and staffed with the standard pilot(s) and crew complement for the specified mission. PIC must be RL-1 qualified.

Refer to FSH 5709.16, chapter 47.1 for aircraft approvals.

## **55.2 – Federal Executive Agency (non-DOD) Flightcrews**

The Deputy Chief, State and Private Forestry must approve, in writing, the use of Federal Executive Agency (non-DOD) flightcrews, except for Department of the Interior agencies.

Refer to FSH 5709.16, chapter 47.2 for aircraft approvals.

## **55.21 – Flightcrew Members Carded by the Department of the Interior**

The Forest Service may use flightcrew members carded by the Department of the Interior (DOI) for specific missions without re-inspection. Forest Service units may use flightcrew members with DOI approval for point-to-point transportation regardless of the specific type of approval document.

## **55.3 – Cooperator Flightcrew Approval**

All cooperator flightcrews offered for use on National Forest system lands must meet current flight crew standards in the applicable Department of the Interior or Forest Service Call When Needed aircraft services contracts.

Cooperators must be approved by letter by the dual signature letters referenced in FSH 5709.16, chapter 13.

Pilots flying not covered by the NASF Cooperator Standards must meet current FS approval standards for that special use mission until they are incorporated into the NASF Cooperator Standards (airtanker pilots and UAS pilots, for example).

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 50 – AIRCREW STANDARDIZATION**

**55.4 – Suspension/Revocation of Approval**

Suspension and/or revocation of a military, other Federal agency, or cooperator flightcrew member may be implemented by the Washington Office Branch Chief, Pilot Standardization or the Regional Aviation Officer.

**56 – UNMANNED AIRCRAFT SYSTEMS**

**56.1 – Remote Pilots (UAS)**

All requirements and procedures of this chapter apply to remote pilots and UAS operations except where specified. Agency remote pilots prior to mission use must meet flight time and training requirements listed below.

**56.1 - Exhibit 01**

**Remote Pilot Flight Time Requirements**

<b>Minimum Annual Requirements:</b>	
Flight Time <sup>1</sup> (Every 12 calendar months)	Once per approved UAS type or as specified on UAS Pilot Approval Card
<b>Preceding 90 Day Minimum Requirements:</b>	
	3 Takeoffs and Landings under the observation of a current remote pilot.
<b>Other Requirements:</b>	
A-452R (UAS refresher) Crew Resource Management (CRM) Refer to 5709.16 Ch. 68 for approved CRM courses.	Every 24 calendar months Every 36 calendar months
<sup>1</sup> A pilot who has failed to meet the 90 day takeoff/landing requirement, may not fly an operational mission without first performing the flight maneuvers and emergency procedures for the specific make and model, during a proficiency flight prior to an operational mission. Alternatively, the remote pilot must conduct their mission flight under the observation of a current remote pilot.	



## FOREST SERVICE MANUAL NATIONAL HEADQUARTERS (WO) WASHINGTON, DC

### FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK

#### CHAPTER 60 – AVIATION TRAINING

**Amendment No.:** 5709.16-2020-7

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** JAELITH HALL-RIVERA  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by Handbook number and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this Handbook was 5709.16-2020-6 to 5709.16\_50

<b>New Document</b>	5709.16_60	10 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>	5709.16_60 (Amendment 5709.16-2013-1, 09/03/2013)	14 Pages

#### **Digest:**

60 – This amendment substantially revises the entire chapter to better align with the Forest Service mission. Changes chapter title from “Aviation Security” to “Aviation Training” and sets forth direction.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 60 – AVIATION TRAINING**

### Table of Contents

60.1 – Authority .....	3
60.2 – Objective .....	3
60.3 – Policy .....	3
60.4 – Responsibility .....	3
60.41 – Aviation Training Program Manager .....	3
60.5 – Definitions.....	4
60.6 – References.....	4
60.7 – Quality Assurance.....	4
<b>61 – ALL EMPLOYEES .....</b>	<b>4</b>
61.1 – Fire-Related Positions.....	4
61.11 – Fire and Aviation Trainees.....	4
61.2 – Non Fire-related Positions .....	4
<b>62 – INSTRUCTOR REQUIREMENTS .....</b>	<b>5</b>
<b>63 – RECORDS MANAGEMENT .....</b>	<b>5</b>
<b>64 – TUITION AND TRAVEL .....</b>	<b>6</b>
<b>65 – DEVELOPMENT .....</b>	<b>6</b>
65.1 – Aviation Career Paths .....	6
65.11 – Pinch Hitter .....	6
65.12 – Flight Training Instruction.....	6
65.13 – Special Use Mission Flight Training .....	6
65.13a – Initial Qualification .....	7
65.13b – Recurrent.....	7
<b>66 – IAT POSITIONS TO NWCG POSITIONS CROSSWALK.....</b>	<b>7</b>
<b>67 – AVIATION CONTRACTING OFFICER REPRESENTATIVE (COR)     REQUIREMENTS .....</b>	<b>7</b>
<b>68 – REQUIRED TRAINING FOR AVIATION POSITIONS .....</b>	<b>7</b>

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

### **CHAPTER 60 – AVIATION TRAINING**

Forest Service aviation training is essential to provide standardization, proficiency, and risk management to aircraft pilots (both contract and employee), aviation users, Supervisors, and Managers. The Forest Service Aviation Training Program is a “fire” and “non-fire” system. The National Wildland Coordinating Group (NWCG) guides the fire qualifications (Forest Service Fire and Aviation Qualifications Guide), while the Interagency Aviation Training (IAT) Guide regulates the non-fire qualifications. Personnel serving in NWCG positions must meet the qualification and currency requirements listed in PMS 310-1, the Forest Service Fire and Aviation Qualifications Guide, FSM 5700, and FSH 5709.16.

#### **60.1 – Authority**

Refer to FSM 5701.

#### **60.2 – Objective**

The objectives of an aviation training program are to improve standardization, proficiency, and risk management by ensuring employees are trained and qualified in aviation operations.

For additional information, refer to FSM 5702.

#### **60.3 – Policy**

Refer to FSM 5703.

#### **60.4 – Responsibility**

##### **60.41 – Aviation Training Program Manager**

The Washington Office Aviation Training Program Manager reports to the Washington Office Branch Chief, Aviation Strategic Planning. Responsibilities include, but are not limited to:

1. Provide leadership, expertise, standardization, coordination, and oversight for the Agency aviation training program, which includes all aviation-related training for employees, except for pilot, flightcrew, and aircrew training identified in FSH 5709.16, chapter 50;
2. Coordinate aviation course development, training, and course instruction with the appropriate Aviation Program Manager or Branch Chief; and
3. Understand, implement, and maintain the responsible areas of the Forest Service Aviation Safety Management System (ASMS) within the scope of their duties.



## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 60 – AVIATION TRAINING**

### **60.5 – Definitions**

Refer to FSM 5705.

### **60.6 – References**

Refer to FSM 5706.

### **60.7 – Quality Assurance**

Refer to FSM 5717.

## **61 – ALL EMPLOYEES**

All agency flightcrew and aircrew should refer to FSH 5709.16, Chapter 50 for training specific to the safe operation of aircraft.

### **61.1 – Fire-Related Positions**

Refer to the Forest Service Fire and Aviation Qualifications Guide and the PMS 310-1 for Forest Service fire aviation positions and qualifications.

#### **61.11 – Fire and Aviation Trainees**

Position task books can be initiated before attendance and successful completion of required training.

Positions without position task books must utilize the training, certification, and currency requirements in the applicable agency or interagency operations plan or guide.

### **61.2 – Non Fire-related Positions**

Refer to the Interagency Aviation Training (IAT) Guide for Forest Service non-fire aviation positions and qualifications.

1. Aircrew member,
2. Aircraft/aviation dispatcher,
3. Aviation Manager,
4. Fixed-wing Flight Manager,
5. Fixed-wing Flight Manager (special use),

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

### **CHAPTER 60 – AVIATION TRAINING**

6. Helicopter Manager-resource,
7. Project Aviation Manager,
8. Supervisor, and
9. Unmanned Aircraft System (UAS) remote pilot (non-fire).

## **62 – INSTRUCTOR REQUIREMENTS**

The Interagency Aviation Training (IAT) guide identifies instructor requirements for IAT specific courses. Refer to IAT Guide Part 3, Interagency Aviation Instructor Requirements.

Personnel serving in NWCG instructor positions need to meet the qualification and currency requirements in Forest Service Fire and Aviation Qualifications Guide and the PMS 901-1 Field Manager's Course Guide.

Personnel instructing certain aviation training such as, but not limited to, spotter positions, flightcrew and aircrew positions, air tactical Supervisor, and so forth must meet the requirements for instructor or evaluator in specific agency or interagency policy or guides.

## **63 – RECORDS MANAGEMENT**

Fire and aviation qualification training records must meet the requirements stated in the Forest Service Fire and Aviation Qualifications Guide for all NWCG qualifications. At the Regional or Forest level, all training records for non-fire qualifications (IAT, ISBAO, QTI, and so forth.) must reside with the Supervisor, Regional Training Officer, Forest Training Officer, or the Forest Aviation Officer.

Washington Office Supervisors shall maintain employee non-fire qualifications in the Employee Development Record (EDR) file.

Each operating unit needs to develop and implement plans for the identification of initial and recurrent aviation training needs specific to its missions.

Areas of aviation training are:

1. Orientation and basic aviation safety for all users.
2. Flight Manager Training.
3. Dispatching and flight-following procedures.

## **FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK CHAPTER 60 – AVIATION TRAINING**

4. Management of aviation operations and equipment.
5. Planning, risk assessment, and execution of projects using aviation resources.
6. Proficiency and special use mission training for pilots.
7. Technical training on aviation equipment and aircraft maintenance.
8. Advanced ASMS and quality assurance for aviation professionals and specialists.

### **64 – TUITION AND TRAVEL**

Forest Service management is dedicated to conducting or providing for professional and technical training of employee or contract personnel at all levels of the organization that use and/or influence the use of aviation resources. Supervisors must provide adequate levels of funding for the tuition and travel to attend training that will maintain aviation personnel currency and advance their skills.

### **65 – DEVELOPMENT**

The Forest Service encourages development of interested employees who desire to pursue an aviation career path.

Employees in aviation developmental positions and all positions that have aviation responsibility are advised to attend courses that encompass aviation skills and knowledge.

#### **65.1 – Aviation Career Paths**

Reserved.

#### **65.11 – Pinch Hitter**

The vendor selected for training must be 14 U.S. Code of Federal Regulations (14 CFR), Part 141 certificated for providing the specific training.

#### **65.12 – Flight Training Instruction**

The vendor selected for training must be 14 CFR, Part 141 certificated for providing the specific training.

#### **65.13 – Special Use Mission Flight Training**

The vendor selected for training must be 14 CFR, Part 141 certificated for providing the specific training.

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 60 – AVIATION TRAINING**

**65.13a – Initial Qualification**

The vendor selected for training must be 14 CFR, Part 141 certificated for providing the specific training.

**65.13b – Recurrent**

The vendor selected for training must be 14 CFR, Part 141 certificated for providing the specific training.

**66 – IAT POSITIONS TO NWCG POSITIONS CROSSWALK**

The positions listed in the IAT One Way NWCG Position to IAT Position Crosswalk are required training.

**67 – AVIATION CONTRACTING OFFICER REPRESENTATIVE (COR)  
REQUIREMENTS**

Aviation CORs must meet initial training and maintenance requirements as stipulated in Agency Acquisition Regulations (AGAR).

**68 – REQUIRED TRAINING FOR AVIATION POSITIONS**

A Washington Office-approved Crew Resource Management (CRM) course is required for a variety of Forest Service Aviation flightcrew and aircrew positions. Approved courses, instructor requirements, and refresher training are outlined in PMS 310-1 and the Forest Service Fire and Aviation Qualifications Guide.

This listed training is not all-inclusive of training required for the positions listed.

<b>Position</b>	<b>Required Training</b>	<b>Recommended Training</b>
Agency Pilot (FW)	CRM <sup>1</sup> IAT FW Flight Manager Special Use Personal Responsibility & Liability Human Factors in Aviation GCNP-SFRA <sup>2</sup> IAT FS-SMS Introductory Course	IAT FS-SMS Intermediate/Advanced Course  Washington Office-approved Upset Prevention and Recovery Training

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 60 – AVIATION TRAINING**

<b>Position</b>	<b>Required Training</b>	<b>Recommended Training</b>
	Fundamentals of ISBAO or Washington Office approved equivalency  IAT A-110 – Aviation Transport of Hazardous Materials	
Agency Pilot (RW)	CRM <sup>1</sup> IAT RW Flight Manager Personal Responsibility & Liability Human Factors in Aviation GCNP-SFRA <sup>2</sup> IAT FS-SMS Introductory Course Fundamentals of ISBAO or Washington Office approved equivalency IAT A-110 – Aviation Transport of Hazardous Materials	IAT FS-SMS Intermediate/Advanced Course
Agency Remote Pilot (UAS)	CRM <sup>1</sup> IAT DOI Remote Pilot (UAS) IAT FS-SMS Introductory Course	Personal Responsibility & Liability  Human Factors in Aviation
Exclusive Use Helicopter or Fixed-Wing Manager	CRM <sup>1</sup> Human Factors in Aviation COR II Certification <sup>3</sup> IAT FS-SMS Introductory Course IAT A-110 – Aviation Transport of Hazardous Materials	COR III Certification <sup>3</sup>
Air Tactical TGS	CRM <sup>1</sup> Human Factors in Aviation COR II Certification <sup>3</sup> IAT FS-SMS Introductory Course	GCNP-SFRA COR III Certification <sup>3</sup> Pinch Hitter <sup>4</sup>

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 60 – AVIATION TRAINING**

<b>Position</b>	<b>Required Training</b>	<b>Recommended Training</b>
Spotter (smokejumper, rappel, and short-haul)	CRM <sup>1</sup> Human Factors in Aviation IAT FS-SMS Introductory Course IAT A-110 – Aviation Transport of Hazardous Materials	
Water Scooper Manager	CRM <sup>1</sup> Human Factors in Aviation COR II Certification <sup>3</sup> IAT FS-SMS Introductory Course Waterscooper Manager Workshop (every 3 years)	COR III Certification <sup>3</sup>
Loadmaster	CRM <sup>1</sup> IAT F/W Flight Manager Special Use Agency Loadmaster Training IAT FS-SMS Introductory Course IAT A-110 – Aviation Transport of Hazardous Materials	Commercial Loadmaster/Flight Attendant Training
Ramp Manager – Large Transport Aircraft	IAT A-110 – Aviation Transport of Hazardous Materials	
Aircraft/aviation Dispatcher	CRM <sup>1</sup> IAT Aircraft/aviation Dispatcher Curriculum Human Factors in Aviation IAT FS-SMS Introductory Course	FAA Aircraft/aviation Dispatching Course
Airtanker Base Manager	CRM <sup>1</sup> Human Factors in Aviation	

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK  
CHAPTER 60 – AVIATION TRAINING**

<b>Position</b>	<b>Required Training</b>	<b>Recommended Training</b>
	IAT FS-SMS Introductory Course	
Zone/Forest/Unit Aviation Officer	CRM <sup>1</sup> Human Factors in Aviation IAT FS-SMS Introductory Course	
<sup>1</sup> CRM training listed as “CRM” in this table is comprised of N9059 – CRM 7 Skills (required) and RT9059F – CRM 7 Skills Refresher (every 3 years) <sup>2</sup> Grand Canyon National Park – Special Flight Rules Area <sup>3</sup> For exclusive use positions. Only one is required per exclusive use contract. <sup>4</sup> TBD what is approved training for this requirement		



**FOREST SERVICE MANUAL  
NATIONAL HEADQUARTERS (WO)  
WASHINGTON, DC**

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

**CHAPTER 70 – RESERVED**

**Amendment No.:** 5709.16-2020-8

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** Jaelith Hall-Rivera  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by Handbook number and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this Handbook was 5709.16-2020-7 to 5709.16\_60.

<b>New Document</b>	5709.16_70	3 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>		00 Pages

**Digest:**

70 – This amendment reserves this chapter for future use.



**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 70 – RESERVED**

**Table of Contents**

<b>70 – RESERVED .....</b>	<b>3</b>
----------------------------	----------

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 70 – RESERVED**

**70 – RESERVED**

Reserved.



**FOREST SERVICE MANUAL  
NATIONAL HEADQUARTERS (WO)  
WASHINGTON, DC**

**FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK**

**CHAPTER 80 – RESERVED**

**Amendment No.:** 5709.16-2020-9

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** Jaelith Hall-Rivera  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by Handbook number and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this Handbook was 5709.16-2020-8 to 5709.16\_70.

<b>New Document</b>	5709.16_80	3 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>		00 Pages

**Digest:**

80 - This amendment reserves this chapter for future use.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 80 – RESERVED**

**Table of Contents**

<b>80 – RESERVED .....</b>	<b>3</b>
----------------------------	----------

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 80 – RESERVED**

**80 – RESERVED**

Reserved.



## FOREST SERVICE MANUAL NATIONAL HEADQUARTERS (WO) WASHINGTON, DC

### FSH 5709.16 – AVIATION MANAGEMENT HANDBOOK

#### CHAPTER 90 – RESERVED

**Amendment No.:** 5709.16-2020-10

**Effective Date:** 09/09/2020

**Duration:** This amendment is effective until superseded or removed.

**Approved:** Jaelith Hall-Rivera  
Associate Deputy Chief, S&PF

**Date Approved:** 09/04/2020

**Posting Instructions:** Amendments are numbered consecutively by Handbook number and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this Handbook was 5709.16-2020-9 to 5709.16\_80.

<b>New Document</b>	5709.16_90	3 Pages
<b>Superseded Document(s) by Issuance Number and Effective Date</b>		00 Pages

#### **Digest:**

90 – This amendment reserves this chapter for future use.

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 90 – RESERVED**

**Table of Contents**

<b>90 – RESERVED .....</b>	<b>3</b>
----------------------------	----------

**FSH 5709.16 – AVIATION MANAGEMENT AND OPERATIONS HANDBOOK  
CHAPTER 90 – RESERVED**

**90 – RESERVED**

Reserved.