

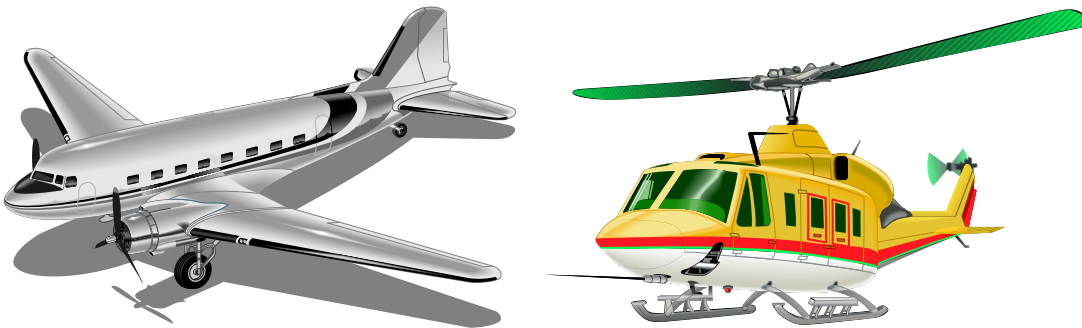


**United States Department of Agriculture  
Forest Service**

# **Aviation Management Plan**

## **Northern & Intermountain Regions**

**2008**



**FOREWORD**

This document supplements the USDA-Forest Service (FS), *National Aviation Management Plan*. Information presented in this document is a critical component of the Northern (R-1) & Intermountain (R-4) Regions' Aviation Program.

Questions regarding this plan should be directed to the appropriate Regional Aviation Officer (RAO). The Northern Region, RAO, retains the original signature copy and electronic version of this plan.

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## AVIATION PROGRAM

### Chapter 1

#### 1.1. PURPOSE

The purpose of the plan is to identify regional aviation management goals, objectives, programs and activities, and to provide strategic and operational guidance to each organizational level as appropriate. This plan is supplemental to the *National Aviation Management Plan* (FSM 5704.3 and 5711) and will serve as the Regional and Unit Aviation Management Plan. Individual units may supplement this plan. When supplemented, the Regional Aviation Officer (RAO) will review the Unit Aviation Management Plan.

#### 1.2. OBJECTIVES

- A. To provide emphasis on aviation safety.
- B. To provide an expansion for local guidance, but not a replacement for aviation management directives.
- C. To describe regional aviation management programs and activities.
- D. To provide strategic direction for aviation activities.

#### 1.3. PROGRAM OVERVIEW

Regional aviation resources include contract, rental, cooperator, and Forest Service (FS) owned or leased aircraft. The primary mission of these aircraft is wildland fire suppression. Mission support aircraft include airtankers, lead-planes, helicopters, smokejumper/paracargo, fire-detection, and passenger transportation aircraft. Other missions include, but are not limited to, support for various land management activities such as prescribed burns, forest health protection, aerial photography, law enforcement, and search/rescue operations. The Intermountain Region participates in military intercept training exercises in support of Department of Homeland Security tactical fighters.

#### 1.4. ORGANIZATION AND STAFFING

(Consult Regional Organizational Charts for listing of staff. Region 1 and Region 4 may not identify one or more of the following on their respective organizational charts.)

- A. The regional aviation staff responsibilities are:
  - 1. Regional Aviation Officer (RAO). Responsible for leadership, management, and direction of the aviation program, including coordination of aviation activities with other staffs, agencies, groups, and forests (FSM 5720.48c)
  - 2. Deputy Regional Aviation Officer (DRAO) (Intermountain Region). Serves as the principal assistant to the Regional Aviation Officer providing leadership and management of the Regional Aviation Group operations.
  - 3. Regional Aviation Safety Manager (RASM). Responsible for developing and implementing a comprehensive aviation safety program. This includes policy

development, safety awareness and mishap prevention, risk and trend analysis, mishap reporting and investigation (FSM 5720.48d).

4. Regional Aviation Management Specialist (Intermountain Region). Responsible for FS aircraft dispatch, other than tactical missions, schedules and procures administrative aircraft. Manages the Aircraft Management Information System (AMIS) and the national senior executive service travelers program.
5. Supervisory Pilot. Responsible for the supervision of regional agency pilots by mission specialty, i.e. smokejumper, ASM/Leadplane, helicopter, infrared, resource reconnaissance, and photography.
6. Fixed Wing Operations Specialist (R-1), Light Fixed-Wing Program Manager (R-4). Responsible for leadership, coordination and direction of the regional fixed-wing program. Leads and coordinates development of recommended policies, standards and operational procedures. Organizes the regional fixed wing contract light aircraft inspection and pilot approval program. Provides technical support for the Regional Aviation Contracting Officer, Regional Aviation Safety Manager, the Regional Aviation Officer, and Forest Aviation Officers.
7. Regional Helicopter Program Manager (Intermountain Region). Serves as principal helicopter program advisor to the Region in the development and implementation of policies, programs and standard practices for helicopter programs and specialized projects. This includes leadership and assistance to the USDI Aviation Management Directorate, commercial vendors, the State of Nevada Department of Forestry, State National Guard Aviation Units, and Bureau of Land Management aviation users in the region to support the Interagency Aviation and Fire Management combined effort. Also responsible for performing contract helicopter inspections and pilot approvals.
8. Helicopter Operations Specialist (HOS). Responsible for leadership, coordination, and direction of the helicopter program (Northern Region). Provides technical assistance to the Regional Helicopter Program Manager (Intermountain Region), Regional Aviation Contracting Officer, Regional Aviation Safety Manager, Regional Aviation Officer and Forest Aviation Officers. Leads and coordinates development of recommended policies, standards and operational procedures. Coordinates training in helicopter management. Provides technical support for specialized programs such as rappel, aerial ignition, helitack, and aerial delivery systems.
9. Assistant Helicopter Operations Specialist. Serves as assistant to the Helicopter Operations Specialist. Provides staff support to the Helicopter Operations Specialist for helicopter operations including direct and indirect fire suppression, prescribed burning, remote area supply, helicopter crew training (other than pilot), facilities adequacy, and equipment suitability.
10. Helicopter Inspector Pilot (HIP) (Northern Region). Responsible for performing contract helicopter inspections and pilot approvals. Assist the Helicopter Operations Specialist in the helicopter program management and oversight.
11. Pilots. Responsible for safe, efficient, and cost effective use of FS owned or leased aircraft (FSM 5704.7 and 5712.31).

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12. Airplane Inspector Pilots. Assists the Fixed Wing Operations Specialist in performing contract inspections and pilot approvals.
13. Regional Aviation Maintenance Program Manager (Intermountain Region) and Aviation Safety Inspector, Airworthiness (ASI) (Northern Region). Serves as the principal technical advisor and manager for projects and activities pertaining to the Regional Aviation Maintenance and Inspection Program. Provides program leadership, guidance, and technical advice on Regional and National Maintenance activities. Develops corrective measures to enhance effective operations of the Regional Aviation Maintenance Program. Works closely with the National Office Aviation Group in coordinating airplane and helicopter standardization, maintenance requirements and equipment upgrades and modification to increase operational effectiveness and safety of aviation resources.
14. Deputy Regional Aviation Maintenance Manager (Intermountain Region). Serves as principle assistant to the Regional Aviation Maintenance Manager. Develops standards for the implementation of National and Regional aircraft maintenance programs and avionics issues for Forest Service owned and operated aircraft, including heavy and light piston and turbine powered airplanes and helicopters. Maintains, inspects, and approves regional aviation firefighting equipment including helicopter buckets, aerial ignitions devices and rappel equipment and fixed-wing retardants tanks, thermal infrared imaging cameras and ASM/Leadplane related equipment.
15. Regional Avionics Inspector (Intermountain Region). Provides program leadership, guidance, and technical advice on Regional and National avionics related activities. Performs avionics systems and aircraft inspection, equipment inspections, applications engineering and evaluation engineering to support the aviation program.
16. Aircraft Maintenance Technician. Responsible for providing aircraft maintenance and support for WCF aircraft. Assists the ASI with Forest Service and contract aircraft inspections.
17. Instructor and Evaluator Pilots. Only properly certified and qualified pilots, as designated by the Regional Aviation Officer and/or National Fixed Wing or Helicopter Standardization pilots will be responsible for flight training and management of the Regional standardization and evaluation programs.

B. The Regional Aviation Staff is supported by:

1. Geographic Area Coordination Center (GACC) Manager. Coordinates resource orders for aircraft received from local dispatch offices, Geographical Area Coordination Centers and from the National Interagency Coordination Center (NICC). Coordinates Temporary Flight Restrictions (TFR) and Notices to Airmen (NOTAM) with the Federal Aviation Administration (FAA).
2. GACC Logistics/Aircraft Coordinator. Responsible for regional aircraft coordination, primarily the scheduling and tracking of regional aviation assets while striving for a safe and cost effective utilization of those aviation resources. Responsible for the area coordination of smokejumper aircraft, lead planes, light airplanes, helicopters, and airtankers. Processes resource orders for aircraft received from within the geographic area and from NICC. Serves as the primary contact for aviation dispatch related questions.

3. Regional Aviation Contracting Officer. Coordinates development, issuance, and administration of aviation contracts. Functions as the Administrative Contracting Officer (ACO) for national aviation contract resources within the region.
4. Fixed-Wing Base Specialist. Responsible for monitoring, inspecting, and reporting fixed wing base operations.
5. Retardant Specialist. Responsible for monitoring and evaluating retardant products.
6. Air Tactical Group Supervisor (ATGS) Coordinator. Responsible for coordinating training and disseminating information in support of the ATGS program.
7. Unit/Forest Aviation Officers. Responsible for the direction, leadership, and management of the unit aviation program, including coordination of aviation activities with regional and cooperator agency aviation staff.

#### 1.5. PROGRAM AND RESOURCES

##### A. Programs:

1. Aviation Contracting. Regional/Forest contract specialists develop, issue, and administer aviation contracts and rental agreements, with aviation personnel serving as technical experts, contracting officer's representatives and inspectors.
2. Aviation Training. Regional aviation trainers provide specialized training in many aviation job skills i.e. helitack, aerial attack, SEAT manager, aerial ignition, rappel and helicopter management. Interagency Aviation Training (IAT) guide identifies position training requirements for aviation functions. Specialized training courses can be accessed on the IAT website at: <http://iat.nifc.gov/online.asp>.
3. Equipment Development. Regional aviation staff provides technical expertise for aviation equipment improvement and development.
4. Pilot and Aircraft Approval. Regional aviation staff evaluates vendor pilots and aircraft. In conjunction with Department of Interior Aviation Management Directorate (AMD), the FS maintains a list of approved aircraft and pilots through the Aviation Resource System (ARS) database.
5. Safety Technical Assistance Teams. These teams are activated during periods of high aviation activity or threat and are dispatched to provide safety, technical assistance and conduct evaluations. Team composition depends on the complexity and type of aviation activities involved with the incidents.

##### B. Resources:

1. Administrative/Project Aircraft. Aircraft used to support agency activities.
2. Cooperator Aircraft. Tribal, military or other government agency aircraft.
3. Large Airtankers. These aircraft are national resources used to drop retardant/suppressants on wildland fires. Contract administration of airtankers is the responsibility of the national contracting group. Contracting Officer Representative's

(COR's) are nationally designated base managers with responsibility for daily contract administration and management. Aircraft inspections and pilot approvals of airtankers are the responsibility of the Washington Office West (Boise) Fixed- Wing and Maintenance Specialists. However, certain designated regional inspectors, contracting officers, and Airtanker Base Managers conduct regional airtanker safety briefings, and provide additional management expertise for Airtankers operations.

4. Type 1 Helitankers/Helicopters. These aircraft are national resources used to drop water/retardant/suppressants on wildland fires. Contract administration of Type 1 Helicopters is the responsibility of the national contracting group. Aircraft inspections and pilot approvals are the responsibility of the Washington Office West (Boise) Helicopter and Maintenance specialists. Nationally, numerous Type 1 Helicopters are under exclusive use contracts and are assigned for administrative purposes to hosting Forests in several Regions. Each hosting Forest is expected to provide helicopter managers and COR's throughout the contract activation period.
5. ASM/Leadplane. These aircraft are national resources used to assist and coordinate airtankers in the dropping of retardant/suppressants on wildland fires.
6. National Type II Large Fire Support Helicopters. These Exclusive Use helicopters are contracted primarily for large wildland fire support. Forests within the Region that host these helicopters provide helicopter management and supporting crews.
7. Regional Type 2 Exclusive Use Helicopters. These Exclusive Use helicopters are contracted primarily for local Forest Initial Attack.
8. Observation/Reconnaissance. These aircraft are typically local resources used for fire detection, thermal imagery, aerial attack, forest health surveys, resource surveys, and other projects.
9. Single-Engine Airtankers (SEAT). SEAT aircraft may be national, regional, or local resources. They are used to drop retardant/suppressants on wildland fires.
10. Smokejumper/Paracargo. These aircraft are national resources used to provide rapid response parachute delivery of firefighters and cargo.
11. Wildland Fire Aircraft. Aircraft contracted in support of the FS Fire and Aviation Program such as transport aircraft, Air Tactical Group Supervisor platforms etc.
12. Aerial Photography. These aircraft are Regional resources responsible for providing aerial photography services to the forests.
13. Infrared. These aircraft are national, regional, and local resources providing infrared support and service to government agencies engaged in the detection and suppression of wildfires on public lands.
14. Unmanned Airborne Vehicles. Aircraft used in support of FS Fire and Aviation Program management. These aircraft also provide assistance to agencies engaged in law enforcement on Forest Service lands.



## AVIATION PROCEDURES AND INFORMATION

### Chapter 2

#### 2.1. GENERAL

Forest Service aviation activities include "civil" and "public" operations. Civil aircraft operations shall comply with FSM 5703.32. Public aircraft operations shall comply with FSM 5703.31. Life-threatening emergencies may require a deviation from policy; however, FS employees shall follow FS aviation safety practices and policies to the maximum extent practical. These situations shall be reported by the pilot and documented on SAFECOM Form FS-5700-14 which is available on the web at: <http://www.safecom.gov>.

#### 2.2. PROCEDURES

The following activities and procedures will be guided by the stated policy. In some cases a more detailed explanation is required. In those cases, the appropriate reference is shown.

- A. Aircraft and Pilots. Forest Service employees may use only aircraft and pilots that have been properly approved (FSM 5703.1 and 5720.3.4). Contract or cooperator aircraft will display an Aircraft Data Card or letter of authorization in the aircraft. Contract and cooperator pilots are required to present a Pilot Qualification Card, or letter of authorization listing the missions for which they are approved to fly. Passengers have the responsibility to request to see these documents, and to confirm that the aircraft and pilot are current for the intended mission.
- B. Airspace Restrictions.
1. Temporary Flight Restrictions (TFRs) and Notices to Airmen (NOTAM) shall be coordinated through the appropriate dispatch centers and the Geographic Area Coordination Centers (FSM 5715).
  2. The Fire Traffic Area (FTA) will be in effect during initial, extended attack, and large fire. In some cases, the FTA may be coincident with a TFR. Coordination of the FTA will be the responsibility of the agency with fire protection responsibility. The local dispatch center will be the point of contact for aviation resources approaching and departing the FTA when no aerial supervision is in place.
  3. Requests for airspace restrictions over wildland fires will be processed through the appropriate dispatch center.
  4. Requests for airspace restrictions over wildland fire incidents may be made directly to the FAA by the Forest Aviation Officer (FAO) following the procedures in Chapter 6 of the *Interagency Airspace Coordination Guide*. Notify the appropriate dispatch center of action taken and provide copies of TFR requests. (Note: Following the events of 9/11, it is no longer appropriate to order a TFR for prescribed fires or activities not described in 14 CFR 91.137 (a) (1), (a) (2).
  5. Airspace coordination shall be in accordance with the *Interagency Airspace Coordination Guide*.

C. Backcountry Mountain/Remote Airstrips.

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FS classified backcountry airstrip operations have unique requirements for both pilot and aircraft. For purposes of pilot and aircraft qualifications/certifications, the Northern and Intermountain Regions consider flights into backcountry airstrips as special mission flights. Special Mission: Aviation resource mission in direct support of incidents, such as leadplane and aerial supervision module flights, smokejumper/paracargo flights, reconnaissance, infrared, aerial photo/survey, backcountry mountain/remote airstrips, fire reconnaissance, and other missions requiring special training and/or equipment. (FSM 5710.5) Prior to being dispatched to a backcountry airstrip, a pilot must have a mountain airstrip endorsement on their Pilot Qualification Card and meet specific currency requirements for each airstrip.

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- 1) An initial Backcountry Mountain/Remote Airstrip endorsement for prospective pilots will require a satisfactory landing and takeoff at two backcountry airstrips during the evaluation ride.
- 2) To maintain a Backcountry Mountain/Remote Airstrip endorsement, pilots must make a minimum of five (5) landings and takeoffs from backcountry airstrips during the previous year. Of the five (5) landings and takeoffs, at least one landing and takeoff must occur at a second backcountry airstrip. To maintain specific airstrip currency, a pilot must conduct an operation (landing or takeoff) into the individual airstrip within the preceding 24 months.
- 3) Forests will develop and maintain an *Airstrip Management Plan* for each Forest owned and operated airstrip within their responsibility.
- 4) Forest owned and operated airstrips will be maintained in accordance with FSM 7730.
- 5) Personal Protective Equipment (PPE) will be worn as required by this plan (Chapter 2.2.X.4 PPE for the Northern Region). Exceptions for the above require specific agency waiver to policy for extreme environmental conditions, i.e. wet, boggy, extreme cold conditions.
- 6) Pilot and FWFM/crew will conduct a Rapid Risk assessment (RRA) prior to landing at any back country airstrip. Elements of the RRA may include, but are not limited to: weather conditions (including density altitude), pilot currency (see #2 above), aircraft performance, communications, and airstrip complexity (terrain, one way in/out).

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D. Airtanker Operations.

1. Multi-Engine.

- a. Unless local forests establish more restrictive operational requirements, airtankers in Regions 1 & 4 shall drop retardant/suppressants from 30-minutes before official sunrise to 30-minutes after official sunset. (FSM 5709.16.35.32)
- b. Airtankers and ASM/Leadplanes in Regions 1 & 4 are normally not assigned to a specific incident, but rather, may be dispatched to any incident as priority dictates.

- c. Initial attack and suppressing wildfires in urban-interface areas are regional priorities.
- d. Airtankers and ASM/Leadplanes will use the flight-following frequency assigned by local dispatch centers and will use the same check-in procedures established in the National Mobilization Guide.
- e. An Aerial Supervision Module (ASM)/Leadplane will be requested for airtanker operations.
- f. An Air Tactical Group Supervisor is required for complex aviation operations (FSM 5716.32).
- g. Retardant/suppressant drops in congested areas can be supervised by an Air Tactical Group Supervisor if a leadplane is on order (FSM 5714.11, Exhibit 01, Grant of Exemption 392). Also see *Interagency Leadplane Operations Guide* (ILOG).
- h. Modular Airborne Fire Fighting System (MAFFS) is designed for use in military C130 aircraft. This system is capable of delivering 3,000 gallons of retardant, but normally carries 2,700 gallons. The Assistant Director for Operations, Washington Office (Boise) is directly responsible for the MAFFS Program.
- i. Contracting of multi-engine airtankers is done by the Washington Office contracting group in Boise, Idaho. Inspection and approval of pilots and airtankers is the responsibility of the Washington Office West (Boise) Fixed Wing Specialist and the Maintenance Specialist/Aircraft Inspector respectively. However, designated Regional Pilot Inspectors and Maintenance Inspectors may be requested to provide assistance throughout the contract periods.

2. Single-Engine.

- a. Single-engine airtankers (SEAT's) may be positioned at designated airtanker bases or SEAT operations may exist at an airport in close proximity to a fire provided appropriate aircraft management is present. The use of single-engine airtankers on FS incidents may supplement planned coverage by FS and cooperator multi-engine airtankers (FSM 5713.44).
  - b. Situations may occur (i.e., terrain limitations) where maneuverability makes it ineffective to use the large airtankers, but safe to use a SEAT. If the large airtanker pilot, Airtanker Coordinator, or Air Tactical Group Supervisor determines that it is appropriate, SEAT's should be ordered. The pilot will make the final determination on the safety of any drop conditions for which they are requested.
  - c. When Level II SEAT pilots are used on an incident concurrently with more than one other aircraft, aerial supervision is required.
  - d. SEAT performance requirements are addressed in National Policy direction.
- E. Animal Transport (Internally). Authorization shall be requested and approved by the Unit/Forest Aviation Officer (UAO/FAO) before the flight is scheduled. The pilot shall be

notified and must approve the transportation of animals before they are loaded aboard an aircraft. Animals must be confined, restrained, or, when necessary, sedated.

- F. Project Aviation Safety Plans (PASP). Any agency activity involving aircraft or aviation resources becomes an aviation project (except end product contracts). Agency personnel must contact local aviation managers prior to conducting any aviation activity. Involvement of agency aviation personnel is necessary at the earliest possible planning stage. Employees will review applicable aviation and safety plans before conducting aviation projects. The Regional Aviation Officer or their designee will review and/or approve special aviation project plans, which are outside the scope of those projects covered by the Unit Aviation Management Plan. Contact the RAO in determining this need. When appropriate, Aviation Project Plans submitted to the RAO shall be not less than 5 working days prior to the start of the project.
- G. End Product Contract. Reference FSM 5711.2 and 21
- H. Aviation Training. Managers, supervisors and employees who are pursuing new or additional qualifications shall use the Interagency Aviation Training Guide to determine minimum course and currency requirements at the full performance level for Forest Service personnel involved in aviation operations. Course requirements, computer-based training, and guides may be found at [www.iat.gov](http://www.iat.gov).
- I. Avionics. Reference FSH 5709.16.11.24c  
Additionally, beginning January 1, 2006, all Region 1 WCF, leased, and contracted aircraft will require an operable Automated Flight Following Unit (AFF). Pilots shall be capable of operating the AFF unit installed in the aircraft they are flying.
- J. Fixed-Wing Flight Manager (FWFM). For other than scheduled airline service flights, a qualified and current FWFM will be designated for all airplane passenger flights. The FWFM must be an agency employee. The unit scheduling the flight will provide this designation. When a flight manager, such as a mission coordinator or helicopter manager, is already assigned, a FWFM will not need to be designated.
  - 1. Individuals designated as FWFM shall have received training in performing FWFM duties. A FS pilot may be designated as FWFM. Training requirements are found in the IAT Aviation Use and Management Qualifications Guide at <http://www.iat.gov>.
  - 2. FWFM duties and responsibilities are found in FSH 5709.16.31.22 and Chapter 60 of the *National Interagency Mobilization Guide*.
- K. Dispatching.
  - 1. Aircraft Mishap Response Actions. In the event that a FS owned, leased or contracted aircraft is determined to be overdue (30-minutes after ETA at destination, or if 2 successive periodic checks are unsuccessful) the dispatcher will follow procedures in the Aircraft Mishap Response Plan (Aircraft Crash, Search, and Rescue Guide).
  - 2. Flight Following. Flight following shall be in accordance with *Regional and National Mobilization Guides*. When Automated Flight Following (AFF) is available, it will be the Primary means of flight following and radio flight following will be Secondary. When AFF is not available, all flights requiring a fifteen (15) minute check-in will report location by Lat/Long, geographic location (if known), and heading. Lat/Longs will be reported in degrees, minutes and tenths (decimal minutes). (DDD.MM.M)

3. Flight Request (Administrative). Prior to submitting an “administrative” flight request, a completed “Flight Request/Justification for Administrative Use of Aircraft” (Form FS 5700-10) and “Travel Cost Comparison Worksheet” (Form FS 5700-11) shall be provided to the appropriate dispatch center (FSM 5711.3).
  4. Flight Plans. Reference FSH 5709.16.33 and Chapter 20 of the National/Regional Mobilization Guides.
  5. Ordering Flights. Reference Chapter 20 of the National/Regional Mobilization Guides.
  6. Search and Rescue. When Search and Rescue or body retrieval is performed by the Forest Service utilizing exclusive use or vendor contracted aircraft on Forest Service administered land, expenditure of government funds and resources can be committed. When these activities occur outside National Forest administered lands, a use agreement or MOU (with a reimbursement instrument) with the ordering agency, i.e. local county, sheriff, city or town coroner, city police) should be in place before expenditure of government funds and resources can be committed. (Note: The State of Montana Bureau of Aeronautics has unique jurisdictional responsibilities.)
  7. Search and Rescue (Wilderness) In the interest of public safety, Forest Supervisors shall authorize the initial flight for medical, or rescue aircraft missions in wilderness areas in Regions 1 & 4. The advance approval for initial missions in wilderness is only applicable to life-threatening emergencies in which speed is critical. Subsequent flights will require a separate Forest Supervisor approval.
- L. Free-Fall Delivery (Airplanes). Airplanes are restricted to dropping of items specifically designed for free-fall, such as standard FS message droppers; when it is necessary to establish contact with ground personnel in the absence of adequate communication by other means. Use of free-fall items, such as message droppers from detection aircraft, shall be done by personnel who have received training from the Regional Aviation Units in the procedures and with aircraft at least 500 feet above ground level (AGL). All other free-fall or paracargo dropping from airplanes will be done by a qualified smokejumper spotter and with aircraft approved for cargo dropping.
- M. FS Employee Pilots Not Employed as Pilots Reference FSM 5712.35
- N. FS Employee-Owned Aircraft Approval Reference FSM 5713.42
- O. Hazard Maps.
1. Each Unit will maintain a current flight hazard map. Copies of this map shall be available and displayed for use at each location where flight planning, flight tracking, aircraft dispatch, or flight mission briefings occur. Examples of locations are; dispatch offices, permanent aircraft bases, temporary helibases, or special project sites. Geographical Information System (GIS) should be utilized if possible. A flight hazard layer should be built which depicts the local hazards.
  2. Particular attention shall be placed on hazards in the approach and/or takeoff patterns of heliports, helispots or airstrips; and lines, which cross drainages. Examples include transmission lines, wires and cables; television translators, microwave stations, and towers. Medical facilities with landing areas or heliports should be shown on the hazard map. Those with air ambulance capability should also be indicated.

3. Airports, landing strips, heliports, maintained helispots, known avoidance areas, specific flight hazards, MTRs, MOAs, TFRs and SUA's should be indicated.
4. Temporary hazards, such as blasting, shall be marked and noted with legal information, such as name of contact, radio frequency, legal location, dates and/or time in effect.
5. All personnel are responsible for reporting aerial hazards to the UAO/FAO as the designated point-of-contact for inclusion of information on the hazard map.
6. Hazard maps shall be updated annually. Each map will include the date it was created and/or updated. Unit or Forest Aviation Officers are responsible for the development and update of Aerial Hazard Maps.
7. Aircraft/project managers shall review flight hazard maps prior to initiating flight operations.

P. Hazardous Materials (HazMat) Transport.

1. HazMat is a commonly used term for hazardous materials including explosives, compressed gases, flammable liquids and solids, oxidizers, poisons, corrosives, and radioactive materials that have been classified by the U.S. Department of Transportation (DOT) to require special containers, specific labeling, and special handling for transportation. The FS, along with the Department of the Interior (DOI), and several states, is party to Exemption DOT-E 9198, which allows aircraft transportation of hazardous materials in accordance with the *Aviation Transport of Hazardous Materials Guide*. This guide provides description, as well as required procedures for aircraft transportation, of HazMat items commonly used in resource management activities. Refer to FSM 5714.2, the Exemption, and the Guide for more specific requirements, but some important provisions are:
  - a. The guide applies only to field operations. HazMats that are not specified in the guide and those transported by aircraft not under the exclusive direction and control of the FS or DOI, must be transported in compliance with 49 CFR Part 175.
  - b. A copy of exemption DOT E-9198, a current Emergency Response Guidebook , and the most current *Aviation Transport of Hazardous Materials Guide* must be carried aboard each aircraft operating under the provisions of the exemption.
  - c. Personnel on aircraft carrying HazMat will be limited to those persons essential to mission accomplishment.
  - d. HazMat will only be carried on aircraft when other means of transportation are impractical.
  - e. The pilot and all personnel aboard an aircraft must be notified of HazMat being transported.
  - f. Any mishap involving HazMat shall immediately be reported to the Regional Ground Safety or Regional Engineering representative.

- g. Documented training is required in the proper handling of a HazMat for each person who loads or unloads HazMat on an aircraft.
  2. Pressurized irritants, such as Oleoresin Capsicum (OC) or pepper spray, aboard an aircraft present two types of risk to employees:
    - a. In the event of an accidental discharge within the confines of an aircraft cabin, it is likely that all occupants would be incapacitated. In addition to other HazMat handling requirements, Chapter 9 of the *Aviation Transport of Hazardous Materials Guide* specifies that "Irritants such as bear repellent or tear gas, carried within the cabin of the aircraft, must be carried in a separate sealed container." Missoula Technology and Development Center (MTDC) recommends the use of a vented container with foam liner in its information FS pamphlet "*Safety Containers for Transporting Bear Repellent Spray Canisters in Vehicles.*" Supplement 6700-98-2 provides information for authorization of Region 1 employees to carry this type HazMat in field operations.
    - b. Such items are treated as weapons by airport security if passengers attempt to board scheduled airlines with them in possession.

Q. Helicopter Operations.

1. Bucket Operations (Extended). Bucket operations will be in accordance with the bucket manufacturer's operating guide. In order to prevent buckets from contacting the tail rotor, buckets will be hooked directly to the belly hook or be attached to a line no shorter than 50'. Continuous communications capability between the helicopter and the flight following station or another aircraft is required while operating at the dip site. When practical, a ground observer able to communicate with the helicopter at the dip site may be utilized for this purpose.
2. External Loads (Long-line/Remote Hook). Only pilots approved for external load work will perform external loads. Qualified personnel will conduct long-line/remote hookups.
3. Free-Fall Delivery. For helicopter free-fall delivery refer to Chapter 11 of the *Interagency Helicopter Operations Guide* (IHOG). The HOS will be responsible for certifying individuals conducting helicopter free-fall delivery.
4. Initial Attack and Fire Support Transport. A helicopter manager will supervise initial flight to a fire when the passengers are other than trained helitack. During fire support, personnel qualified in helicopter use will supervise the operation at each helicopter-landing site.
5. Load Calculations. All flights will be within the limits shown on the "Helicopter Load Calculation Form FS 5700-17 or Form OAS 67 prepared by the pilot and signed by both the pilot and helicopter manager.
6. Manager Qualifications. Helicopter Manager qualifications shall be reviewed annually by the HOS and Regional/Forest IQCS Group.
7. Night Operations. Helicopter operations shall be conducted only from 30-minutes before official sunrise to 30-minutes after official sunset, except as described in FSM 5716.2.

8. Personal Protective Equipment (PPE) Requirements. The intent of this requirement is to equip individuals with the best PPE to the extent possible for all helicopter flights. Personal protective equipment includes approved fire resistant flightsuit, protective headgear, gloves, and leather boots.
  - a. As a minimum, individuals shall wear the PPE required for a firefighter as specified in the IHOG, Chart 9-1. Any deviation from this requirement must be approved in accordance with the PASP recommended by the RAO.
  - b. In lieu of flightsuit, firefighters approved fire resistant pants and shirt can be worn.
  - c. In accordance with Chapter 9 of the IHOG, rubber/synthetic boots may be worn if the environmental situation warrants; otherwise leather boots are required.
9. Projects. A qualified helicopter manager will supervise project helicopter operations. The Forest Helicopter Program Manager must be consulted early in the project planning stage. If there is no local Helicopter Program Manager or acting, contact the FAO or Regional HOS.
10. Rappel/Cargo Letdown. Helicopter missions involving rappel/cargo letdown operations shall be conducted in accordance with the *Interagency Helicopter Rappel Guide* (IHRG). The HOS will be responsible for approving operating plans for those units conducting helicopter rappel and cargo letdown operations.
11. Short-Haul USDA Forest Service neither conducts nor manages short haul operations. For emergency operations, refer to IHOG Chapter 17, section V.(A.), page 17-2, and Great Basin MOB Guide section 24.9.6 (*Intermountain Region*).
12. Wilderness Areas. Helicopter use in wilderness areas must first be approved for fire, project, or emergency situations according to each specific Wilderness Plan. Longline operations require a risk assessment, including consideration of other delivery methods before use. Longline and rappel operations are classified as helicopter landings in some wilderness areas and require approval before use. (Northern Region)
13. Heli-ski Permit Operations. Flight Operations Policy and requirements for Personal Protective Equipment is clarified in FSM 5716.03, IHOG, and the Regional Heli-skiing Permit Administration Aviation Operations Plan.

To facilitate operational guidelines for Heli-Skiing Operations on National Forest Lands within the Region, the following procedures shall be in place. A copy of the following documents shall be maintained at the Forest and Regional Office.

1. All aircraft and pilots, to be utilized by an operator, conducting heli-skiing operations shall be certified in accordance with CFR Title 14, Federal Aviation Regulations Part 135, and be in full compliance with these regulations to transport passengers for compensation or hire.
2. A copy of the operators Part 135 certificate, along with the operations specifications from the "A" section listing the aircraft Authorization and the "D" section listing the aircraft maintenance requirements. This information shall be provided to the Regional Aviation Staff prior to commencing heli-ski operations.

Comment: Added comments



3. A copy of the Federal Aviation Administration Form 8410-3, or equivalent, for each pilot's competency must be provided to the Regional Aviation Staff, prior to issue of a Forest Service permit to operate on National Forest Lands.
4. A current copy of the Special Use Permit from the Forest for Heli-skiing operations on National Forest Land shall be provided to Regional Aviation Staff.
5. An approved current copy of the Regional Heli-skiing Permit Administration Aviation Operations Plan shall be available prior to heli-ski operations.
6. Letter of Approval (FSM 5713.51) Planned Administrative Flights. *In unusual circumstances when approved aircraft are not available, or their use is not practical, Forest Service personnel may perform their official duties in aircraft lacking prior approval. Regional Foresters may approve these flights provided they approve each flight or series of flights by letter containing a list of authorized employees, appropriate restrictions, and expiration date.*

Typically, helicopters which are being utilized for heli-skiing on National Forest Lands **are not under contract** to the US Forest Service, therefore they are considered Non-Forest Service Approved Aircraft (FSM 5713.5). These aircraft are only authorized to perform heli-skiing operations in conjunction with an approved heli-ski guide service under a Special Use Permit issued by the Forest. Any other aviation activity such as; wildlife surveys, area reconnaissance, avalanche control while transporting Forest Service personnel, must utilize either an Exclusive Use or Call-When-Needed helicopter contract.

- R. Low-Level Flight (Airplane). Reference FSM 5716.3
- S. Night Flying/Operations. Reference FSM 5716.2
- T. Non-FS Approved Aircraft. Reference FSM 5713.5
- U. Passengers (Non-Federal). Reference FSM 5716.4
- V. Pilot Duty Limitations. Reference National/Regional Interagency Mobilization Guides and the FSH 5709.16.11.27
- W. Point-to-Point Flights. Forest Service and AMD do not inspect point-to-point only aircraft. These aircraft are not approved for special mission use. Pilots authorized for point-to-point only are issued a card valid for two years identifying the aircraft for which they are authorized. FSH 5709.16.14.12
- X. Safety.
  1. Aircraft Mishap Response Plan. This plan will be updated annually for posting in each dispatch center. The Forest/Unit Aviation Officer is responsible for local supplementation of the plan.
  2. Passenger Briefings. It is the pilot's responsibility to ensure that a passenger safety briefing is provided. If not given, the FWFM shall request this briefing before each flight.

3. Shoulder Harness/Safety Belts. All front seat occupants shall wear shoulder harness and seat safety belts. All occupants shall wear safety belts for takeoffs and landings, and as directed by the PIC.
4. Personal Protective Equipment (PPE). For all fixed wing flights in the Northern Region, the minimum PPE shall consist of Nomex (Aramid) or natural fiber materials (non-synthetic), shoes that fully cover the feet, and long pants that overlap the shoes when in the seated position. Long sleeve shirts are recommended. Individual Forests may be more restrictive for their own forest personnel.
5. Smoking. Smoking is prohibited aboard and within 50 feet of an aircraft or flammable/chemical storage area (FSH 5709.16).
6. Cell Phones. Cell phone use is prohibited within 50 feet of an aircraft being fueled.
6. Unsafe Conditions.
  - a. All employees have the responsibility to initiate action to stop any unsafe aviation operation (FSM 5720.46). Anyone may refuse or curtail a flight or operation when an unsafe condition may exist. Any safety concern should be documented on a SAFECOM and forwarded through agency channels. The *Northern & Intermountain Regions' Aviation Safety and Mishap Prevention Plan* provides regional practices and procedures on reporting safety concerns.
  - b. Pilots may refuse a flight if hazardous or unsafe flying conditions exist. If a pilot indicates that hazardous or unsafe flying conditions exist, the flight will not occur.

Y. Smokejumper Operations.

1. Smokejumper operations will be in accordance with *Interagency Smokejumper Operations Guide (ISMOG)*.
2. Refer to the appropriate *Regional Mobilization Guide* for smokejumper or paracargo requests.
3. Smokejumper aircraft availability should be consistent with staffing at smokejumper bases and at a level that meets initial attack dispatches.

Z. Supplemental Oxygen. Aircraft operating under a U.S. Forest Service contract and/or operating on a U.S. Forest Service mission shall provide supplemental oxygen under the requirements found in 14 CFR 135.89 and 135.157.

AA. Military Intercept Training. U.S. Forest Service, Intermountain Region owned/leased aircraft may participate with Military Fighter Aircraft conducting low-speed intercept, visual identification training. This training is limited to aircraft and pilots assigned to the Intermountain Region Aviation Program.

1. All Intermountain Region pilots participating in interception exercises will attend an initial orientation briefing with the military prior to conducting such operations.
2. Intercept opportunities must coincide with routine Forest Service flight operations, exclusive of administrative flights, and will not be scheduled exclusively to assist the Military with training.

3. A formal Letter of Agreement (LOA) is required and will govern intercept training procedures. The LOA must be on file between the Forest Service Intermountain Region and the participating Military Fighter Wing. The LOA will be maintained at the Intermountain Region as part of this Regional Aviation Plan. Additionally, Forest Service pilots will adhere to the National Security and Interception Procedures identified in the Aeronautical Information Manual (AIM), Chapter 5.

BB. Aquatic Nuisance Species. Forests within each region shall establish an Aquatic Nuisance Species mitigation plan within that forest's aviation plan. Any aircraft entering the region or moving from one forest to another within each region shall comply with the individual forest's Aquatic Nuisance Species mitigation plan.

CC. Fixed Wing Special Mission Operations. PPE is recommended for all fixed-wing special mission operations. Fire surveillance, aerial reconnaissance, air tactical etc.

DD. Aerial Reconnaissance. For non-fire aerial reconnaissance flights, aerial observers are not required to be AOBS qualified. For fire reconnaissance flights, see Chapter 17 Aviation Operations, of the Interagency Standards for Fire and Fire Aviation Operations (Red Book), January 2008.

## LAW ENFORCEMENT

### Chapter 3

#### 3.1. GENERAL

- A. The Supervisory Special Agent (SSA) or Supervisory Law Enforcement Officer (SLEO) is responsible for coordinating with the RAO on any requests for use of aircraft in law enforcement activity.
- B. Confidentiality is often a consideration in mission planning. It is essential that law enforcement and aviation managers coordinate mission requirements. With advance planning, missions can be accomplished effectively within FS aviation safety policies.
- C. Forest Service owned, contracted, or leased aircraft shall not be used in law enforcement missions without specific prior approval of the Special Agent In-Charge (SAC) and documented concurrence of the vendor and the contracting officer as appropriate. Requests for use of FS operated aircraft by other law enforcement agencies shall be referred to the SAC. The only exception would be if a pilot and aircraft were released from contract obligation and the requesting agency assumes responsibility (Note: Refer to specific contract).
- D. The CO or COR may decline any requests for release of an aircraft from contract if the flight is not in the interest of the FS. The contractor or contractor's representative may also decline any requests for release.

#### 3.2. PROCEDURES

- A. Dispatch Notification. It is the responsibility of the SSA/SLEO to notify the GACC Manager or assistant of any FS law enforcement aviation missions on the Forest with planned dates and times.
- B. Personnel. All law enforcement aviation operations shall be conducted by either a qualified Project Helicopter Manager or by a Project Flight Manager, depending on the mission complexity (IHOG Chapter 2). The only exception is when the agency is utilizing other government agency or military aircraft, and the provider of the aircraft is also providing the helicopter and/or helibase management services, such as, flight following, loading/unloading of personnel/cargo, external load operations, etc. and operation is approved by the RAO.
- C. Aircraft. Law enforcement aviation missions may be accomplished utilizing agency-owned, contracted, rented or other-government agency or military aircraft (IHOG Chapter 5-3, 16-3).
- D. Flight Following. Forest Service flight following of law enforcement operations will take place either through the appropriate GACC or by using FS law enforcement personnel that are in the field. Flight following shall be accomplished as per FS regulations. If the GACC is not used for flight following then the GACC will be notified of the mission, area of mission, frequencies, date and time frame of the mission. During covert operations where the need for secure communications is essential, one of the following procedures shall be utilized:

1. Grid map reference check-ins
  2. Flight following through another agency
  3. Automated Flight Following (AFF)
- E. Personal Protective Equipment. PPE will be worn as required by this plan. Exemptions are listed in Chapter 16 of the IHOG. Personal Floatation Devices (PFDs) are required to be worn by all occupants when conducting overwater operations.
- F. Survival Equipment. There must be sufficient survival equipment suitable for the environment onboard the aircraft to sustain life of all occupants for a minimum of 24-hours.
- G. Aircraft /Pilot Qualifications. FS, contractor, and cooperator aircraft used to fly FS law enforcement personnel will be flown by pilots who meet agency standards and possess a current Interagency Pilot Qualification Card. Use of other law enforcement agency, Department of Defense, National Guard, or Coast Guard aircraft requires acceptance of that agency's pilot qualifications if operating under a current MOU. Aircraft and pilots not meeting these guidelines must be approved by the appropriate RAO (FSM 5712.41, 5713.4).
- H. Use of Military Helicopters. National Guard helicopters and pilots must be approved for FS use. They will have a letter of approval on board each helicopter stating that they are approved for FS use. All FS rules and procedures apply when FS employees are involved (PPE, flight following, etc). Regular Army helicopters can be used, but only with prior approval from the RAO and only on a case-by-case basis.
- I. Wilderness Areas. In the interest of public safety, Forest Supervisors shall authorize the initial flight for medical, or rescue aircraft missions in wilderness areas. The advance approval for initial missions in wilderness is only applicable to life-threatening emergencies in which speed is critical. Subsequent flights will require a separate Forest Supervisor approval.
- J. Landing Areas (Helicopter). Use of helispots must be in accordance with IHOG requirements.
- K. Altitude. A minimum operational flight altitude of 500 feet above the terrain must be maintained except for takeoffs and landings.
- L. Night. Search and rescue operations are only authorized between 30-minutes before official sunrise to 30-minutes after official sunset.
- M. Flight Minimums. All VFR flights must meet 14 CFR Part 91 visibility requirements. Over the top operations are not authorized.
- N. Supplemental Oxygen. At cabin pressure altitudes above 10,000 feet (MSL) for more than ½ -hour or above 12,000 feet (MSL) (14 CFR 135.89), the minimum required flight crew must use supplemental oxygen. All occupants must use supplemental oxygen above 15,000 feet (MSL). 14 CFR Part 135.157
- O. Load Calculations and Manifests. When utilizing aircraft other than military, load calculations and manifests are required. When utilizing a military aircraft, use of the Performance Planning Card (PPC) is acceptable along with a manifest. Load calculations will

be made prior to flight. It is the responsibility of the pilot, however FS personnel must ensure this is done. A copy of the manifest and load calculation is kept on the ground until the flight is terminated. Passenger changes need to be documented.

P. Emergency and Covert Operations. The GACC Manager or assistant shall be notified of emergency and covert FS Law Enforcement aviation missions (to include flights benefiting FS law enforcement missions, but where FS employees are not on board the aircraft) on the Forest by the SSA, duty officer or assigned aviation manager. The GACC Manager will be given the information the day of the mission and will ensure that the mission security is maintained. Undercover operations will be coordinated through the Regional Office, Law Enforcement and Investigation (LE&I) so that confidentiality will be ensured. It is the responsibility of the Regional LE&I to coordinate with the RAO when missions are of this nature.

Q. Unapproved Aircraft/ Pilots. In certain emergency situations (special investigations, or undercover operations), it may be necessary for personnel to ride in unapproved aircraft/or with unapproved pilots. In these situations the flight(s) may be authorized by a qualified Fixed Wing Flight Manager (FWFM) (FSM 5713.52), or the Regional Aviation Officer (FSM 5712.34) as appropriate. The Special Agent in Charge, Supervisory Special Agent, Regional Patrol Commander and all Special Agents will be qualified as FWFM. Any such occurrence shall have a written justification prepared and attached to an agency SafeCom, and submitted to the Special Agent in Charge within 24-hours of the completion of the mission.

R. Cooperative Agency Aviation Operations. Cooperative agency conducting law enforcement operations on the Forest shall be encouraged to notify the GACC Manager or SSA of missions over FS Lands.

S. Briefing Requirements. As a minimum the following areas will be discussed with all flight participants prior to each mission.

1. Risk management and mitigation
2. Mission/Flight Hazards
3. Personnel Responsibilities/Authorities
4. Flight/Duty Limitations
5. Flight Plan/Flight Following
6. Pilot/Aircraft Data Card
7. Personal Protective Equipment
8. *Five Steps To A Safe Flight (Form FS 5700-16)*
  - Aircraft Hazards
  - Seat Belt & Harness
  - ELT & Survival Kit
  - First Aid Kit
  - Gear & Cargo Security
  - Fire Extinguisher
  - Fuel & Electrical Shut-off
  - Oxygen Equipment
  - Emergency Egress
  - Smoking
9. Communications

10. Firearms Safety

11. Radios

12. Landing Areas

**Note:** Wilderness landing areas require Forest Supervisor/Regional Forester approval(s).

13. Load Calculations/Manifests

14. Mishap Notification Procedures

15. Weather/Hazards

16. External Load Procedures

17. HazMat Procedures

18. Explosive Ordinance Demolition (EOD) Procedures.

19. Military Training Routes/Temporary Flight Restrictions

# FOREST HEALTH AERIAL DETECTION SURVEY

## Chapter 4

### 4.1 General

- A. Forest Health Protection (FHP) is part of the State and Private Forestry staff in the Northern and Intermountain Regions.
- B. FHP uses aerial detection surveys (ADS) as an economical and efficient method of detecting, monitoring and evaluating recognizable insect, disease and other disturbances to forest ecosystems. Comprehensive aerial sketch mapping surveys ensure early detection of epidemic infestations, provide current and historical documentation of insect and disease impacts, and provide land managers with important information about forest health symptoms and conditions. FHP annually flies an overview survey over most of the Region's forested lands, on all ownerships.
- C. The one-time overview survey is timed to capture as many overlapping biological windows of insects and diseases "signatures" (visible foliage discoloration). Occasionally, additional or special aerial surveys are conducted within or outside the normal flying season when needed or requested.
- D. Insect and disease surveys are a cooperative effort with:
  - 1. Idaho Department of Lands
  - 2. Montana Department of Natural Resources and Conservation, Forestry Division
  - 3. State of Nevada Department of Conservation and Natural Resources, Division of Forestry
  - 4. State of Utah, Department of Natural Resources, Division of Forestry, Fire and State Lands.
  - 5. State of Wyoming, Department of Natural Resources, Division of Forestry, Fire and State Lands.
- E. The resultant information is provided to all interested agencies and private industry.

Comment: Add state of wyoming

### 4.2 Procedures

- A. Program. The aerial survey program is managed by a R1/R4 aerial survey coordinator located in Boise, Idaho with FHP aerial surveyors based at the Missoula, Boise, and Ogden Field Offices. State Cooperators are based in Coeur d'Alene, Idaho, and Carson City, Nevada.
- B. Personnel. Qualified FHP aerial observers are IAT Qualified "fixed-wing managers for special use" and would be proficient anywhere in the United States. The primary FHP aerial observer (Fixed-Wing Flight Manager) is responsible for the management of the aircraft and crew resources. To be considered fully qualified, all FHP aerial observers will have completed the task book for Fixed Wing Flight Manager – Special Use Aerial Survey Observer (FHTET-02-08).
- C. Aircraft:



1. Northern Region - The Northern Rockies Coordination Center (NRCC) and FHP share on-demand contract/s for three single engine fixed wing aircraft contracted by the Regional Office in Missoula. All requests for aircraft from this contract will be made through the NRCC.

2. Intermountain Region - FHP has exclusive use contracts with two single engine fixed wing aircraft contracted by the Regional Office in Ogden. All requests for these aircraft from this contract will be made through Boise or Ogden Dispatch.

D. Ordering Procedures - Aerial surveys during the summer survey season will be conducted using these contracts, unless helicopters are necessary. Call When Needed (CWN) contract aircraft may be utilized if normal contract aircraft are deemed unavailable. FHP aerial observers may order aircraft by tail number in order to insure the appropriate aircraft is available for the specific mission. Procurement of a helicopter for a special aerial survey will be done through the Forest Dispatcher where the special survey will occur.

E. State Cooperators

1. The Idaho Department of Lands (IDL) staff conducts aerial detections surveys annually in Idaho. IDL flies approximately 75 to 100 hours each summer covering approximately 4 million acres of forest lands of all ownerships. They procure Call When Needed (CWN) fixed wing aircraft from the Idaho Panhandle National Forests. The IDL aerial observers meet FHP training and experience minimums.

2. The State of Nevada Department of Conservation and Natural Resources, Division of Forestry, Western Region staff flies aerial detection survey annually in Nevada. They fly approximately 40 to 70 hours each summer. They utilize the R4 contract fixed wing aircraft. The State of Nevada aerial observer meets FHP training and experience minimums.

F. Survey Schedules. Prior to summer field season, a proposed aerial survey schedule will be sent to each Forest Aviation Officer and Forest FHP contact. This schedule should include such information as the date the Forest is to be flown, the town the aerial survey crew will overnight in, the name and phone number of the motel; along with the name of the aerial observer and their cell phone number and the intended dispatch center who is expected to do the flight following. It should be understood that this schedule is tentative and can easily change due to weather, fires or other scheduling challenges. Each observer will usually attempt to be on the scheduled Forest through the summer, and then conduct make-up flights after the regular schedule.

G. Communication with Dispatch. The Aerial Observer will notify the appropriate Forest Dispatcher by phone and/or electronic message of intent to fly survey on the Forest prior to the actual flight. This should occur several days prior to the survey and such things as time, location, automated flight following, radio frequencies, and other aviation activities should be discussed. Notification of scheduled aerial surveys should be made in a timely manner to help dispatch center anticipate flight following workload.

H. Flight Following. Flight following shall be in accordance with Regional and National Mobilization Guidelines.

1. Automated Flight Following (AFF) is the primary method of flight following. AFF by FHP aerial observers will conform to National and Regional direction.

2. If AFF is lost or unavailable, dispatch will immediately contact the aircraft by radio. Flight following will continue via 15-minute radio check-ins until AFF contact is re-

established. If radio contact is lost for 15 minutes after the next scheduled check-in, the survey will be terminated and the crew will ensure positive communication is made by landing at an airport and calling from a telephone or by contacting a third party, who can immediately relay a message to Dispatch regarding current status of the survey crew. The Aerial Observer will have at their disposal all current primary and secondary radio frequencies and tones.

- I. Aircraft / Pilot Qualifications. All aircraft used to conduct FHP aerial surveys will be inspected and approved for Special Mission Use by Forest Service and/or AMD. All aircraft used for the aerial survey will have a high wing, large windows for visibility and adequate engine power; aircraft performance, safety history and cost per hour should be evaluated prior to use. All contract pilots who fly FHP aerial surveys must be Forest Service/AMD approved for reconnaissance missions and will carry a Pilot Qualification Card. They should also have demonstrated expertise in mountain flying because of the special nature of FHP aerial survey flying. For landings and take-offs on backcountry airstrips, pilots must be individually approved by the Forest Service for each specific airstrip on a case-by-case basis.
  
- J. Altitude / Survey Flight Pattern. Most of the survey work is conducted from 500 feet to 2,000 feet AGL, using either a grid or contour/drainage flight pattern technique.
  
- K. Electronic Sketch mapping Equipment. When utilizing the electronic sketch map equipment, aerial observers and their pilots should ensure all equipment is fastened down in a safe manner such as on a rack mounted system that attaches to the seat rails or can be strapped in with the seatbelts. Power should be connected through a hardwired accessory power source per contract specifications and should be tested at initial use to ensure correct wiring so as not to damage aircraft or electronic sketch map equipment.
  
- L. Briefing Requirements. As a minimum the following areas will be discussed with all flight participants prior to each mission.
  1. Risk Management and mitigation
  2. Personnel Responsibilities/Authorities
  3. Flight/Duty Limitations
  4. Flight Plan/Flight Following/Communications
  5. Pilot/Aircraft Data Card
  6. Survival Equipment
  7. Weather/Hazards
  8. Mishap Notification Procedures
  9. Aircraft performance capability (density altitude)

## AIRCRAFT MAINTENANCE

### Chapter 5

#### PROCEDURES

- A. FS Owned Aircraft. Aircraft will be maintained in accordance with 14 CFR Parts 39, 43 and 91 or equivalent standards approved by the National Aviation Maintenance Manager (FSH 5709.16, 41.1). Dependent upon the type of operation (VFR, VFR Night, IFR, etc) to be conducted, aircraft must meet the instrument and equipment requirements in 14 CFR Part 91.205. In order to assure the Working Capital Fund (WCF) fleet is maintained to the highest standards possible, the Regions will operate in accordance with the following procedures:
1. All discrepancies will be logged on Form FS 5700E. Aircraft times shall be kept up to date in the aircraft maintenance log. Pilots who complete a page shall total the times and carry them over to the next page.
  2. Pilots shall write up all airworthiness and operational mission item discrepancies at the end of each flight. Write-ups will be concise and descriptive, identifying necessary parameters to aid in trouble-shooting discrepancies. Pilots shall initial and date each write-up.
  3. All aircraft discrepancies should be discussed with the Regional Aviation Maintenance Inspector/Program Manager (or designee). Pilots will review each write-up with the Regional Aviation Maintenance Inspector/Program Manager (or designee), as soon as practical after flight.
  4. The pilot and A&P Mechanic or Avionics Technician will jointly determine if the item can be deferred. Once the decision to defer the item is made, it will be transferred to the Delayed Discrepancy List on the cover of FS 5700E, and procedures outlined in the FS Maintenance and Operations procedures, latest revision.
  5. The Maintenance File Copy (white page) shall remain in the log and will be pulled by the AMI after all discrepancies are specifically addressed in the corrective action column. The copy shall be filed by the AMI and retained for 24-months. The Aircraft Copy (yellow page) will remain in the log kept with the aircraft. Completed logs will be given to the Aircraft Maintenance Inspector (AMI), who will prepare a replacement Aircraft Maintenance Log for the aircraft.
- B. Vendor Aircraft. When any non-scheduled maintenance or repairs are performed due to mechanical or equipment deficiencies, a government AMI and the CO shall be notified for return-to-contract availability approval, before the aircraft performs under the contract. A SAFECOM must be submitted within 5 days to the appropriate Regional Aviation Safety Office. Contractor aircraft involved in an incident/accident (notify dispatch immediately) need to remain contractually unavailable for mission work (employees don't fly on aircraft) until the AMI has approved the aircraft for contract availability.

## SEARCH AND RESCUE

### Chapter 6

#### 6.1 GENERAL

- A. Aircraft. Overdue aircraft must be reported immediately to a FAA Flight Service Station (FSS). An aircraft is considered "Overdue" when the pilot fails to check-in within the time frame specified in the agency's flight following request, or when an aircraft operating on an FAA (VFR) Flight Plan, fails to arrive within 30-minutes past ETA, and its location cannot be established. Review Accident/Incident Response Guide and comply with notification checklist.
- B. Missing Aircraft Definition. An aircraft is considered "Missing" when it has been reported to a FSS as being "Overdue" and FSS has completed its administrative search for the aircraft.

FAA Flight Service Station  
Dial 1-800-992-7433 or 1-800-WXBRIEF

- C. Flight Service Station Notification. The FSS may require the following information:
- |                    |                        |
|--------------------|------------------------|
| ▪ Reported by:     | ▪ Agency:              |
| ▪ Phone:           | ▪ Flight Plan (type):  |
| ▪ Operator:        | ▪ Pilot's Name:        |
| ▪ Aircraft #:      | ▪ Aircraft Type:       |
| ▪ Aircraft Color:  | ▪ Number Aboard:       |
| ▪ Departure Point: | ▪ Departure Date/Time: |
| ▪ Route:           | ▪ Destination:         |
| ▪ ETA:             | ▪ Fuel on Board        |
- D. Persons. The County Sheriff is responsible for search and rescue of overdue or missing persons. Pursuant to 16 USC 575, The Secretary of Agriculture is authorized to incur such expenses as may be necessary in searching for persons lost within the National Forests or to provide transportation to persons 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.
- E. Aircraft. Search and rescue for missing aircraft varies from state to state (i.e., in Montana, the Montana Division of Aeronautics assumes management of aircraft search and rescue missions). Local units should be aware of the agency responsible for aircraft search and rescue management within their state.
- F. Forest Service owned, contracted, or leased aircraft shall not be used in SAR operations unless approved by the Forest Aviation Officer (FAO) and/or Forest Dispatch. The only exception would be if a pilot and aircraft were released from contract obligation and the requesting agency assumes responsibility (Note: Refer to specific contract).
- G. The CO or COR may decline any requests for release of an aircraft from contract if the flight is not in the interest of the FS. The contractor or contractor's representative may also decline any requests for release.

## 6.2 PROCEDURES

- A. Personnel. All SAR helicopter operations involving FS personnel shall be managed by a qualified Helicopter Manager (IHOG Chapter 2). The only exception is when the agency is utilizing other government agency or military aircraft, and the provider of the aircraft is also providing the helicopter and/or helibase management services, such as, flight following, loading/unloading of personnel/cargo, external load operations, etc. and operation is approved by the RAO. Only minimum essential personnel will be allowed aboard SAR aircraft (media, political officials, and family members are not considered essential to the mission).
- B. Flight Following. Forest Service flight following of SAR aviation operations will take place either through the appropriate dispatch/coordination center or incident command. Flight following shall be accomplished as per FS regulations. If the dispatch/coordination center is not used for flight following then the dispatch/coordination will be notified of the mission, area of mission, frequencies, date and time frame of the mission.
- C. Personal Protective Equipment. PPE will be worn as required by this plan. Exemptions are listed in Chapter 16 of the IHOG. Personal Floation Devices (PFDs) are required to be worn by all occupants when conducting overwater SAR operations.
- D. Survival Equipment. There must be sufficient survival equipment suitable for the environment onboard SAR aircraft to sustain life of all occupants for a minimum of 72-hours.
- E. Aircraft /Pilot Qualifications. FS, contractor, and cooperater aircraft used to fly FS personnel must be flown by pilots who meet agency standards and possess a current Interagency Pilot Qualification Card. Use of other aircraft requires acceptance of that agency's pilot qualifications if operating under a current MOU. Aircraft and pilots not meeting these guidelines must be approved by the appropriate RAO.
- F. Use of Military Helicopters. National Guard helicopters used to fly Forest Service personnel involved in the SAR operation must have a letter of approval on board each helicopter stating that they are approved for FS use. All FS rules and procedures apply when FS employees are involved (PPE, flight following, etc). U.S. military helicopters may be used, but only with prior approval from the RAO and only on a case-by-case basis, if FS personnel are on board the aircraft.
- G. Wilderness Areas. In the interest of public safety, Forest Supervisors shall authorize the initial flight for medical, or rescue aircraft missions in National Forest wilderness areas. Advanced approval for initial missions in wilderness is only applicable to life-threatening emergencies in which time is critical. Subsequent flights will require a separate Forest Supervisor approval.
- H. Landing Areas (Helicopter). Use of helispots must be in accordance with IHOG requirements.
- I. Altitude. A minimum operational flight altitude of 500 feet above the terrain will be maintained for fixed wing aircraft except for takeoffs and landings.
- J. Night. Search and rescue operations are only authorized between 30-minutes before official sunrise to 30-minutes after official sunset.

- K. Flight Minimums. Helicopter and fixed-wing aircraft should maintain appropriate VFR flight minimums. Basic weather minimums are found in 14 CFR 91.155.
- L. Supplemental Oxygen. At cabin pressure altitudes above 10,000 feet (MSL) for more than ½ -hour or above 12,000 feet (MSL) (Ref. 14 CFR 135.89), the minimum required flight crew must use supplemental oxygen. All occupants must use supplemental oxygen above 15,000 feet (MSL). (Ref. 14 CFR Part 135.157)
- M. Load Calculations and Manifests. When utilizing aircraft other than military, load calculations and manifests are required. When utilizing a military aircraft, use of the Performance Planning Card (PPC) is acceptable along with a manifest. Load calculations will be made prior to flight. It is the responsibility of the pilot, however FS personnel must ensure this is done. A copy of the manifest and load calculation is kept on the ground until the flight is terminated. Passenger changes need to be documented.
- N. Briefing Requirements. In addition to a thorough briefing of the SAR operation, the following areas will be discussed with all flight participants prior to each mission.
1. Risk Management and mitigation
  2. Personnel Responsibilities/Authorities
  3. Flight/Duty Limitations
  4. Flight Plan/Flight Following/Communications
  5. Load Calculations/Manifests
  6. Pilot/Aircraft Data Card
  6. Personal Protective Equipment
  7. Survival Equipment
  8. Weather/Hazards, Other Aircraft
  9. External Load Procedures
  10. Landing Areas
  11. HazMat Procedures
  12. Mishap Notification Procedures
  13. Military Training Routes/Temporary Flight Restrictions
  14. *Five Steps To A Safe Flight (Form FS 5700-16)*
    - Aircraft Hazards
    - Seat Belt & Harness
    - ELT & Survival Kit
    - First Aid Kit
    - Gear & Cargo Security
    - Fire Extinguisher
    - Fuel & Electrical Shut-off
    - Oxygen Equipment
    - Emergency Egress
    - Smoking

## APPENDIX 1

### DEFINITIONS

#### - A -

Aircraft. The term "aircraft" is used to refer to both airplanes and helicopters.

Aircraft 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 all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

Airtanker. An aircraft used for the dispensing of a substance (normally fire retardant or water) on a wildfire.

Automated Flight Following. A satellite-based tracking system used to flight follow aircraft equipped with appropriate equipment. Dispatchers/coordinators may use the web-based computer-tracking program to flight follow aircraft instead of the traditional radio check-in procedures per Regional and/or National MOB Guide direction.

#### - B -

Backcountry Airstrips Remote Mountain. Airstrips located in remote, rugged, usually mountainous terrain which are maintained to lower standards than FAA funded airports. These airstrips are generally surfaced with sand, sod and/or gravel and may contain hazards that may include one-way-in/one-way out access with the runway not visible to the pilot until the aircraft is committed to landing. Often unattended, wild or domestic animals, washouts, overgrowth, humps, swells, and side slopes may be encountered with landing areas that are rarely straight and level. Mountain winds, high density altitudes, short runways, turbulence, and mountain obstacles are additional hazards that may challenge the capabilities of the aircraft and pilot.

Comment: Add remote mountain

#### - C -

Call-When-Needed. A term used to identify the furnishing of services on an "as needed bases" or "intermittent use" in government procurement contracts. There is no guarantee the Government will place any orders and the vendor is not obligated to accept any orders. However, once an order is placed and the vendor takes steps to perform, both sides are bound by the terms and conditions of the contract.

Civil Aircraft. Aircraft other than public aircraft.

Civil Twilight. Begins in the morning, and ends in the evening when the center of the sun is geometrically 6 degrees below the horizon.

Cooperator Aircraft. An affiliated, military or other Government agency aircraft.

#### - F -

Federal Aviation Regulations. Rules and regulations contained in Title 14 or the Code of Federal Regulations.

Flight Crewmember. A pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time who holds a valid Federal Aviation Administration (FAA) Airman's Certificate and flight physical.

Fleet Aircraft. Aircraft bailed, owned, or leased by the Forest Service with intent to purchase.

- G -

Government Aircraft. Aircraft owned, leased, contracted, rented, or chartered, and used by a Federal Government agency. Commercial airline aircraft operating on their scheduled routes are not government aircraft.

Government Agency Aircraft, Other. Aircraft of U.S. registry which are owned, leased or operated by a Government agency at the Federal, state or local levels other than Forest Service. This does not include "military aircraft," but does include bailed/loaned or excess/surplus military aircraft under the control of a Government agency. Foreign government aircraft are not included.

- H -

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

- I -

Incident-With-Potential. An incident that narrowly misses being an accident and in which the circumstances indicate significant potential for substantial damage or serious injury. Final classification will be determined by the Forest Service, National Aviation Safety Manager.

- L -

Life-Threatening. A situation or occurrence of a serious nature, developing suddenly and unexpectedly and demanding immediate action to prevent loss of life.

- M -

Maintenance Deficiency. An equipment defect or failure which affects or could affect the safety of operations, or that causes an interruption to the services being performed.

Military Aircraft. An aircraft maintained and operated by an active or reserve component [all Reserve forces, as well as Army National Guard and Air National Guard] of the Department of Defense (DOD) or by any active or reserve component of the U.S. Coast Guard (USCG). All references to military aircraft include both DOD and USCG aircraft.

Mission Use. The use of an aircraft that in itself constitutes discharge of official Forest Service responsibilities and duties. Mission flights may be either routine or emergency, and may include such activities as ASM/leadplane, smokejumper/paracargo, aerial photography, remote sensing, mobilization or demobilization of emergency support resources, reconnaissance, survey, backcountry flights/airstrips, and project support. Mission flights do not include official travel to make speeches, attend conferences or meetings, or make routine site visits.



**DEFINITIONS** (Continued)

- M -

Mishap, Aviation. Mishaps include aircraft accidents, incidents-with-potential, aircraft incidents, aviation hazards and aircraft maintenance deficiencies.

Mountainous Terrain. That terrain as identified in 14 CFR 95.11 and depicted in the Aeronautical Information Manual Figure 5-6-2 ADIZ Boundaries and Designated Mountainous Areas.

- N -

Night. The time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac, converted to local time.

- O -

Operational Control, Aircraft. The condition existing when an entity exercises authority over initiating, conducting or terminating a flight.

Operating Agency. An executive agency or any entity thereof using agency aircraft which it does not own.

Operator. Any person who causes or authorizes the operation of an aircraft, such as the owner, lessee, or other.

- P -

Point-to-Point. Aircraft operations between any two geographic locations operationally suitable for take-off and landing (airport-to-airport). Point-to-point does not include flights to and from backcountry airstrips.

Privately Owned Aircraft. Any aircraft piloted by a Forest Service employee on official business which has an FAA registration and the Forest Service employee is an owner(s), renter/lessee, or member of a club which owns the aircraft.

Public aircraft. **(See FSH 5709-11.21b Operations as Public Aircraft and FAA 8900.1 Chapter 14 Public Aircraft)** Means any of the following aircraft when not being used for a commercial purpose or to carry an individual other than a crewmember or qualified non-crewmember:

(1) An aircraft used only for the United States Government; an aircraft owned by the Government and operated by any person for purposes related to crew training, equipment development, or demonstration; an aircraft owned and operated by the government of a State, the District of Columbia, or a territory or possession of the United States or a political subdivision of one of these governments; or an aircraft exclusively leased for at least 90 continuous days by the government of a State, the District of Columbia, or a territory or possession of the United States or a political subdivision of one of these governments.

(i) For the sole purpose of determining public aircraft status, *commercial purposes* means the transportation of persons or property for compensation or hire, but does not include the operation of an aircraft by the armed forces for reimbursement when that reimbursement is required by any

**DEFINITIONS** (Continued)

Federal statute, regulation, or directive, in effect on November 1, 1999, or by one government on behalf of another government under a cost reimbursement agreement if the government on whose behalf the operation is conducted certifies to the Administrator of the Federal Aviation Administration that the operation is necessary to respond to a significant and imminent threat to life or property (including natural resources) and that no service by a private operator is reasonably available to meet the threat.

(ii) For the sole purpose of determining public aircraft status, *governmental function* means an activity undertaken by a government, such as national defense, intelligence missions, firefighting, search and rescue, law enforcement (including transport of prisoners, detainees, and illegal aliens), aeronautical research, or biological or geological resource management.

(iii) For the sole purpose of determining public aircraft status, *qualified non-crewmember* means an individual, other than a member of the crew, aboard an aircraft operated by the armed forces or an intelligence agency of the United States Government, or whose presence is required to perform, or is associated with the performance of, a governmental function.

(2) An aircraft owned or operated by the armed forces or chartered to provide transportation to the armed forces if—

(i) The aircraft is operated in accordance with title 10 of the United States Code;

(ii) The aircraft is operated in the performance of a governmental function under title 14, 31, 32, or 50 of the United States Code and the aircraft is not used for commercial purposes; or

(iii) The aircraft is chartered to provide transportation to the armed forces and the Secretary of Defense (or the Secretary of the department in which the Coast Guard is operating) designates the operation of the aircraft as being required in the national interest.

(3) An aircraft owned or operated by the National Guard of a State, the District of Columbia, or any territory or possession of the United States, and that meets the criteria of paragraph (2) of this definition, qualifies as a public aircraft only to the extent that it is operated under the direct control of the Department of Defense. (14 CFR 1.1)

- S -

Special Mission Aircraft. Aircraft approved for other than point-to-point only missions. Transportation is limited to personnel required to carry out the special mission of the aircraft.

- V -

Vendor. An operator being paid by the Forest Service for services.

## APPENDIX 2

### ABBREVIATIONS

A&P	Airframe & Powerplant (Mechanic)
ACO	Administrative Contracting Officer
ACCO	Air Carrier/Commercial Operator
AGL	Above Ground Level
ALSE	Aviation Life Support Equipment
AMD	Aviation Management Directorate (Formerly OAS)
AMI	Aviation Maintenance Inspector
ARA	Aircraft Rental Agreement
ASI	Aviation Safety Inspector, Airworthiness
ATCO	Airtanker Coordinator
AFF	Automated Flight Following
CO	Contracting Officer
CFR	Code of Federal Regulations
COR	Contracting Officer's Representative
CWN	Call when Needed (Contract)
DOI	Department of the Interior
DOD	Department of Defense
DOT	Department of Transportation
EOD	Explosive Ordnance Demolition
ETA	Estimated Time of Arrival
FAA	Federal Aviation Administration
FAO	Forest Aviation Officer
FAR	Federal Aviation Regulation
FHP	Forest Health Protection
FMO	Fire Management Officer
FS	Forest Service
FSDO	Flight Standards District Office
FSS	Flight Service Station
FTA	Fire Traffic Area
FWFM	Fixed Wing Flight Manager
GACC	Geographical Area Coordination Center
GIS	Geographical Information System
GPS	Global Positioning System
HAZMAT	Hazardous Material
HOS	Helicopter Operations Specialist
IFR	Instrument Flight Rules
IHOG	Interagency Helicopter Operations Guide
IMC	Instrument Meteorological Conditions
ISOG	Interagency Smokejumper Operations Guide
LE&I	Law Enforcement and Investigation
MTDC	Missoula Technology & Development Center
NICC	National Interagency Coordination Center
NIFC	National Interagency Fire Center
NOTAM	Notice to Airmen
OAS	Office of Aircraft Services (Now AMD)
PASP	Project Aviation Safety Plan
PIC	Pilot in Command
PPE	Personal Protective Equipment

RAO	Regional Aviation Officer
RASM	Regional Aviation Safety Manager
SAC	Special Agent-in-Charge
SAFECOM	Aviation Safety Communiqué
SEAT	Single-Engine Airtanker
SLEO	Supervisory Law Enforcement Officer
SSA	Supervisory Special Agent
TFR	Temporary Flight Restriction
UAO	Unit Aviation Officer
VFR	Visual Flight Rules
WO	Washington Office
WOW	Washington Office West-Forest Service (Boise)

## APPENDIX 3

### REFERENCES

1. Procedural Publications. Forest Service employees are required to comply with the following documents:

Aerial Ignition Guide, Interagency	FSM 5703.4
Airspace Coordination Guide, Interagency	FSM 5715
Air Tactical Group Supervisor's Guide, Interagency	FSM 5703.5
Airtanker Base Operations Guide, Interagency	FSM 5706.6
Aviation Management	FSM 5700
Fireline Handbook	FSH 5109.32a
Flight Operations Handbook	FSH 5709.16
Helicopter Operations Guide, Interagency	FSM 5703.4
Helicopter Rappel Guide, Interagency	FSM 5703.4
Incident Business Management Handbook, Interagency	FSM 5109.34
Leadplane Operations Guide, Interagency	FSM 5703.5
National Mobilization Guide, Interagency	FSM 5108
Transport of Hazardous Materials Guide, Aviation	FSM 5714.2
Smokejumper Operations Guide, Forest Service	FSM 5706.14
Smokejumper and Paracargo Handbook	FSH 5709.14
Smokejumper Training Guide, Interagency	FSH 5709.14, 14.1
Wildland Fire Qualifications Subsystem Guide	FSH 5109.17

2. Other Publications. Listed below are some additional interagency aviation guides that Forest Service employees may wish to consult. (Note: Some of these publications may be incorporated by Forest Service directives in the future, and would then move to the list above.)

Airtanker Base Directory, Interagency	NFES 2537
Aircraft Identification Guide	NFES 2393
Aviation Technical Assistance Directory, Interagency	NFES 2512
Aviation User Pocket Guide, Interagency	NFES 1373

Call When Needed Helicopters, Interagency	NFES 2168
Helicopter Training Guide, Interagency	NFES 1261
Lot Acceptance, Quality Assurance & Field Quality Control of Fire Retardant Chemicals	NFES 1245
Military Use Handbook	NFES 2175
Retardant Base Planning Guide, Interagency	NFES 1259
Single Engine Air Tanker Operations Guide, Interagency	NFES 1844 Forms 1413

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