We should all bear one thing in mind when we talk about a colleague who “rode one in”. He called upon the sum of all his knowledge and made a judgment. He believed in it so strongly that he knowingly bet his life on it.

That he was mistaken in his judgment is a tragedy, not stupidity.

Every supervisor and contemporary Who ever spoke to him had an opportunity To influence his judgment, so a little bit of All of us goes in with every colleague we loose.

“Author unknown”
AVIATION RISK MANAGEMENT ASSESSMENT CHECKLIST

- Is the Flight necessary?
- Who is in-charge of the mission?
- Are all hazards identified and have you made them known?
- Should you stop the operation or flight due to change in conditions?
  - Communications?
  - Weather/turbulence?
  - Confusion?
  - Equipment?
  - Conflicting priorities?
  - Personnel?
- Is there a better way to do it?
- Are you driven by an overwhelming sense of urgency?
- Can you justify your actions?
- Are there other aircraft in the area?
- Do you have an escape route?
- Are there any rules broken?
- Are communications getting tense?
- Are you deviating from the assigned operation of flight?

The twelve questions listed above should be applied to all aviation operations at all times.

If you have any questions that cause you concern, it becomes your responsibility to discontinue the operation until you are confident that you can continue safely.

Aviation safety is a personal responsibility.

Your life and the lives of others depend upon your decisions!
# TABLE OF CONTENTS

**AVIATION RISK MANAGEMENT ASSESSMENT CHECKLIST**  
3

**INTRODUCTION**  
8
- Purpose 8
- Coordination 8
- Situation 8
- Policy 9
- ODF Aviation Mission Statement 9
- ODF Aviation Vision Statement 9
- Direction 10
- Operator of the Aircraft 10

**ORDERING AIRCRAFT**  
11
- How to Order 11
- Initial Pilot Briefing 11
  - Natural Resources Management 12
  - Fire Management 13
- Point to Point Passenger Transportation 14
- Extended Attack or Natural Resource Management Activities 14
- Air Attack/Recon 15
- Lead Planes/Aerial Supervision Modules 16
- Air Tankers 16
- Recording Aviation Activities 17
- Aircraft Types and Capabilities 17
  - Aircraft Makes and Models by ICS Type 18
  - ICS Helicopter Types and Capabilities 18
  - Fixed Wing Retardant Capacities 18
- Aircraft Ordering Checklist 19
  - Shift Ticket Instructions for Aircraft & Associate Equip. 20
  - Emergency Equipment Shift Ticket Example 21
NATURAL RESOURCE MANAGEMENT

Purpose
Project Planning
Operational Considerations
Documentation
Safety
I&D Survey Aircraft

AVIATION STAFFING LEVELS

Minimum Staffing Levels
Helicopter Operations Management
  1 – 2 Helicopters
  3 – 4 Helicopters
  5 or More Helicopters
Cargo Transportation
Crew Transportation
Type I & II Incident Management Teams
National Guard
Fixed Wing Operation Management
  Aerial Supervision Module (ASM)
  Single Engine Air Tankers (SEATS)
  Recon Flights

AIRSPACE

Flight Following
Methods and Processes of Flight Following
  Automated Flight Following (AFF)
  Radio Flight Following (RFF)
  Point to Point Flights
  Documentation of Flight Following
  Airspace Deconfliction
Temporary Flight Restrictions (TFR’s)
  How to Request a TFR
  TFR Notification Process
  How to Cancel a TFR
AIRSPACE Continued

TFR Airspace Coordination 33
Fire Traffic Area (FTA) 34
Communications 34
3 C’s 35
Large Incidents 35
FTA Visual 36

AIRCRAFT MANAGEMENT 37

District/Unit Aviation Contact 37
Training 37
Suggested Duties 37
Pilot Duty 37
Flight Time Limitations 38
Duty Limitations 38
Instrument Flight 38
Night Flight 38
Low Level Flight 38
Transportation of Hazardous Materials 39
Flight Hazard Maps 39
Passengers on Helicopters or Fixed Wing Aircraft 40
PPE Gear for Rotary-Wing Aircraft Passengers 40
Aircraft Identification 40
Aviation Policy on Interagency Operations 41
Use of Aircraft on Federal Lands 41
Environmental Guidelines for Retardant/Foam Use 42
Helicopter Maintenance 42
Policy on Pilot and Aircraft Performance 42
Policy on Reinstatement to ODF Duty 43

SAFETY 45

General Safety 45
Aircraft In-flight Emergencies 45
Aerial Hazards 45
Passenger Manifests 45
SAFETY Continued

Helicopter Safety 46
Load Calculations 46
Safety around Helicopters 46
Fueling Procedures 46
Helicopter Landing Area Selection 47
Helicopter Landing Area Safety 47
Fixed Helibases/Helispots 48
Type I Helicopters 48
Type II Helicopters 48
Type III & IV Helicopters 48
Items Needed for Fixed Helibases/Helispot 48
Fixed Wing Safety 49
Safety around Airplanes 49
Supervisors Aviation Safety Checklist 50
ODF Aviation Manager Safety Checklist 51
ODF Initial Attack Aircraft Order – Blank 52

EMERGENCY SITUATIONS 53

Definitions 53
Overdue Aircraft 53
Search and Rescue Operations 53
Medical Evacuations 54
Initial Questions 54
Aircraft Using a Hoist or Winch System 55
Short Haul Transport 56

ODF Frequency Zone Map 57

Pacific Northwest AM Air-to-Air Frequency Map 58

Pacific Northwest FM Air-to-Ground 59

ODF Aircraft Initial Report Form (629:0-4-5-010-A 04/02) 60
INTRODUCTION

Purpose

The Aviation Procedures Manual is for use by Oregon Department of Forestry (ODF), personnel and other persons involved in administration, management, use of contract, Call-When-Needed aircraft, and/or ODF owned aircraft. District Foresters and aviation management personnel are responsible to ensure that the following actions occur on all operations where ODF is considered the “Operator of the Aircraft”. The procedures in this manual provide specificity and clarity about the management and use of aircraft by ODF. It is important that these procedures are shared with our co-operator’s, aviation operators and other interested parties so that all parties are aware of the performance expectations. These procedures will evolve as experience and knowledge is gained and thus will also reflect an institutional memory of the department. Finally, this manual includes information to ensure that necessary coordination occurs with U.S. Forest Service (USFS), and Bureau of Land Management (BLM) aviation activities that affect or may be affected by ODF aviation operations.

This procedures manual is also a basic document for planning the SAFE, EFFICIENT, and EFFECTIVE use of aircraft to meet Oregon Department of Forestry needs, without mishap.

Coordination

Coordination and direction of fire aviation is provided through the Protection from Fire Program Director and staff. The Staff Fire Aviation Specialist coordinates fire aviation with the field, various publics, private persons, and cooperators involved in aerial fire suppression activities.

Coordination and direction of ODF owned aircraft is provided through the Equipment Pool Manager and staff. The chief pilot coordinates the use of all ODF owned aircraft.

Situation

The Oregon Department of Forestry utilizes both fixed wing and rotary wing aircraft extensively in the daily management of the department’s mission. This manual will assist employees, pilots, dispatchers, aviation managers within the department, and other cooperators in understanding the operation of ODF’s aviation management system.

This manual sets forth aviation-related policies and procedures that:

- Will reduce the risk of mishaps occurring during operations.
- Will ensure consistent procedures and aviation management.
- Will act as a reference to provide the basic knowledge to conduct ODF’s air operations without accident or incident.
Since hazards of flight in the natural environment may be subject to changes in risk, only qualified personnel, with appropriate equipment, can be assigned to each task. Assigned personnel must have the personal discipline to always comply with necessary operational procedures to meet task requirements.

**Policy**

The preservation of the forests and the conservation of the forest natural resources, through sound resource management, and the prevention and suppression of forest fires hereby are declared to be the public policy of the State of Oregon.

ODF’s aviation activities are a component of a complete and coordinated forest management system.

**ODF Aviation Mission Statement**

To serve the people of Oregon through standardized operating procedures to ensure safe, efficient, and cost effective aviation operations.

**ODF Aviation Vision Statement**

- The vision for Oregon Department of Forestry aviation is to conduct natural resource management, and suppress wildland fires through the safe, efficient, and timely use of aircraft.

- To maintain a constant state of readiness through aviation planning.

- To provide aircraft and qualified/trained personnel for all aviation operations that are ODF’s responsibility.

- To provide assistance when requested and available, to other disciplines and agencies for aviation related activities.

- To develop, review, and update aviation policies and procedure as necessary in order to accomplish our mission.

- To support and encourage communications between ODF and its cooperators, to enhance working relationships.

All personnel will be held accountable to comply with necessary operational policies and procedures to meet task requirements.
**Direction**

All aviation operations will be in accordance with ODF Directive 0-4-5-010, Air Operations; Operational Procedures Memorandums, the ODF Rental Agreement, and this procedures manual. All aircraft and pilots will meet applicable provisions of federal, state, and local laws and regulations, including Federal Aviation Regulations, which will be considered minimum standards. *District Foresters have the authority to deviate from the policies and procedures in an emergency situation, which is defined as life threatening only.* If policies and procedures are not followed a written justification to be forwarded to the Staff Fire Aviation Specialist within 72 hours. This justification will be reviewed by the Aviation Working Team and the Executive Staff for further action if necessary.

**Operator of the Aircraft**

The National Transportation Safety Board (NTSB), has the legal responsibility to investigate all aircraft accidents in the USA, regardless of which natural resource agency is involved. NTSB determines, through it's investigation, who the “operator” of the aircraft was for the mission involved.

Operator of the Aircraft is determined by answering 4 key questions:

1. Who ordered the aircraft for the mission (i.e., whose resource order, contract?)
2. Who is paying the bill for the mission (based upon the charge code on the resource order, or payment documents).
3. Who is controlling the aircraft (i.e., an Agency or Agency Administrator through a Delegation of Authority to an Incident Management Team, or contract?)
4. Who (which agency) is directly benefited by the a/c services during the mission.
ORDERING AIRCRAFT

When an aircraft is needed for a project or an incident it must be an Oregon Department of Forestry (ODF) available aircraft and pilot. There are several ways that aircraft and pilot can be considered available:

- ODF annually develops a Call When Needed (CWN) aircraft and pilot list that meets ODF Air Operations Directive, and Rental Agreement. This should always be the first place checked for available aircraft and pilots.

- Any aircraft and/or pilot working under contract with ODF, the U.S. Forest Service (USFS), or U.S. Department of the Interior (DOI), Aviation Management Director (AMD), will be considered to have met the ODF standards for the use which the USFS, or BLM is contracting. When ODF hires an aircraft, the aircraft has to meet ODF Insurance and Pay standards.

- Any planned aviation needs that are not an emergency in nature and over $5000.00 must be hired in accordance with ODF and DAS contracting policies and procedures.

- If a district wishes to hire a qualified operator who is not on the CWN rental agreement list, the office must have the operator complete the Aircraft Summary, Aircraft Rental Rates, and Pilot Summary Form 0-4-5-101 (refer to Administrative Manual). The operator must also submit a proof of insurance with ODF listed as an also insured. These forms can be faxed directly to the Staff Fire Aviation Specialist in Salem.

- An aircraft and pilot must be FAA Part 135 Certified (Air Taxi Certificate), before any ODF personnel can ride in the aircraft as a passenger.

- Aircraft obtained through the Northwest Wildland Fire Protection Agreement (Northwest Compact).

- Oregon National Guard Aircraft as directed by the current OPPlan Smokey.

- Other State owned aircraft as appropriate.

How to Order

Determine the type of mission you have for the aircraft. Is it bucket work, sling loads, personnel transport, infrared imaging, GIS, air attack platform, or reconnaissance/smoke patrol?

Place an Aircraft Resource Order through the locally assigned dispatch office/center responsible for dispatching the aircraft. The minimum information needed from the field is type of aircraft needed and type of mission required.

Requests for ODF owned aircraft for fire operations should be placed through the resource ordering process. All non-fire requests for ODF owned aircraft, or point to point flight for Salem staff, will be placed with the ODF Chief Pilot or his designee.
**Initial Pilot Briefing**

All aviation missions require that the pilot be given a briefing, which includes as a minimum, the following information, some of which is obtained from the Aircraft Resource Order:

**Proper Mission Environment**

When an ODF employee is on board the aircraft, there should be a clearly defined separation of duties between Pilot and ODF passenger/observer. The Pilot in command is responsible for the operation and safety of the aircraft during flight time (Refer to 14 CFR Part 91). ODF passengers’ duty is to perform the tactical mission. (i.e. Observer, ATGS, Reconnaissance, Survey etc.)

**Natural Resource Management (Non Fire)**

- Pilot and aircraft are identified in the ODF Call-When-Needed aircraft list, or under an ODF contract, and have a valid insurance certificate on file with ODF;

- Pilot and Aircraft are qualified for the mission;

- ODF Contact identified and communicated;

- Flight Plan/Resource Tracking- FAA or agency flight plan filed;

- Load calculations – (Helicopters-pilot responsibility and provided to ODF on demand)

- Passenger Manifest (List names of all passengers and leave with the person doing the flight following prior to departure)

- Flight Following/Radio Equipment – Flight Following procedures in place; radio equipment is adequate and operational;

- Nature of the mission – Pilot briefed on nature and sequence of mission.

- Geographic area being flown;

- Analysis of known hazards – Known hazards discussed (Use a flight hazard map for planned fights or missions below 500’ AGL), and high level recon prior to decent to low level, below 500’ AGL;

- Environmental concerns;

- Hazardous Materials - Hazardous materials can not be flown internally on the aircraft. (Unless the pilot and aircraft have an FAA approved Hazmat Certificate)
Fire Management

- Fire Name (if available)
- Fire Number (If available)
- Ordering Dispatch Office phone number
- Latitude and Longitude (Degrees, Minutes, Seconds, unless otherwise specified,) Aircraft GPS WGS84 Datum
- Bearing and Distance from a base, OMNI, or VOR
  (Recommend utilizing SPOT FIRES and/or IA Aircraft form)
- Air Contact
- Radio Frequencies:
  - Flight Following (national) TX/RX 168.650 123.0 (not all districts have this)
  - Air-to-Ground - White Net TX/RX 151.310 or Federal Geographic Air-to-Ground frequency.

* NOTE: Actual Air-to-Ground frequency must be communicated when ordering aircraft. Be advised that if your district is using the federal air-to-ground frequency, ODF employees coming from other districts to assist you, may not have these frequencies programmed into their radios.

  - Air-to-air Local air-to-air frequency
  - Air Guard TX/RX 168.625 Tone 110.9
  - Ground to Ground(red net) TX/RX 151.340 No Tone
  (Unless other frequencies assigned to incident)
- Ground contact
- Passenger Manifest
- Load calculation (Helicopter- Pilot responsibility and given to ODF on demand)
- Mission objectives
- Dip locations for helicopters (if known)
- Reload Base - Airtankers only
- Temporary Flight Restriction in place over incident with NOTAM #
• **Known Aircraft Hazards (examples include):**
  - Aircraft in route or on scene
  - Power Lines
  - Radio Towers, Cell phone Towers
  - Ultra-Lites or Hang Gliders
  - Airports in the vicinity
  - Weather, winds, thunderstorms, etc.
  - Military Training Routes

**Point to Point Passenger Transportation**

Pilot will be briefed on passenger(s) name(s), weight(s), and destination(s).

**Pilot Briefing in Extended Attack or Natural Resource Management Activities**

Prior to flying any extended attack or project *aviation* missions, the pilot must be given a daily briefing, which may include the following:

**Local Communication Systems**

- Repeaters and Communication System
- Transmitter sites and call sign identifiers
- Lead plane communications and communication procedures (Fire Only)
- Large fire communication plan (Fire only)
- Airfield communications
- Frequencies and tones

**Dispatching Procedures (Fire only)**

- Bearing - distance
- V.O.R. radials
- Legal description, as well as latitude and longitude
- Prominent landmarks
- Lookouts use true bearings
- Forest fire dispatching procedures (from fire report to initial attack)
- Federal dispatching organization and procedure, where applicable
• Forest fuels and fire behavior common to area
• Flight hazards, which might affect the mission (include fiber optic lines and ALL power lines)

Payment Procedures and Contract Administration

• Submitting Emergency Equipment Shift Tickets (form 629-1-2-2-604)
• Contract administration procedures and organization
• Pilot duty limitations and off duty scheduling
• Pilot flight hour tracking
• Aircraft maintenance scheduling

Safety

• Aviation Safety Checklists
• Flight plans
• Load Calculations (Helicopters)
• Passenger Manifest
• Flight following procedures in place
• Off-District dispatch
• Emergency fields and emergency equipment available
• Lead plane procedures and other forest air operations that may be in the area
• Updated Hazard Map(for planned flights or missions below 500' AGL)
• Incident/accident reporting procedures

Air Attack/Recon

Definition; Air Attack (Air Tactical Group Supervisor, ATGS) is a person which can be in a fixed wing aircraft (e.g. Cessna 172), or rotary-wing aircraft (e.g. Hughes 500e). The difference between reconnaissance, and air attack aircraft, is the air attack aircraft has a qualified Air Tactical Group Supervisor (ATGS) on the aircraft. The role of the ATGS is the safe coordination of fixed and/or rotary-wing aircraft operations over an incident. The reconnaissance aircraft may have an aerial observer on board. The role of recon aircraft is to grid an area that has either been involved in a lightning storm, or has been determined to be of a high risk for fire and the accessibility is such that aircraft reconnaissance is the most effective tool. Recon flights can also be used for natural resource surveys, such as those flown for Insect & disease etc.

Ordering: (See ordering section)

Dispatch should brief the Air Tactical Group Supervisor (ATGS). Include a listing of all aircraft over the incident and ordered for the incident, with tail numbers. Also double-check the air-to-air, air-to-ground frequencies and flight following procedures. Once over the scene, the ATGS will assume command of the air resources. Coordination between the
Incident Commander and Dispatch for arrivals and releases of aircraft, as well as determining additional needs are also the responsibility of the ATGS.

Air Tactical Group Supervisor (ATGS) /Recon should be identified over the incident as:

- Incident Name Air Attack/Recon \( (e.g. \text{Wolf Creek Air Attack, or Wolf Creek Recon, this is the federal standard, and should be the first choice}) \)

- Air attack \( (e.g. \text{use when no interference with other AA}) \) Air attack + Tail number of aircraft \( (i.e. \text{Air Attack 75Uniform}) \)

**Lead Planes/Aerial Supervision Module**

Definitions:

Lead Plane: Aircraft with pilot used to make trial runs over the target area to check wind, smoke conditions, topography and to lead air tankers to targets and supervise their drops.

Aerial Supervision Module: A fixed wing aircraft with a pilot and ATGS on board as a dedicated module. The ATGS deals with fire suppression tactics, and the pilot acts as air traffic control. This module may also take the place of the Lead Plane.

Ordering: A LEAD PLANE will be ordered whenever an airtanker is ordered. If the lead plane is unavailable or if it will arrive after the airtanker, and the airtanker pilot is initial attack qualified, the air tanker can fly the mission without the lead plane on scene. The use of a lead plane increases the effectiveness, economy, and safety of air tanker operations.

Note: The majority of airtanker pilots are initial attack qualified. If an airtanker does not have an initial attack qualified pilot, the Airtanker Base Manager coordinates with the PNW, Region 6 to assure a lead plane is staged close by to respond with the airtanker.

How to Order: Lead planes are normally based at the same locations as Airtankers. There are only a few lead planes in the Pacific Northwest and at times can be difficult to obtain. When placing the order, identify priority of the request.

**Airtankers**

Definition: Fixed-wing aircraft capable of transport and delivery of fire retardant solutions.

How To Order: Complete an Aircraft Resource Order Form. Orders for airtankers can be placed directly from local National Forest or interagency dispatch office/center or through Salem Coordination Center. Remember to always order a leadplane/ASM, when Airtankers are ordered.

Ordering Tips: Consider your turnaround time when ordering airtankers. Two airtankers in rotation may be more cost effective. When placing an order identify the priority of the mission.

For ODF airtankers refer to current ODF Airtanker Operations Plan.

The Forest Service has 4 air tanker bases in the Pacific Northwest, Region 6, there are no federal air tankers assigned to an individual “home” base:
• Winema National Forest, located in **Klamath Falls** and dispatched through the Kingsley Fire Center.

• **Redmond Air Tanker Base** located in Redmond and dispatched through the Central Oregon Interagency Dispatch Center.

• Wallowa Whitman National Forest, located in **LaGrande** and dispatched through the Northeast Oregon Interagency Dispatch Center.

• Wenatchee National Forest located in **Moses Lake** and dispatched through the Central Washington Interagency Communications Center.

• **Reload Bases:**
  - Troutdale Oregon
  - Medford, Oregon

Flight following: Airtankers usually flight follow with dispatch when they are close to entering your airspace. Once a lead plane has been established the airtankers will communicate with them except for the flights to and from the incident. Establish flight following procedures with tanker base to ensure a positive handoff.

**Recording Aviation Activities**

Aviation activities such as smoke patrol, Aerial Surveys, and air attack shall be recorded on the Emergency Equipment Shift Ticket. **Form 629-1-2-2-604**, and the Equipment Rental Agreement and Invoice Form if applicable.

All ODF owned aircraft flights will be recorded on the Daily Flight Record Form (form 0-4-5-470, Rev. 5/97), and a copy will be given to the user district.

**Aircraft Types and Capabilities**

<table>
<thead>
<tr>
<th>Air Tanker Types</th>
<th>TYPE</th>
<th>MINIMUM GALLONS WATER/RETARDANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3000 GALLONS</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1800 GALLONS</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>600 GALLONS</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>100 GALLONS</td>
<td></td>
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<table>
<thead>
<tr>
<th>Helicopter Types</th>
<th>TYPE</th>
<th>SEATS</th>
<th>MINIMUM GALLONS WATER/RETARDANT</th>
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</thead>
<tbody>
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<td>16</td>
<td>700 GALLONS</td>
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</tr>
<tr>
<td>2</td>
<td>10</td>
<td>300 GALLONS</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>100 GALLONS</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>75 GALLONS</td>
<td></td>
</tr>
</tbody>
</table>
Aircraft Makes and Models by ICS type

Different data sources may show different speeds, payload capability, number of passengers, etc. The temperature, fuel load, runway elevation, and model or series of the aircraft will have considerable effect on the aircraft’s capability.

The term USEFUL PAYLOAD, as used in the charts refers to the average weight at which agencies would operate the various aircraft.

ICS Helicopter Types and Capabilities

**TYPE I**
Seats 16+ (Pilot included)
Useful Load 5000+ lbs.
Retardant/Water capacity 700+ gallons
Examples: BV107, BV234, Bell 214, S-64, S61, CH47, UH60

**TYPE II**
Seats 10-15 (Pilot included)
Useful Load 2500-4999 lbs.
Retardant/Water capacity 300-699 gallons
Examples: Bell 204, 205, 212, S-55T

**TYPE III**
Seats 5-9 (Pilot included)
Useful Load 1200-2499 lbs.
Retardant/Water capacity 100-299 gallons
Examples: Bell 206B/L, AS-350/355, Alouette III, Hughes 500, Lama

**TYPE IV**
Seats 3-5 (Pilot included)
Useful Load 600-1199 lbs.
Retardant/Water capacity 75-99 gallons
Examples: Bell 47, Hiller 12, Hughes 300

Fixed Wing Retardant Capacities

<table>
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<th>TYPE</th>
<th>GALLONS</th>
<th>TYPE</th>
<th>GALLONS</th>
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<tr>
<td>AT-802</td>
<td>800</td>
<td>PB-4Y</td>
<td>2200</td>
<td>C-130E</td>
<td>5000</td>
</tr>
<tr>
<td>PV-2</td>
<td>1050-1200</td>
<td>DC-6</td>
<td>2450</td>
<td>C-97</td>
<td>4000</td>
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<tr>
<td>PBY</td>
<td>1500-1725</td>
<td>P-2V</td>
<td>2500-2700</td>
<td>SP-2H,</td>
<td>2000</td>
</tr>
<tr>
<td>DC7, C130, P3</td>
<td>3000</td>
<td></td>
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</tr>
</tbody>
</table>
# AIRCRAFT ORDERING CHECK LIST

## INCIDENT INFORMATION

<table>
<thead>
<tr>
<th>ALERT:</th>
<th>Confirmed:</th>
<th>(Y)</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE/TIME</td>
<td>TO/FROM</td>
<td>INCIDENT NO</td>
<td>INCIDENT NAME</td>
</tr>
<tr>
<td>HELIBASE LOCATION</td>
<td>TWN</td>
<td>RNG</td>
<td>SE</td>
</tr>
<tr>
<td>LATITUDE</td>
<td>LONGITUDE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## INCIDENT FREQUENCIES

| AIR TO GROUND FM: | VICTOR: | AIR TO AIR FM: | VICTOR: | AIRTANKER TO LEAD PLANE FM: | VICTOR: |

## ORDER REQUESTED

<table>
<thead>
<tr>
<th>AIRCRAFT TYPE ORDERED</th>
<th>AIRCRAFT DESCRIPTION</th>
<th>RESTRICTED (Y) (N) (N/A)</th>
<th>LATITUDE</th>
<th>ETA</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td>TYPE OF MISSION</td>
</tr>
<tr>
<td>FOAM CAPABLE (Y) (N)</td>
<td>MEDIVAC (Y) (N)</td>
<td>HELMETS NEEDED (Y) (N)</td>
<td>DRIP TORCH (Y) (N)</td>
<td>OAS OR USFS CARDED Pilot (Y) (N)</td>
</tr>
</tbody>
</table>

## AIRCRAFT ORDER FILLED (Filled By: )

<table>
<thead>
<tr>
<th>COMPANY NAME</th>
<th>AIRCRAFT TYPE ORDERED</th>
<th>MAKE/MODEL</th>
<th>AIRCRAFT TAIL#</th>
<th>AIRCRAFT CALL#</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILOT NAME</td>
<td>RELIEF PILOT NAME</td>
<td>AIRCRAFT ETA AT BH</td>
<td>FUEL TRUCK ETA AT BH</td>
<td>FUEL TRUCK GALLONS</td>
</tr>
<tr>
<td>FUEL TRUCK CELL#</td>
<td>AIRCRAFT MAINTENANCE Due: (Y) (N) When: hrs.</td>
<td>PILOT DUTY TIME</td>
<td>AIRCRAFT DEPARTURE LOCATION</td>
<td>OAS OR USFS CARDED Pilot (Y) (N)</td>
</tr>
</tbody>
</table>
# Shift Ticket Instructions for Aircraft & Associated Equipment

**THE OPERATOR IS RESPONSIBLE FOR COMPLETING THIS FORM**

1. Enter your assigned division (A, B, C, etc.) or Helibase, etc.
2. Enter the shift you are working, day or night. This is normally Day shift.
3. Enter the name of the OWNER of Aircraft/Fuel Truck, Dip Tank, Hellitorch, etc.
4. IF this aircraft is under a formal contract with ODF, then enter the contract number. If hired off of the CWN list, leave blank.
5. Enter the Resource Request Number (A-12 etc) from your Resource Order Form.
7. Indicate yes or no as appropriate.
8. Enter the name assigned to this incident by ODF.
9. Enter the number assigned to this incident by ODF. This is usually the fire number or a project code.
10. Equipment Type – Fixed Wing, Type 2 Helicopter, Hellitorch, Dip Tank, Fuel Truck, etc.
11. List equipments’ manufacturer and model Cessna 182, Bell 212, 5000 gallon dip tank, etc.
12. List any remarks pertaining to this operator and or equipment, i.e. injuries, accidents, condition of equipment, use of the equipment, per diem, working effectiveness of operator, short performance evaluation, etc.
13. Visible identification (owner # on door, etc.). This could be a special number used by the company to identify a dip tank or vehicle number.
14. Enter the full FAA tail number. License plate number, Serial number on the Dip Tank, property number of drip torch, etc.
15. Use this column to enter the date at start of your shift. (MM/DD/YY) – COMPLETE 1 SHIFT TICKET PER DAY PER PIECE OF EQUIPMENT.
16. Circle unit of pay: Hours, Miles, Hobbs, or Days. This depends upon payment – is this equipment paid by the hour, mile (fuel truck), day (dip tank), Hobbs for aircraft time, etc.
17. Time equipment began shift if paid by hour/day, odometer (tenths of miles are not needed), trip or HOBBS reading if not.
18. Time equipment ended shift if paid by hour/day, odometer (tenths of miles are not needed), trip or HOBBS reading if not.
19. For all aircraft, enter the appropriate flight code.

## USE

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<tr>
<td>Forest Practices</td>
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<td>Survey - Bear</td>
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<td>Other</td>
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<td>Aerial Seeding</td>
<td>61</td>
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<tr>
<td>Herbicide</td>
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<td>Pesticide</td>
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<td>Aerial Torch</td>
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<td>Application Boundary Identification</td>
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<td>Maintenance</td>
<td>71</td>
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<tr>
<td>Dead Head (no passengers)</td>
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<td>Photography Training</td>
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<td>Pilot &amp; Aircraft</td>
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## EMERGENCY EQUIPMENT SHIFT TICKET

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<thead>
<tr>
<th>3. CONTRACT/AGREEMENT NUMBER</th>
<th>4. RESOURCE REQ NO.</th>
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<tr>
<th>5. OWNER/CONTRACTOR (name)</th>
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<tr>
<th>6. TYPE OF RESOURCE:</th>
<th>7. 24 HR SHIFTED</th>
<th>8. INCIDENT NAME</th>
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<td>GOVERNMENT</td>
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<tr>
<th>10. EQUIPMENT TYPE</th>
<th>11. EQUIPMENT MAKE/MODEL</th>
<th>12. REMARKS (released, down time and cause, problems, etc.)</th>
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<table>
<thead>
<tr>
<th>13. OWNER ID NUMBER</th>
<th>14. LICENSE, VIN, SERIAL OR TAIL #</th>
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</table>

<table>
<thead>
<tr>
<th>15. DATE</th>
<th>16. EQUIPMENT USE (circle one)</th>
<th>17. BEGINNING</th>
<th>18. ENDING</th>
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<tbody>
<tr>
<td>MO/DAY/yr</td>
<td>HOURS</td>
<td>MILES</td>
<td>HOBBS</td>
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<table>
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<tr>
<th>19. FLIGHT CODE</th>
<th>20. OPERATOR/PERSONNEL NAME(S)</th>
<th>21. POS’N</th>
<th>22. BEGINNING</th>
<th>23. ENDING</th>
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<table>
<thead>
<tr>
<th>24. PERSONNEL SIGNATURES</th>
<th>25. DIV SUP/ODF REP SIGNATURE</th>
<th>26. DATE SIGNED</th>
<th>27. POSTED BY</th>
</tr>
</thead>
</table>

---

### Instructions:

20. **OPERATOR/PERSONNEL NAME(S):** This is optional.

21. Enter name of position being filled by person named. **Not Applicable.**

22. Enter the time in military hours when the person began work for the shift. If you want to track pilot duty hours, this would be the optimal place to do this.

23. Enter the time in military hours when the person ended work for the shift. Same as 22.

24. Signature of personnel whose name is entered on #20 verifying units worked by the equipment and by themselves. This block can be used to have the pilot verify his/her hours worked. Otherwise this is a great place to list multiple fires worked and other notes associated with the flight – fire numbers, etc.

25. ODF representative’s signature agreeing to hours worked.

26. Date of ODF representative’s signature.

27. Name of Timekeeper who finalizes posting.
NATURAL RESOURCE MANAGEMENT AVIATION ACTIVITIES

Purpose

The purpose of this section is to outline the proper, safe, and efficient use of aircraft for natural resource activities. The natural resource management aviation procedures will apply whenever ODF can be considered to be the “Operator of the Aircraft” on non-fire related activities. In general, this will apply for activities such as service contracts for aerial applications and call-when-needed (CWN) flights for reconnaissance purposes. When ODF is a third party user or uses an “End use” contract such as a timber sale contract and is NOT in direct control of the air operations these procedures may not apply. Regardless of the legal determination of the operator of the aircraft, ODF employees should always observe the procedures given in the Safety section, specifically “Safety around Helicopters”.

If ODF is the “Operator of the Aircraft” then all operations will be in accordance with ODF Air Operations Directive 0-4-5-010, Operational Procedures Memorandums, the ODF Rental Agreement or the Service contract, District Aviation Plan and this Aviation Procedures Manual. In addition, depending on the location and the specific use of the aircraft, other rules and regulations may also apply such as Oregon Department of Agriculture (ODA) pesticide and certain Federal Aviation Administration (FAA) regulations.

Many of the procedures given below are described in detail in other sections of the manual or in the ODF Air Operations Directive.

Project Planning

- The “Aviation Risk Management Checklist” will be used to evaluate the use of any aircraft. See the “Aviation Risk Management Checklist” (see index)
- Completion of the “Supervisors Aviation Safety Checklist” (see index), is required and the “Aviation (Project) Managers Safety Checklist” (see index), is recommended before each project.
- Helicopter Landing Area Selection (see index)

Operational Considerations

The following procedures are required:

- Verify that pilot and aircraft are identified in the ODF CWN aircraft list, or will be hired under an ODF contract, and have a valid insurance certificate on file with ODF.
- Verify that Pilot and Aircraft are qualified for the mission; i.e. FAR Part 135 for passenger flights, FAR Part 137 for aerial applications, etc. Minimum pilot flight hours and qualifications are detailed in the “Terms of Agreement for Hiring Aircraft and Pilots”, the department’s Air Operations Directive and Section 29.01 of the aerial application service contract. Note: Often the pilot who arrives to conduct the project flight is not the same one listed on the contract “bid proposal.” Check with ODF Contracting and/or ODF Staff Aviation Specialist
(Jim Ziobro 503-945-7508) to make sure that your pilot’s qualifications are on file and up-to-date.

- **File a Flight Plan/Resource Tracking** – FAA or agency flight plan filed for point-to-point flights

- **Flight Following** – Use Flight Following procedures (see index). Note: An on-site ODF employee, who has radio contact with the aircraft and the district and who is not a passenger in the aircraft, may be used for flight following, provided they have the ability to implement Emergency Response Procedures.

- **Load Calculations** – The helicopter pilot is responsible for completing a load calculation form and will be provided to ODF on demand. The project manager must verify that the calculation has been done prior to any flight involving an ODF passenger. ODF Personnel will not sign the load calculations.

- **Passenger/Crewmember Manifest** – Provide a list of all passengers to dispatch or appropriate project personnel prior to departure. List names of all passengers and leave with dispatch or project personnel prior to departure.

- **Personal Protective Equipment** – All aircraft passengers shall wear PPE as outlined. (see index). All passengers in a rotary wing aircraft shall wear the following: nomex pants and shirt or flight suit; leather boots; flight helmet (when in front seat) or hardhat; and leather or nomex gloves.

- **Hazardous Materials** – Hazardous materials can not be flown internally on the aircraft.

- **Pilot Briefing** – The project manager will cover, as a minimum, the following information, prior to the use of any aircraft. (pilot briefing, see index)
  
  - ODF contacts - Communicate to pilot who is in charge of the project and identify project observers and their location(s).
  
  - Communication – Provide the radio frequencies to be used, and verify that communication devices are operational.
  
  - Nature of the Mission – Brief pilot on nature and sequence of mission.
  
  - Project Area Geographic Features - Brief pilot on the geographic features of the project area, location of boundaries, etc.
  
  - Analysis of Known Hazards – Discuss known hazards in the potential flight path with the pilot (use a flight hazard map for planned flights or missions below 500’ AGL). Specifically cover any potential hazards in the project unit. Make sure that pilot conducts a high level recon prior to descent to low level (below 500 feet AGL).
  
  - Environmental Concerns - Strong winds, fog, etc.

- **Passenger/Crewmember Briefing** – The pilot or qualified aviation personnel shall brief all passengers prior to flight. (See index for the information location in this manual).

- **Track pilot duty time and flight time restrictions** - See Air Operations Directive (also see Section 29.02 of the aerial application service contract)
NOTE: ODF employees in “Restricted Category” aircraft – Passengers are not allowed to ride in a Restricted Category aircraft. However, in cases where the project manager deems it necessary to conduct a reconnaissance flight as an essential part of the mission a department employee can conduct the flight as a “crewmember” on that aircraft. (See FAR Part 91.313(d)) Flying in restricted category aircraft should be considered as the last option, and should be kept to the absolute minimum. ODF personnel should use all means necessary other than flying in restricted category aircraft to provide adequate orientation for the pilots. See Air Operations Directive.

Documentation

Good documentation is a key component of a safe aviation program. Written records should be kept of all important decisions affecting the aviation project and all records including reports and any check lists used should be filed.

At a minimum, either the “Daily Flight Record” form or the “Emergency Equipment Shift Ticket” can be used to document daily flights. The completed form should be submitted to Salem Aviation Unit and include all ODF passenger information at the completion of each project.

All incidents/accidents as defined in FAR Part 830 and the ODF Aviation Procedures manual shall be documented and reported as instructed in this manual. (See index).

Safety

Safety Around Helicopters – see index
Safety Around Helicopter Landing Areas – see index

I&D Survey Aircraft / Flight Following / Airspace Deconfliction

KEY PRINCIPLES:

- Recognize that I&D Survey Flights and Fire Aviation operations are both very important to the Department, and we must continue to find ways to have them work together well.

- Operation of our aviation activities in a safe manner is of the utmost importance.

- Reduced workload for IA Dispatchers and Pilots, related to flight following, can result in safer and more productive operations. The general principle is to limit the circumstances when fire dispatch centers would need to flight follow I&D survey flights.

- Flight following is a key component of locating and conducting rescue operations should an aviation accident occur.

- Both Automated Flight Following (AFF) and Radio Flight Following (RFF) are acceptable procedures. AFF is becoming the wave of the future and has some significant benefits.
• Airspace deconfliction is important in and around a fire incident area, especially during IA / Extended Attack.

• Ongoing, meaningful communications among the parties involved is the key to establishing and maintaining meaningful and productive solutions.

All pilots under control of ODF shall communicate as needed to ODF aircraft. For future I&D Survey flights, in addition to "normal" general aviation and fire related procedures, the following approach will be used:

1. I&D Pilot / Observer contact appropriate dispatch centers that they plan to conduct flight operations in for the day, and let them know of their plans, confirm frequencies, etc.

2. Pilot arranges for AFF to occur through Salem Dispatch (preferred), or some other location. If AFF not available, or fails, revert to RFF.

3. As aircraft enters a dispatch centers coverage area for significant time (+15 minutes), radio contact will be made with the dispatch center and will give them their survey plans, as well as how they are being flight followed. Dispatch will notify them of any ongoing / planned aviation activity in the area.

4. Pilot will monitor the appropriate Dispatch Center Frequency while in the District.

5. Pilot will establish and maintain radio communications with other aircraft in the planned flight area.

6. When leaving a dispatch center coverage area, radio contact will be made notifying them that they are leaving the area.

7. I&D Flight will not leave their intended survey flight route for smoke investigations without notifying the appropriate Dispatch Center. This will allow the Dispatch Center to assess the need for the deviation, as well as to inform them of any other aircraft in the smoke area.

8. During heavy fire aviation activity (primarily multiple aircraft IA/Extended Attack activities), I&D Survey should be diverted outside of the fire activity areas on the District or as needed outside the District to reduce potential conflicts. It is acceptable to conduct survey on a District with fire activity after the busy initial stages, when activity has returned to a more planned, predictable operation.

9. Fire patrol observers will inform fire patrol pilots of the need and expectation for them to communicate with I&D pilot as needed when sharing airspace.
AVIATION STAFFING LEVELS

Minimum Staffing Levels

All ODF fire aviation operations will comply with the following standards or not fly the mission. Only qualified personnel will supervise operations involving aircraft. Qualifications are outlined in the Air Operations Directive 0-4-5-010, ODF Protection Training and Certification Manual, Chapter 6.

NOTE: Air Tactical Group Supervisor (ATGS) - Operations involving more than three aircraft, or mixture airtankers and rotary wing aircraft over the incident, will be supervised by a qualified ATGS.

Helicopter Operations Management

The following standards indicate the minimum management, staffing, and qualifications necessary for a safe operation. These standards are based on the number of aircraft assigned, types of missions flown, and type of incident involved. They apply to project work, initial attack, extended attack, and project type incidents. Only qualified and trained personnel will supervise operations involving aircraft. More aviation management personnel can be added if needed to maintain a safe operation.

1-2 Helicopters:

- The properly qualified person (identified in District Aviation Plan), the Dispatcher, or the Incident Commander. (Defined in the current Air Operations Directive 0-4-5-010)

3-4 Helicopters:

- HEBM-2 (Helibase Manager-2), if a helibase is established.

- ATGS (Air Tactical Group Supervisor)- Operations involving more than three aircraft, or mixture of rotary wing aircraft and fixed wing aircraft over the incident, will be supervised by a qualified ATGS.
Important Note: The questions are often asked, "When does an unimproved landing site become a helispot, and when does a helispot become a helibase?"

An unimproved landing site becomes a helispot when it is utilized on a recurring basis for the purpose of transporting personnel and/or cargo to or from the site. It should then be managed, improved to the extent necessary, and supplied with the proper equipment.

To determine when a helispot should be managed as a helibase, use the following criteria:

For Incidents, a landing site should have required helibase management and controls implemented, when three or more helicopters are assigned to or based at a location for more than one day. Prudent management and safety concerns should naturally dictate that when several helicopters arrive at a helibase on the first day, helibase management procedures and requirements should be initiated.

In any operation, if the aircraft are separated (i.e. refueling, transporting personnel, maintenance) at different areas, and/or a helibase is not established, a Helibase Manager is not required.

Recommendation: In an extended attack situation it is recommended that a Helicopter Manager or Helibase Manager be assigned to manage the aircraft.

5 or more Helicopters:

- HEBM-1 (Helibase Manager - 1)
- Radio Operator
- ATGS (Air Tactical Group Supervisor)

Cargo Transportation:

- 1 HECM - Helicopter Crew Member per active operation
  * Can be contract personnel

Crew Transportation

- 1 Helicopter Crew Member to load and unload
  * Can be the same person or pilot can shut down the aircraft and perform the task
**Type I & II Incident Management Teams assigned** (During transitions to and from an IMT, refer to *Helicopter Operations Management by number of helicopters managed*):

- AOBD (Air Operations Branch Director)
- ATGS (Air Tactical Group Supervisor)
- Radio Operator
- HEBM (Helibase Manager)

**National Guard:**

- 1 Helicopter Manager per 2 National Guard Helicopters, or
- Aviation Liaison (Liaison is AGENCY employee with aviation training that is familiar with the current OPLAN SMOKEY)

**FIXED WING Operation Management**

Order a **leadplane** whenever **airtankers** are ordered. If a lead plane is unavailable, and the airtanker pilots are initial attack qualified, the **airtankers** can fly the mission with out the lead plane. (see Index leadplane/ASM and airtanker section)

**Aerial Supervision Module (ASM)** - No additional staffing required.

**Single Engine Air Tankers (SEATS) and Ag Tankers** - a SEAT manager is not required, but is recommended.

**Recon Flights** - recommend Aerial Observer.
**AIRSPACE**

**Flight Following**

**Introduction**

Flight following is a key component of aviation safety. Flight following, whether performed from a dispatch office or other facility, or at a remote location in the field, must be given a high priority by all personnel involved.

**Definition and Purpose of Flight Following:**

Flight following is the knowledge of the aircraft location with a reasonable degree of accuracy such that, in the event of a mishap, search and rescue procedures can be implemented in a timely manner.

**Flight Following Requirements:**

All aircraft performing ODF mission flights (smoke patrol, air attack, recon, survey, photo, etc.), shall be flight followed,

- Position/location and direction of flight reports shall be made at minimum intervals of 15 minutes.
- If no report has been received for more than 15 minutes and the flight follower is unable to contact the aircraft by radio, the flight follower shall implement the emergency response procedures for overdue or missing aircraft.

**NOTE:** If check-ins cannot be made due to equipment failure, the aircraft shall return immediately to the departure point or to the closest facility where a check-in can be made via telephone. The mission flight must not proceed until the problem is corrected and positive communications are established.

**Methods and Processes of Flight Following:**

**Automated Flight Following (AFF)** is an automated position reporting system using GPS and satellite communications. The GPS derived aircraft position (Lat. /Long.), speed, heading, and altitude is transmitted via satellite to an internet accessible (database) program.

**Flight Follower/Dispatcher Duties and Responsibilities:**

- The dispatcher will monitor AFF at a minimum of every 15 minutes for aircraft data and document current location.
- If AFF failure is encountered for an aircraft, the pilot will be notified and 15 minute radio position reports Radio Flight Following (RFF), will be utilized.
• If flight following will be handed off to another dispatch center, the dispatcher will coordinate the handoff and brief the pilot with updated frequencies, call signs and other information as needed.

**Pilot Responsibilities:**

- Prior to flight, the pilot will ensure that all dispatch centers that may be affected by the planned mission flight have been contacted and are informed of the facility providing flight following.
- The pilot will contact the dispatch center providing flight following prior to, or as soon as practical after takeoff to confirm AFF status.
- The pilot will monitor the appropriate FM frequency and Air Guard for the duration of the flight.
- Notify dispatch if/when switching flight following to fire tactical.
- Notify dispatch when landing for any reason i.e. lunch break, fuel stop.
- Notify dispatch when flight has resumed.
- Notify dispatch after landing when the flight is terminated for the day.

**Radio Flight Following (RFF),** is based on radio communications. Position reports may be initiated by either the dispatcher calling the aircraft or by the aircraft pilot/crewmember calling the dispatcher via pre-designated frequency, every 15 minutes.

**Dispatcher Responsibilities**

- The dispatcher will monitor and time the flight.
- If 15 minutes has elapsed since the last position report, the dispatcher will call the aircraft to obtain a position report.
- The dispatcher will document this information and re-set the timer for another 15 minutes.
- If flight following will be handed off to another dispatch center, the dispatcher will coordinate the handoff and brief the pilot with updated frequencies, call signs and other information as needed.

**Pilot Responsibilities**

- Prior to flight, the pilot will ensure that all dispatch centers that may be affected by the planned mission flight have been contacted and are informed of the facility providing flight following.
- The pilot will contact the dispatch center providing flight following as soon as practical after takeoff with a position report to initiate flight following.
• The pilot will make position reports every 15 minutes and an additional report if the flight profile changes, i.e. change in direction of flight, etc.

• Notify dispatch if/when switching flight following to fire tactical.

• Notify dispatch when landing for any reason i.e. lunch break, fuel stop.

• Notify dispatch when flight has resumed.

• Notify dispatch after landing when the flight is terminated for the day.

**Point to Point Flights**

**Instrument Flight Rules (IFR)** flight plan with the FAA. This method is utilized for point-to-point flights only.

**Visual Flight Rules (VFR)** flight plan, and/or VFR flight following with an FAA Air Traffic Controller. This method is utilized for point-to-point flights only.

**Documentation of Flight Following:**

Local forms and procedures for documenting flight following will be established. This can be accomplished on the radio log or other form. It is critical this information is documented because, in the event of a mishap, the speed and effectiveness of the search-and-rescue effort is dependent upon the accurate recording of flight-following information by dispatchers.

**Airspace Deconfliction**

**Introduction**

Airspace deconfliction is a key component of aviation safety and must be given a high priority by all personnel involved.

**Definition and Purpose of Airspace Deconfliction:**

Airspace deconfliction is a combination of methods and processes used by pilots to gain situational awareness to prevent midair collisions.

**Methods and Processes of Airspace Deconfliction:**

**SEE AND AVOID** – It is the primary method endorsed by the FAA to provide separation of all VFR traffic (prevent midair collisions) during VFR weather conditions, outside of positive controlled airspace.

**Pilot Duties and Responsibilities:**

• Prior to flight, the pilot will ensure that all dispatch centers that may be affected by the planned mission flight have been contacted and are knowledgeable about the scope of the planned mission flight.

• During flight, the pilot’s primary duty and responsibility is to look outside the aircraft, scanning the airspace for any other aircraft that may be a collision
threat, and maneuvering the aircraft to avoid any threats identified. No part of the mission flight has any priority over this duty and responsibility.

- When the pilot has been advised by a dispatcher that another aircraft is (or will be) operating in the dispatch area, the pilot will contact that aircraft by radio, and each pilot will provide the other with sufficient information to enable traffic separation (see and avoid).

- If the mission flight crosses a dispatch area boundary, and will be in a different dispatch area for more than 15 minutes, then the pilot, upon crossing the boundary, will advise the current dispatcher that they have left their dispatch area and are changing frequencies and will contact the next dispatch center (on the appropriate radio frequency).

- The pilot will monitor the appropriate dispatch center FM frequency, FM Air Guard, VHF AM Guard (121.5) and if appropriate, the VHF AM air-to-air frequency for the duration of the flight.

- Notify dispatch if/when switching frequencies to fire tactical.

- Notify dispatch when landing for any reason i.e. lunch break, fuel stop.

- Notify dispatch when flight has resumed.

- Notify dispatch after landing when the flight is terminated for the day.

**Temporary Flight Restriction (TFR)**

The Temporary Flight Restriction, when requested, is established around a fire by the FAA, and a Notam is issued describing the location, dimensions, and contact information for obtaining a clearance to enter the TFR (see section on TFR). ORDERING TFRs (Temporary Flight Restrictions) F.A.R Part 91.137: Reference ODF Mobilization Guide.

A Temporary Flight Restriction (TFR) should be considered whenever any of the following occur in conjunction with an ODF managed air operations.

1. Multiple incidents within close proximity, which may cause a potential hazard to the aircraft.

2. Extended aviation operations are anticipated.

3. Congested areas are involved (e.g., airports, Victor Airways).

4. There is a high potential for sightseeing aircraft.

5. There are extended operations within Military Training Routes (MTRs) or Special Use Area (SUA).

6. When an Incident Management Team has been ordered.

7. “See and Avoid” capability is reduced or compromised.
**Note:** The District Forester, Incident Commander, Air Operations Branch Director or their designee may determine the need to request a TFR if they feel there is a need to restrict the airspace for other safety reasons.

**How To Request a TFR**

The request normally is initiated through the local dispatch office or through the Salem Coordination Center, which will be documented on an Aircraft Resource Order. Accompany the resource order with a "Interagency Request for Temporary Flight Restriction" Form. Once all the required information is documented and verified, the request will be placed with SCC or NWCC. Seattle Center – ARTCC has requested all TFR requests come through NWCC.

If Seattle Center grants the TFR they will issue you a NOTAM Number, which will be documented on the Aircraft Resource Order and Request Form. The Resource Order and Request Form shall be faxed to the Salem Coordination Center.

There are times in the Pacific Northwest, when increased activity may create the need to establish a centralized TFR coordination and ordering point. Specific process information would be distributed if this need arises.

**TFR Notification Process**

Once a TFR is in place, this information should be communicated so everyone involved with the operation is aware of the situation. This should include the district office, local dispatch, neighboring units and any aircraft on the fire or being dispatched to the incident and ground personnel involved in the operation. It is recommended that a copy of the NOTAM be posted at any local airport.

**How to Cancel a TFR**

Once the decision has been made to cancel the TFR, call SCC or NWCC, who in turn will call Seattle Center with the NOTAM Number, advise them when the TFR can be cancelled (date and time), document the cancel on the Aircraft Resource Order and the Request Form.

**TFR Airspace Coordination**

Prior to entering an active incident airspace or TFR, pilots must coordinate with the Air Tactical Group Supervisor (ATGS), Incident Commander (IC), Air Operations Branch Director (AOBD), or Dispatch, and communicate with any other aircraft. When approaching an incident airspace the pilot should make the initial call to the incident at twelve (12) miles out. **Before entering the TFR or coming closer than seven (7) nautical miles of the incident the pilot shall:**

- Establish radio communications with incident Air Attack, or incident command
- Receive clearance to enter the airspace
• If the pilot can not comply, pilot shall remain clear of the TFR or airspace until further clearance has been received that the pilot shall comply with

**If communications are not established, hold outside of the seven (7) nautical mile ring until they are established. Any violation of this is considered an aircraft incident and will require an incident/accident report to be filed within 72 hrs, with the District Forester and the Staff Fire Aviation Specialist.**

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**Fire Traffic Area (FTA)**

The FTA was developed by aerial firefighting personnel to provide a standardized initial attack airspace structure to enhance air traffic separation for ALL AIRCRAFT over a wildland fire(or other) incidents. The Fire Traffic Area requires that all aircraft responding to a specific fire be in contact with and follow the directions of the “Aerial Supervisor” (Air Attack, Lead Plane, or Incident Commander etc.) prior to entering the FTA.

• The FTA utilizes a 5 Nautical Mile (NM) radius from the incident latitude and Longitude. 5nm is the minimum radius greater or less than 5nm may be used to adapt to unique incident demands.

• The FTA can flex vertical depending on the operational requirements of participating incident aircraft or by the requirements of the incident itself.

• Radio communication is initiated at 12 nm from the incident latitude and longitude.

• Negative radio contact requires holding a minimum of 7nm from the incident.

• Unique to land management agencies. It is not part of the National Airspace System.

---

**Communications**

Initial radio contact should be initiated by 12 nm form the fire in order to receive clearance into the FTA prior to 7 nm. Monitoring the air tactical frequency while enroot will allow you to determine the appropriate time to establish radio contact with the controlling aircraft. Establishing communication earlier rather than later will often improve efficiency over the fire. Remember a clearance is required to enter the FTA. Initial radio contact should include:

• Aircraft call sign;

• Distance and direction and time from fire;

• After receiving a clearance into FTA, pilots should plan to arrive at 7 nm from the fire at their assigned altitude at 150 Knots Airspeed (KIAS) (or less when applicable). Large airtankers may need to operate at higher airspeeds. Captains of such aircraft shall advise the controlling aircraft of entry speeds exceeding 150 KIAS.

• If radio contact can not be established, pilots should maintain VFR, hold on the 7 nm arc from the fire, with left turn orbits around the fire.
3 C’s

- Communication – Established;
- Clearance - Received and understood;
- Comply - Comply with the clearance. If you can not, remain clear of the FTA until you receive an amended clearance with which you can comply;
- If communications are not established, hold a 7 nm arc from the fire, left hand orbit around the fire.

Large Incidents

Large incidents often times will have airspace requirements and TFR’s that exceed the dimensions of the FTA. In this case initial points (IP’s) are used in conjunction with transition routes to and from the incident.

NOTE: Do not assume that all arriving aircraft have been briefed in the IP. If they have they may also not have departed from the closest airtanker base. Arriving aircraft from other geographic areas may possibly fly over your operations area to reach the IP or the original initial attack latitude and longitude.

Remember the key to safe operations is communications!

- Call by 12 nm
- Get Clearance;
- If you do not hear from the controlling aircraft, arc at the 7nm, left turns around the fire;
- IF IN DOUBT, STAY OUT!
INITIAL RADIO CONTACT: 12nm on Assigned Air Tactical Frequency. CLEARANCE IS REQUIRED TO ENTER FTA
NO RADIO CONTACT: Hold a minimum of 7nm from the incident.

NOTE: Airtanker Maneuvering altitude determines minimum Airtanker and ATGS Orbit altitudes. Assigned altitudes may be higher and will be stated as MSL.

**MEDIA**

*VFR*

| note 1 | ATGS ORBIT 2500' AGL MINIMUM |
| note 2 | AIRTANKER MAXIMUM 1000' AGL MANEUVERING |
| note 2 | FTA |
| note 3 | MAX 500' AGL HELOS |
| note 3 | SFC |

**HELOS**— Fly assigned altitudes and routes.

**MEDIA**— Maintain VFR separation above highest incident aircraft or position and altitude as assigned by controlling aircraft.

<table>
<thead>
<tr>
<th>AIR BASE</th>
<th>AIR GUARD</th>
<th>AIR to AIR</th>
<th>NATIONAL FLIGHT FOLLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>123.975</td>
<td>168.625</td>
<td>122.925</td>
<td>168.650</td>
</tr>
</tbody>
</table>

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1000' min. separation between ATGS orbit and Airtanker orbit altitude.
500' min. separation between Airtanker Orbit and Maneuvering altitude.
On arrival reduce speed to cross 7nm at assigned altitude and 150 KIAS or less.
AIRCRAFT MANAGEMENT

All ODF aviation operations will comply with following standards. The authorities for these standards include the Federal Aviation Regulations (FAR’s), ODF Directive # 0-4-5-010, and Terms of Agreements for Hiring Aircraft. The following activities, procedures, and services will be guided by the stated policy, where detailed explanation is required. In these cases, the appropriate reference is shown.

Every district shall have:

- A District/Unit Aviation Plan (updated annually and approved by the District Forester); and
- District/Unit aviation contact with aviation training, and identified in the District Aviation Plan.

District/Unit Aviation Contact:

1. Training:

   Basic Air Operations;

   Working knowledge of ODF Aviation Policies and Procedures.

2. Suggested Duties:

   - Update & maintain District Aviation Plan;
   - Assure district flight hazard maps are updated annually;
   - Contact for staff and district personnel for aviation matters;
   - Coordinate aviation training for the district;
   - Interagency coordination;
   - District aviation safety watch dog;
   - Aviation Contracts;
   - Educate district aviation users;
   - Review incident reports.

Pilot Duty

Limitations will be adhered to except in cases of an extreme emergency, which is life threatening only (This does not include property). Contact the District Forester and Staff Fire Aviation Specialist with any questions.
**Flight Time Limitations**

Ref; 0-4-5-010 Air Operations Directive

Pilot in Command may not fly more than 8 hours per day regardless of mission type (i.e. water bucket work, or recon platform). Pilots may not exceed 40 hours of flight time in any seven consecutive days. The AOBD or ODF aviation manager can increase the safety standard by decreasing the number of flight hours per day a pilot can fly if in his/her opinion that the situation warrants it. This should be done in coordination with the Incident Commander or District Forester. Dual piloted aircraft can fly 10 hours total per day.

| Dual Pilot Aircraft | is defined as an aircraft where the pilot and co-pilot can interchange duties as Pilot-in-Command. |

**Duty Time Limitations**

Pilot flying for fire suppression operations activities may not be on duty for more than 14 hours in any 24 consecutive hours. Each pilot shall have a minimum of 10 consecutive hours of rest during the 24-hour period prior to the completion of the duty period. All pilots required to fly after 2200 hours or before 0600 in the morning shall be given a minimum of 12 hours of rest following the completion of duty period in which the flight occurred. All pilots must be relieved of duties and be given a minimum of 2 days off in any 14-day period.

**Instrument Flight**

FAR’s shall be followed. Instrument flight is not allowed in single-engine aircraft while transporting ODF passengers.

**Night Flight**

This is defined as 30 minutes after sunset until 30 minutes prior to sunrise. Transportation of ODF passengers at night in single engine airplanes or helicopters is prohibited.

Night flying will not be permitted to or from airports that do not have an operational runway lighting system. Minimum acceptable airport lighting system will consist of runway boundary and threshold lights. Helicopter night departures from field or project sites will not be permitted while the aircraft is under department control. Departures that terminate at an airport 30 minutes or more after sunset shall comply with the lighting requirements.

**Low Level Flight**

Operations using a fixed wing aircraft and helicopters performing water bucket, sling loads, rappel work, retardant drops, or air tactical work shall be in compliance with appropriate FAR’s. Fixed wing aircraft are allowed to fly below 500 feet above ground level.
Safety Note – Low level flights below 500 feet AGL can be extremely hazardous. There are numerous flight hazards such as power lines, cell towers, and radio towers that may not be indicated on flight hazard maps. These hazards are especially prevalent in stream canyons, saddles, and along roads. Low level missions below 500 ft. AGL shall only be flown after a high level reconnaissance has been conducted to determine that the area is safe.

Transportation of Hazardous Materials

All hazardous material, including fire line explosives, will be air transported as external loads on rotary wing aircraft, and according to appropriate rules. FAA 49 CFR 172-175. ODF does not have an FAA exemption to carry hazardous materials internally on aircraft.

Flight Hazard Map

A flight hazard map shall be maintained and kept at the respective offices or Dispatch centers. Updates should be made whenever appropriate and no less than annually. The flight hazard Map should be checked prior to flights or missions planned for below 500’ AGL.

Minimum Flight Hazard Map Standards for Statewide Use

District Flight Hazard Maps will, at a minimum, include the following. Additional hazards can be added to meet special local needs.

General reference information for the maps should include:
- District Boundary
- Primary Roads and Highways
- Wildlife Areas

Flight Hazards depicted on all maps should include:
- Topography, shaded relief (when available);
- Military Training Routes and Military Operating Areas;
- Electrical transmission lines that may cause a hazard to low level flight;
- Summits (prominent in the area);
- Cell towers;
- Radio sites and towers;
- Airports and established airstrips;
- No Fly Areas.

In addition to these required items, Districts and/or units may include other hazards (they are aware of) that are 300 feet or more above the surrounding ground level.

Possible Additional Information or Hazards for Local or Projects Use;
These items are not required, but may be relevant for your use:

- Unit or sub-unit boundaries;
- County or forest roads;
- Electrical distribution lines that may pose a hazard to low level flight;
- Bridges (high span);
- Cable cars/chair lifts;
- Tall structures/towers;
- Known Hang Gliding area..

**Passengers on Helicopters or Fixed Wing Aircraft**

ODF operated (Contract or Call-When-Needed) aircraft are restricted to mission essential personnel. (Mission essential personnel may include but is not limited to fire operations personnel, project personnel, Incident Commanders, District Forester, cooperating agency management personnel etc.) The Incident Commander or District Forester should determine Mission essential personnel.

**Non-ODF employees:** Cooperators of local government, companies, civic groups, media participants in rescue or emergency missions, etc., may fly in aircraft, but only after approval by the District Forester or designee except in life saving operations. Such persons flying in rotor wing aircraft will comply with the PPE requirements.

**Passenger Authorization.**
Helicopters or fixed wing aircraft will not carry unauthorized personnel at any time.

**Personal Protective Equipment required for rotary wing aircraft passengers**

PPE will include as a minimum: hardhat/w chin strap, hearing protection, Nomex fire shirt, Nomex pants, Nomex or leather gloves and leather boots. (See Directive 1-2-1-002 Protective Clothing and Equipment for Fire Suppression and Prescribed Burning.) The person riding front seat shall wear a flight helmet with communications to the pilot.

**Aircraft Identification**

All aircraft will use some identifying feature when communicating on the radio, example: “Lead 66, Tanker 61, Jumper 78Z, etc. Listed below are the standard terms to be used:

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Tankers</td>
<td>Tanker #</td>
</tr>
<tr>
<td>Helicopters</td>
<td>Helicopter #</td>
</tr>
<tr>
<td>Lead Plane</td>
<td>Lead #</td>
</tr>
<tr>
<td>Helitankers</td>
<td>Helitanker #</td>
</tr>
</tbody>
</table>
Fire Recon = Recon #
Aerial Survey = Survey #
ODF Aircraft (Non fire) = ODF Admin. Flight #

Air Tactical Group Supervisor (in an aircraft) - Air Attack, Air Attack #, or Incident name Air Attack

CWN point-to-point ferry or repositioning flights need to identify the aircraft Make, Model and N number example: Cessna N2359E.

**Aviation Policy on Interagency Operations:**

On aviation operations involving different agencies, which agency's aviation policies and procedures to follow may not be clear. This can be determined by which agency is the operator of the aircraft.

**The operator of the aircraft is determined by four questions. These are:**

1. **Who ordered the aircraft?** *(Whose resource order?)*
2. **Who is paying?** *(who will directly pay the vendor)*
3. **Who is directing the aircraft?** *(Who is determining and controlling the missions?)*
4. **Who is benefiting from the aircraft?** *(this will often apply to more than one agency.)*

The answers to these questions determines who's aviation policies and procedures apply. (Federal employee's can only fly on aircraft where both the pilot and aircraft are federally approved and/or carded.)

**Use of aircraft on federal lands** *(Not lands covered by the BLM Protection Contract)*

- The federal government cannot and will not use or pay for non-carded aircraft on federal lands **when the federal government is the “operator” of the aircraft.**

- All helicopters must meet current IHOG (Interagency Helicopter Operations Guide) specifications when used by the federal government on the lands they protect.

- ODF has the right to independently fight fire on federal land, as long as the fire is a threat to lands protected by ODF. Command and control of the aircraft is maintained by ODF, and the interagency aviation operations must be safely integrated.

- ODF has the authority to use ODF aviation policies, procedures, and aircraft on federal land, as out lined in the PNWCG Master Cooperative Firefighting Agreement, and Operating Plan, whenever ODF is the “Operator of the Aircraft.”
• Initial attack aircraft may be non-carded when dispatched under a reciprocal operating plan as outlined in the ODF/USFS parent agreement. Federal passengers cannot ride in non-carded aircraft.

• On a federal fire, when the federal government is considered the "operator" of the aircraft, and is managed by ODF per federal request, all aviation activities must be managed according to federal agency standards. Fire line agreements will be used where necessary to deal with threatened lands protected by ODF.

• OPLAN Smokey - it is acceptable to use National Guard aviation resources on both state and federal protected lands as long as all provisions of OPLAN Smokey, Military Use Handbook Chapter 70, and ODF Incident Mobilization Plan are adhered to relating to use of these aircraft.

For more information concerning this subject contact one of the District Aviation Contacts, or Staff Fire Aviation Specialist.

**Environmental Guidelines for Delivery of Retardant or Foam near Waterways**

Do not Apply Retardant or Foam directly to any waterway. Do not apply aerial applications of retardant or foam within 300 feet of waterways. These guidelines do not require the pilot in command to fly in such a way as to endanger his or her aircraft, other aircraft, structures, or compromise ground personnel safety.

**Exceptions:** When alternative line construction tactics are not available due to terrain constraints, congested areas, life and property concerns or lack of ground personnel, it is acceptable to anchor the foam or retardant application to the waterway. When anchoring a retardant or foam line to a waterway, use the most accurate method of delivery in order to minimize placement of retardant or foam in the waterway (a helicopter rather than a heavy airtanker).

Deviation from these retardant/foam guidelines is acceptable when life or property is threatened and the use of retardant can reasonably be expected to alleviate the threat. When potential damage to natural resources outweighs possible loss of aquatic life, the District Forester or his designated representative may approve deviation from these retardant/foam guidelines.

**Helicopter Maintenance**

For personnel transportation or reconnaissance, new or overhauled engines and helicopter transmissions will have accumulated a minimum of five hours flight time before use by the Department. For restricted use aircraft, new or overhauled engines and transmissions will have accumulated one (1) hour of flight time at the owner’s expense, before use by the Department.

**Policy of Pilot and Aircraft Performance**

If a call-when-needed or contract pilot or aircraft while operating on an ODF incident is involved in an **aircraft incident** or substandard performance is observed, that pilot will immediately be required to return to base by ODF, if it can be done safely. This instruction
can be verbal and followed up immediately in writing. This pilot or aircraft will not be used by ODF for any purpose until the on scene ODF aviation manager can substantiate the preliminary facts of the incident. If the aviation manager determines that the incident is immediately correctable, or not under the pilots control, the pilot and aircraft can be returned to duty, once the unsatisfactory condition or performance issue has been corrected. This is at the sole discretion of the ODF on-scene aviation manager. When an incident occurs, the ODF aviation manager, who initiated the action, must document the incident on an ODF Aircraft Initial Report Form (Form 629:0-4-5-010-A). This form will be forwarded to the District Forester, and the ODF Fire Aviation Specialist in Salem, within 72 hours of the incident. Refer to the local District/Unit Aviation Plan for any further local notification/routing processes or requirements. If the incident is serious in nature the District Forester should be notified as soon as possible. The District Forester in coordination with the Staff Fire Aviation Specialist will determine if any further action is necessary.

If the determination is made that further action is required, a qualified ODF aviation investigation team, or individual (if appropriate) designated by the District Forester in coordination with the ODF Fire Aviation Specialist or ODF Chief Pilot, shall conduct an investigation. The Investigation team will attempt to determine the cause of the incident, and what further action should be required. If the determination is probable pilot error or faulty equipment, the pilot or aircraft could be suspended from flying for ODF until a more in-depth investigation can be conducted by the ODF Fire Aviation Working Team. The pilot or the aircraft vendor will have an opportunity to appear before the ODF Aviation Working Team to present their evidence and facts of the incident. The investigation shall be completed within 45 days of the incident.

If the investigation determines that the incident was due to unsafe actions, or unsafe equipment, the pilot, or aircraft vendor could be suspended from flying for ODF. Removal from the ODF Call When Needed Aircraft List will be for an indefinite period of time, or until the pilot/aircraft vendor can show corrective actions have occurred to ODF’s satisfaction.

**Policy on reinstatement to ODF duty:**

If a pilot or aircraft vendor has been suspended due to the finding of an ODF investigation, the pilot or aircraft vendor may be reinstated through the following process:

**Pilot:**

- The Pilot will be required to pass a check flight administered by a pilot designated or approved by ODF. This flight will be tailored to check the specific deficiencies determined by the investigation. This flight will be at the expense of the pilot seeking reinstatement.

- The pilot will be required to obtain satisfactory performance appraisals by a qualified Air Attack Group Supervisor or Air Operations Branch Director on three separate consecutive incidents. (This could be accomplished through another natural resource agency.)

- ODF is not required to provide the opportunities to obtain the satisfactory performance appraisals.

- Once the pilot or aircraft vendor performs satisfactorily on the items listed above, the pilot will be reinstated, by the ODF Fire Aviation Specialist, to the ODF Call-When-Needed List, as available for duty. Operators working under an exclusive use contract will follow the requirements outlined in the contract.
Aircraft:
• The aircraft vendor must show that corrective actions have been performed to the unsafe equipment. This includes but is not limited to review of maintenance logs and other documentation. The aircraft shall be flown a minimum of one (1) hour with the corrected equipment, before being hired back by ODF. A check flight may also be required to ensure the equipment deficiencies have been corrected at the owners expense.
SAFETY

General Safety

The intent of this section is to provide basic tools of safety while working with and around aircraft. Each employee has the responsibility for using all provided safety equipment (PPE) and performing their duties in a safe manner. All ODF personnel working around aircraft will be trained and knowledgeable in aircraft safety and use.


Aircraft in-flight Emergency:

- Pilot declares emergency.
- Pilot gives location to dispatch, air attack or FAA.
- Protective clothing in use (if applicable).
- Passengers keep away from flight controls.
- Secure loose gear (If time permits).
- Note emergency exits.
- Assume crash positions.
- Wait until motion stops, (except in the event of a post-crash fire).
- Exit aircraft when directed to do so by the pilot.

Aerial Hazards:

- Look for hazards and alert pilot.
- Stay above 500 feet AGL (above ground level), whenever possible.
- Use a hazard map of known hazards.
- Do a high-level reconnaissance before descending below 500 feet AGL.

Passenger Manifests

A list of all passengers being transported is required for all flights. A copy of the passenger manifest must remain at the departure base, or the information may be communicated to the flight following facility.
**Helicopter Safety**

**Load Calculations**

All helicopter flights require a load calculation/performance determination prior to take off. This is the pilots’ responsibility. Load Calculations are to be presented to the ODF aviation manager upon demand.

**Safety around Helicopters:**

- Approach and depart in pilot’s view (never toward the tail rotor).
- Approach and depart on the down slope, or cross slope side (to avoid main rotor).
- Use a chinstrap or carry hard hat when working around main rotor.
- Carry tool horizontally, below the waist level (never upright or over shoulder).
- Fasten seat belt upon entering helicopter and leave buckled until pilot signals to exit.
- Fasten seat belt behind you before leaving.
- Use door latches as instructed; be cautious around moving parts or Plexiglas.
- Keep landing areas clear of loose articles that may “fly” in the rotor wash.
- Do not throw items from the helicopter unless approved by pilot.
- Provide wind indicators for take off and landings at established Helibases.
- Eye and hearing protection shall be worn when working close to helicopters.
- Secure all items on the helicopter. Provide the pilot with accurate weights and types of baggage or cargo being transported.
- No hazardous material may be carried in the passenger compartment of the helicopter (e.g. gasoline).
- Personal protective equipment (PPE) for helicopters is required by department policy. (E.g. Aviators helmet or hard hat, fire resistant clothing either a flight suit or nomex shirt and pants, leather boots which extend above the ankle, and leather gloves or nomex and leather gloves.)

**Fueling procedures**

*Rapid Refueling:* There ARE TWO APPROVED METHODS (Closed Circuit Refueling and Open Port) for fueling helicopters with the engine(s) running.

- **Closed Circuit Refueling (CCR).** This method of refueling uses CCR system designed to prevent spills, minimize fuel contamination, and prevent escape of combustible fuel vapors.
- **Open Port (Splash Fueling).** This method of refueling allows combustible fuel vapors to escape.
Rapid refueling of helicopters is permitted if requested by the STATE, and the contractor meets the following requirements.

- All passengers are out of the aircraft.
- Rapid refueling procedures in accordance with the NFPA 407 are contained in the Contractor’s FAA approved Operations Specifications.
- Notwithstanding NFPA 407, a pilot is seated at the controls of the aircraft during refueling operations.
- Personnel providing onsite fire protection are briefed on the Contractor’s rapid refueling procedures.

**Clarification** - ODF personnel are not permitted to take part in contractor refueling operations.

**Helicopter Landing Area Selection**

Choosing and maintaining a landing area:

- Locate a reasonably flat area (with less than 5 % slope).
- Choose an area clear of people, vehicles, and obstructions such as trees, poles, and especially overhead wires. The area must be free of stumps, brush, posts, large rocks, or anything over 18 inches high.
- Consider the wind direction. Helicopters land and takeoff into the wind. Choose an approach free of obstructions. Any obstruction shall be relayed to the helicopter pilot on initial radio contact.
- Remove or secure any loose items in and around the landing area such as trash, blankets, hats or equipment.
- Wet down the landing area if dusty conditions are present.

**Helicopter Landing Area Safety**

- Keep bystanders well clear of the helicopter and supervise the safety of personnel working around the helicopter.
- Always get the approval of the pilot before approaching a starting or operating helicopter. Only approach and depart as directed, or down slope, in a slightly crouched position, and in full view of the pilot.
- When approaching or departing, do not hold equipment overhead.
- **Never** approach from or leave uphill. **Always** approach from the downhill or cross slope side.
**Fixed Helibases/Helispots**

**Definitions:**

**Fixed Helisport:** A natural or improved area used for repetitive takeoffs and landings intended for temporary helicopter use. Can be used for fueling, loading and unloading of passengers, and air to ground communications.

**Helibase:** A temporary or permanent facility for helicopter operations, which includes, but is not limited to fueling, maintenance, loading and unloading of passengers, repetitive takeoffs/landings, and air to ground radio communications.

**Safety Circle:** A safety zone that provides an obstruction-free area on all sides of the touchdown pad. For helispots and helibases, the only items that should be within the safety circle are a fire extinguisher, a pad marker, and, if applicable, external or internal loads awaiting transport. The size of the minimum safety circle depends on the size of the helicopter.

**TYPE I Helicopters**

- Safety circle 110 feet
- Touchdown pad 30 feet x 30 feet clear and level

**TYPE II Helicopters**

- Safety circle 90 feet
- Touchdown pad 20 feet x 20 feet clear and level

**TYPE III & TYPE IV Helicopters**

- Safety circle 75 feet
- Touchdown pad 15 feet x 15 feet clear and level

**Items Needed for Fixed Helibases/Helisport:**

- Twenty (20) lb. fire extinguisher/aircraft, as per ODF Rental Agreement.
- Wind indicator
- Radio-compatible with helicopter
- Pad marker (recommended for helispots)
- Passenger/Cargo manifest book
- Helicopter Load Calculation Book (OAS-67/FS 5700-17)
**Fixed Wing Safety**

**Safety around Airplanes:**

- Approach and depart in view of the pilot, only when engine and propeller(s) have come to a complete stop.

- With multi-engine aircraft, it is required that all engines on the passenger door side be turned off during boarding and exiting. If cargo must be unloaded, all aircraft engines shall be shut down.

- Cabin door in front of wing; walk to the front avoiding the propeller area, never under the wing.

- Cabin door below, or behind wing, walk behind wing, then toward wing tip and door. Avoid walking under the wing.

- When entering and exiting, use designated steps or wing walkways. Do not step where “no step” is indicated.

- Use door latches as instructed.

- Secure loose items in the aircraft.

- Provide the pilot with accurate weights of passengers and cargo.

- During refueling, passengers shall be out of aircraft and at least 50 feet away. No smoking within 50 feet.

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- Dust abatement, as needed

- Bulletin board (helibases only)

- Crash rescue kit (helibases only)
  - Kit contents; pulaski, hacksaw with 10 blades, bolt cutters, knife, pry bar

**Fire Extinguisher** will be 20 lb. dry chemical type, 40 B:C, at all helibases. A minimum of one fire extinguisher per aircraft shall be available.
### SUPERVISORS AVIATION CHECKLIST

**INSTRUCTIONS:** The intent of this form is to ensure that the following items have been identified and are in place. This form is to be filled out by the District Forester or his/her designate prior to the use of aircraft. This can be accomplished at the beginning of the operations season and kept on file at the district office.

<table>
<thead>
<tr>
<th>Aviation Safety Checklist</th>
<th>Notes/Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processes are in place that ensure:</strong></td>
<td></td>
</tr>
<tr>
<td>Pilot and aircraft are identified in the ODF Call-When-Needed aircraft list, or under an ODF contract, and have a valid insurance certificate on file with ODF;</td>
<td></td>
</tr>
<tr>
<td>Pilot and aircraft are qualified for the mission or contract</td>
<td></td>
</tr>
<tr>
<td>Proper aircraft management is in place (project manager, dispatcher, helibase manager etc.)</td>
<td></td>
</tr>
<tr>
<td>ODF Contact is identified and communicated;</td>
<td></td>
</tr>
<tr>
<td>Updated District Flight Hazard Map available for review.</td>
<td></td>
</tr>
<tr>
<td>Flight Following/Radio Equipment – Flight Following procedures in place; radio equipment is adequate and operational;</td>
<td></td>
</tr>
<tr>
<td>Personnel Manifests are being used prior to all flights.</td>
<td></td>
</tr>
<tr>
<td>Temporary Flight Restriction in place - if needed?</td>
<td></td>
</tr>
<tr>
<td>Pilot flight hour tracking is being accomplished?</td>
<td></td>
</tr>
<tr>
<td>Incident Accident Reporting Procedures are in place (ODF Aircraft Mishap Response Plan updated and available).</td>
<td></td>
</tr>
<tr>
<td>Have Frequencies been designated?</td>
<td></td>
</tr>
<tr>
<td>An updated District/Unit aviation Plan is in place.</td>
<td></td>
</tr>
</tbody>
</table>

**Notes/Documentation and Additional Information**

Signature:                       Position:                       Date:
**ODF Aviation Managers Safety Checklist**

**INSTRUCTIONS:** The intent of this form is to document that the following information has been checked and relayed to the pilot of the aircraft prior to each assignment. This form is to be filled out prior to all flights, or at the initial daily briefing for extended contracts, projects/incidents, or prior to all initial attack fire suppression operations. Keep in mind if the District or operation already has a form and/or documentation process which covers the required information outlined on this form then by all means use the process that works for your office. This form was developed for those locations which do not have a process of documentation in place.

<table>
<thead>
<tr>
<th>Incident/Project Name</th>
<th>Incident/Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft Company</td>
<td>Aircraft Tail Number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Natural Resource Management (Non Fire)</strong></th>
<th><strong>Notes/Documentation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot and aircraft are identified in the ODF Call-When-Needed aircraft list, or under an ODF contract, and have a valid insurance certificate on file with ODF;</td>
<td></td>
</tr>
<tr>
<td>Pilot and Aircraft are qualified for the mission;</td>
<td></td>
</tr>
<tr>
<td>Pilot duty limitations and off duty scheduling</td>
<td></td>
</tr>
<tr>
<td>Load calculations – (pilot responsibility and provided to ODF on demand)</td>
<td></td>
</tr>
<tr>
<td>Flight Following/Radio Equipment – Flight Following procedures in place; radio equipment is adequate and operational;</td>
<td></td>
</tr>
<tr>
<td>Proper Radio frequencies identified and briefed.</td>
<td></td>
</tr>
<tr>
<td>Nature of the mission – Pilot briefed on nature and sequence of mission.</td>
<td></td>
</tr>
<tr>
<td>Geographic area being flown;</td>
<td></td>
</tr>
<tr>
<td>Analysis of known hazards – Known hazards discussed (Use a flight hazard map if flight is planned below 500' AGL), and high level recon prior to descent to low level, below 500' AGL;</td>
<td></td>
</tr>
<tr>
<td>Environmental concerns;</td>
<td></td>
</tr>
<tr>
<td>Hazardous Materials-Hazardous materials can not be flown internally on the aircraft. (unless the pilot and aircraft have an FAA approved Hazmat Certificate)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Fire Management</strong></th>
<th><strong>Notes/Documentation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Name - (if available)</td>
<td></td>
</tr>
<tr>
<td>Fire Number (if available)</td>
<td></td>
</tr>
<tr>
<td>Agency Responsible</td>
<td></td>
</tr>
<tr>
<td>Latitude and Longitude (Degrees, Minutes, Seconds)</td>
<td></td>
</tr>
<tr>
<td>Bearing and Distance from a base, OMNI, or VOR</td>
<td></td>
</tr>
<tr>
<td>Flight Following - who is flight following</td>
<td></td>
</tr>
<tr>
<td>Air-to-ground (white net) - who is the ground contact</td>
<td></td>
</tr>
<tr>
<td>Air-to-air - who is the air contact</td>
<td></td>
</tr>
<tr>
<td>Air Guard</td>
<td></td>
</tr>
<tr>
<td>Ground to Ground</td>
<td></td>
</tr>
<tr>
<td>Ground contact</td>
<td></td>
</tr>
<tr>
<td>Passenger Manifest</td>
<td></td>
</tr>
<tr>
<td>Load calculation (Pilot responsibility)</td>
<td></td>
</tr>
<tr>
<td>Mission objectives</td>
<td></td>
</tr>
<tr>
<td>Temporary Flight Restriction in place, (if applicable)</td>
<td></td>
</tr>
<tr>
<td>Aircraft Hazards - Flight Hazard Map reviewed if planned flight under 500’AGL - other aircraft assigned, ordered for the incident</td>
<td></td>
</tr>
</tbody>
</table>

Signature: Position: Date:
**ODF Initial Attack Aircraft Order**

**Order For:** Airtanker & Lead Plane

<table>
<thead>
<tr>
<th>Date Time</th>
<th>Dispatcher</th>
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**Incident Name:**

<table>
<thead>
<tr>
<th>Incident Order #</th>
<th>Request #</th>
<th>Job Code #</th>
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<tbody>
<tr>
<td></td>
<td>A-</td>
<td>P</td>
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</table>

**Mission:** Retardant drops

<table>
<thead>
<tr>
<th>Aircraft on Order (Tail #'s &amp; Type)</th>
<th>TFR?</th>
<th>YES</th>
<th>NO</th>
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**Aircraft on the incident (type of aircraft & tail #'s):**

<table>
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<tr>
<th>Reload Base</th>
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**Hazards (powerlines, freeway's, congested areas etc.):**

<table>
<thead>
<tr>
<th>MTR/SUA?</th>
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<tbody>
<tr>
<td>TFR? YES NO</td>
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</table>

**ODF Airtanker Mission Priorities (Circle One):**

1. Imminent threat to human life, on any jurisdiction.
2. Threats to natural resources.
3. Structural protection, though indirect, shall not inhibit the protection of forest resources.

### CONTACTS

<table>
<thead>
<tr>
<th>FEQUENCIES</th>
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<table>
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<tr>
<th>Air to Air (Contact)</th>
<th>Transmit</th>
<th>Tone</th>
<th>Receive</th>
<th>Tone</th>
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<table>
<thead>
<tr>
<th>Air to Ground</th>
<th>Transmit</th>
<th>Tone</th>
<th>Receive</th>
<th>Tone</th>
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<tr>
<th>Flight Following</th>
<th>Transmit</th>
<th>Tone</th>
<th>Receive</th>
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<tr>
<th>Ground Contact</th>
<th>Transmit</th>
<th>Tone</th>
<th>Receive</th>
<th>Tone</th>
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<table>
<thead>
<tr>
<th>Alternate Contact</th>
<th>Transmit</th>
<th>Tone</th>
<th>Receive</th>
<th>Tone</th>
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**NOTE:** Load Calculations are to be done by the pilot and available to ODF.
EMERGENCY SITUATIONS

The reporting of all aircraft incidents/accidents is extremely important. All aircraft incidents/accidents involving Department aviation activities shall be reported to the Staff Fire Aviation Specialist by the local District or the Air Operations Director within 72 hours. Reports should be completed on the form "Aircraft Initial Report form #629:0-4-5-010-A 04/02.

In emergency situations involving ODF operated aircraft, procedures and contacts contained in the ODF Aviation Mishap Response Guide and Checklist will be followed. The reporting of aircraft incidents/accidents is extremely important. All aircraft incident/accidents involving ODF aviation activities will be reported to the Staff Fire Aviation specialist by the local district or Air Operations Branch Director (AOBD), as soon as possible, and followed up by a report within 72 hours. Reports will be completed on “ODF Initial Report Form 629-04-5-010”.

Definitions. (FAR Part 830)

Aircraft Incident: An "aircraft incident" is any occurrence (other than an accident) associated with the operation of an aircraft which affects or could affect the safety of operations. Included are all unsafe conditions, unsafe equipment, unsafe actions, and near misses or close calls. Reporting of aircraft incidents should lead to corrective actions that could prevent future accidents.

Aircraft Accident: An "aircraft accident" is any occurrence associated with the operation of an aircraft which takes place between the time any person boards an aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers serious injury or death, or in which the aircraft receives substantial damage. Again, the reporting of aircraft accidents can be helpful in preventing future mishaps.

Overdue Aircraft

If an aircraft working on the District fails to report after 15 minutes, dispatch will attempt to call the aircraft. The attempts will be continued for another 15 minutes including contact with air attack or other aircraft over the incident. During this time, contact will be made with the local airport(s) and a request is made that they attempt to make contact on Victor frequencies commonly used by aircraft. Information will be gathered from ground stations in the vicinity of the last report, or along the expected flight path or from other aircraft operation over the District. If no response is received during this 15-minute period, the aircraft will be classified as “Overdue,” and the ODF Aircraft Mishap Guide will be implemented.

Search and Rescue Operations

Responsibility for Initiating Searches for ODF controlled aircraft rests with the District Forester, dispatcher, or district aviation contact. Calling 911 is the way to initiate Search and Rescue operations. Ground searches are initiated through 911, and the local county Sheriff's Office. Search and Rescue operations using aircraft are initiated through 911 and the Office of Emergency Management (OEM), Oregon Emergency Response System
Procedure. Any ODF employee, who knows an aircraft has crashed, should notify Dispatch. Dispatch or the District will notify the proper emergency personnel via 9-1-1. Dispatch will notify the District Forester, the Staff Fire Aviation Specialist, Unit Forester, and District Aviation Contact. **The FAA Flight Service Station in McMinnville, Oregon, should be notified as soon as possible at 503-474-1897**

**Medical Evacuations**

It is recognized that sometimes when injuries occur in remote locations, aircraft can be a required tool to either effect a rescue or transport the injured person to a medical facility.

This option should not be an automatic request. It is imperative you evaluate the situation for the best method of extracting the injured person, based upon the injury, location and urgency of the emergency (i.e. life, limb, or eyesight).

**Initial Questions**

Patient Status – extent of injuries, responsiveness, signs of shock, head/neck injuries, visibly broken bones etc. Obtain as much information as possible.

Location – legal location, latitude & longitude (WGS 84) and landmark.

Is their road access nearby? If, so would transport by vehicle cause a negative effect on the condition of the injured person(s)?

Landing Zone – is there an area close by which can be used for a landing zone?

Frequencies to use for possible incoming emergency services?

Is a call to 911 in order to activate emergency services?

If the decision has been made to order a life flight/medi-vac helicopter the following can be expected once the aircraft has been activated and arrives on scene:

- Request for additional patient information.

- Status on the landing zone – assign one person to set up and secure the landing zone, communicate with the pilot and be responsible for supervising the safe operations of those persons working around the helicopter. This person should monitor air/ground frequency, non-scan.

- Weather conditions – clouds, wind, and visibility.

- Always get the approval from the pilot before approaching the aircraft and then approach only with directions from the pilot/crew.
- If the helicopter is landed on a slope, approach and depart from the down-slope side only.

- Do not hold anything above your head, such as IV bags or equipment.

The above outlines a “normal” medi-vac situation. As we all know we can not count on each situation to be “normal”.

There are other aviation options available depending upon the situation and availability. They are as follows:

**Aircraft using a hoist or winch system**

This should always be the first option when a helicopter can not land in the area.

- A private contractor can accomplish this, if the aircraft has the appropriate equipment and the pilot and crew is qualified to perform the mission.

- The US Coast Guard is trained to perform this mission and is also available.

**The Oregon National Guard, Charlie Company 7/158 Aviation,** based in Salem is charged with carrying out this mission statewide. This aircraft can be dispatched 24 hrs a day. It comes with a full medical package, including hoist with a 250 foot cable, a Flight Medic (Trained as EMT-B minimum,), and all medical supplies similar to a civilian ambulance. Depending on when the aircraft is called it can take from 1-4 hrs for the aircraft to be deployed. It can go in at night, or can locate on standby at the scene of a large fire. This aircraft can be dispatched by calling:

- 911
- **Oregon Emergency Response System 1-800-452-0311.**
  ONG Emergency Operations Center 24 hrs/day at 503-584-2800
  Administrative Office, 503-584-3930 (during working hrs.)

**The U.S. Coast Guard** operates two air stations and one aviation support facility in Oregon. USCG Air Station in Astoria operates three HH-60J "Jayhawk" (Type 2) helicopters. USCG Air Station North Bend and its subordinate unit, Aviation Support Facility Newport, operate five HH-65B "Dolphin" (Type 2) helicopters. These aircraft can be dispatched 24 hrs a day. Both aircraft can fly day or night and can be equipped with night vision goggles (NVG), FLIR, nightsun searchlight and a hoist with a 250 foot cable. The aircrews provide basic life support (BLS) services utilizing a deployable Rescue Swimmer (EMT-A). Though charged with maritime SAR, these aircraft can be made available for inland SAR on a case-by-case basis through coordination with the USCG District 13 Command Center in Seattle, WA by calling 206-220-7001. Once the District 13 Command Center approves the mission, the aircraft can launch within 30 minutes.
**Short Haul Transport**

**ONLY USE IN LIFE THREATENING SITUATIONS WHEN THERE ARE NO OTHER OPTIONS.**

Definition of Short Haul Transport: To transport one or more persons externally suspended below a helicopter.

It is recognized that in certain types of situations there is a need for specialized insertion/extraction techniques. The responsibility of performing vertical reference "Short-Haul" operations (Human External Loads) safely is to prevent hazards to human cargo, aircraft, pilot, and ground personnel.

Short-Haul allows for the insertion and removal of personnel from treacherous terrain, that are inaccessible by other means and where an adequate, safe helicopter landing zone is unavailable.

In a situation where the rescuer, wearing OSHA approved short haul harness and/or following Oregon OSHA regulations, can be transported from one location to another on a line beneath an approved helicopter, flown by a highly experienced pilot who has been certified for these types of operations. The certification can be either federal carding or private company certification program.

We must analyze each situation thoroughly before any action is taken.

- Are we wise to move the person at all?
- Has some medically qualified person requested the movement of the injured party?
- Has the severity of the injury been determined?

When considering moving a victim using long line (short haul), the following questions may help in making the decision:

1. What would be done if a helicopter were not available?
2. Is the injury of such a severity that it threatens life, limb, or eyesight of the victim?
3. Is the benefit worth the risk involved?
4. Is the use of a long line absolutely necessary?
5. Are we using short-haul because it is convenient?
6. Is our action tenable? (Can you justify in writing post incident?)

The risks inherent in moving live personnel, as external loads are enormous, and cannot be taken lightly. Therefore, unless in an emergency situation, ODF should not normally use short haul as a viable option.

If such a situation arises that requires the use of the short-haul procedure, there are steps to be taken after the event is concluded. A written report of the short haul must be filed with the District Forester and the Staff Fire Aviation Specialist for review within 10 days of the incident detailing the situation. Include all pertinent information such as what injury occurred, your reason for the short haul, how the evacuation was accomplished, others involved, etc.
Pacific Northwest Frequencies
Air to Air (Victor) Primary AA/1
Pacific Northwest Frequencies
FM Air to Ground Primary / FM Secondary Air to Ground
ODF AIRCRAFT INITIAL REPORT

TYPE OF REPORT INCIDENT ☐ ACCIDENT ☐

INSTRUCTIONS: Districts shall submit this report to District Forester and the Staff Fire Aviation Specialist within 72 hours after an aircraft accident or incident. Report may be faxed to the Staff Fire Aviation Specialist at 503-945-7454. Reference local District/Unit Aviation Plan for any further local notification and/or routing requirements.

Incident Name_________________________________________ Incident Number__________________________

District___________________________________ Date____________________

Date of Accident/Incident__________________________ Time of Accident/Incident__________________________

Location of Accident/Incident________________________________________

AIRCRAFT IDENTIFICATION

Make__________________________ Model__________________________

Registration Number__________________________ Type and Model of Engine__________________________

Owner__________________________ Pilot__________________________

Passenger(s)__________________________

DEATH OR INJURIES: List names of persons killed or injured, and indicate extent of injuries.

MISSION: Purpose for which aircraft was being used.

CONDITIONS AT ACCIDENT SITE

Terrain__________________________ Elevation (MSL)__________________________ Temperature__________________________

Weather__________________________

EXPLAIN POSSIBLE CAUSE OF ACCIDENT/INCIDENT

EXTENT OF DAMAGE

CORRECTIVE ACTION

REMARKS (use additional pages if necessary)

SUBMITTED BY_________________________________________ TITLE_______________________________________