

## Chapter 1 – Introduction

1. **Objective.** Assure safe and efficient interagency smokejumper operations.
2. **Scope.** The standards and procedures established in the “Interagency Section” (this section) of the Interagency Smokejumper Operations Guide (ISMOG) apply to smokejumper operations conducted by the USDA Forest Service (FS) and the USDI Bureau of Land Management (BLM).
3. **Authority.** In addition to the authority outlined in each agencies section of this guide:
  - A. Interagency agreement among the U.S. Department of Agriculture, Forest Service, U.S. Department of Interior, Bureau of Land Management, U.S. Department of Labor, Occupational Safety and Health Administration for the Joint Operation of Smokejumper Parachute Delivery Systems.
  - B. Memorandum of Understanding between the U.S. Department of Interior and U.S. Department of Agriculture, dated January 28, 1943.
  - C. Interagency Agreement between the U.S. Department of Interior, Bureau of Land Management and U.S. Department of Agriculture, Forest Service for the Joint Operation of Smokejumper Resources, dated April 12, 1985.
4. **Standardization of Equipment & Procedures.** Total mobility and the interchange of personnel and equipment between all smokejumper units regardless of employing agency suggests that both safety and efficiency can be increased as standard operating procedures and equipment are adopted. To achieve this goal the FS and BLM shall work in a collaborative manner to develop, recommend and adopt both standard operating procedures and standardize equipment that will meet both agencies mission. As interagency standards are adopted they shall be placed in this section of the Interagency Smokejumper Operations Guide.
5. **Abbreviations used in this section.** BLM = Bureau of Land Management, FS = Forest Service, ISMOG = Interagency Smokejumper Operations Guide, BLMS = BLM Section of the ISMOG. FSS = FS Section of the ISMOG.

- 6. Review and Revision.** The standards and procedures outlined in the interagency section of the Smokejumper Operations Guide will be reviewed annually at the Interagency Smokejumper Base Managers' Meeting. Recommendations from this meeting for updating, amending and making additions to this section of the guide will be forwarded to the following officials for approval: FS - Director of Fire and Aviation Management, Washington Office. BLM – Director of Fire and Aviation, National Office.

## Chapter 2 – Administration

- I. Smokejumper Base Reviews.** Annually a minimum of two smokejumpers bases shall receive a thorough review. Each smokejumper base shall be reviewed at least once every five years. The focus of the review is to ensure that smokejumper operations are being conducted safely and efficiently and in accordance with national and interagency standards. Organizational structure, operational procedures, equipment, training, facilities and record keeping systems shall be reviewed and assessed. An example of a checklist that can be used to accomplish base reviews is the Smokejumper Base Review Form found under FSS Appendix E.

**A. Coordination.**

- 1) FS base reviews will be coordinated by the FS National Smokejumper Program Manager
- 2) BLM base reviews will be coordinated by the BLM National Office.

- B. Team Composition** shall include the FS National Smokejumper Program Manager and the designated BLM National Office Official, a Line Officer from the agency of the base being reviewed, an MTDC Smokejumper Equipment Specialist and a Smokejumper Base Manager from outside the administrative region of the base being reviewed. The review team leader should strongly consider augmenting the review team with an additional Smokejumper Base Manager preferably from an agency different than the other Base Manager previously assigned and a local Fire Management Officer who is a customer of the base being reviewed.

**C. Base review schedule:**

- 1) Forest Service Bases:
  - a) 2005 – Redding and McCall
  - b) 2006 – West Yellowstone and Redmond
  - c) 2007 – North Cascades and Missoula
- 2) BLM Bases:
  - a) 2005 – Alaska
  - b) 2006 - Boise

## **Chapter 3 – Training & Qualifications**

Reserved for future interagency training and qualification standards

## **Chapter 4 – Equipment**

Reserved for future interagency equipment standards.

## Chapter 5 – Operating Procedures

1. **Interagency Smokejumper Operations:** The management of safe and efficient smokejumper delivery missions is the responsibility of all personnel involved and is enhanced through standardized procedures. “Mixed Load” (i.e. use of more than one parachute delivery system on board a single aircraft) smokejumper operations shall be conducted as prescribed in this chapter. A copy of the "Interagency Jump Door Checklist" shall be posted near the jump door of all smokejumper aircraft. When one agency's smokejumpers arrive at another agency's base, the receiving base will conduct a refresher on mixed load operations (to include mock-up) with all pilots and spotters from both agencies. Spotting parameters are outlined in each agency's section to the ISOG.
  - A. **Spotter Training.** BLM spotters will maintain proficiency to allow them to spot Forest Service smokejumpers. The FS will annually provide round spotter training at each BLM base. FS spotter trainer(s) will train and certify the BLM spotters in Forest Service round spotting procedures, to include static line monitoring, mock-up and gear familiarization. Training will follow the “FS Spotter Training Syllabus for BLM Spotters.” In addition, a BLM spotter must successfully spot FS round jumpers under the supervision of a round check spotter (min. of a 2-jumper stick). “Successful” spotting will be determined by the FS check spotter ensuring that all round spotting procedures are followed. This may be accomplished on training or fire missions. There will be a two year currency period. If a BLM spotter goes a full season without spotting FS jumpers, those spotters will again be required to spot FS jumpers under a FS check spotter and be “requalified.”

FS spotters will maintain proficiency to allow them to spot BLM smokejumpers. The BLM will annually provide ram-air spotter training at each FS smokejumper base and/or Region. BLM spotter trainer(s) will train and certify the spotters present in BLM ram-air spotting procedures, to include static line monitoring, mock-up and gear familiarization. This training will follow the “BLM Spotter Training Syllabus for FS Spotters.”
  - B. **Dual Agency Spotters On Mixed Load Aircraft.** A BLM spotter and a FS spotter *may* be used on the same aircraft for mixed load operations, depending on the policies of the host base and/or the availability of trained and current mixed load spotters. The function of each spotter in this case will be to provide input into spotting decisions – jump spot selection, alternate spot selection, weather and terrain conditions affecting the jump. In dual agency spotting, the spotter-in-charge will be the spotter representing the host base, unless otherwise specified by the host base. All host base procedures will be adhered to by visiting jumpers and spotters.
  - C. **Accessories.** BLM will determine proper static-line extender length for use with their deployment system. For specific lengths, refer to the BLM section of this

guide.

D. **Pre-jump Spotters Checks.** BLM smokejumpers will receive pre-jump equipment (buddy) checks by other BLM smokejumpers, either on the ground or in-flight. USFS smokejumpers will receive pre-jump equipment (buddy) checks on the ground by other FS jumpers and verified by the spotter.

E. **Drop Criteria.**

- 1) **FS Jump/no jump decisions** will be made using FS spotting criteria outlined in agency policy documents.
- 2) **BLM Jump/no jump decisions** will be made using BLM spotting criteria outlined in agency policy documents.

F. **Number of Jumpers Per Stick.**

- 1) **FS jumpers:** FS policy will determine the number of FS round canopy jumpers per stick.
- 2) **BLM jumpers:** BLM policy will determine the number of ram-air jumpers per stick.

G. **Streamer Dropping & Drop Altitudes.**

- 1) **Streamer dropping:** Standard 20-foot drift streamers will be dropped at 1500 feet AGL.
- 2) **Drop altitude:**
  - a) **FS jumpers** will be dropped at a minimum of 1500 feet AGL.
  - b) **BLM jumpers** will be dropped at a minimum of 3000 feet AGL.

H. **Slap Procedures**

- 1) **FS jumpers:** Only the first FS jumper in each stick will receive a slap to signal exit, as is standard in all FS operations.
- 2) **BLM jumpers:** All BLM jumpers will receive a slap to signal exit as is standard in all BLM operations. BLM jumpers are spaced a minimum of three seconds apart on exit.

I. **Exit Technique.**

- 1) **FS jumpers:** In small door aircraft, FS jumpers will use a “step” exit; on

large door aircraft, FS jumpers will use a standing exit.

2) **BLM jumpers:** BLM jumpers will use a sitting exit on all aircraft

J. **Emergency Procedures.** Situations that require an emergency exit vary. The spotter shall be responsible for maintaining control during an emergency.

1) **Non-critical Emergency Exit.** The pilot shall inform the spotter concerning the nature of the emergency and course of action. If an emergency exit is necessary, the spotter shall be responsible for maintaining control over the jumpers and for ensuring that the emergency exit is orderly and timely. Emergency exit procedures in a non-critical emergency usually are the same as those for a operational jump. In some cases, the spotter may even select a jump spot.

2) **Critical Emergency Exit.** The spotter must assume control in a critical emergency to ensure that exits proceed as smoothly and quickly as possible. The following sections discuss considerations and procedures for an emergency exit in a critical emergency.

a) **Center of Gravity Limitations.** A pilot cannot maintain adequate control of an aircraft with an aft center of gravity; therefore, spotters must not allow jumpers to rush toward the aircraft door, if they anticipate an emergency exit.

b) **Decision To Initiate Emergency Exit.** The pilot shall be the primary authority in matters pertaining to the aircraft's condition and the necessity for an emergency exit. The pilot shall notify the spotter to initiate an emergency exit. Before initiating an emergency exit, the spotter must be certain that a crash is imminent and that the aircraft is high enough for a parachute to open. During a critical emergency exit from a smokejumper aircraft, gloves, helmets, and other protective equipment may be left behind.

c) **Critical Emergency Exit Procedures with Main Parachute.** If jumpers are wearing main parachutes when the pilot or spotter orders an exit, the jumpers shall use the designated emergency cable. They must not attempt to fasten the static line safety pin. Depending on the aircraft accessories, jumpers may need to keep one hand on the static line snap to guide it along the cable while moving toward the door. This prevents the main parachutes from opening accidentally in



the aircraft.

- d) **Exit Procedures with Reserve Parachute.** Jumpers shall jump with their emergency parachute when it is impractical to hook their static lines to the emergency cable or if they are not equipped with backpack parachutes.
- 3) **Aircraft Crash on Takeoff.** All personnel shall be prepared for an aircraft crash on takeoff. Jumpers and spotters shall use proper seating arrangements for the model aircraft used in the operation and must know where all the emergency exits are located and how to use them. If the aircraft crashes on takeoff, personnel shall evacuate the aircraft as soon as the aircraft stops moving. Be alert to jumpers and crewmembers who may have been hurt or incapacitated in the crash, and get them out quickly. Evacuate away from any fire that exists, depart the crash upwind, and account for all personnel.
  - 4) **Crash Landing Procedures.** Whenever possible, follow the procedures below when a crash landing is imminent.
    - a) Put on helmet and gloves. Assume a fetal position, arms close to the body, with seat belt or restraint device snugly attached. Occupants of side-facing seating shall attempt to face 45 degrees to the front of the aircraft.
    - b) Restrict unnecessary movement in the aircraft, because the pilot's control of the aircraft may be very limited in an emergency situation.
    - c) Locate emergency escape hatches and equipment.
    - d) After a crash, vacate the aircraft quickly and in an orderly manner. Be alert to jumpers or crewmembers who may have been hurt or incapacitated in the crash, and get them out quickly. Evacuate and depart the aircraft upwind account for all personnel.
  - 5) **Aircraft Fire in Flight.** The spotter and pilot shall make a coordinated decision concerning appropriate action if a fire occurs in flight. The spotter must maintain control of the situation and take aggressive action to control the fire. If the fire becomes uncontrollable, begin emergency evacuation procedures.
  - 6) **Other In-Flight Emergencies.** Although the potential for a jumper in tow, or

an inadvertent opening is extremely remote, procedures are addressed in the Interagency Smokejumper Training Guide.

K. **Ground Procedures.** Maintaining safe, efficient, and effective incident operations and post fire operations is imperative. Prior to taking action on any incident the jumper in charge shall ensure a thorough safety briefing is conducted. The briefing should take place at the jump spot and should include, travel route safety precautions (LCES).

1) **Radio Communications.** The jumper in charge shall have a radio. It is recommended that all jumpers be issued a radio.

- a) Upon landing, and prior to the second stick exiting the aircraft, the first jumper shall immediately contact the aircraft and inform the spotter whether conditions remain acceptable. If jump conditions differ from those originally anticipated, the spotter will reevaluate the conditions.
- b) The jumper in charge shall inform the spotter when all jumpers are safely on the ground and ready to receive cargo.
- c) As soon as possible, the jumper in charge shall establish communication with the local contact, provide a fire situation report and schedule check in times.

2) **Ground-to-Air Signals/Wind Indicator.** Each jumper shall carry streamers to signal the aircraft when radio communication is not possible. Ground-to-air signal cards shall be placed, at a minimum, in the packing data pocket of the reserve parachute. The card must include both the Forest Service and Federal Aviation Administration ground-to-air signals. In the absence of radio contact with the jumpship, jumpers landing outside the established jumpspot, will place an individual “L” signal streamer to signal safety. Jumpers will also carry a streamer to hold aloft as a wind indicator. The first jumper in the jump spot, or their jump partner, will hold a streamer aloft until all jumpers are on the ground.

3) **Jump Injury Procedures.** If a jump injury occurs, the spotter will stop jump operations, assess the situation and take appropriate action.

a) Jumper in Charge Responsibilities.

I. Notify spotter.

II. Coordinate first aid, helispot construction and incident activities.

b) Spotter Responsibilities.

- I. Maintain communication with jumper in charge, dispatch, and medivac transport.
- II. Aircraft will remain on scene. If necessary, the pilot will land the aircraft to refuel, then return to the scene.
- III. Drop all requested first aid supplies and medical personnel.
- IV. Direct medivac transport to scene.

c) Responsibilities of Medical Personnel.

- I. Assess patient.
- II. Render First Aid.

4) **Smokejumper Packout and Gear Retrieval.** Once jumpers are on the ground, they are a resource of the ordering unit. The jumper in charge shall coordinate demob with the ordering unit and follow their direction.

5) **Post Fire Reports.** The jumper in charge shall complete all required agency documentation including an Incident Organizer with Fire Report, Fire Time Reports, Injury Report, and Smokejumper Master Action report and submit to the proper authority on completion of each fire assignment. The jumper in charge shall sign the time reports of all jumpers assigned to the incident and shall have their time report signed in accordance with local policy.

L. **Parachute Rigging**

- 1) BLM parachute rigging will be conducted in accordance with the BLM Riggers manual.
- 2) FS parachute rigging will be conducted in accordance with the FS section of this guide.

M. **Inventory of Agency specific Equipment.** Each agency will provide equipment adequate to support its jumpers during interagency operations.

2. **Briefing and Use of Booster Aircraft, Pilots and Smokejumpers:** In order to facilitate the mobility and use of smokejumpers, aircraft and pilots, the following procedures shall be followed:

A. **Aircraft Familiarization.** Smokejumpers shall receive an operational briefing on aircraft types they have not had training on during the current season. This briefing shall include but not be limited to the following items:

- 1) Personnel loading and restraint.

- 2) Hook-up and exit procedures.
- 3) Aircraft ground evacuation procedures.
- 4) Aircraft in-flight emergency hook-up and exit procedures.
- 5) Aircraft safety and emergency procedures briefing from pilot.

B. **Pilot Orientation and Operational Familiarization.** All new pilots shall receive a briefing before conducting flight operations from any given base. The briefing shall include, but not be limited to the following items.

- 1) Unit organization, staffing, and operation.
- 2) Dispatching, communications, and operational controls.
- 3) Aircraft loading, restraint, and manifest requirements.
- 4) Spotter coordination, cargo dropping commands and communications.
- 5) Operating area familiarization including local hazards and flight safety information.
- 6) Requirements and limitations on using backcountry airfields.

C. **Smokejumper Orientation and Operational Familiarization.** Each unit shall prepare an orientation package. Smokejumpers shall receive a briefing before being assigned to any incident. The briefing shall include information about the following areas.

- 1) Unit organization, staffing and operations.
- 2) Current fire situation and status and fire weather forecasts.
- 3) Smokejumper aircraft.
- 4) Fire call procedures.
- 5) Jump procedures.
- 6) Radio systems and communications procedures.
- 7) Fire management procedures and standards.
- 8) Equipment return procedures.
- 9) Work and PT schedules.
- 10) Timekeeping procedures.
- 11) Meals and lodging and transportation arrangements.
- 12) First Aid equipment and procedures.
- 13) General policies.

**3. Smokejumper Incident Reporting.** Each smokejumper base will report smokejumper accidents, incidents and injuries according to their agencies policies. Smokejumper operations are conducted in an intense high-risk environment requiring attention to detail, standards and accident/incident prevention. Base Managers shall alert other smokejumper bases regarding the circumstances of incidents or hazardous conditions which could be repeated in order to prevent others from suffering from the same or similar misfortunes.

A. **Timely Alerts.** Base Managers shall immediately alert (within 24 hours) all smokejumper bases that may be using the same or similar equipment, procedures, aircraft, systems, etc. of any incident or condition (including all accidents, incidents,

injuries, near misses and astute observations of conditions that may lead to accidents, incidents or injuries) concerning smokejumper operations and or equipment which has potential for others to suffer the same or similar mishap. Alerts should include the relevant facts, equipment used, circumstances of the incident and any recommended mitigation.

- B. **Method of Delivering Alerts.** Alerts may be delivered by facsimile, e-mail or telephone. To assure that the appropriate official(s) receives the alerts in a timely fashion transmission by facsimile or e-mail should be followed up by a phone call to the receiving bases to inform them of the communique.

## **INTERAGENCY SPOTTER COMMANDS JUMP DOOR CHECKLIST**

The spotter in charge of each mission should be clearly identified.

Note: When dropping ram-airs, spotter should request from pilot any noticeable wind changes at 3,000' AGL, prior to dropping ram-airs. Adjust exit point accordingly.

Although rarely necessary, streamers thrown from 3,000' AGL are always an option.

Spotter signals to the jumpers the number in the stick.

**1. “ARE YOU READY?” & “LEG STRAPS TIGHT?”**

These two questions are asked of the jumper in the first stick, who then answers for the entire stick. Being ready means you have been checked, PG bag is hooked up, and helmet is on.

**2. “HOOK UP”**

This command is given to the entire stick. Round jumpers hook-up to the appropriate cable (vertical/horizontal/floor). Ram-airs hook to appropriate extender handed them by the spotter.

**PRE-JUMP BRIEFING:**

Pre-jump briefing should include as a **minimum**: jump spot confirmation, jump spot hazard identification (if any), estimated streamer drift and windline, type of drop pattern, jump spot elevation, and pertinent wind info at 3,000' AGL (ram-airs only). End briefing by asking **“ANY QUESTIONS?”**

**3. “WE ARE AT 3,000 FEET, ACTIVATE YOUR AAD”**

This command is for ram-air jumpers only and will always be given prior to the jumper getting in the door. This command prompts ram-air jumpers to activate their Cypress AAD's. (Before giving this command, the spotter will confirm with the pilot that the aircraft has leveled off at 3,000 feet AGL)

**4. “GET IN THE DOOR”**

This command is given before or after pre-jump briefing for round jumpers, and after the briefing for ram-air jumpers, to the first jumper in the stick. This command also prompts ram-air jumper's 4-point check. All ram-air exits will be sitting. Round exits will be using the step or standing, depending on the aircraft type.

**5. “TURNING FINAL 1500'/3000', STATIC LINES CLEAR”**

Confirmation given so that each jumper in the stick can hear. The spotter may have notified the jumper that their static line is clear and confirmed the jump altitude, but this is a final check.

**6. “GET READY”**

Command given just prior to slapping first jumper out the door.

**ROUNDS:** Slap only the first jumper in the stick.

**SQUARES:** Slap each jumper, spacing jumpers a minimum three seconds apart.

Exiting square jumpers static lines can be effectively cleared for following jumpers in the stick by sliding it towards the upper left corner of the door, after the drogue has deployed from the D-bag.