



Fire Protection Training

Procedures Handbook 4300

FIREFIGHTER SAFETY

TOPIC: Airtanker Retardant Drop Safety Precautions

TIME FRAME: 1 Hour

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will list and describe the safety precautions to be used when working a wildland fire with airtankers assigned

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Chalkboard and chalk
- Audio visual equipment
- Appropriate visual aids
- Handouts

REFERENCES:

- Wildland Firefighting, Clayton, Day, McFadden, Chapter 7
- Air Attack Slide/Sync Program - CDF ST100

PREPARATION:

In recent years a number of new aircraft have been added to the wildland firefighting mix. These aircraft offer a modern, sophisticated attack weapon. Air resources are available for use on wildland fires, especially when high value improvements or natural resources are threatened. Working around these aircraft can be extremely dangerous. It is essential that firefighters be aware of the safety precautions that must be observed when working with these resources.

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AIRTANKER RETARDANT DROP
SAFETY PRECAUTIONS

PRESENTATION	APPLICATION
<p>I. AIRTANKERS</p> <p>A. Terminology</p> <ol style="list-style-type: none">1. Airtanker2. Fire retardants3. Retardant line4. Vortex5. Pre-treatment of fuels6. Direct attack7. Dry run <p>B. There are Three Types of Airtanker Drops</p> <ol style="list-style-type: none">1. Split<ol style="list-style-type: none">a. One door at a time2. Trail<ol style="list-style-type: none">a. Each door in succession3. Salvo<ol style="list-style-type: none">a. All doors at once <p>C. Aircraft Are Used on Wildland Fires with the Intention of Attaining Prompt Containment.</p> <ol style="list-style-type: none">1. Aircraft are most effective when<ol style="list-style-type: none">a. Making fast initial attack on small fires.b. Followed up by fast, aggressive ground action.2. Airtankers are used for making fire retardant drops	

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<p>D. The Safety Rules Regarding Airtanker Operations Were Developed for Use by All Personnel Working on the Fireline</p> <ol style="list-style-type: none">1. Air operations are directed by an Air Attack Officer2. The Air Attack Officer flies above the fire and tells the pilots where their drops are to be made3. Air operations are coordinated with the Incident Commander or Operations Chief <p>II. SAFETY OF GROUND FORCES</p> <p>A. Ground Forces Should be Warned When Drops are to be Made in Their Area</p> <ol style="list-style-type: none">1. A "dry run" or high pass is made over a portion of the fire, to indicate that a drop will be made in 1 to 3 minutes.2. Once initial drops are made in an area, further dry runs are unnecessary. <p>B. Conduct of Ground Personnel</p> <ol style="list-style-type: none">1. On initial runs, wave arms to indicate your presence.2. Fireline supervisor should advise aircraft of ground personnel locations. <p>C. Low Air Drops Can</p> <ol style="list-style-type: none">1. Knock a person down2. Throw you against rocks, trees, and other objects3. Uproot trees4. Create flying or falling objects.	

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<ul style="list-style-type: none">5. Seriously damage equipment<ul style="list-style-type: none">a. A low drop of 25 to 40 feet totally destroyed a BLM engine and seriously injured 2 men when 150 gallons of retardant was dropped from a C-119 at a speed of 180 MPH.D. Vortex Turbulence is Caused by Air Slipping Off the Wing Tips of Any Aircraft in Flight<ul style="list-style-type: none">1. Causes air voids behind wings2. Causes horizontal whirlwinds with velocities of 25 MPH or more.3. Can cause sudden, violent and erratic changes in fire behavior such as spot fires, flare-upsE. If You Are About to be Dropped On:<ul style="list-style-type: none">1. Move Out of the Target Area If There Possible2. Stay away from LARGE, OLD TREES<ul style="list-style-type: none">a. Limbs or top may break off and cause injury3. NEVER STAND IN THE PATH OF AN AIR DROP. This greatly increases your chances of injury4. The most dangerous area is the center 15-20 feet of the pattern5. If possible, find something solid and get behind it. Lie on your stomach facing the incoming air drop6. If in the open, immediately lie on your stomach	<p>Information sheet #1 and #2</p>

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<ul style="list-style-type: none"> a. Helmet, chin strap, and goggles on b. Feet spread apart, toes outward for better stability c. Cover your face if possible d. Hold tools firmly out to the side and away from your body. F. After the Retardant Drop Has Been Made: <ul style="list-style-type: none"> 1. Exercise caution, most retardants are slippery <ul style="list-style-type: none"> a. Watch your footing b. Wipe off your hand tools, especially the handles 2. Dropping retardant on surfaced roads creates a hazardous condition. Roads should be washed down as soon as possible. 3. Retardant should be washed from equipment and structures as soon as possible to prevent corrosion 4. Retardant may also damage agricultural or ornamental vegetation 	<p>Have a student demonstrate the proper procedure for preparing to be dropped on.</p>
<p>III. GROUND HAZARDS WHICH AFFECT AIRCRAFT</p> <ul style="list-style-type: none"> A. Aircraft Should Be Advised of <ul style="list-style-type: none"> 1. Power and/or telephone lines, poles and towers 2. Aerial cables (logging operations) 	

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<ul style="list-style-type: none">3. Antennas4. Other aircraft in area5. Snags hidden in smoke	

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SUMMARY:

Aircraft can be a valuable tool in combating wildfires. It is, however, extremely important that all ground crews understand and follow safety precautions when working with aircraft.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).