

UNIT 2

SAFETY

**Firefighter Safety is
Your Highest Priority**



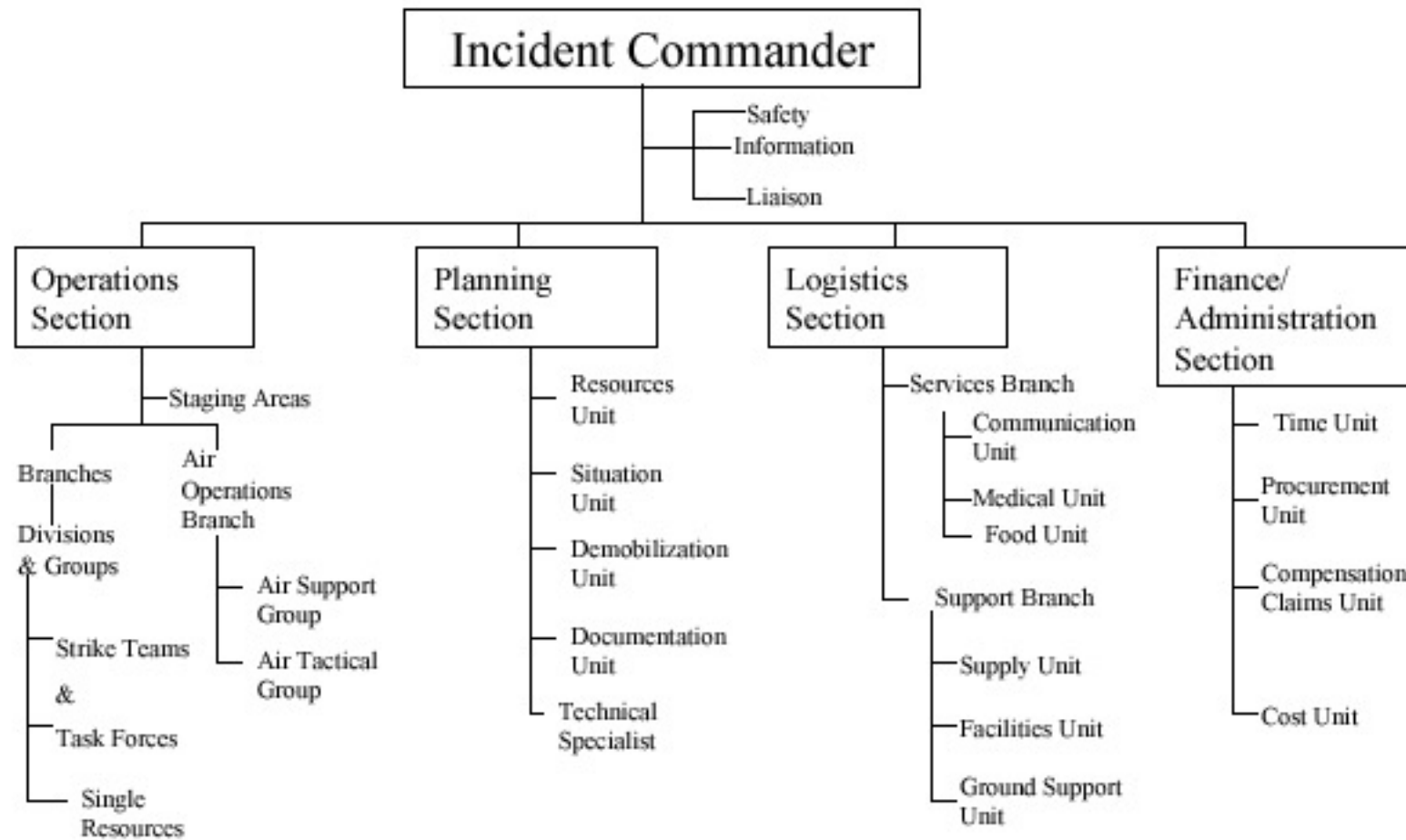
AFRICA FIRE MISSION



ICS May be a Team or It Could Be All Up To YOU!



Incident Command System



Wildland Fire Safety

Standard Firefighting Orders and 18 Watch-Out Situations

The original ten Standard Firefighting Orders were developed in 1957 by a task force commissioned by the USDA-Forest Service Chief Richard E. McArdle. The task force reviewed the records of 16 tragedy fires that occurred from 1937 to 1956. The Standard Firefighting Orders were based in part on the successful "General Orders" used by the United States Armed Forces. The Standard Firefighting Orders are organized in a deliberate and sequential way to be implemented systematically and applied to all fire situations.



There are some basics when it comes to wildland firefighting safety that we should follow on EVERY fire - EVERY time. The **Ten Standard Fire Orders**

The first three deal with **fire behavior**. Fire behavior is what we should base ALL of our suppression tactics on.

The next three orders deal with **personnel safety**. This should always be our top priority.

The following three orders deal with **organizational control**. These three, if followed will lead to good supervision of the forces and good management of the fire.

The last order deals with the **overall strategy** of fire fighting. We must be aggressive with our efforts but we MUST provide for **SAFETY FIRST**

In all past fatality investigations many of the Ten Standard Fire Orders were broken or compromised. **We cannot break or compromise these!!!**



STANDARD FIREFIGHTING ORDERS

Fire Behavior

1. Keep informed on fire weather conditions and forecast.
2. Know what your fire is doing at all times.
3. Base all actions on current and expected behavior of the fire.



STANDARD FIREFIGHTING ORDERS

Personnel Safety

4. Identify escape routes and safety zones, and make them known.
5. Post lookouts when there is possible danger.
6. Be alert. Keep calm. Think clearly. Act decisively.



STANDARD FIREFIGHTING ORDERS

Organizational Control

7. Maintain prompt communications with your forces, your supervisor and adjoining forces.
8. Give clear instructions and insure they are understood.
9. Maintain control of your forces at all times.



STANDARD FIREFIGHTING ORDERS

Overall Strategy

10. Fight fire aggressively, having provided for safety first.

Failure to comply with the 10 Standard Fire Orders and identify or properly mitigate the Watch Out Situations continues to be recognized as contributing to most, if not all, wildland fire entrapments!



18 Watch Out Situations

Shortly after the Standard Firefighting Orders were incorporated into firefighter training, the 18 Situations That Shout Watch Out were developed. These 18 situations are more specific and cautionary than the Standard Fire Orders and described situations that expand the 10 points of the Fire Orders. If firefighters follow the Standard Firefighting Orders and are alerted to the 18 Watch Out Situations, much of the risk of firefighting can be reduced.





1. FIRE NOT SCOUTED AND SIZED UP





2. IN COUNTRY NOT SEEN IN DAYLIGHT





3. SAFETY ZONES AND ESCAPE ROUTES
NOT IDENTIFIED





4. UNFAMILIAR WITH WEATHER AND LOCAL FACTORS INFLUENCING FIRE BEHAVIOR





5. UNINFORMED ON STRATEGY, TACTICS
AND HAZARDS





6. INSTRUCTIONS AND ASSIGNMENTS NOT CLEAR





7. NO COMMUNICATION LINK WITH CREW MEMBERS/SUPERVISOR





8. CONSTRUCTING FIRELINE WITHOUT SAFE ANCHOR POINT





9. BUILDING FIRELINE DOWNHILL WITH
FIRE BELOW





10. ATTEMPTING FRONTAL ASSAULT ON
FIRE





11. UNBURNED FUEL BETWEEN YOU AND THE FIRE





12. CANNOT SEE MAIN FIRE, NOT IN CONTACT WITH ANYONE WHO CAN



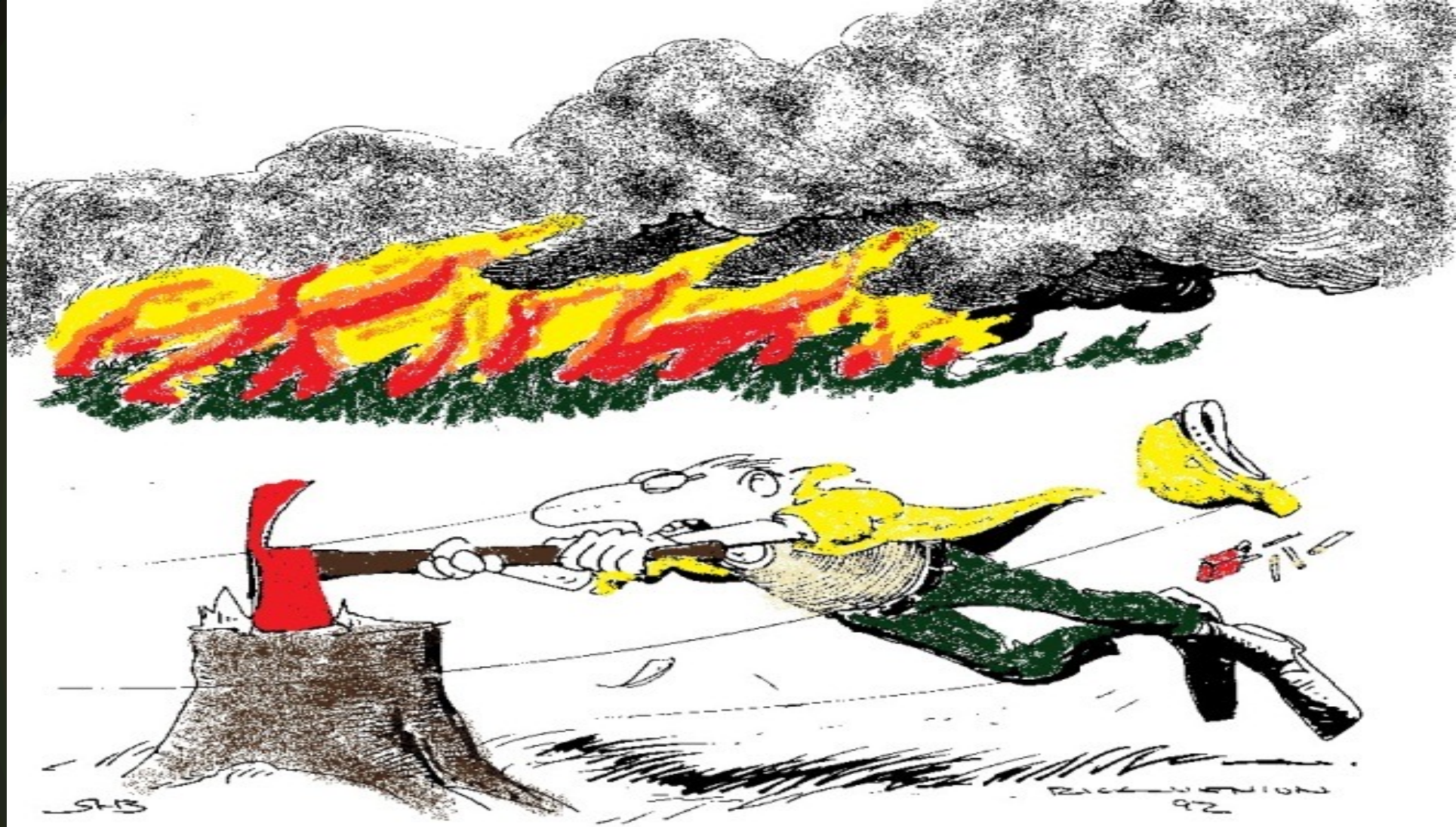


13. ON A HILLSIDE WHERE ROLLING MATERIAL CAN IGNITE FUEL BELOW





14. WEATHER IS GETTING HOTTER AND
DRIER



15. WIND INCREASES AND/OR CHANGES
DIRECTION



16. GETTING FREQUENT SPOT FIRES
ACROSS LINE



17. TERRAIN AND FUELS MAKE ESCAPE TO SAFETY ZONES DIFFICULT





18.TAKING A NAP NEAR THE FIRELINE



Safety

LCES

- **L** – Lookouts
- **C** - Communications
- **E** – Escape Routes
- **S** – Safety Zones



Safety

Always maintain Situational Awareness.



video

Safe Driving Practices

- Obey traffic laws while responding to fires.
- Select a route that will safely bring you closest to the blaze in the shortest time when responding to a call.
- Secure tools and equipment in such a manner so they can injure no one.
- Remain seated & use seatbelts when vehicle is in motion.



Safe Driving Practices

- Be constantly aware of changing traffic and road conditions.



Safe Driving Practices

- **Be aware** of vehicle weight limits on bridges.
- **Be aware** of vehicle height in regards to overpasses, trees, power-lines, gates, etc.



Safe Driving Practices Cont.

It can happen to anybody at any time!



+



Safe Driving Practices Cont.

Equals THIS!



Driving down the highway is probably the most dangerous thing we do...

SLOW DOWN & pay attention to the road.



May 11, 2011 - Erath County Commissioner responding to a grassfire meets the singer Jewel who was expecting her first child.



Safety with Brush Trucks

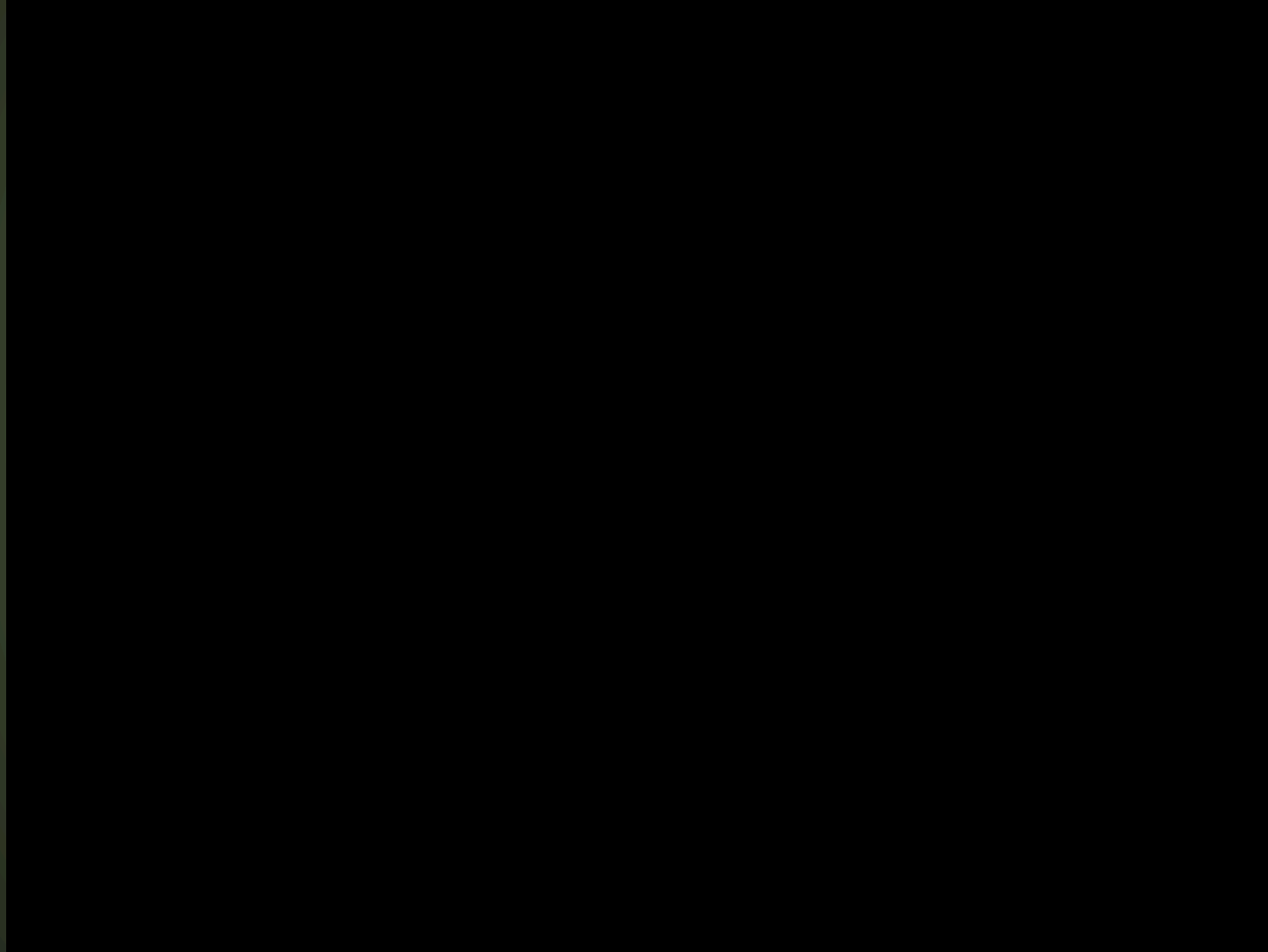
Attack a head fire from inside the burn in fuels that present no risk to tires or hoses.



**Always Remember –
“If you are in front of the fire,
YOU are a FUEL.”**



Attack from the Black!



Safety With Brush Trucks

- Never drive into an area unless you have identified a safe exit.
- Keep an eye on the big picture, maintain Situational Awareness.



Safety With Brush Trucks

- Be alert for stumps, rocks & other debris that block your approach.
- Don't take your vehicle where hand tools or heavy equipment are better suited!



Safety

Watch For Obstacles

- Brush & rocks may catch your hose.
- Burning of hose & brush truck tires.
- Hidden ditches, holes & logs.
- Obstacles crossed on foot can cause damage to brush truck.
- Down power lines.
- Snags



Safety with brush trucks

- Attack from the Black!
- Don't run.
- Mop up completely---avoid slop-overs.
- One spot of fire left behind may build and spread.
- Work on or near fire edge.
- Move into burn if needed.

Safety Around Aircraft

Helicopter Safety

video



Safety Around Aircraft

WATER = 8Lbs/gal

Firefighting Helicopters can carry 100gal - 3000gal
Depending upon size & configuration of the helicopter,
crew, and weather.

Type 2 bucket drop is 300gal.

$$8 \times 300 = \mathbf{2400Lbs}$$





Safety Around Aircraft

video

Video - Water Bomb

Aerial Retardant Safety



Clear personnel out of target area prior to drops. If you can't escape:

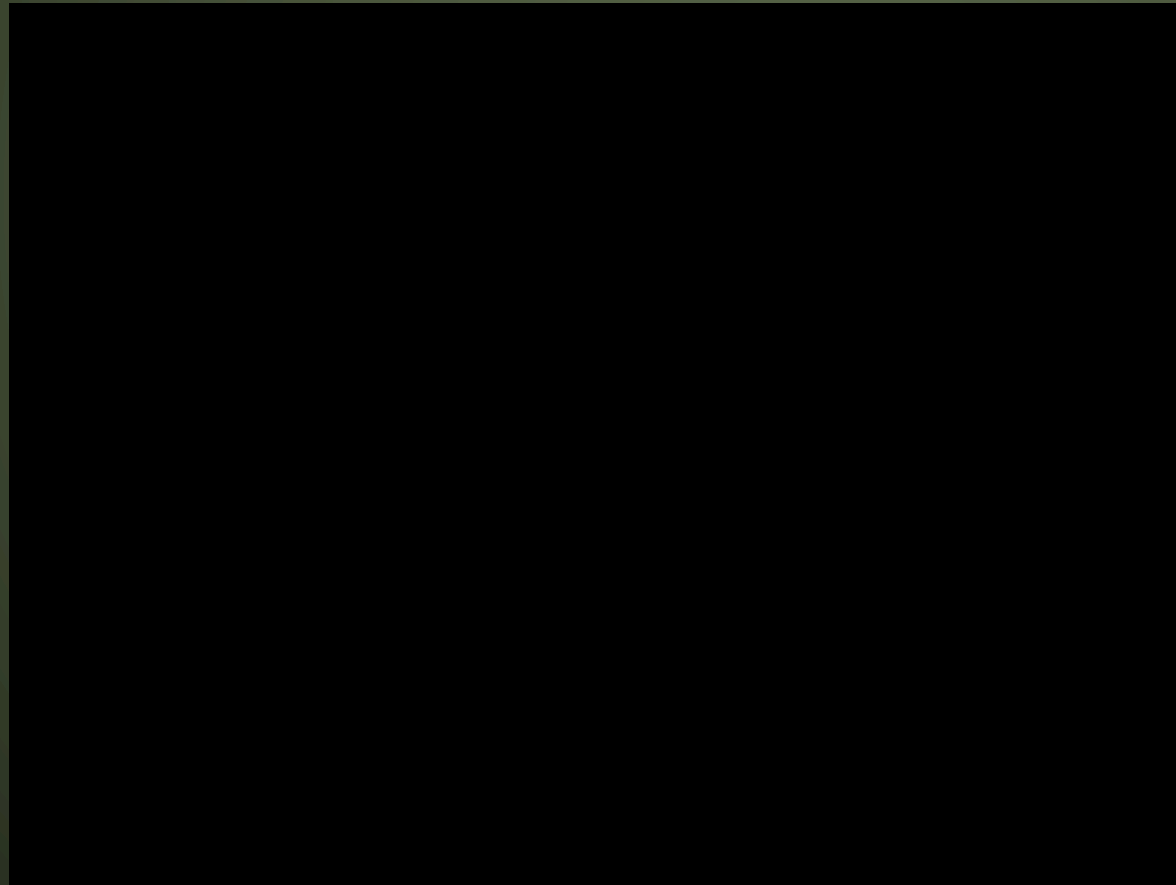
- + Hold your tool away from your body.
- + Lie face down with head towards oncoming aircraft and hardhat in place. Grasp something firm to prevent being carried or rolled about by the dropped liquid.
- + Do not run unless escape is assured.
- + Get clear of dead snags, tops, and limbs in drop area.
- + Working in an area covered by wet retardant should be done with caution due to slippery surfaces.



Safety Around Aircraft

video

Accidents Can Happen At Any Time.
Stay Clear & Keep Alert.



Safe Hand Tool Practices



DO:

- Allow 10 – 12 ft. working area.
- Keep cutting edges sharp.
- Keep handles tight.
- Keep tool clean & rust proofed.
- Store tools neatly. //



Safe Hand Tool Practices



DON'T:

- Lean on tools.
- Carry backpack pump by hose.
- Use tools for any non fire use.
- Throw tools around.
- Allow tools to lie around. //



Personal Protective Equipment

Wear it!



- Fire retardant clothing
- Hard hat
- Gloves
- Lace up boots
- Goggles.

Personal Protective Equipment



It does not interchange

Wearing structural gear on a wildfire is dangerous. You can become overheated very easily.



Fire Shelters



Safety Around Dozer/Plow Units



- Maintain a safe distance while units are loading and unloading.
- When working around heavy equipment stay at least 100 feet in front and 50 feet behind the equipment. In the woods, distances should be increased to 2.5 times the canopy height.
- Coordinate actions with the ground-person or “swamper.” Establish visual and radio communication methods prior to engaging.



Safety Around Dozer/Plow Units



- Stay Awake! Yes, the bulldozer can “sneak” up on you!



Safety Around Dozer/Plow Units



- Equipment operators have difficulty seeing ground personnel; take responsibility for your own safety and all those around you.
- Night work is even more dangerous. Use flashlights / head-lamps, LED “blinky lights” and/or Glow Sticks to make yourself more visible.



Safety Around Dozer/Plow Units



- If you do find yourself working with or near a dozer/plow unit, wear eye protection, and a hard hat.
- Never approach heavy equipment unless the operator says so, all implements have been lowered to the ground and the equipment idled down. Give the plow plenty of room.
- Look up, down, and around at all times.



Safety Around Dozer/Plow Units

Stay Clear of Snag Felling *video*



General Safety



- Don't run
- Mop up completely- **PUT THE FIRE OUT!**
- Avoid spot fires and slop-overs
- One spot of fire left behind may build and spread
- Work on or near fire edge
- Move into burn if needed

General Safety



Watch For Obstacles

- Brush & rocks may catch your hose.
- Hot Coals can burn hoses & brush truck tires
- Hidden ditches, holes & logs
- Obstacles crossed on foot can cause damage to brush trucks
- Down power lines

General Safety

Keep your mind on your work and pay attention!

