

Section 7098
(October 2002)

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“RULES OF THUMB”**7098****(October 2002)****ENGINE OPERATION “ RULES OF THUMB”****7098.1****(October 2002)**

- Hoselay less than 600 feet – with the use of pre-connected hose, a three person crew can lay as much as 50 feet per minute.
- Extended hoselay (more than 600 feet) – assign three engines with 8 to 10 firefighters. It takes five (5) minutes to lay 100 ft. of hose. This takes into account for broken hose, returning for more hose, variations in slope and fuel, and firefighter fatigue.
- Use 1 ½ “ hose with 1” laterals every 200 feet.
- Allow for sufficient engines or water tenders to maintain a constant water supply, taking into consideration travel and refill times. It takes an engine 3 minutes per mile to travel good road, 6 minutes per mile for poor road and 15 minutes to refill.
- Mobile attack - Engines can mobile pump at a rate of 100 feet per minute.

DOZER OPERATION “RULES OF THUMB”**7098.2****(October 2002)**

A “Rule of Thumb” production rate for fire service bulldozers is:

1. Medium Dozer – 885 yards per hour based on a single pass.
2. Heavy Dozer – 935 yards per hour based on a single pass.

AIRCRAFT “RULES OF THUMB”**7098.3****(October 2002)****COVERAGE LEVELS****7098.3.1****(October 2002)**

Coverage level is defined as the amount of retardant measured in gallons per hundred square feet.

(Level 1=1 gal./100 sq. ft.)

(Level 2=2 gal./100 sq. ft.) etc.

COVERAGE LEVELS RULES OF THUMB**7098.3.2****(October 2002)**

Coverage Level	Fuel Type	Standard Target Description
.5-2	Grass	See Section 7026.9.2.1
3-4	Brush	
5-6+	Timber	

HIGH RISK FIRING OPERATIONS

7098.4

(October 2002)

- Misfires from Very Pistols and Fire Quick Flare Launchers
- Firing Team(s) member(s) bunching up causing the lighter(s) to take direct flame contact.
- Mid Slope firing operations
- Interior firing used to accelerate the burnout of fuel between the main fire and the backfire.
- Firing across the head of the main fire
- Firing operation outruns the holding forces
- Firing in close proximity to High-voltage power lines

HIGH RISK OPERATIONS DURING WILDLAND FIRING ASSIGNMENTS **7098.4.1**
 (October 2002)

High risk operations	Mitigation / Prevention
Misfires from Very Pistols and Fire Quick Flare Launchers	Communicate to personnel when misfire occurs. Remove round and store in approved metal container.
Firing team(s) member(s) bunching up causing the lighter(s) to take direct flame contact	Appoint additional firing observers to track team(s) or lighter(s) so planned firing pattern is maintained. Ensure firing team members are monitoring the assigned tactical frequency.
Mid Slope firing operations	Augment holding forces to control rollout. Use cooler firing patterns to reduce fire intensity.
Interior firing used to accelerate the burnout of fuel between the main fire and the back fire or burnout operation	Ensure sufficient burn zone from edge of control line to provide adequate safety of all personnel as the firing operation progresses Augment holding forces.
Firing across the head of the main fire	Utilize personnel in rotary or fixed wing aircraft to observe the firing operation from the air. Ensure sufficient burn zone from control line to provide adequate safety of all personnel as the firing operation progresses. Augment holding forces.
Firing operation outruns the holding forces	Slow the firing teams. Augment the holding forces. Use check lines as necessary.
Firing in close proximity to High-Voltage power lines	Keep personnel at least 100 feet away from the right-of-way under the power lines. Have the power lines de-energized.

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