

FSH 6709.11

22.48 - Saw Operations

Saw operations include but are not limited to use of a chain saw or crosscut saw by employees, volunteers, training consultants, and cooperators for felling, bucking, brushing, limbing, and specialized uses. Sawyers should say "NO" and walk away from any sawing situation they determine to be an unacceptable risk. Review job hazard analysis (JHA) for sawing projects and activities (FSH 6709.11, sec. 22.08) or Risk Assessment (RA) as appropriate. See FSM 2358 for training and certification requirements and definitions for the national saw program.

22.48a - Standards

The standards for noise exposure, explosives, personal protective equipment (PPE), hand and portable power tools, logging operations, first aid training, and hazard communication are found in Occupational Safety and Health Administration (OSHA) regulations at:

1. 29 CFR 1910.95, 1910.109, 1910.132, 1910.133, 1910.151, 1910.242, 1910.266, 1910.1030, and 1910.1200; and
2. 29 CFR 1926.50, 1926.52, 1926.100, 1926.102, 1926.301, and 1926.302.

22.48b - Qualifications

Forest Service sawyers using chain saws or crosscut saws must be trained, evaluated, and certified for use of those saws in accordance with FSM 2358.06 and 2358.1, exhibit 02. Cooperators' employees and volunteers are subject to this requirement per FSH 1509.11, section 91.2.

22.48c - Personal Protective Equipment

Maintain PPE in a clean and fully functioning condition (FSH 6709.11, sec. 20.13, p. 70-12). The following PPE is required for sawing operations.

Table 1- Non-fire PPE requirements for saw use

PPE	Chain Saw Operations	Crosscut Saw Operations
Hard Hat	Hard hat or cutting helmet meeting ANSI Z89.1	Same as chain saw
Safety Glasses	ANSI Z87.1 (clear safety glasses, at a minimum) or equivalent (mesh "bug-eye" type or mesh face shield type) (OSHA 1910.266(d) (1) (vii) (B) Note)	Same as chain saw
Hearing Protection	Hearing protection required for gasoline powered chain saw use	None required

Gloves	Gloves or chain saw mitts are required for all chain saw operations. Leather required for sharpening. Alternative style of gloves may be used for inclement weather conditions, based on JHA.	Same as chain saw
Shirt, Pants¹	Long sleeved shirt and long pants.	Long sleeved shirt and long pants.
Leg Protection	Chaps or cut-resistant pants for chain saw use shall meet the requirements of Forest Service 6170-4 or ASTM F-1897 (current version). Chaps shall overlap boots at least 2”.	None required
Boots	Cut-resistant or leather, laced 8 inch (204mm) high boots that provide ankle support and nonskid soles (hard toes are optional). OPTIONAL-Use JHA to determine proper footwear for the environment and/or related tasks.	Cut- resistant or leather, laced boots that provide ankle support and nonskid soles (hard toes are optional). Use JHA to determine proper footwear for the environment and/or associated tasks.

Table 2-Fireline PPE requirements for saw use²

PPE	Chain Saw Operations	Crosscut Saw Operations
Specialized PPE	Wear additional PPE as identified by local conditions, safety data sheets (SDS), or JHA/RA.	Same as chain saw
Hard Hat	Hard hat meeting NFPA 1977.	Same as chain saw
Safety Glasses	ANSI Z87.1 (clear safety glasses, at a minimum) or equivalent (mesh “bug-eye” type).	Same as chain saw
Hearing Protection	Hearing protection required for gasoline powered chain saw use.	None required
Gloves	Leather gloves are required for all chain saw operations and sharpening.	Same as chain saw

¹ Short sleeved shirts may be used based on a JHA

² See FSH 6709.11 ch. 25.12

Shirt, Pants	Nomex long sleeved shirt and Nomex long pants.	Same as chain saw
Leg Protection	Chaps meeting the requirements of Forest Service specifications 6170-4. Chaps shall overlap boots at least 2”.	None required
Boots	Leather, laced 8 inch (204mm) high boots with nonskid soles.	Leather, laced 8 inch (204mm) high boots with nonskid soles.
Specialized PPE	Wear additional PPE as identified by local conditions, material safety data sheets (MSDS), or JHA/RA.	Same as chain saw

22.48d - Equipment Requirements

Use and maintain chain saws and crosscut saws in accordance with the manufacturer’s recommendations.

1. Chain Saw Requirements.

a. Required Features. The following features are required for chain saws used on NFS lands:

- (1) A fully functioning throttle trigger interlock, which prevents the throttle from engaging unless the interlock is depressed on the handle.
- (2) A fully functioning anti-vibration system.
- (3) A fully functioning chain brake.
- (4) A functional chain catch pin.
- (5) A functional spark arrestor screen.
- (6) Proper length bar and power head sized for the specific sawing project or activity.
- (7) A properly filed and maintained chain that is appropriate for the sawyer’s certification level and the specific sawing project or activity. For example, a reduced kickback chain is appropriate for less experienced sawyers. Longer bars and chisel or full/semi- skip chain is appropriate for more experienced sawyers.
- (8) A bar guard that is adequate to cover the muffler, chain, and bumper spikes when the saw is carried on the shoulder.
- (9) A scabbard that is adequate for carrying the saw at the side.

b. Recommended Features. Bumper spikes are recommended for felling and bucking. A full wrap-around or three-quarter wrap-around handle bar is recommended for felling.

c. Required Additional Equipment. The following additional equipment is required for chain saw operations:

- (1) A first aid kit that meets OSHA standards (29 CFR 1910.266, Appendix A).
- (2) A chain saw bar wrench.
- (3) A chain file with a handle and guard.
- (4) An approved safety container for chain saw fuel.
- (5) Proper wedges for the specific sawing project or activity. Wooden wedges are not permitted.
- (6) A 3-to-5-pound single bit axe. Custom tools, ('pounders') are not acceptable.

c. Optional Additional Equipment. A pruning saw.

2. Crosscut Saw Requirements.

a. Required Features. The following features are required for crosscut saws:

- (1) The proper length for the sawing project or activity.
- (2) Proper type, tooth pattern and length of saw for task that is also properly sharpened and set.
- (3) Handles.
- (4) A sheath.

b. Required Additional Equipment. The following additional equipment is required for use of crosscut saws on NFS lands:

- (1) A first aid kit that meets OSHA standards (29 CFR 1910.266, Appendix A).
- (2) Proper wedges for the specific sawing project or activity. Wooden wedges are not permitted.
- (3) A 3-to-5-pound single bit axe. Custom tools ('pounders') are not acceptable.
- (4) Crosscut saw lubricant.

c. Optional Additional Equipment. The following additional equipment is optional:

- (1) A double-bit axe.

- (2) An under-buck tool.
- (3) A pair of hanging wedges.
- (4) A pruning saw.
- (5) Digging tools.

Refer to sections 12.2 and 12.5 of this chapter for further direction on equipment requirements for vehicles and for transporting saws and fuel. Refer to sections 41, 43, and 44 of this chapter for direction on requirements for hand tools, power tools, and heavy equipment.

22.48e - Procedures

Sawing projects and activities must be conducted by qualified sawyers (FSM 2358). Crew leaders will review the JHA/RA with sawyers and other affected personnel for each sawing project or activity before work commences (FSH 6709.11, sec. 22.08). Daily discuss how to accomplish the project or activity with the sawyers and others involved. Hold periodic tailgate safety sessions that include all personnel involved in or affected by the project.

1. Sawyers must be alert and able to conduct sawing operations commensurate with their certification level (FSM 2358).

2. All sawyers should work in a position or location that is within the sight or hearing of another sawyer or other employee involved in the sawing operation. When situations arise when a sawyer must work alone, such as incidental work to remove a tree blocking a roadway, the sawyer shall:

- a. Evaluate the situation to ensure the benefits of the operation outweigh the risk;
- b. Establish two-way communication with a dispatcher, a supervisor, or another Forest Service employee before commencing work;
- c. Report how long it will take to do the work;
- d. Report when the work commences;
- e. Provide an update if work takes longer than expected; and
- f. Report when the work is complete.

3. All work must terminate and each employee shall move to a place of safety when environmental conditions, such as but not limited to, electrical storms, strong winds which may affect the fall of a tree, heavy rain or snow, extreme cold, dense fog, fires, mudslides, and darkness, create a hazard for the employee in the performance of the job (29 CFR 1910.266(d)(5)).

22.48f - Safety Practices

Contact the National Saw Program Manager, Regional Saw Program Manager, or local Saw Program Coordinator for more information about saw safety practices and a current list of Forest Service nationally recognized sawyer training courses.