

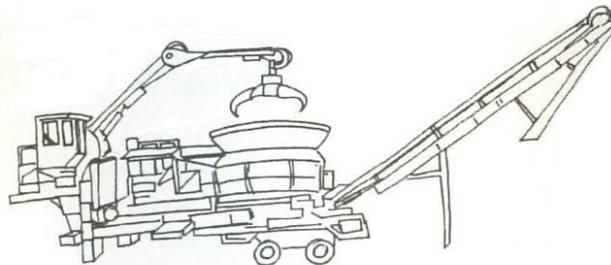
# PORTABLE GRINDER SAFETY FOR WOODS EQUIPMENT OPERATORS

*an FRA Southwide Safety Committee Logging Safety Brochure*

The Forest Resources Association's Southwide Safety Committee developed this brochure as a guide to personal safety and protection of anyone working around or visiting a grinder operation.

**A WORD ABOUT THE LAW:** This brochure has been developed in accordance with existing OSHA requirements. However, recommendations are not to be construed as a substitute for compliance with applicable federal and state laws.

**ADDITIONAL INFORMATION:** *Timber Harvesting Safety* (FRA publication 01-A-9) contains general safety recommendations, including use of personal protective equipment and guidelines for use of hand tools, chain saws, and woods equipment.



## PRODUCT SAFETY SIGNS AND LABELS

Several safety alert symbols are placed in various locations around the grinder. These are placed for protection of personnel and are designed to meet the American National Standards Institute requirements for Product Safety Signs and Labels.

## SAFETY ALERT SYMBOL



**MEANS:  
ATTENTION! BE ALERT!  
YOUR SAFETY IS INVOLVED!**

THIS SAFETY SYMBOL IS USED FOR IMPORTANT SAFETY MESSAGES. WHEN YOU SEE THIS SYMBOL, FOLLOW THE SAFETY MESSAGE TO AVOID PERSONAL INJURY AND/OR PROPERTY DAMAGE.

### UNDERSTAND SIGNAL WORDS

A signal word - DANGER, WARNING or CAUTION is used with the safety alert symbol.



DANGER identifies the hazard or unsafe practice that will result in severe personal injury or death.



WARNING identifies the hazard or unsafe practice that could result in severe personal injury or death.



CAUTION identifies the hazard or unsafe practice that could result in personal injury or property damage.

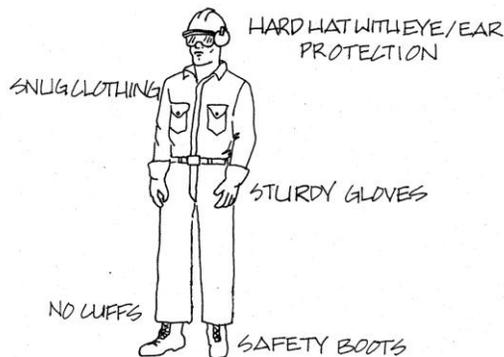


NOTICE identifies important installation, operation, or maintenance information.

## GENERAL SAFETY

- Maintain all hand tools in proper working condition.
- Maintain air tools and compressors, cutting torches and welders, including regulators and gauges, to manufacturers' specifications. If damaged, remove from service until repaired.
- Regulate compressed air and air tools to manufacturers' specifications.
- Do not direct compressed air towards anyone or use to clean clothes.

## P.P.E. = Personal Protective Equipment WEAR IT!



When working around a grinder, specific Personal Protective Equipment should be worn.

- Wear safety boots.
- Wear snug clothing.
- Wear a hard hat.
- Wear eye protection.
- Wear hearing protection.
- Wear a dust mask when dust levels cause irritation.
- Wear heavy gloves when handling grinder hammers.
- Wear high-visibility clothing or vest.

## OPERATOR SAFETY TIPS

Be safe – Be professional!

Unsafe operation or maintenance can cause severe injury or death.

Do not operate or work on grinders without reading and understanding the Operator's Manual.



- Only a trained, qualified operator should be allowed to operate the machine.
- Install a first aid kit and a properly maintained fire extinguisher in the operator's cab.
- Never start grinder engine(s) without first completely checking the area for hazards.
- Always check the infeed conveyor and the tub of a tub grinder for foreign material such as tools, chain saws, grinder hammers, etc.

- Inspect all chains, belts, pulleys, drives, etc. for operating condition. Check hydraulic hoses and cylinders for leaks, and replace if damaged.
- Check steel structure for cracks and excessive wear.
- Check that all machine guards are in place and secure before beginning operation. This includes grinder hoods and chute deflectors.
- Maintain adequate mufflers when the grinder is in operation, with exhaust gases directed away from the operator and other workers.
- Provide machine operators with adequate protection from falling wood or flying chips.
- Maintain elevated operator compartment with guard rails, handholds, and operator protective devices which conform to OSHA standards.
- Maintain steps with skid-resistant material.
- In the operator area, maintain hydraulic hoses, lines, and metal guards to protect operator from hot hydraulic oil in the event of a rupture.
- Do not operate the machine until all necessary maintenance and repairs have been performed.
- Keep mud, oil, grease, and other slip hazards off steps and walkways.
- Remove and store all tools prior to operation.

## MAINTENANCE

- Ensure machine is at zero energy state with installed locks and tags as appropriate.
- Never allow anyone to work on the machine alone.
- Never make any adjustments or perform any type of maintenance on a grinder while it is in operation.
- Lower all hydraulic equipment to the ground.
- Lower the center feed wheel to the bottom position. Disengage the clutch, and lock out.
- Release hydraulic pressure before working on hydraulic components.
- Do not work under center-feed roll unless it is blocked on both sides and secured by a chain to a solid structure member or secured by safety yoke locks.
- Never open the grinder hood until the hammers have come to a complete stop.
- When changing hammers, two people should always handle the mandrels during removal or installation.
- When resurfacing hammers, use proper face protection and gloves at all times.
- Provide adequate ventilation to prevent inhalation of fumes.
- Torque all bolts, nuts, and clamps to the manufacturer's specifications.
- Shut down grinder engine(s) when refueling or adding hydraulic fluid.
- Maintain all guards covering pinch points on moving machinery, equipment, conveyors, etc.
- Do not remove guards until machinery is shut down and properly locked out.
- After servicing a drive-line or belt, replace the guard securely.
- Replace damaged or missing guards as soon as possible, to minimize the chance of injury.
- Disconnect the battery prior to welding and cutting.
- Welding and cutting should only be done when ample fire suppression equipment is available.

## GRINDER OPERATION

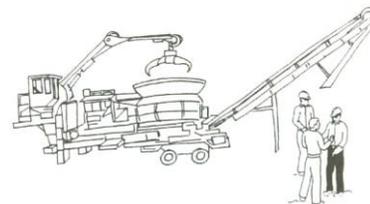
- The grinder operator is the key to safety.
- Grinder operators shall follow the manufacturer's recommendations for safe equipment operation and maintenance.
- Before starting engine(s), check to see that the center feed wheel yoke locks, grinder hammer, and the clutch are disengaged.
- When using tub grinders, take care to ensure the tub remains full, to assist in reducing the amount of debris that may be discharged out of the top of the tub.
- Stop the grinder if tree or log gets caught in the feed wheels and must be trimmed.
- Do not allow anyone near the infeed conveyor while the grinder is operating or the tub is turning.
- Never stand in alignment with the grinder hammers during operation.
- Never stand or walk near or in front of the discharge spouts during operation.
- Engage the grinder clutch lock when it is necessary to move fuel-wood vans.
- When weather conditions become unsafe, stop work, and move workers to a safe location.
- When shutting down the machine, ground or secure the loader boom grapple in its transport rack.
- Unsafe operation or maintenance can cause severe injury or death.
- Do not operate or work on this machine without reading and understanding the Operator's Manual.



## VISITORS

Never allow visitors, spectators, or unauthorized persons to be on or near any operation unless supervised.

- Warn visitors of hazards and dangers around grinder operations.
- Have extra personal protective equipment available for visitors' use.



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