



## FOREST RESOURCES ASSOCIATION INC.

600 JEFFERSON PLAZA, SUITE 350  
ROCKVILLE, MARYLAND 20852

PHONE: 301/838-9385

FAX: 301/838-9481

## TECHNICAL RELEASE

04-R-17

### SAFETY PROTOCOL FOR REMOTE-CONTROLLED HORIZONTAL IN-FEED HOG

Chippers/Grinders: safety

June 2004

[www.forestresources.org/members/serpub/04-R-17.html](http://www.forestresources.org/members/serpub/04-R-17.html)

**INTRODUCTION:** Recent congressional forest legislation, stewardship contracting, and continuing catastrophic wildfires are adding force to the trend toward developing more efficient processing machines in the woods. Horizontal grinders, which are mounted on tracks to allow more mobility and forest access, are able to utilize lower quality material economically to improve forest health.



Fig. 1: Peterson 2410 Horizontal In-feed Grinder with remote control.

Radio or remote control of the units is a new development. As such machines are more widely used, it is worth emphasizing procedures for their safe use.

**GENERAL FEATURES:** Tracked grinding equipment such as Bandit's Model 3680 Track Beast®, Morbark's Model 5600 Track Hog, and Peterson's Model 2410 are the latest in tracked machines capable of moving into the field for efficient forest cleanup. Rick Mecham and Bill Monahan, who work with Oxbow Ranch in Prairie

City Oregon, have been operating Peterson's Model 2410 with remote control for the past year. Their experience provides insights into critical communication and safety procedures, along with selected safety guidelines described by Bill Ganser, Peterson Product Safety Engineer.

**OPERATION:** As with all manufacturers, Peterson develops an extensive manual for its machines detailing the safety hazards and procedures for operating in a safe and professional manner. Ganser notes that these machines move on tracks using hydraulic drives. Machine movement is slow but powerful, with each track operating independently. The hydraulic drives are operated electrically with signals from either a radio transmitter or a pendant control.

Among the hazards and procedures identified to run a 65,000-pound machine safely by remote control, the concepts of an *Operating Hazard Zone* and a *Travel Hazard Zone* are key.

The *Travel Hazard Zone* is an area 20 feet (six meters) around the machine, when it is moving and the recycler is OFF, from which all personnel should stay clear.

The *Operating Hazard Zone* is a 100-foot zone (30 meters), which is in effect when the machine is recycling (rotor is turning). In that mode, only trained authorized persons are permitted, and each person so authorized must wear a hard hat, a highly visible safety vest, eye/face protection, and hearing protection.

**APPLICATION:** One task is common to each job: that of loading/unloading and transport of the Model 2410. The remote control attached by a long cable or pendant to the machine is available where finer tuned controls allow the machine to be maneuvered safely on and off the lowbed.

Rick and Bill note in their daily operations that safety protocols are enhanced by strictly limiting the people around the machine to themselves (Rick often runs the loader feeding material into the grinder), and the truck driver (who stays in the rig). Using the remote controls, Bill then runs the machine's feed rate

watching for a continuous smooth feed, or contaminants such as metal or rocks. Besides following the manual's guidelines for safe use, Rick and Bill point to the use of portable radios



Fig. 3: Remote control apparatus uses attached controls. This configuration also allows him to stand further away from the machine and see more of the movement.

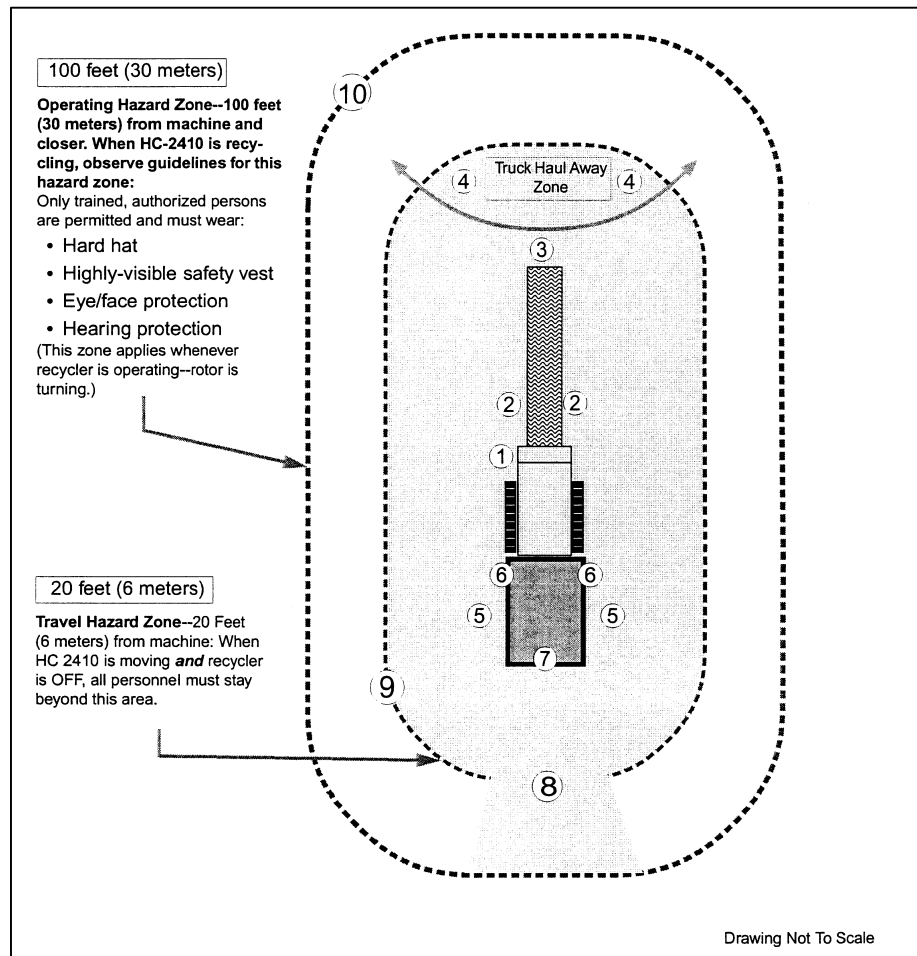


Fig. 2: Illustration of Operating Safety Hazard Zone and Travel Hazard Zone.

attached to their jackets or shirts. They are in constant communication, and their rule of thumb when operating the equipment is: if they can't see the other person, they will automatically radio each other to confirm where the party is before operating.

Bill also emphasizes that the newer version of the remote control apparatus is, in his opinion, much easier to use. Instead of a pad with buttons to push, the latest remote controls use toggle switches. They automatically revert to neutral after use so control can be finely tuned.

Having safely loaded and unloaded the machine for transport dozens of times, Bill is satisfied that he has toggle switch remote as he does using the pendant-

attached controls. This configuration also allows him to stand further away from the machine and

**CONCLUSIONS:**

- The addition of the remote control feature to in-woods tracked machines increases productivity but requires strict adherence to safety guidelines to remain a safe operation.
- In the case of the Peterson Model 2410, the “Hazard Zones” concept establishes the overall safety policy, with many other guidelines in the manual, while the new toggle switch remote control is a welcome upgrade, according to two experienced operators.
- These operators also note that their ability to communicate continually by radio, and to limit strictly the number of people around the machine, are part of their own safety procedures.

Rick Meham  
Bill Monahan  
Oxbow Ranch,  
Prairie City, Oregon  
541/954-07524

Bill Ganser  
Product Safety Engineer  
Peterson,  
Eugene, Oregon  
541/689-6520

*Reviewed by*  
Tim Gammell,  
Western Technical Division Forester