



## Crosscut Saw Guards

George Jackson, Project Leader

**C**rosscut saws are an efficient tool for cutting timber, but they can represent a safety hazard if they are carried improperly. The Washington Office staffs in Recreation, Fire and Aviation, and Engineering asked the Missoula Technology and Development Center (MTDC) to recommend ways to safely transport crosscut saws. The primary objective is to protect personnel and packstock from accidentally contacting the saw's cutting teeth.

### Background

In the past, users have protected the cutting teeth on crosscut saws with flexible 1½-inch rubber-lined and unlined fire hose, or with two pieces of plywood (one on each side of the saw) that are securely bolted together. The fire hose guard allows the crosscut saw to be bent like a horseshoe so it can be carried on backpacks and packstock. The plywood guard does not allow the saw to be bent.

MTDC originally investigated designing flexible plastic guards for crosscut saws similar to the guards that are available for shovels and pulaskis. Plastic guards proved to be impractical because there are so many different types and sizes of crosscut saws. One-person saws may be from 3 to 6 feet long and two-person saws may be from 4 to 12 feet long. Two-person saws are also available in two basic patterns, the felling saw, which has a concave back, and the bucking saw, which has a straight back (the back of the saw is opposite the toothed edge). Many tooth patterns are available. The most commonly used patterns include the lance tooth, perforated lance tooth, and champion tooth patterns. Because so many different styles and sizes of saws are available, guards need to be custom fitted for individual saws (Figure 1).

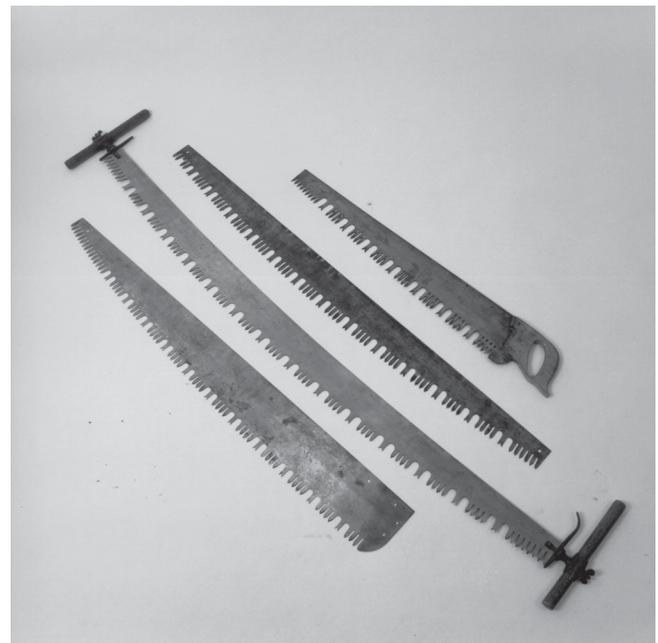


Figure 1—Several different styles and lengths of crosscut saws.

### Flexible Crosscut Saw Guards

The traditional saw guards made from discarded fire hose have been tied onto the saw with parachute cord or secured with other methods. These techniques might allow the guard to slip or come off, exposing the saw's sharp teeth. MTDC recommends using 1½-inch rubber-lined hose fitted with an appropriate number of straps that use a positive retaining mechanism, such as Velcro-style fasteners. When such a guard is correctly applied, it will cover all cutter teeth, protecting personnel and packstock from injury, even when the saw is transported in rough terrain (Figure 2).





Figure 2—Crosscut saw guards properly applied using 1-1/2-inch fire hose. Velcro-style fasteners secure the straps.

Flexible crosscut saw guards should be made from a section of discarded 1½-inch rubber-lined hose that is still in good condition. The attachment straps should be made from 1-inch nylon webbing sewn to the guard. Velcro-style fasteners (or other secure fasteners) should be sewn to the straps to secure the guard to the saw.

## Measuring Your Crosscut Saw for a Custom-Fitted Guard

### General Guidelines

- Always wear leather gloves when handling crosscut saws.
- The width of a crosscut saw is measured from the cutters to the back of the saw.

Separate the two-person and one-person saws before making guards. Saws 4 feet or longer should have at least five securing straps.

### Two-person crosscut saws

1. Measure the total length of the saw across the cutters (Figure 3).



Figure 3—Measuring the total length of the saw across the cutters.

2. Measure the width of the saw (Figure 4).



Figure 4—Measuring the width of the saw from the cutters to the back.

3. Measure the width of the saw at a point one-third of the saw's length and also at the midpoint of the saw (Figure 5).

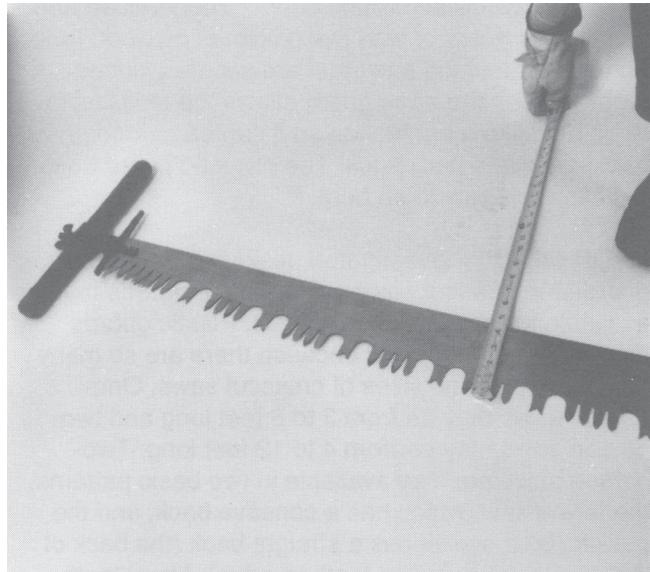


Figure 5—Measuring the saw's width at its midpoint.

### One-person crosscut saws

1. Measure the total length of the saw across the cutters.
2. Measure the width of the saw 3 inches from the handle.
3. Measure the width every 12 inches from the handle measurement.

## Attaching the Guard to the Crosscut Saw

You can safely apply the guard to the saw by using the following technique. Wear leather gloves! Roll the guard in 1-foot increments of the guard with the rubber lining facing out (Figure 6). Continue until the guard is completely rolled up (Figure 7). Hold the crosscut saw at a 45-degree angle with the teeth

pointing up. With the folded guard in your left hand, apply the guard to the cutters (Figure 8). Roll the folded guard down the crosscut saw until all the cutters are covered. Once you are sure that all the cutters are in the center of the guard, wrap the securing straps around the saw, starting with the center strap and working to either end. Make sure that the Velcro-style fasteners are lined up and the straps are tight (Figure 9).



Figure 6—Rolling the sawguard. The roll should be about 1 foot long.



Figure 7—The sawguard is rolled and ready to be applied to the saw.



Figure 8—Unrolling the sawguard along the saw's cutters.



Figure 9—Make sure that the Velcro-style fasteners are lined up and that the straps are tight.

## Backpacking or Horsepacking a Two-Person Crosscut Saw

Two-person crosscut saws need to be in a horseshoe shape before they can be carried safely on packstock or on a backpack. Remove the handles—otherwise, they will grab brush and limbs on the trail. Tie 4 feet of parachute cord to one end of the saw through the handle rivet hole. With the saw lying flat, stand on the end of the saw opposite the end with the parachute cord. Pull the parachute cord to bend the saw into a horseshoe shape. Hold that end with your left arm. Use your right hand to push the parachute cord through the handle rivet hole on the end you're standing on. Tie a secure knot, so the parachute cord will hold the saw in the horseshoe shape (Figure 10). Attach the crosscut saw to the load with the cutters facing away from you or away from the packstock.

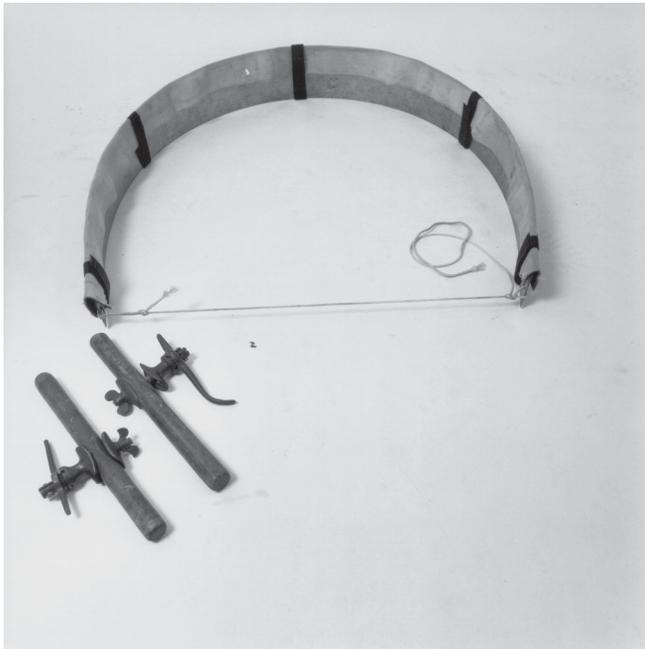


Figure 10—Parachute cord holds the saw in a horseshoe shape so it can be carried safely on packstock or on a backpack.

## Purchasing Information

Crosscut saw guards can be purchased through the following smokejumper bases and through private enterprises. Kondos Outdoors specializes in guards that use unlined cotton hose for one-person saws.

Missoula Smokejumpers  
Attn: Jeff Kinderman  
Aerial Fire Depot  
Box 6, Airport Terminal  
5765 Hwy 10 West  
Missoula, MT 59802  
406-329-4892

Redding Smokejumpers  
Attn: Bob Harris  
6101 Airport Road  
Redding, CA 96002  
916-246-5265

Terry Williamson  
505 Sweathouse Road  
Victor, MT 59875  
406-642-3208  
406-642-3209

Kondos Outdoors  
Dan & Vicki Kondos  
HC 1, Box 3108  
Ely, MN 55731  
218-365-4189

For additional information, contact George Jackson at:

USDA Forest Service, MTDC  
Bldg. 1, Fort Missoula  
Missoula, MT 59804-7294  
Phone: (406) 329-3900  
Fax: (406) 329-3719  
E-Mail: [gjackson/wo\\_mtdc@fs.fed.us](mailto:gjackson/wo_mtdc@fs.fed.us)  
IBM: [gjackson/wo\\_mtdc](mailto:gjackson/wo_mtdc)  
DG: [g.jackson/r01a](mailto:g.jackson/r01a)

The Forest Service, United States Department of Agriculture, has developed this information for the guidance of its employees, its contractors, and its cooperating Federal and State agencies, and is not responsible for the interpretation or use of this information by anyone except its own employees. The use of trade, firm, or corporation names in this publication is for the information and convenience of the reader, and does not

constitute an endorsement by the Department of any product or service to the exclusion of others that may be suitable. The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alterna-

tive means of communication of program information (braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice or TDD). To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.