



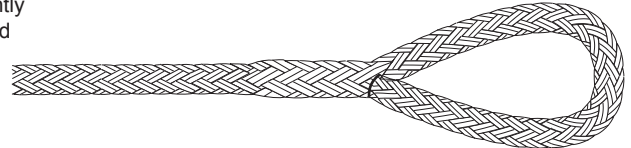
# USED ROPE EYE SPLICE *DOUBLE BRAID CLASS I*

Class I ropes are made from any or all of the following fibers: olefin, polyester, or nylon.

This is an eye splice which can be performed on used rope. This is an all-purpose splice technique designed for people who generally splice used rope as frequently as new rope. It retains up to 90% of the average new rope strength and in used rope up to the same proportion of residual used rope strength.

You may wish to read the supplemental information, "Special Tips for Splicing Used Rope" (page 8), before beginning.

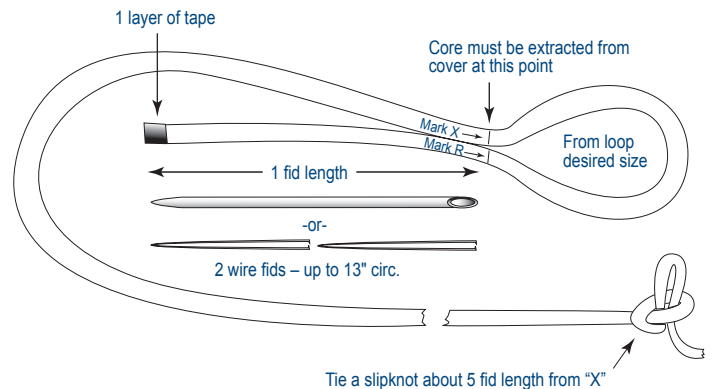
Splicing used rope can be made easier by first understanding the rope condition. Natural shrinkage has occurred caused by water and heat. In addition, the cover yarns have often been abraded. Soak the section of rope to be spliced in water for several minutes – this lubricates and loosens fibers.



## STEP 1 MARKING THE MEASUREMENTS

Tape end to be spliced with one thin layer of tape. Then, measure one tubular fid length (2 wire fid lengths) from end of rope and mark. This is point R (Reference). From R form a loop the size of the eye desired and mark. This is Point X where you extract core from inside the cover. If using a thimble, form the loop around the thimble.

Tie a tight slip knot approximately five fid lengths from X. This must be done!



## STEP 2 EXTRACTING THE CORE

Bend rope sharply at X. With the pusher or any sharp tool such as an ice pick, awl, or marlin spike, spread the cover strands to expose core. First pry; then pull the core completely out of cover from X to the taped end of the rope. Put one layer only on end of core.

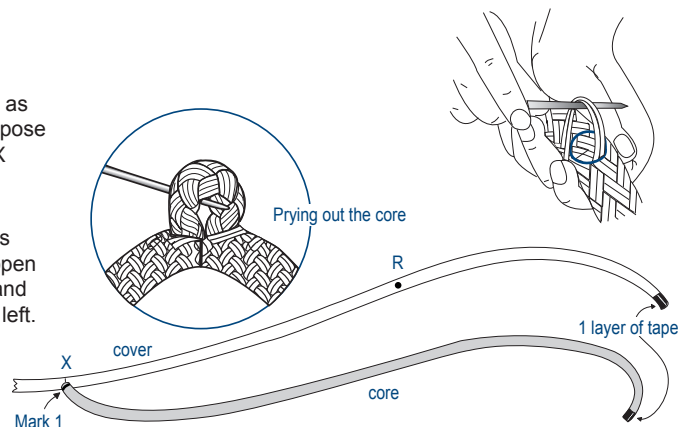
Tip: After marking cover untape end of rope, grasp end of core, and slide back cover pulling out core. This loosens and bunches up cover strands in the area of Point X and makes it easier to open up cover strands for extraction. Also, thoroughly loosen 3-4 strand pairs at X to assure a large and flexible hole for extraction, see left.

To assure correct positioning of Mark #1 do the following:

Holding the exposed core, slide cover as far back towards the tightly tied slip knot as you can. Then, firmly smooth the cover back from the slip knot towards taped end.

Smooth again until all cover slack is removed.

Then, mark the core where it comes out of the cover. This is Mark 1.

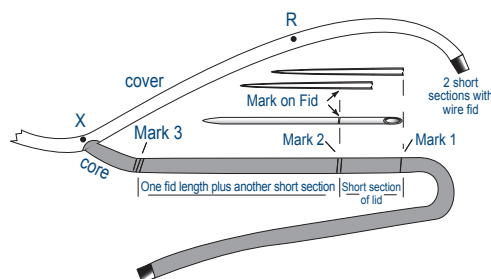


## STEP 3 MARKING THE CORE

Again slide cover toward slipknot to expose more core.

From Mark 1, measure along core towards X a distance equal to the short section of tubular fid (2 short sections with wire fid) and make two heavy marks. This is Mark 2.

From Mark 2, measure in the same direction one fid length plus another short section of the fid, (with wire fid double measurements) make 3 heavy marks. This is Mark 3.





## USED ROPE EYE SPLICE *DOUBLE BRAID CLASS I*

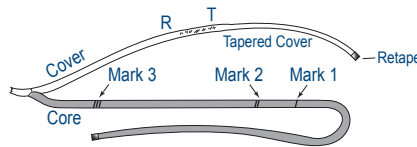
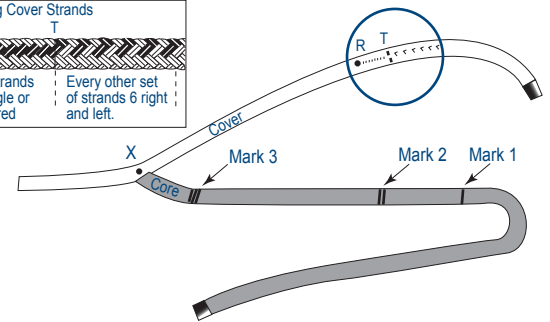
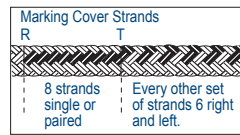
STEP 4

### MARKING THE COVER FOR TAPERING

Note nature of cover braid. It is made up of strands – single or paired. By inspection you can see half the strands revolve to the right around rope and half revolve to the left.

Beginning at “R” and working toward taped end of the cover, count 8 consecutive strands (one or two) which revolve to the right (or left). Mark the 8th. This is point T. Make Mark T go completely around cover.

Starting at T and working toward the taped cover end, count and mark every second right set of strands for a total of 6. Again starting at T, count and mark every second left set of strands for a total of 6.



STEP 5

### PERFORMING THE TAPER

First remove tape from cover end. Start with last marked set of cover strands toward the end, cut and pull them completely out. Cut and remove next marked strands and continue with each right and left marked strands until you reach point T. Do not cut beyond this point.

The end of the cover has now been tapered from “T” to the end. Retape tapered end.

**Note:** If the strand(s) is marked twice by accident, continue as though it is another strand.

STEP 6

6

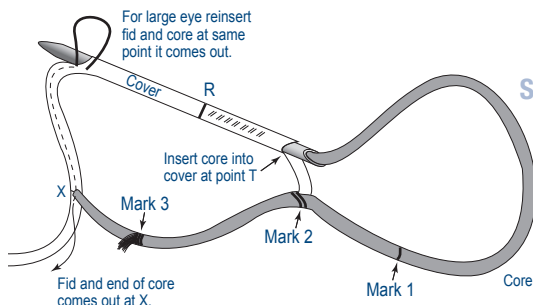
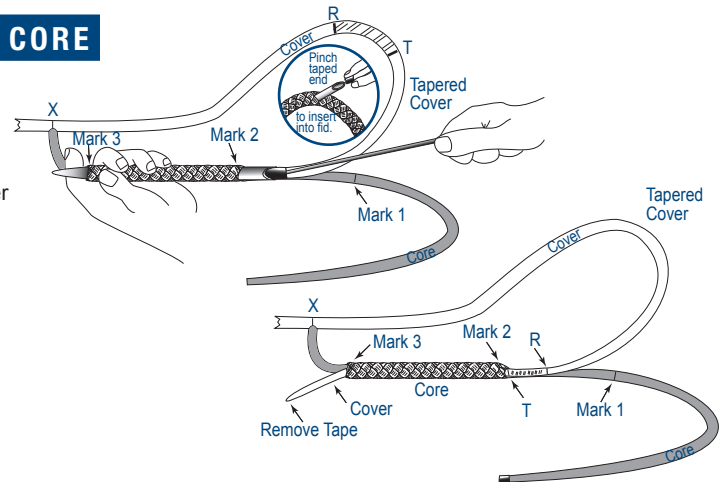
### PUTTING THE COVER INSIDE THE CORE

Insert fid into core at Mark 2. Slide it through and out at Mark 3.

Add extra tape to tapered cover end; then jam it tightly into the hollow end of fid. Hold core lightly at Mark 3, place pusher point into taped end, and push fid and cover through from Mark 2 and out at Mark 3.

With wire fid first press prongs into cover, then tape over. Insert fid and milk braid over fid while pulling fid through Mark 2 to Mark 3.

Take the fid off the cover. Continue pulling cover tail through the core until Mark T on the cover meets Mark 2. Then remove tape from end of tapered cover.



STEP 7

### REINSERTING CORE INTO COVER

You are now ready to put core back into cover from T to X. Insert fid at T, jam the taped core end tightly into end of fid. With pusher, push fid and core around to, and through opening at X (exactly where core was first extracted). When using wire fid, attach fid to tapered core. After fid is on, milk braid over fid while pulling through from T to X.

Depending on eye size, fid may not be long enough to reach from T to X in one pass. If not, bring fid out through cover, pull core through and reinsert fid into exact hole it came out of. Do this as many times as needed to reach X.



## USED ROPE EYE SPLICE *DOUBLE BRAID CLASS 1*

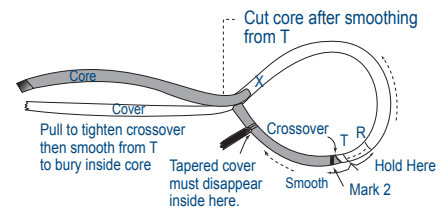
### STEP 8 PREPARING TO BURY CORE

Next, pull on core tail coming out at X, then on tapered cover coming out at Mark 3, the crossover should be tightened until opening in crossover is approximately equal to diameter of rope.

Hold the loop at the crossover with one hand. With other hand firmly smooth towards X in one direction, and towards Mark 3 in other direction. Remove all cover slack.

Tapered cover will disappear at Mark 3.

Then cut core tail off close where it comes out at X.



### STEP 9 BURYING THE EXPOSED CORE

Hold rope at slipknot and with other hand milk cover toward splice, gently at first, then more firmly. Cover will slide over Mark 3, Mark 2, the crossover, and R. Then smooth loop from T to X removing all slack. Continue milking until all cover slack between knot and throat of eye has been removed.

Tip: Before burying the cover over the crossover:

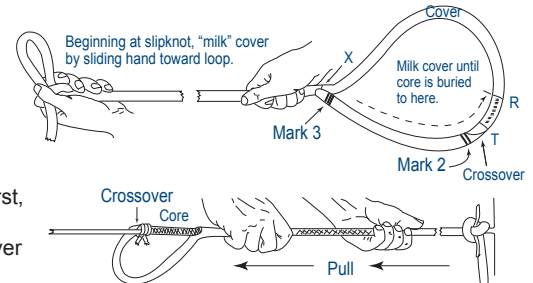
**A.** Anchor loop of slipknot by tying it to stationary object before starting to bury. You can then use both hands and weight of body to more easily milk cover over core and crossover (See Fig. 1 & 2).

**B.** Holding the crossover tightly milk all the excess cover from R to X.

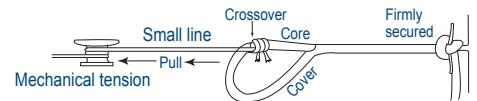
Flex and loosen the rope at the crossover point during the final burying process. Hammering cover at point X will help loosen strands.

The use of shock cord in a rolling hitch around the cover is useful to make final burying easier and more complete. Pull on the hitch toward the eye until all cover slack is removed.

See page 8 for "Special Tips for Splicing Used Rope."



For burying process, with larger ropes it is helpful to securely anchor slip knot, attach a small line to the braided core at the crossover and mechanically apply tension with either a block and tackle, capstan, come-a-long, or power winch. This tension will reduce diameter of core and crossover for easier burying.



### STEP 10 FINISHING THE SPLICE

Now untie the slipknot. If eye is not the right size, carefully check Steps 1 through 9.

If a hollow spot appears at the throat this means that the core tail was cut off too short. Do not worry as this does not affect the splice performance nor its strength. Reason: the total load of an eye splice is split between its own two legs. Therefore, each side of the splice only has to support 50% of the total load. The braided cover alone can handle this load factor.

You should whip the eye splice starting at base of throat of eye, especially if rope is 1" diameter and larger.

See pages 11-13 for additional information on whipping procedures.

