

**INDUSTRIES SERVED**

Arborist
 Commercial Fishing
 Commercial Marine
 Inland River
 Offshore
 Vessel Mooring Lines
 Tug Assist
 Equine
 Fire & Rescue
 General Purpose
 Logging
 Recreational Marine
 Safety
 Utility

TECHNICAL RESOURCES

Splicing Instructions
 Technical Papers
 Technical Bulletins

Splicing Instructions

Please Note: All downloadable documents on this page are in Adobe Acrobat Reader format (PDF). If you do not have the **free Acrobat Reader** click here to download it. All download times given are estimates for 56K connections. These are just estimates.

SAMSON is known for providing easy-to-follow splicing instructions for our customers. In the past some of these instructions were created specific to each product (by name). In an effort to provide the most user friendly instructions, we have simplified our approach by implementing two changes. We now title all of the splicing instructions to be specific to construction and fiber content rather than specific by name. The construction designation will appear as 3-Strand, 8-Strand, Core Dependand, etc.

Additionally, SAMSON is offering new splicing instructions for Class 1, 12-Strand (eye splice and end-for-end). These instructions supersede those found in our Splicing Manual (red book) and are available on individual sheets.

We are happy to offer all of our downloadable splicing instructions free on this Web site.

Downloadable Splicing Instructions

3-Strand

Eye Splice for Class 1, 3-Strand Ropes (384 K)
 Long Splice for Class 1, 3-Strand Ropes (396 K)
 Rope to Chain Splice for Class 1, 3-Strand Ropes (364 K)

6-Strand

Eye Splice for Class 1, 6-Strand Ropes (464 K)

8-Strand

Eye Splice for Class 1, 8-Strand Ropes (536 K)
 End for End Splice for Class 1, 8-Strand Ropes (556 K)
 Eye Splice for Class 2, 8-Strand Ropes (552 K)
 End for End Splice for Class 2, 8-Strand Ropes (492 K)

8x3-Strand

Eye Splice for Class 2, 8x3-Strand Ropes (648 K)
 End for End Splice for Class 2, 8x3-Strand Ropes (496 K)

12-Strand

Eye Splice Class 1, 12-Strand Ropes (792 K)
 End for End Splice Class 1, 12-Strand Ropes (792 K)
 Eye Splice for Class 2, 12-Strand Ropes (696 K)
 End for End Splice Class 2, 12-Strand Ropes (565 K)
 Tuck Bury Splice (HMPE Only) for 12-Strand Ropes (565 K)
 Whoopie Sling (AmSteel-Blue), 12-Strand Ropes (1.2 mb)
 Whoopie Sling (Tenex and Tenex-Tec), 12-Strand Ropes (1.2 mb)

16-Strand

Eye Splice for Class 1, 16-Strand Arborist Climbing Lines (1 mb)

Round Plait

Eye Splice Class 1, Round Plait Ropes (872 K)

Class 1 Double Braid

Eye Splice for Class 1, Double Braid Ropes (788 K)
 End for End Splice for Class 1, Double Braid Ropes (656 K)
 Back Splice for Class 1, Double Braid Ropes (508 K)
 Used Rope Eye Splice for Class 1, Double Braid Ropes (724 K)
 Special Tips for Splicing Double Braid (644 K)
 Mooring Master Splicing Instructions (788 K)

Class 2 Double Braid

Eye Splice for Class 2, Double Braid Ropes (1.1 mb)
 End for End Splice for Class 2, Double Braid Ropes (1.5 mb)
 Striping Cover Class 2, Double Braid Ropes (1.4 mb)
 Special Tips for Splicing Double Braid (644 K)
 TS-II Eye Splice Instructions (2.4 mb)
 DPX-75/Turbo-75 Eye Splice Instructions (1.9 mb)
 Turbo-37 Splice Instructions (2.5 mb)
 Mooring Master Splicing Instructions (788 K)

Miscellaneous

Eye and Eye Tail Splice (1.7 mb)
Lock Stitch & Whipping Procedures (784 K)
Special Tips for Splicing Used Rope (74 K)
Additional Rope Needed for Samson Class 1 Splices (63 K)
Tools and Materials Required for Splicing (728 K)

THE STRONGEST NAME IN ROPE

Contact us at 360.384.4669 or custserv@samsonrope.com | [Privacy Policy](#) / [Disclaimer](#)
Copyright 2005 Samson Rope Technologies, Inc. All rights reserved. Site by [ioCreative](#).





EYE SPLICE 3-STRAND CLASS I

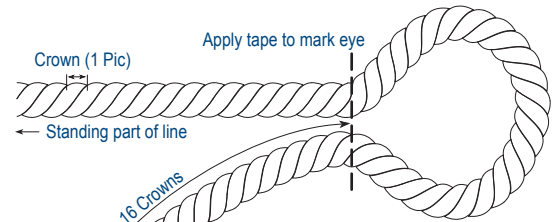
Class I ropes are made from any or all of the following fibers: olefin, polyester, or nylon.

The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

Although the 3-strand splice is the most common splice, and simple to perform, technique is important to preserve splice strength. Take care that the tucks lie neatly; rope strength can be lost if the strands are twisted incorrectly.

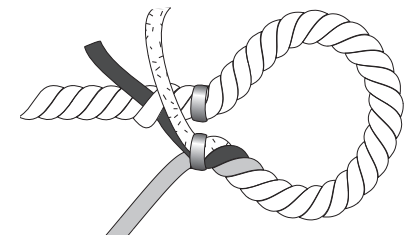
Getting Started: From one end of the rope, count back 16 crowns. Tape this section. Unlay the rope up to the tape then tape the end of each strand. Form the eye and tape the standing part of the rope. To avoid a twist in the eye of the finished splice, untwist the rope one-half turn between the pieces of tape.

Additional rope needed for splice:
length of 16 crowns plus length of eye with
thimble: length of 16 crowns plus 1/2 cerc. in feet.



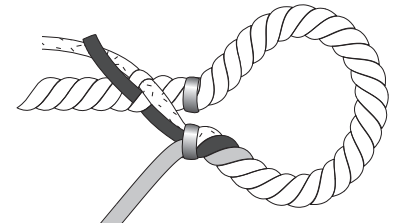
STEP 1 TUCKING FIRST STRAND

With a fid or your finger, raise a strand just below the tape on the standing part of the rope and insert the middle working strand under it and pull the strand through. Mark the first tucked strand with a single hash mark; numbering the working strands will help you keep track of the tucking process.



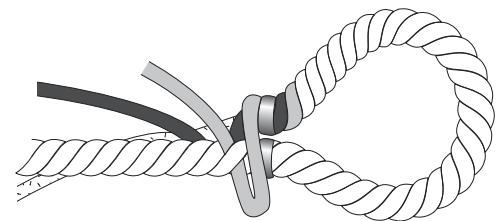
STEP 2 TUCKING SECOND STRAND

Pass the next working strand over the strand you just tucked under, then tuck under the strand just below it. Mark this strand with a double hash mark.



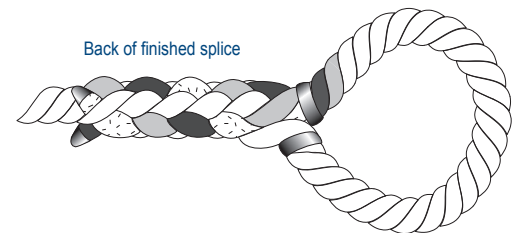
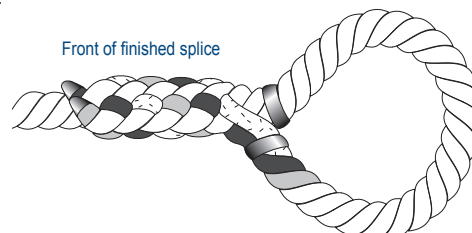
STEP 3 TUCKING THIRD STRAND

Turn the entire piece over. There is one working strand left to tuck and there is one strand left in the standing part of the rope that does not have a working strand under it. Make this tuck, continuing to work counter to the lay or twist of the rope. Mark this strand with a triple hash mark. The first round of tucks is complete. Tighten if necessary by pulling on the strand ends. When you tuck, take care to use all three strands in each round and that you tuck under a strand in the standing part of the rope and not under one of your working strands.



STEP 4 FINISHING THE SPLICE

To finish the splice, perform four more complete tucks. Tighten tucks if necessary. Both the front and the back of the splice should resemble the illustrations shown.





samson

LONG SPLICE 3-STRAND CLASS I

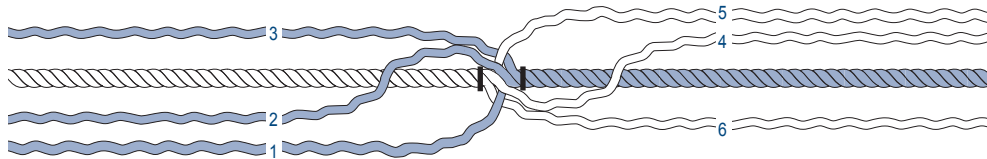
Class I ropes are made from any or all of the following fibers: olefin, polyester, or nylon.

Additional rope needed for splice:
length of 36 crowns x 2

STEP 1

MARRY THE ROPES

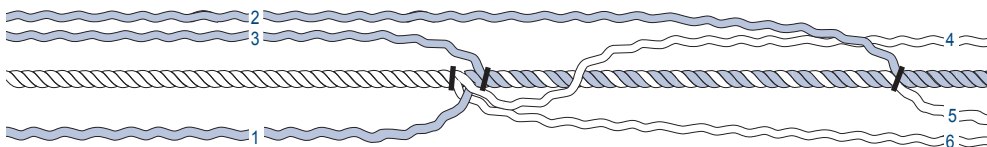
Unlay the end of each rope a minimum of 36 crowns. Lash securely with twine as shown to prevent ropes from coming apart further. Place ropes together, alternating the strands from each. Note how strands are numbered to show their relative positions throughout the long splice procedure.



STEP 2

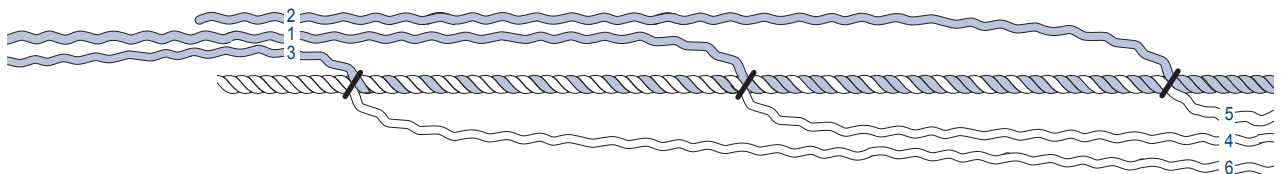
UNLAY, REPLACING STRANDS

Take lashing off one side. Unlay one strand (2) a minimum of 25 crowns and replace it with a strand from the other side (5) as it is being unlayed. Lash securely as shown to hold strands in place. Be sure to place lashing at the "marriage point" to hold strands securely.



STEP 3

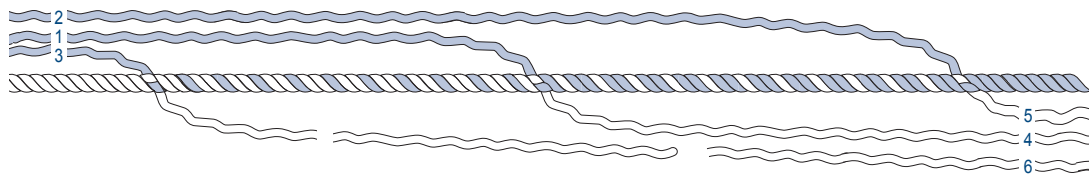
Step 3 is like step 2, except in the opposite direction. One strand (6) is replaced with another (3). Each point is securely lashed. This leaves strands 1 and 4 at the "marriage point."



STEP 4

TIE OFF OPPOSING STRANDS

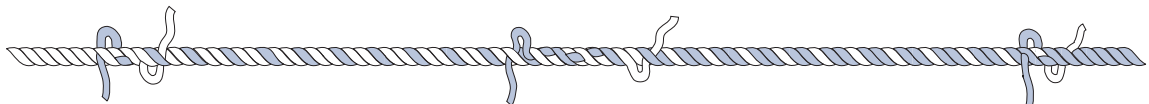
Remove lashings and tie each pair of opposing strands (2/5, 6/3, 1/4) with an overhand knot. Be sure knot is tied in the direction of strand twist.



STEP 5

FINAL TUCKS

Tuck each strand 4 times. These tucks should be at right angles to the direction of the twist in the rope.



STEP 6

TAPER AND FINISH SPLICE

The splice may be tapered by adding an additional 2/3- and 1/3-strand tuck at each strand junction. Now roll and pound well. Finally cut the strands off close to the rope.



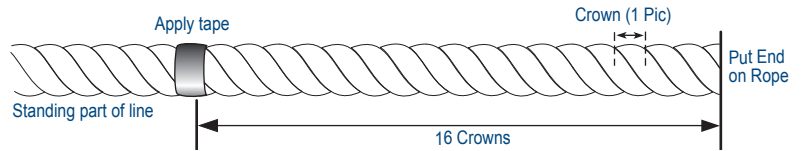


ROPE TO CHAIN SPLICE 3-STRAND CLASS I

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

Although the 3-strand splice is the most common splice, and simple to perform, technique is important to preserve splice strength. Take care that the tucks lie neatly; rope strength can be lost if the strands are twisted incorrectly.

Additional rope needed for splice:
length of 16 crowns

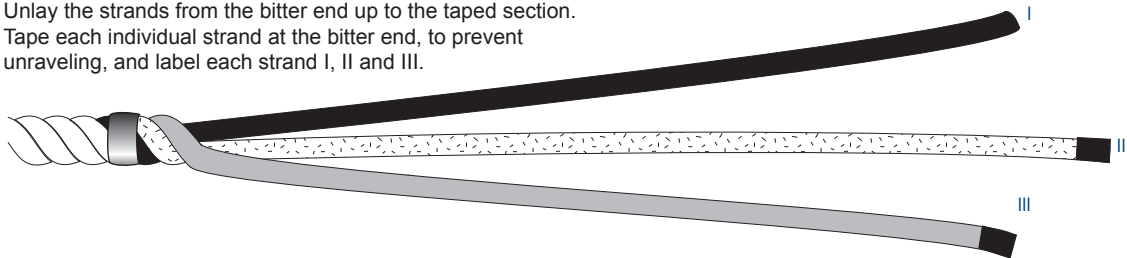


STEP 1

PREPARING THE ROPE

Getting Started: From one end of the rope, count back 16 crowns. Tape this section. Unlay the rope up to the tape then tape the end of each strand. To avoid a twist in the finished splice, untwist the rope one-half turn between the pieces of tape.

Unlay the strands from the bitter end up to the taped section. Tape each individual strand at the bitter end, to prevent unraveling, and label each strand I, II and III.



STEP 2

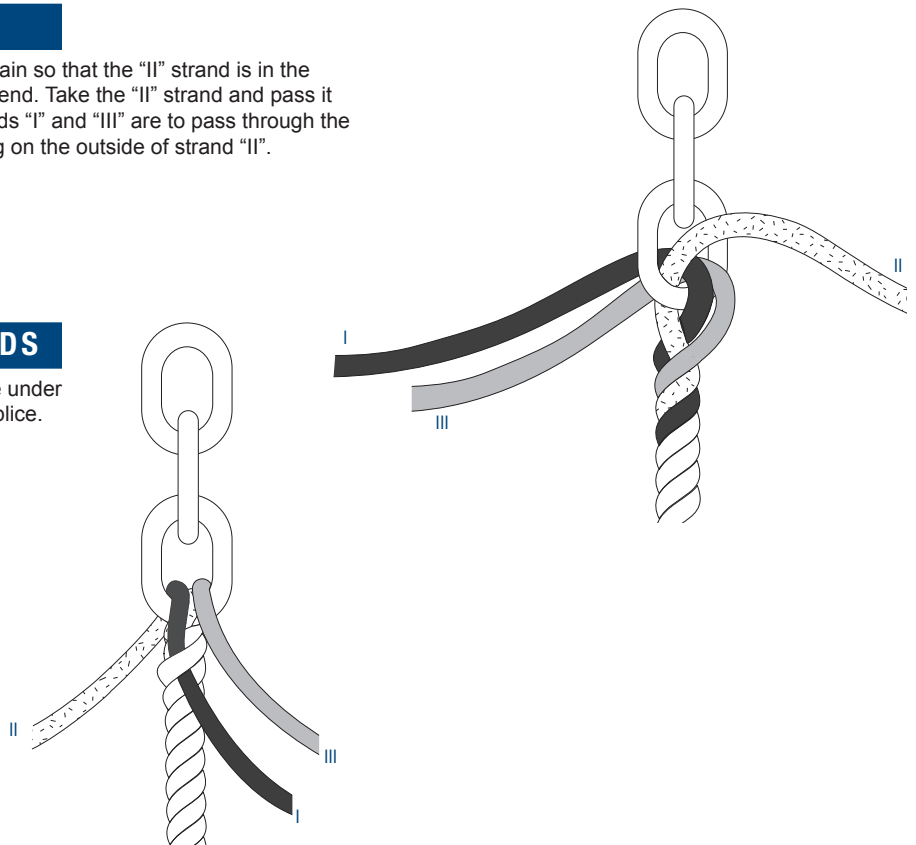
THREADING THE CHAIN

Line up the rope to the last link of the chain so that the "II" strand is in the middle and the "I" and "III" are on either end. Take the "II" strand and pass it through one side of the chain link. Strands "I" and "III" are to pass through the chain link from the opposite side, staying on the outside of strand "II".

STEP 3

BEGIN TUCKING STRANDS

Begin tucking the strands in an over one under one pattern, just as in a 3-Strand Eye Splice.

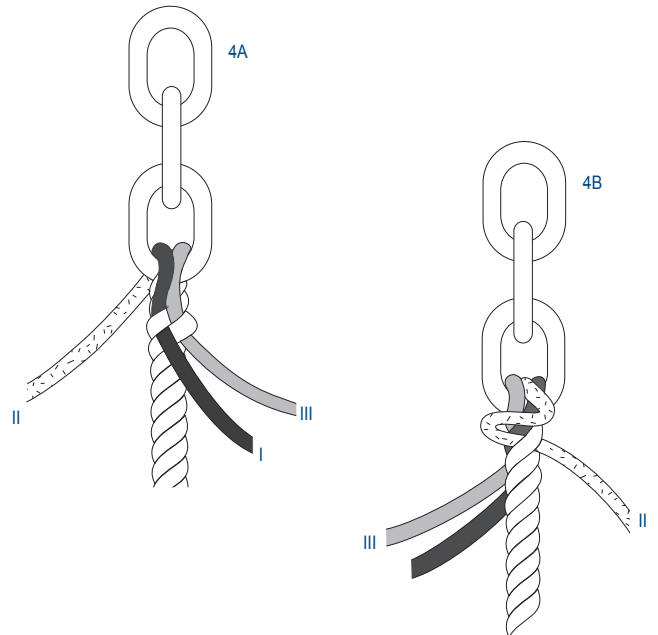




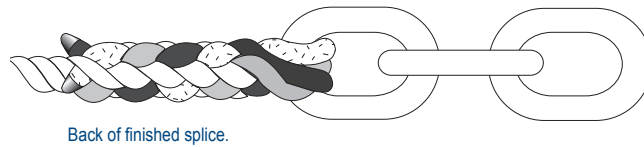
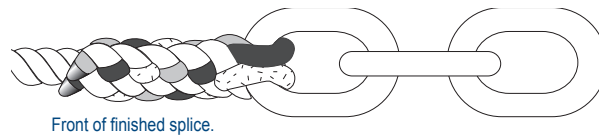
ROPE TO CHAIN SPLICE 3-STRAND CLASS I

STEP 4 TUCKING THE STRANDS

With strands I and III tucked once, (4A), turn splice over to tuck strand II (4B).



STEP 5 Perform 4 more complete tucks with all 3 strands. Tighten tucks if necessary.



NOTE: This method of joining rope and chain is designed to minimize chafe between rope and chain, but as a matter of prudent seamanship, it should be checked regularly and remade if there is any evidence of wear.



EYE SPLICE 6-STRAND CLASS I

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

The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

Additional rope needed for splice:
length of 36 crowns plus length of eye
with thimble: length of 36 crowns plus
1/2 circ. in feet.

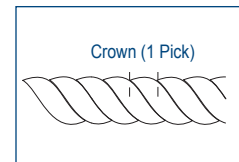
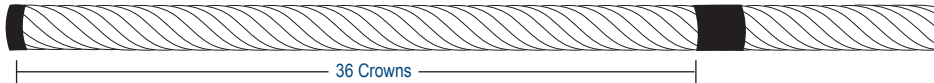
STEP 1

PREPARING THE ROPE

Remove a sufficient length of rope from the reel to furnish the required eye.

STEP 2

Tape the rope 36 crowns from the end.

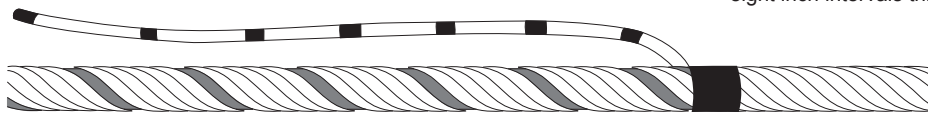


STEP 3

Select one strand and tape the end.

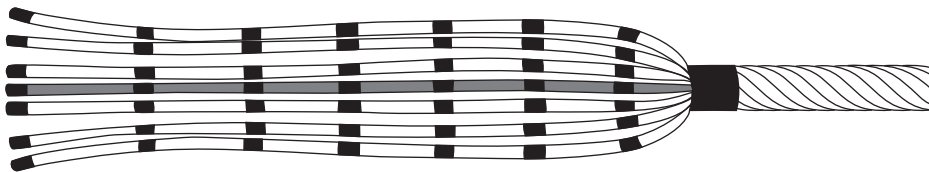
3A

Remove this strand completely from the rope holding the twist in the strand and tape it at the end and at six to eight inch intervals throughout its length.



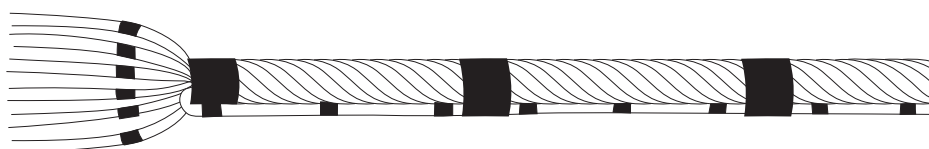
STEP 4

Remove the remaining five strands one at a time and proceed as outlined above.



STEP 5

Tape the core at six to eight inch intervals and lay it back along the rope. Tape it to the rope.





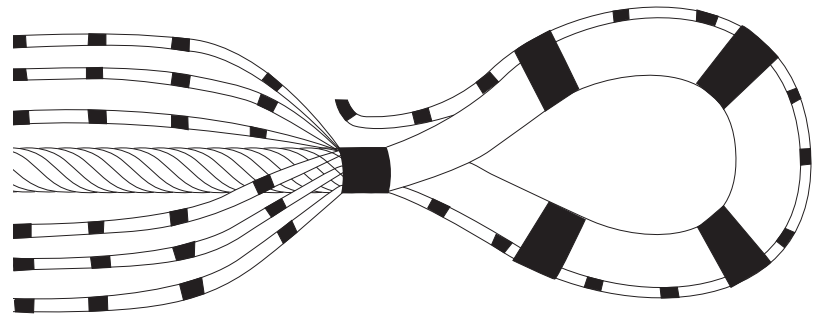
EYE SPLICE 6-STRAND CLASS I

STEP 6

MAKING THE SPLICE...

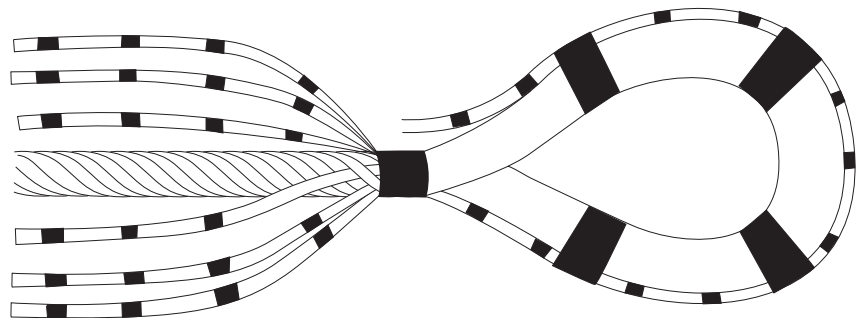
Lay out the required eye size and put the taped junction of the strands on top of the standing part of the rope.

6A Lay three strands on the left side of the rope and the other three strands on the right side of the rope.



STEP 7

Tuck the left topmost strand under the strand nearest to it against the lay of the rope. Pull the strand up snugly.

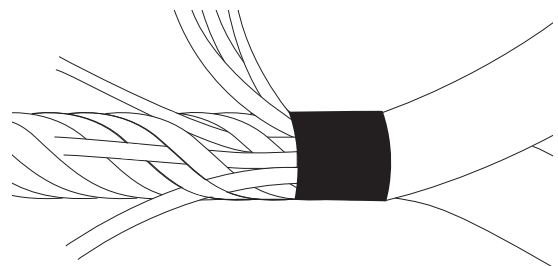


STEP 8

Insert a marlinspike under the next strand directly below the first tuck. Pull the first strand past the marlinspike out of the way.

Remove the marlinspike and push the second strand through. Pull the strand up snugly.

Insert the marlinspike under the next strand directly below the second tuck and proceed as above for the third strand.



8A Turn the entire eye assembly over into the direction of the lay.

8D Insert the marlinspike into the next strand directly below the fourth strand and proceed as above for the fifth strand.

8G Turn the entire eye assembly a full turn to restore the lay in the rope.

8B Insert the marlinspike under the next strand directly below the third tuck. Pull the third strand past the marlinspike out of the way.

8E Insert the marlinspike into the next strand directly below the fifth strand and proceed as above for the sixth strand.

8C Remove the marlinspike and push the bottom right side fourth strand through. Pull the strand up snugly.

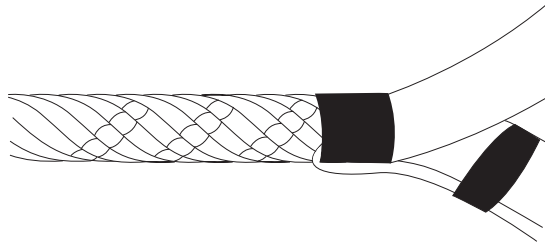
8F Pull or snap all six strands to make sure that they are snug and even around the circumference of the rope.



EYE SPLICE 6-STRAND CLASS I

STEP 9

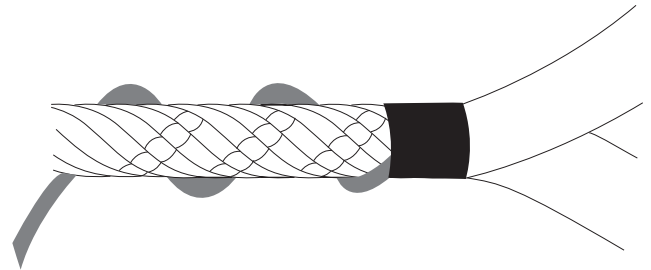
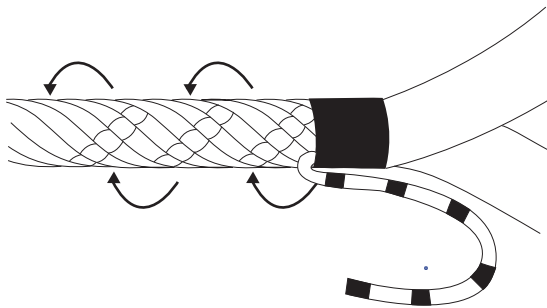
Continue to tuck the strands as noted above, until each strand has been tucked a total of six times.



STEP 10

SECURING THE CORE

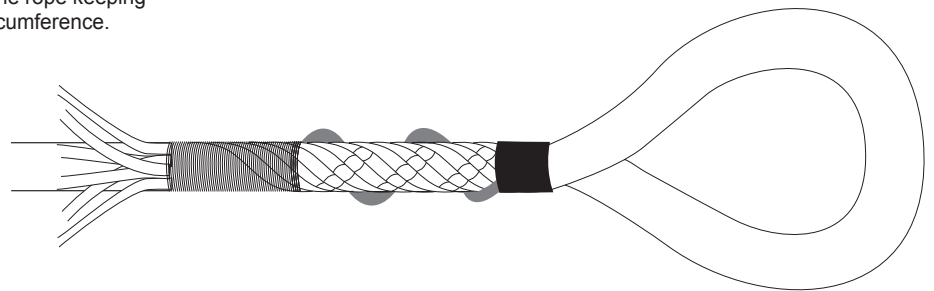
Tuck the core completely through the splice at three to four inch intervals throughout the length of the splice pulling it up snug on each tuck.



STEP 11

FINISHING THE SPLICE

Lay the ends of the strands along the rope keeping them evenly spaced around the circumference.



11A Securely wrap the strands and rope together with six feet of heavy twine starting four inches from the end of the splice and continuing for about one foot.

11B Cut off the exposed strands at an angle, tapering the cut down and toward the rope.

11C Now tape the entire splice twice covering the ends of the strands and the portion wrapped with twine.



EYE SPLICE 8-STRAND CLASS I

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

The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

Additional rope needed for splice:
length of 20 crowns plus length of eye:
with thimble: length of 20 crowns plus
1/2 circ. in feet.

GETTING STARTED

Plaited rope is no more difficult to splice than 3-strand. It is made of 8-strands grouped in 4 pairs. 2 of these pairs turn to the left and 2 to the right. The illustrations show the 2 pairs turning to the left in white and the 2 pairs turning to the right in gray. They will be referred to as the "white" and "gray" pairs. **Note:** The gray pairs are diametrically opposite one another but at a 90-degree angle to the white pairs and vice-versa.

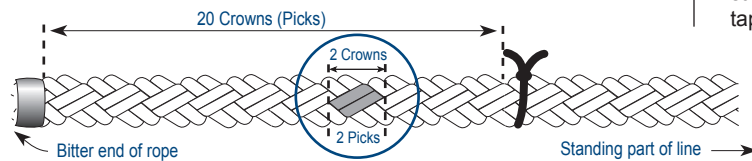
Tools Required: A splicing fid or marlinspike, sharp knife or scissors, plastic or masking tape, marking pen, 10-inches of twine.

EYE SIZE:

The size of the eye is determined by bending the bitter end of the rope back over itself for a distance equal to the desired length of the eye plus a length of 20 picks (crowns).

PREPARATION:

If the rope which you are about to splice is all of one color, mark those pairs which turn to the right so that they will conform with the gray pairs in the illustrations. Count back a distance of 20 picks from the end and tie a string securely around the rope so it passes directly over the center of both pairs of gray strands. Place the knot so that it is directly on top of one of these pairs. It is important that this be tied securely to prevent slipping. Now, unlay the pairs of strands back to the string. Making sure not to mix, or twist them, tape the ends of the pairs together as shown in fig. A.

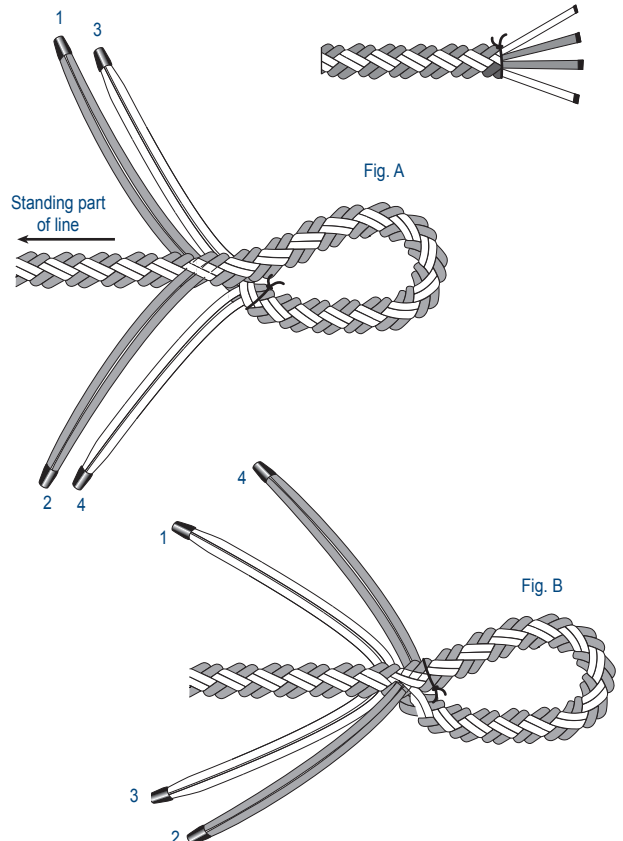


STEP 1 Hold or lay the rope so that the pairs of white strands are on top and bottom with a knot to the right as you look toward the end.

STEP 2 Bend the rope over to form the desired eye in such a way as to keep the knot inside the loop as shown in fig. A.

STEP 3 Using the fid to make clearance and starting with the gray pairs, tuck them under the diametrically opposite white pairs as shown in fig. A. Make sure you do not disturb the lay of the pairs. Do not twist them so that the individual strands cross over one another in the pair.

STEP 4 Now turn eye over, tuck the white pairs under the diametrically opposite gray pairs as shown in fig. B. Note that in fig. B the splice is turned over from fig. A. The white pairs to be tucked should follow the white pairs of the standing part and the gray to be tucked should follow the gray pairs of the standing part. The ends in the drawing have been numbered to help show their position as the tucks progress.





EYE SPLICE 8-STRAND CLASS I

STEP 5 Now you have your eye with the first full tuck complete (a full tuck means inserting all 4 pairs); pull all 4 ends down firmly. Starting with the gray pairs, take another full tuck. By starting with the gray pairs you avoid having to go under 2 pairs at once. Your splice should now look like fig. C, (showing same side as fig. A). From here on, you should have no difficulty completing the splice.

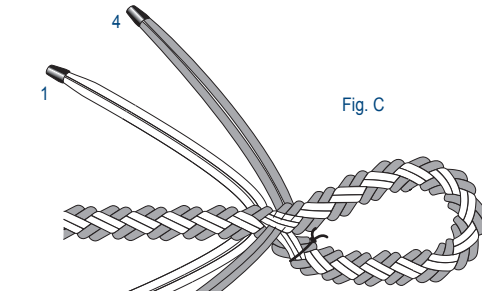


Fig. C

STEP 6 Now starting with the gray pairs, take at least one more full tuck. With a very soft rope, it may be necessary to take a 4th or 5th full tuck.

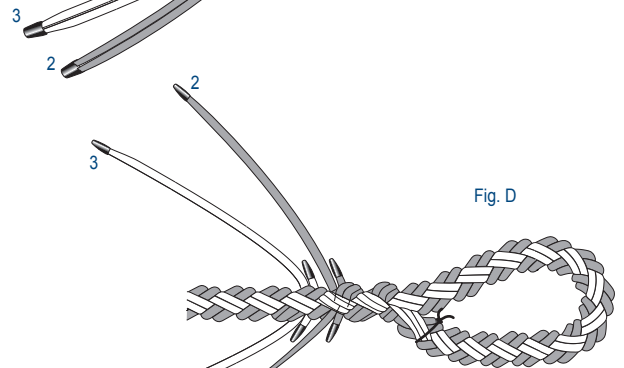


Fig. D

STEP 7 Having completed the 3rd full tuck (or 4th or 5th if necessary) select the strand closest to the eye in each pair. Tape this strand close to where it emerges from the tuck and then cut off as shown in fig. D.

STEP 8 Now, splice your remaining single strands just as before for another full tuck. The splice should now appear as shown in fig. E (showing side opposite that shown in fig. D).

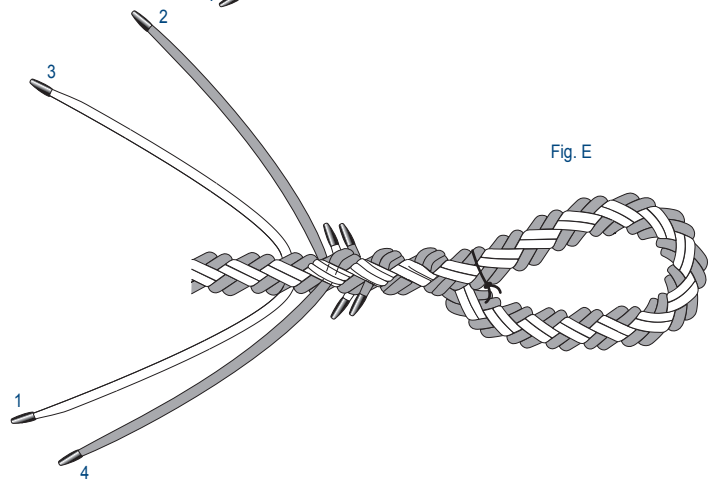


Fig. E

STEP 9 Tape first and then cut off the 4 single stands as shown in fig. F. The 8 ends may be heated and fused so they will not fray; however, take great caution to be certain that you fuse on the ends and do not damage the strands.

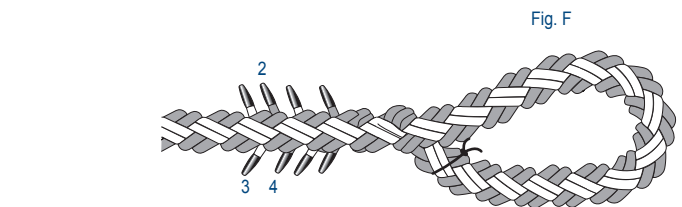


Fig. F

STEP 10 A more professional appearance may be achieved by cutting the ends off flush and then taping or whipping the entire splice.



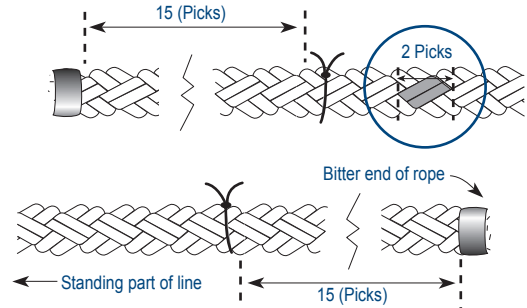
END FOR END 8-STRAND CLASS I

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

Additional rope needed for splice:
length of 30 crowns x 2

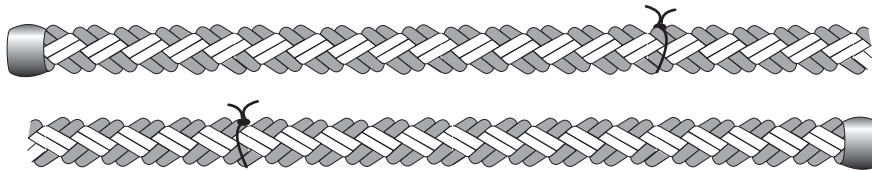
STEP 1 GETTING STARTED

Lay ropes out and count 30 picks or crowns from end of both ropes. Tie string or tape securely at these points



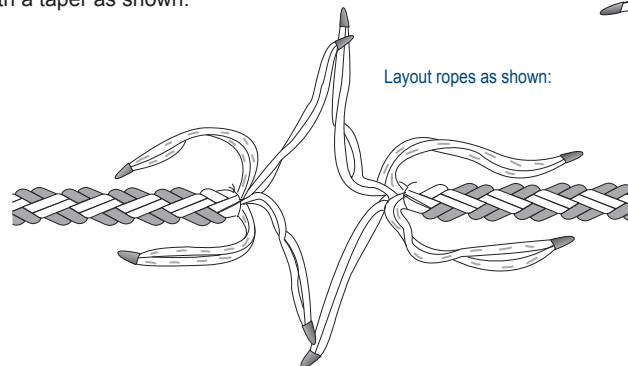
STEP 2 MARKING

Holding the end of the rope, note the pairs of strands going to the left. Mark these pairs. Mark the strands up to the string and continue to mark the strands for five (5) or more picks beyond the strings.



STEP 3 SEPARATING & TAPING

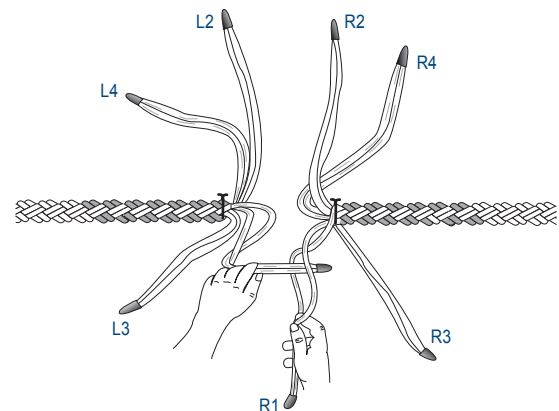
Remove tape from end. Start unlaying strands in their respective pairs. It is important to keep them together. After they are separated into pairs up to the string, untwist the pairs. Tape the ends of pairs together with a taper as shown.



STEP 4 JOINING THE PAIRS

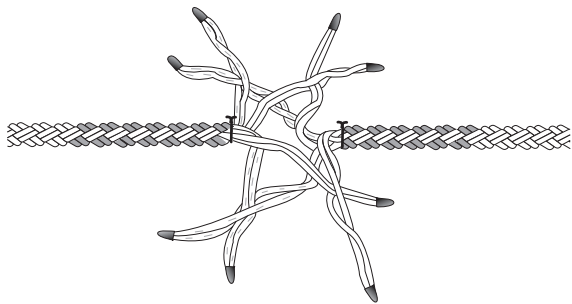
It is important that the next steps of the procedure be followed carefully.

- Marked L [1] Strands go between Marked R [1] Strands
- Unmarked R [2] Strands go between Unmarked L [2] Strands
- Unmarked L [3] Strands go between Unmarked R [3] Strands
- Marked R [4] Strands go between Marked L [4] Strands





END FOR END 8-STRAND CLASS 1



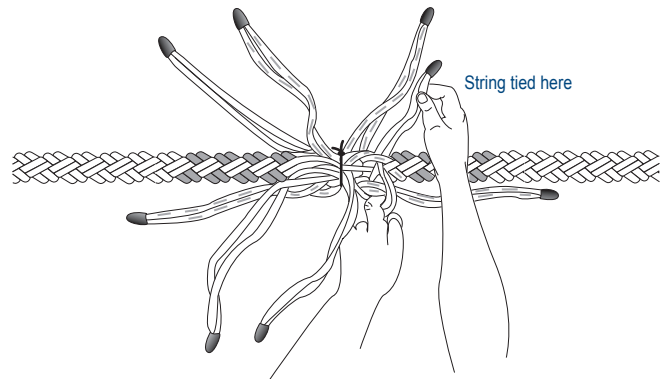
STEP 5

After the initial step has been completed, you should have something that looks like the drawing at left. Marry the ropes as shown in Step 6. This part is preferably a two-person job. Cut the string that you previously tied at the splicing points of both ropes.

STEP 6

MARRY THE ROPES

Keep the ropes together snugly. Tie a piece of string tightly around the splicing point as shown at right.

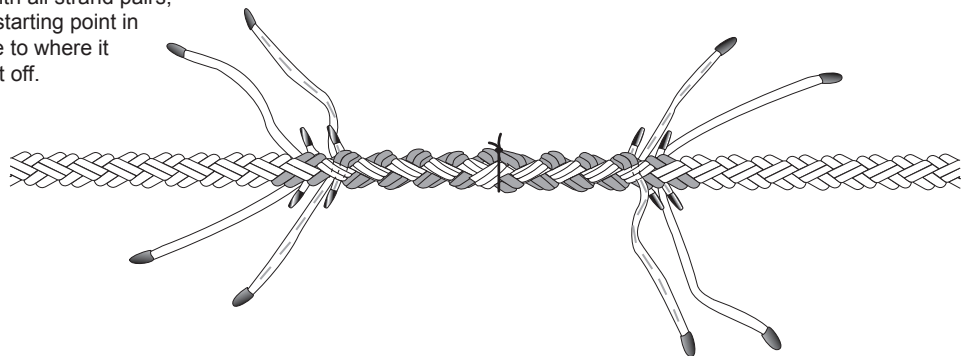


STEP 7

START THE TUCKS

Start your splice. A marked pair under an unmarked pair of strands. Now you can follow the same procedure as the eyesplice. But we suggest that you complete one (1) full tuck in one direction and then do a full tuck on the other side of the marriage. Pull everything tight before proceeding.

Having completed 4 full tucks with all strand pairs, select the strand closest to the starting point in each pair. Tape this strand close to where it emerges from the tuck and cut it off.



STEP 8

FINISHING THE SPLICE

Splice the remaining single strands for 2 full tucks, tape close to exit point and cut off.





EYE SPLICE 8-STRAND CLASS II

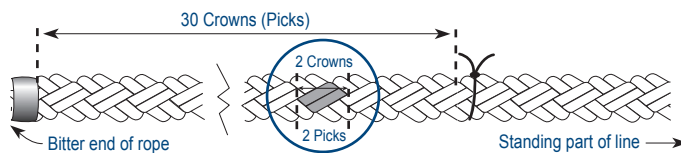
Class II ropes are made in whole or part from any of the following high modulus fibers: Dyneema®, Vectran®, Technora®, and Zylon®.

The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

Additional rope needed for splice:
length of 30 crowns plus length of eye:
with thimble: length of 30 crowns plus
1/2 circ. in feet.

GETTING STARTED

Plaited rope is no more difficult to splice than 3-strand. It is made of 8-strands grouped in 4 pairs. 2 of these pairs turn to the left and 2 to the right. The illustrations show the 2 pairs turning to the left in white and the 2 pairs turning to the right in gray. They will be referred to as the "white" and "gray" pairs. **Note:** The gray pairs are diametrically opposite one another but at a 90-degree angle to the white pairs and vice-versa.



EYE SIZE:

The size of the eye is determined by bending the bitter end of the rope back over itself for a distance equal to the desired length of the eye plus a length of 30 picks (crowns).

PREPARATION:

If the rope which you are about to splice is all of one color, mark those pairs which turn to the right so that they will conform with the gray pairs in the illustrations. Count back a distance of 30 picks from the end and tie a string securely around the rope so it passes directly over the center of both pairs of gray strands. Place the knot so that it is directly on top of one of these pairs. It is important that this be tied securely to prevent slipping. Now, unlay the pairs of strands back to the string. Making sure not to mix, or twist them, tape the ends of the pairs together.

STEP 1

Hold of lay the rope so that the pairs of white strands are on top and bottom with a knot to the right as you look toward the end.

STEP 2

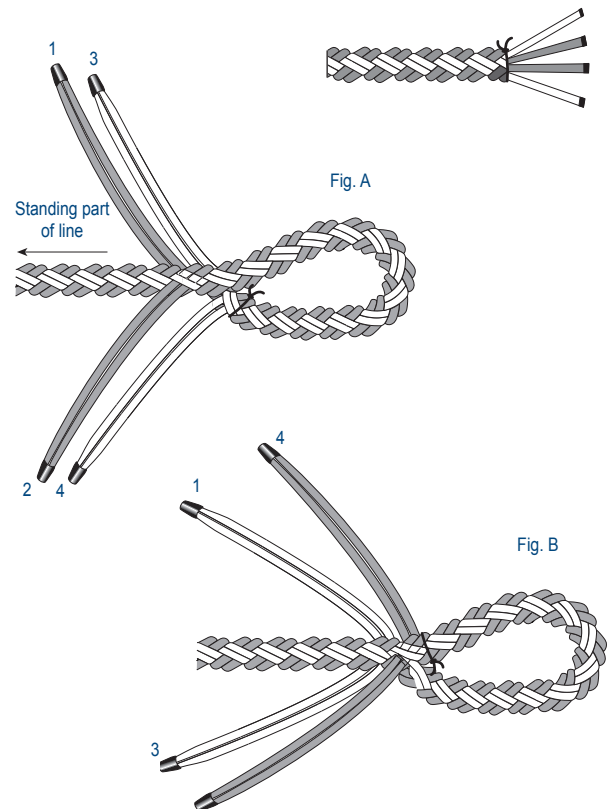
Bend the rope over to form the desired eye in such a way as to keep the knot inside the loop as shown in fig. A.

STEP 3

Using the fid to make clearance and starting with the gray pairs, tuck them under the diametrically opposite white pairs as shown in fig. A. Make sure you do not disturb the lay of the pairs. Do not twist them so that the individual strands cross over one another in the pair.

STEP 4

Now turn eye over, tuck the white pairs under the diametrically opposite gray pairs as shown in fig. B. Note that in fig. B the splice is turned over from fig. A. The white pairs to be tucked should follow the white pairs of the standing part and the gray to be tucked should follow the gray pairs of the standing part. The ends in the drawing have been numbered to help show their position as the tucks progress.





EYE SPLICE 8-STRAND CLASS II

STEP 5

Now you have your eye with the first full tuck complete (a full tuck means inserting all 4 pairs); pull all 4 ends down firmly. Starting with the gray pairs, take another full tuck. By starting with the gray pairs you avoid having to go under 2 pairs at once. Your splice should now look like fig. C, (which now lays on the same side as fig. A). From here on, you should have no difficulty completing the splice.

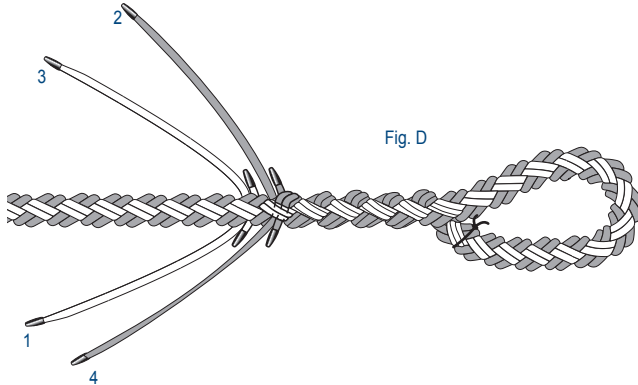


Fig. D

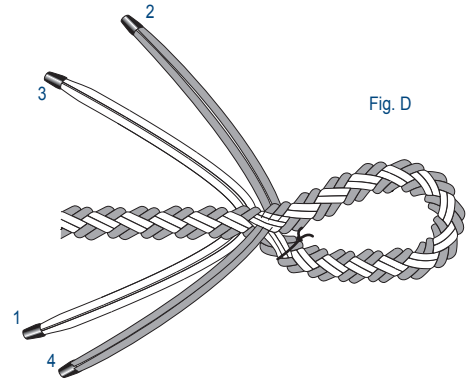


Fig. D

STEP 6

Now starting with the gray pairs, make four more full tucks with each pair of strands.

STEP 7

Having completed 6 full tucks for each pair of stands, select the strand in each pair that is closest to the eye and tape it where it emerges from the tuck. Then cut off the taped strands as shown in fig. D.

STEP 8

Now splice the remaining single strands just as before for another three full tucks. The splice should now appear as shown in fig. E, which will lay on the opposite side as shown in fig. D. Each single strand should now have three full tucks.

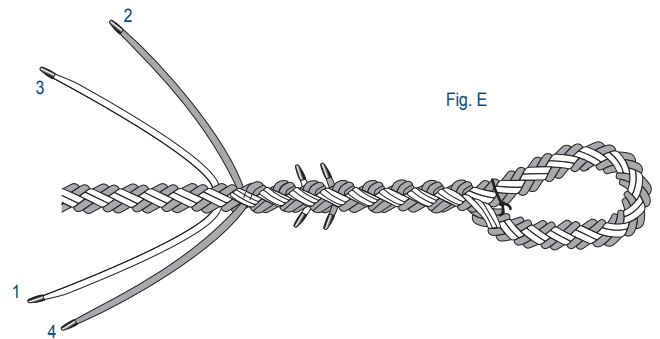


Fig. E

STEP 9

The tapering process continues by reducing the volume of each remaining strand by half (count the number of yarns that comprise each strand and divide as evenly as possible). Select the divided half of each of the four strand yarns.

STEP 10

With the remaining four half-volume single strands, perform three full tucks. Tape the strands after they have been tucked and cut them off as done with previous strands.

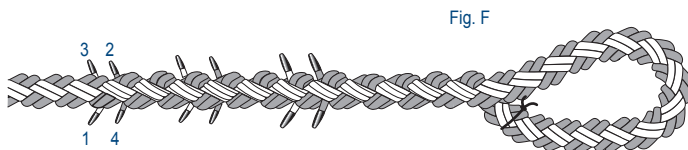


Fig. F



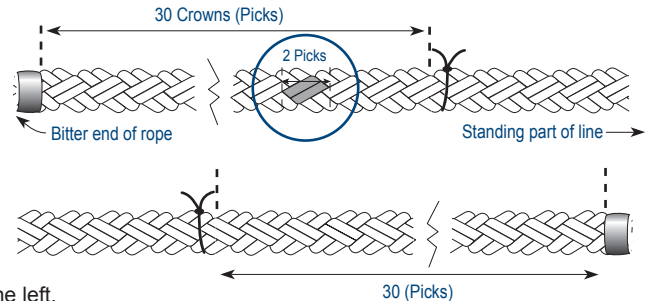
END FOR END 8-STRAND CLASS II

Class II ropes are made in whole or part from any of the following high modulus fibers:
Dyneema®, Vectran®, Technora®, and Zylon®.

Additional rope needed for splice:
length of 30 crowns x 2.

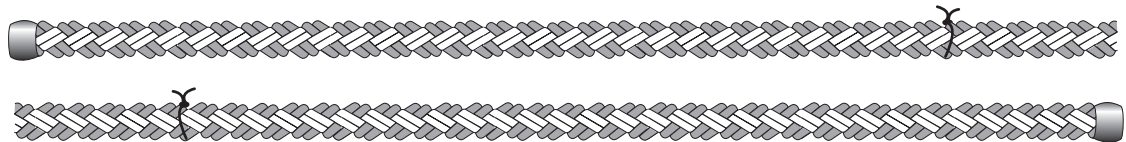
STEP 1 GETTING STARTED

Lay ropes out and count 30 picks or crowns from end of both ropes. Tie string or tape securely at these points



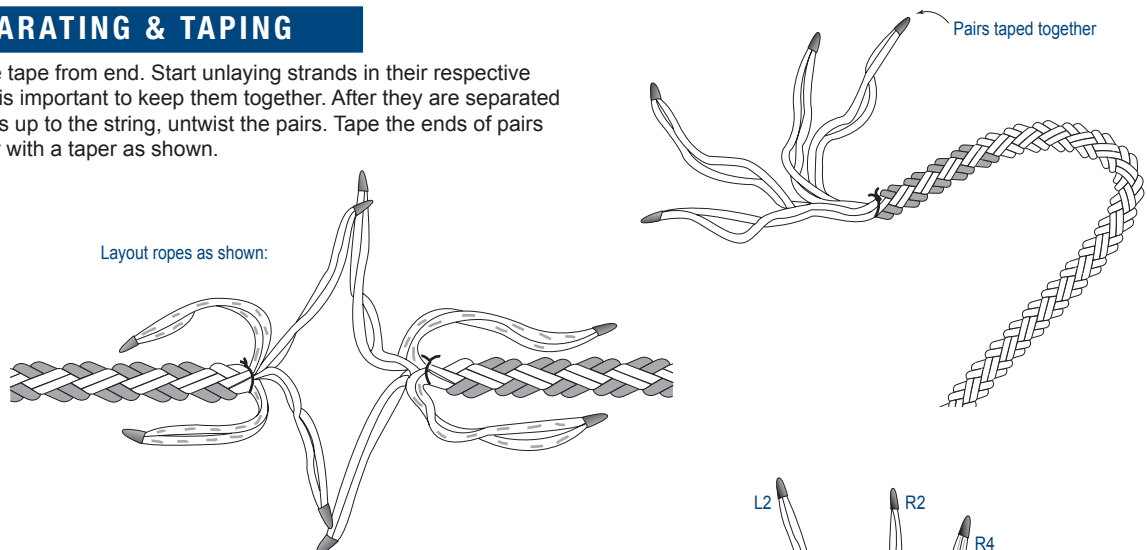
STEP 2 MARKING

Holding the end of the rope, note the pairs of strands going to the left. Mark these pairs. Mark the strands up to the string and continue to mark the strands for five (5) or more picks beyond the strings.



STEP 3 SEPARATING & TAPING

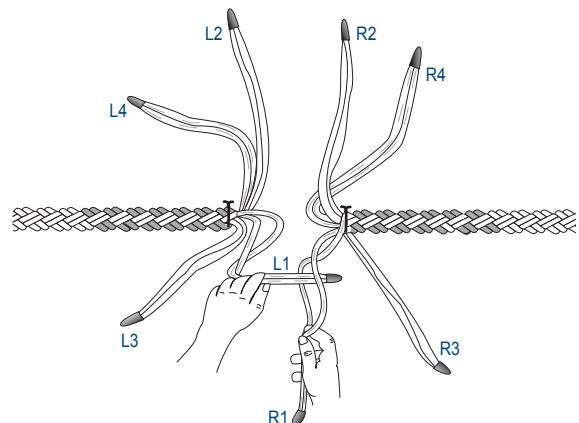
Remove tape from end. Start unlaying strands in their respective pairs. It is important to keep them together. After they are separated into pairs up to the string, untwist the pairs. Tape the ends of pairs together with a taper as shown.



STEP 4 JOINING THE PAIRS

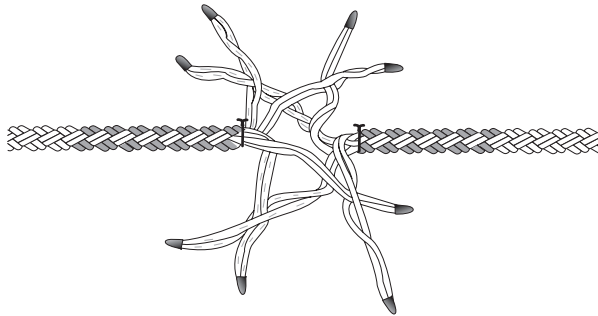
It is important that the next steps of the procedure be followed carefully.

Marked L [1] Strands go between Marked R [1] Strands
Unmarked R [2] Strands go between Unmarked L [2] Strands
Unmarked L [3] Strands go between Unmarked R [3] Strands
Marked R [4] Strands go between Marked L [4] Strands





END FOR END 8-STRAND CLASS II



STEP 5

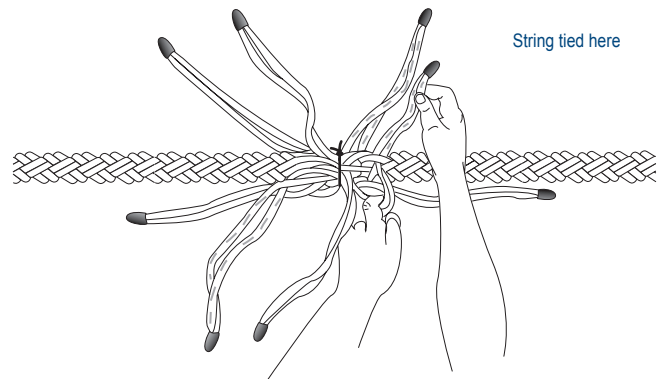
After the initial step has been completed, you should have something that looks like the drawing at left. Marry the ropes as shown in Step 6. This part is preferably a two-person job. Cut the string that you previously tied at the splicing points of both ropes.

STEP 6

MARRY THE ROPES

Keep the ropes together snugly. Tie a piece of string tightly around the splicing point as shown at right.

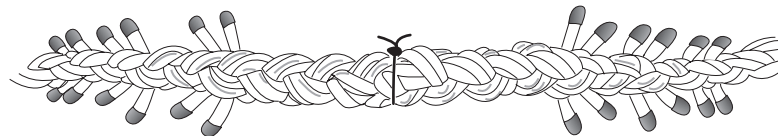
Start your splice with a marked pair under an unmarked pair of strands. Now you can follow the same procedure as the eyesplice, but we suggest that you complete one (1) full tuck in one direction and then do a full tuck on the other side of the marriage. Pull everything tight before proceeding.



STEP 7

FINISHING THE SPLICE

Complete splicing in both directions so that each side is finished off as per strand reduction sequence (steps 7-10) of the eye splice procedure.





EYE SPLICE 8x3-STRAND CLASS II

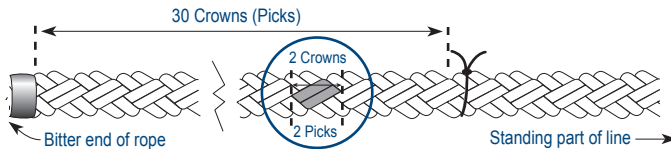
Class II ropes are made in whole or part from any of the following high modulus fibers: Dyneema®, Vectran®, Technora®, and Zylon®.

The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

Additional rope needed for splice:
length of 30 crowns plus length of eye:
with thimble: length of 30 crowns plus
1/2 circ. in feet.

GETTING STARTED

8x3 rope is no more difficult to splice than 3-strand. It is an 8-strand plaited rope where the strands are made from 3-strand ropes. The 8-strands are grouped into 4 pairs. 2 of these pairs are left-lay and 2 are right-lay. The illustrations show the 2 pairs turning to the left in white and the 2 pairs turning to the right in gray. They will be referred to as the "white" and "gray" pairs. Note: The gray pairs are diametrically opposite one another but at a 90-degree angle to the white pairs and vice-versa.



EYE SIZE:

The size of the eye is determined by bending the bitter end of the rope back over itself for a distance equal to the desired length of the eye plus a length of 30 picks (crowns).

PREPARATION:

If the rope which you are about to splice is all of one color, mark those pairs which turn to the right so that they will conform with the gray pairs in the illustrations. Count back a distance of 30 picks from the end and tie a string securely around the rope so it passes directly over the center of both pairs of gray strands. Place the knot so that it is directly on top of one of these pairs. It is important that this be tied securely to prevent slipping. Now, unlay the pairs of strands back to the string. Making sure not to mix, or twist them, tape the ends of the pairs together as shown in fig. A.

STEP 1 POSITION THE ROPE

Hold or lay the rope so that the pairs of white strands are on top and bottom with a knot to the right as you look toward the end.

STEP 2 BEND THE ROPE

Bend the rope over to form the desired eye in such a way as to keep the knot inside the loop as shown in fig. A.

STEP 3 TUCKING FIRST STRAND

Using the fid to make clearance and starting with the gray pairs, tuck them under the diametrically opposite white pairs as shown in fig. A. Make sure you do not disturb the lay of the pairs. Do not twist them so that the individual strands cross over one another in the pair.

STEP 4 FINISHING THE FIRST TUCKS

Now turn eye over, tuck the white pairs under the diametrically opposite gray pairs as shown in fig. B. Note that in fig. B the splice is turned over from fig. A. The white pairs to be tucked should follow the white pairs of the standing part and the gray to be tucked should follow the gray pairs of the standing part. The ends in the drawing have been numbered to help show their position as the tucks progress.

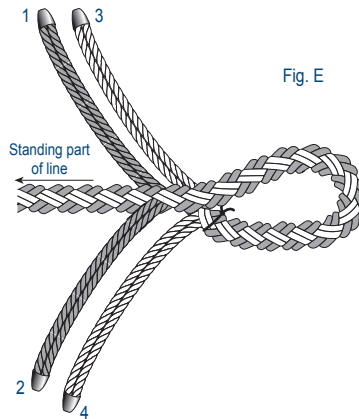


Fig. E

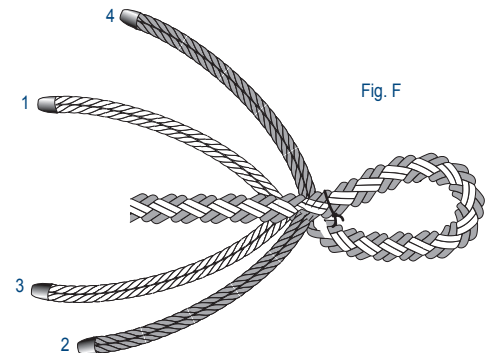


Fig. F



EYE SPLICE 8x3-STRAND CLASS II

STEP 5 CONTINUE TUCKING

Now you have your eye with the first full tuck complete (a full tuck means inserting all 4 pairs); pull all 4 ends down firmly. Starting with the gray pairs, take another full tuck. By starting with the gray pairs you avoid having to go under 2 pairs at once. Your splice should now look like fig. C, (which now lays on the same side as fig. A). From here on, you should have no difficulty completing the splice.

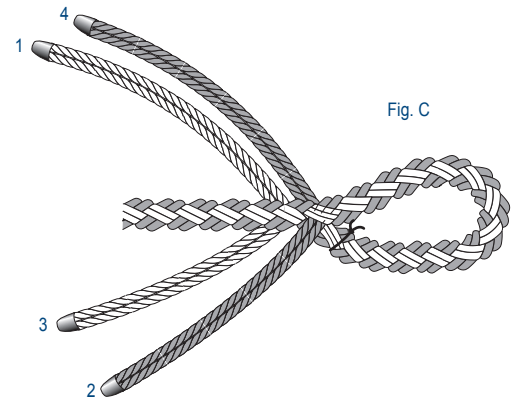


Fig. C

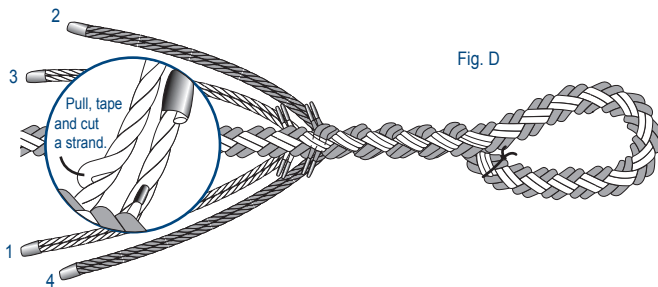


Fig. D

STEP 6

Now starting with the gray pairs, make four more full tucks with each pair of strands.

STEP 7 TAPERING THE STRANDS

Having completed 6 full tucks for each pair of strands you will need to reduce the strand volume by one-third before continuing the next set of tucks. To do this, cut one of the three strands out of each strand pair as shown in fig. D.

STEP 8

Now splice the remaining strands just as before for another three full tucks. The splice should now appear as shown in fig. E, which will lay on the opposite side as shown in fig. D. Each strand should now have three full tucks.

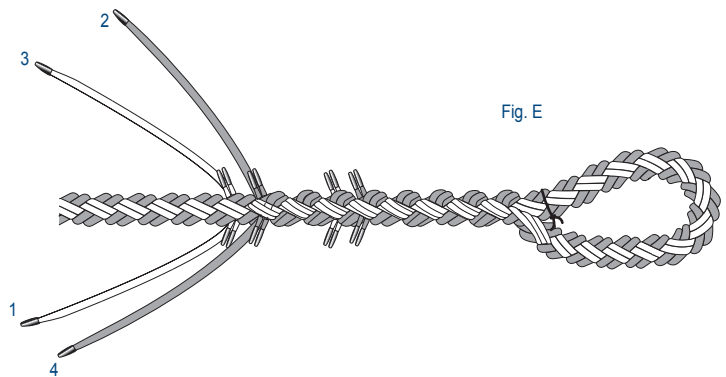


Fig. E

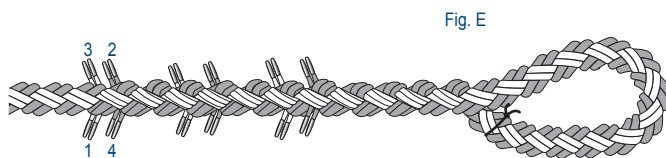


Fig. E

STEP 9 TAPER THE STRANDS

The tapering process continues by reducing the volume of the remaining strands by half (by unlaying both strand-pairs and then removing one of the two unlayed strands in each strand-pair, as in Step 6).

STEP 10 FINISHING THE SPLICE

With the remaining strands, perform three full tucks. Tape the strands after they have been tucked and cut them off as done with previous strands.



END FOR END 8x3-STRAND CLASS II

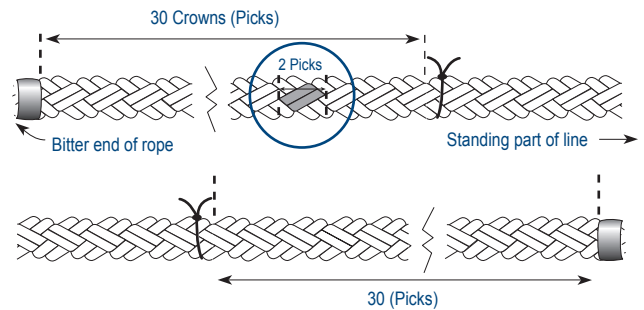
Class II construction ropes are made in whole or part from any of the following high modulus fibers: Dyneema®, Vectran®, Technora®, and Zylon®.

Additional rope needed for splice:
length of 30 crows x 2.

STEP 1

GETTING STARTED

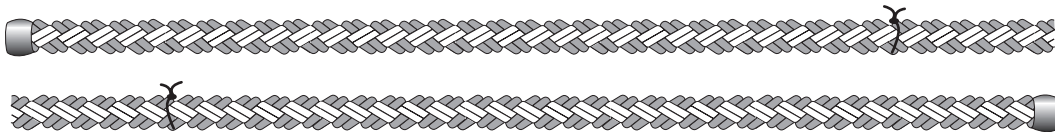
Lay ropes out and count 30 picks or crowns from end of both ropes. Tie string or tape securely at these points



STEP 2

MARKING

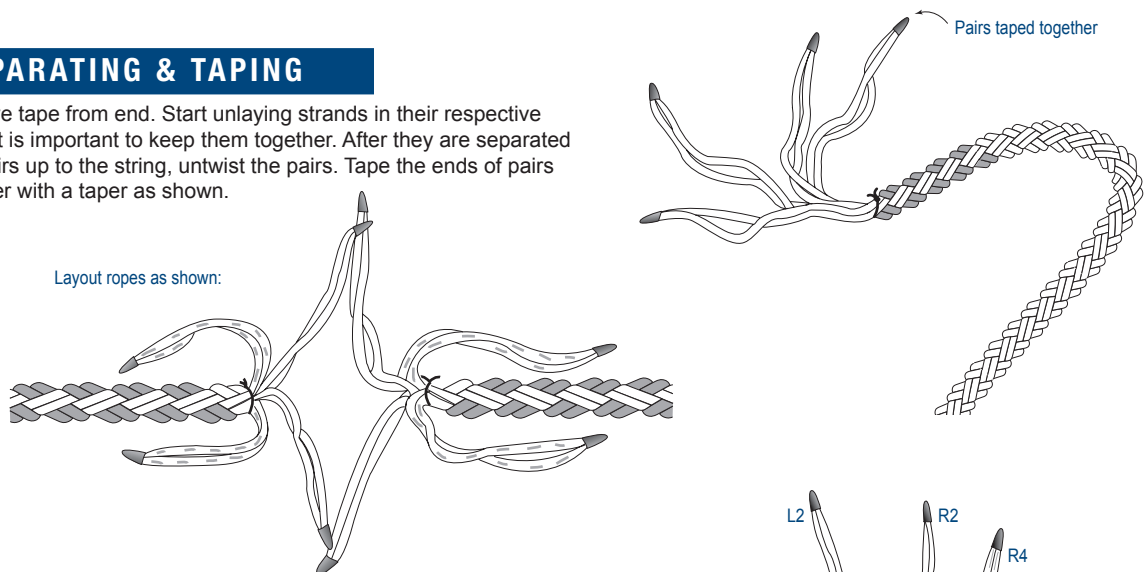
Holding the end of the rope, note the pairs of strands going to the left. Mark these pairs. Mark the strands up to the string and continue to mark the strands for five (5) or more picks beyond the strings.



STEP 3

SEPARATING & TAPING

Remove tape from end. Start unlaying strands in their respective pairs. It is important to keep them together. After they are separated into pairs up to the string, untwist the pairs. Tape the ends of pairs together with a taper as shown.

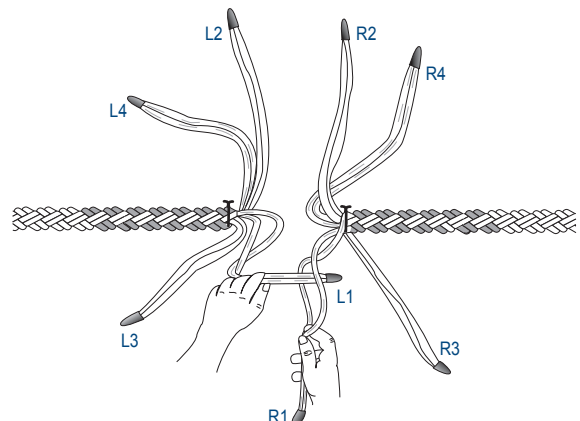


STEP 4

JOINING THE STRANDS

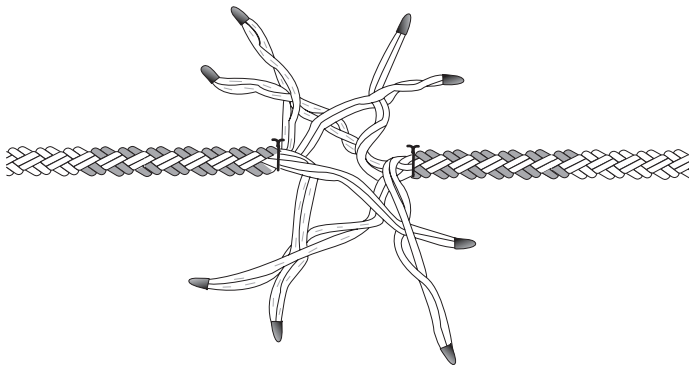
It is important that the next steps of the procedure be followed carefully.

Marked L {1} Strands go between Marked R {1} Strands
Unmarked R {2} Strands go between Unmarked L {2} Strands
Unmarked L {3} Strands go between Unmarked R {3} Strands
Marked R {4} Strands go between Marked L {4} Strands





END FOR END 8x3-STRAND CLASS II



STEP 5

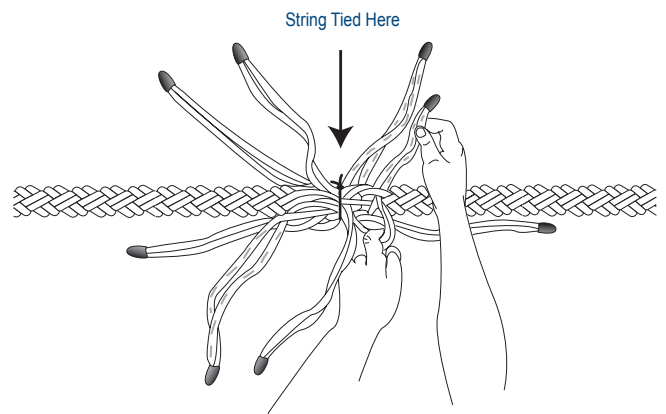
After the initial step has been completed, you should have something that looks like the drawing at left. Marry the ropes as shown in Step 6. This part is preferably a two-person job. Cut the string that you previously tied at the splicing points of both ropes.

STEP 6

MARRYING THE ROPES

Keep the ropes together snugly. Tie a piece of string tightly around the splicing point as shown at right.

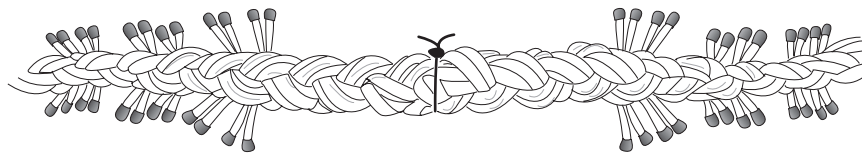
Start your splice. A marked pair under an unmarked pair of strands. Now you can follow the same procedure as the eyesplice. But we suggest that you complete one (1) full tuck in one direction and then do a full tuck on the other side of the marriage. Pull everything tight before proceeding.



STEP 7

FINISHING THE SPLICE

Complete splicing in both directions so that each side is finished off as per strand reduction sequence (steps 7-10) of the eye splice procedure.





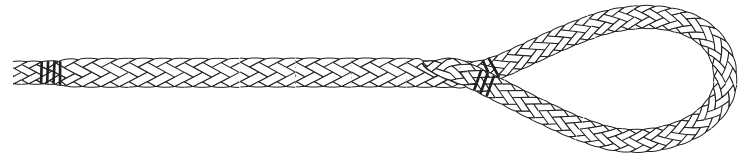
EYE SPLICE 12-STRAND CLASS I

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

The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

This eye splice may be performed on new or used rope. This is an all-purpose splice technique designed for people who generally splice used rope as frequently as new rope. By following the procedure below, the splice can retain from 90% to 100% of average new rope strength and in used rope up to the same proportion of residual used rope strength.

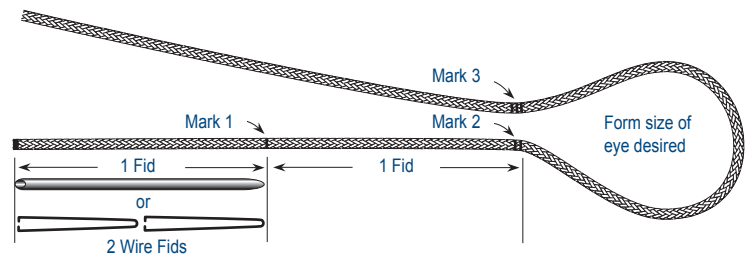
Additional rope needed for splice:
2-1/2 fid lengths plus length of eye;
with thimble: 2-1/2 fid lengths plus
1/2 circ. in feet.



STEP 1 MEASUREMENT

Tape end of line to be spliced and measure 1 tubular fid length (or 2 wire fid lengths because wire fids are half the length of tubular fids) from taped end of line and make Mark 1.

From Mark 1 measure 1 tubular fid lengths (or 2 wire fid lengths) and make Mark 2. Now form size of eye desired and make Mark 3.

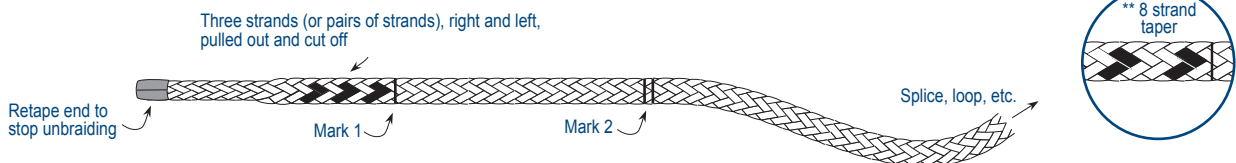


STEP 2 MAKING TAPER

From Mark 1, in the direction of the taped end of the line, mark every second right and left strand* for three strands.** Cut every marked strand and pull out of line (tape at end can cause resistance and may have to be removed in order to pull out cut strands). Tapered end will now have only 6 strands remaining (or 4 strands for an 8 strand braid). Tape tapered tail tightly to keep from unbraiding.

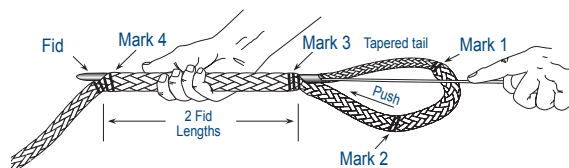
*Some rope diameters may have pairs of strands in right and left direction. In this case, treat the pairs of strands as a single strand, marking and cutting both in each direction as described above.

**For an 8-strand construction, mark every third left and right strand for two strands.



STEP 3 BURY TAIL INTO STANDING PART OF LINE

Measure 2 tubular fid lengths (4 wire fid lengths), make Mark 4. Insert fid and tapered tail at Mark 3 and bring fid out at Mark 4. Pull fid and tapered tail out. Don't let the line twist.



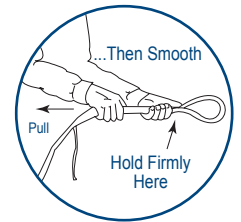
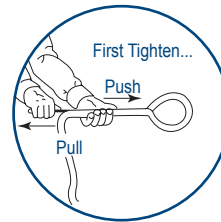
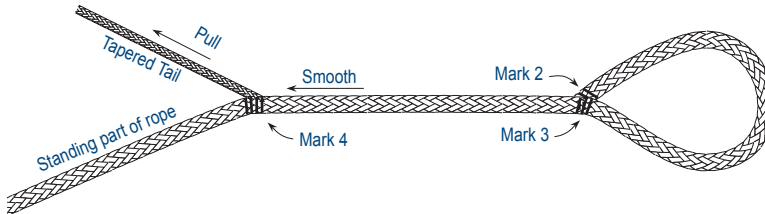


EYE SPLICE 12-STRAND CLASS I

STEP 4

FINISHING BURYING

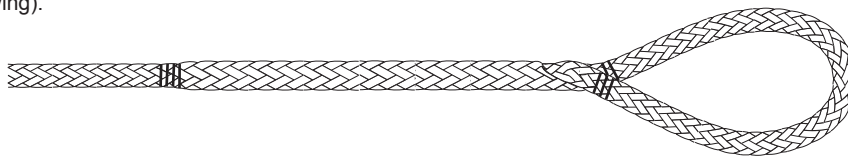
Remove fid. Pull hard on tapered tail with one hand. With other hand, smooth bunched line towards eye splice until Marks 2 and 3 converge. Now, smooth the cover away from eye towards Mark 4. Mark the tapered tail where it emerges at Mark 4. Pull tail out several inches, cut tail off at an angle, so the angle cut ends at this mark. Then with both hands and weight of body, smooth cover slack to bury tail in standing part of the line.



STEP 5

TO FINISH EYE SPLICE

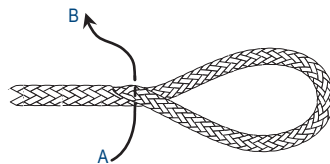
When finished, Mark 2 and Mark 3 should be at the same point in the vertex of the eye—which, yields eye size desired. To finish eye splice, the splice must be lock-stitched (procedure following).



LOCK STITCH PROCEDURE

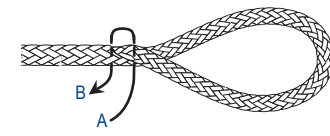
STEP 1

Pass stitching through spliced area near throat of eye as shown.



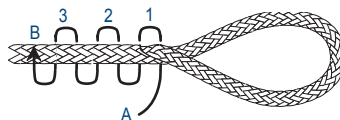
STEP 2

Reinsert as shown pulling snug but not tight.



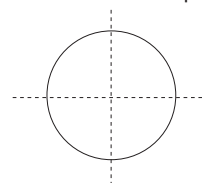
STEP 3

Continue to reinsert as shown until you have at least 3 complete stitches.



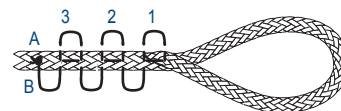
STEP 4

After completing Step 3, rotate spliced part of rope 90° and reinsert end A into spliced area in the same area and in the same fashion as in Steps 1, 2 and 3. The splice will now be stitched on two planes perpendicular to each other.



STEP 5

After stitching at least three complete stitches as in Step 3, extract both ends A and B together through the same opening in the braid. Tie them together with a square knot and reinsert back into braid.





END FOR END 12-STRAND CLASS I

Class I 12-strand ropes are made from any or all of the following fibers: olefin, polyester, or nylon.

Additional rope needed for splice:
5 fid lengths.

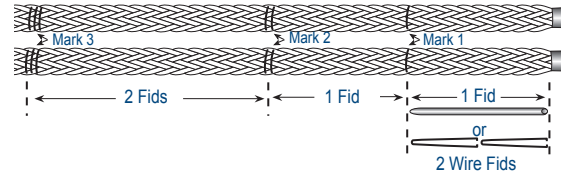
This end for end splice may be performed on new or used rope. This is an all-purpose splice technique designed for people who generally splice used rope as frequently as new rope. By following the procedure below, the splice can retain from 90% to 100% of average new rope strength and in used rope up to the same proportion of residual used rope strength.



STEP 1

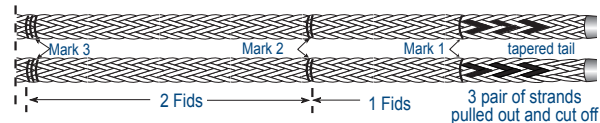
MARKING MEASUREMENT

Tape ends of line to be spliced. Lay two ropes to be spliced side-by-side and measure one tubular fid length, (two wire fid lengths because wire fids are half size) from taped end of each line and make a mark—Mark 1.



From Mark 1 measure one tubular fid lengths (two wire fid lengths) and make Mark 2 on both lines.

From Mark 2 measure two tubular fid lengths (four wire fid lengths) and make Mark 3 on both lines.



STEP 2

TAPERING TAIL

From Mark 1, in the direction of the taped end of the line, mark every second right and left strand* for three strands.**

Cut every marked strand and pull out of line (tape at end can cause resistance and may have to be removed in order to pull out cut strands). Tapered end will now have only 6 strands remaining (or 4 strands for an 8 strand braid). Tape tapered tail tightly to keep from unbraiding.



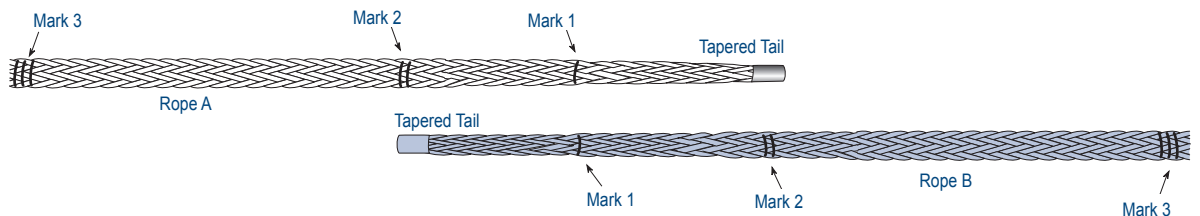
*Some rope diameters may have pairs of strands in right and left direction. In this case, treat the pairs of strands as a single strand, marking and cutting both in each direction as described above.

**For an 8 strand construction, mark every third left and right strand for two strands.

STEP 3

REPOSITIONING ROPES

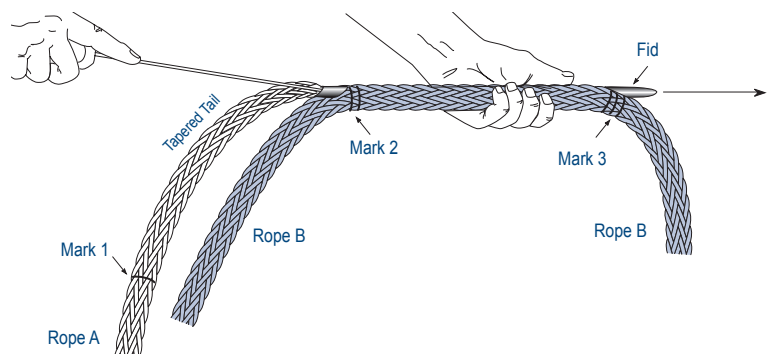
Reposition ropes for splicing according to diagram below.



STEP 4

BURYING ROPE A INTO ROPE B

Attach fid to tapered end of Rope A and insert fid into Rope B at Mark 2 and bring out at Mark 3. Then remove fid. Pull tapered tail of Rope A until you have buried up to its Mark 2. With larger lines, once you have fid and tapered tail through the line, tie off tail to stationary object; then use both hands and weight of body to bury Rope B up to Mark 2. Leave tail sticking out.



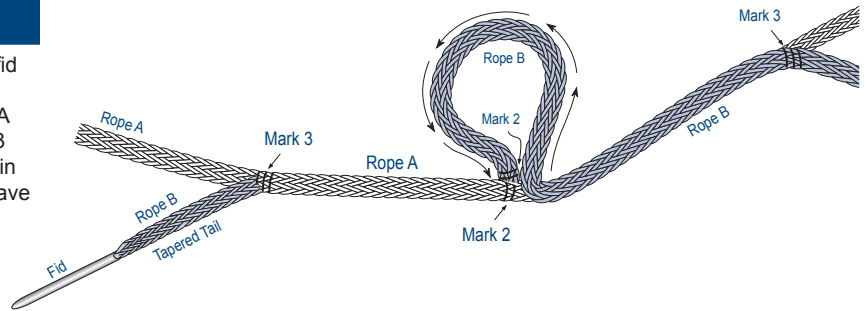


END FOR END 12-STRAND CLASS I

STEP 5

FINISH BURYING

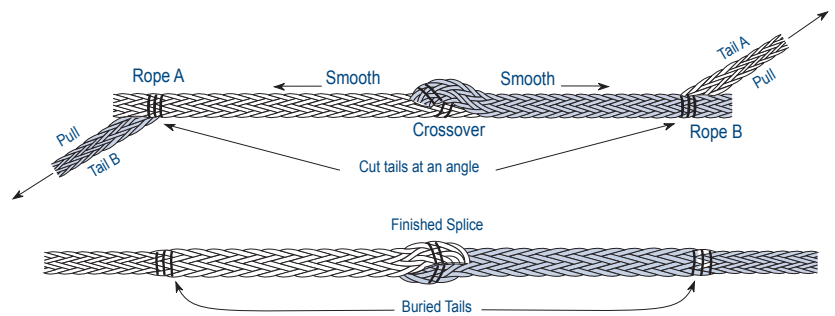
Attach tapered tail of Rope B to fid. Insert fid into Rope A approximately the diameter of the line away from insertion point of Rope A into Rope B. Bring fid and tail out at Mark 3 of Rope A. Following same procedures as in Step 4 to bury Rope B up to its Mark 2. Leave tail sticking out.



STEP 6

SMOOTH OUT SPLICE

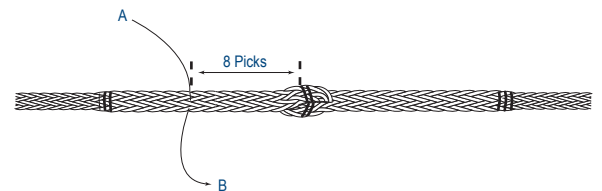
Pull tails to tighten crossover. Then, smooth braid in both directions away from the crossover. Now cut off tails—cut tails on an angle so as to give them a point. Give a final smoothing, away from crossover, stroking rope firmly. Tails should bury inside cover. Lockstitching should be done on both sides of the crossover to prevent the splice from pulling out (procedure following).



STEP 1

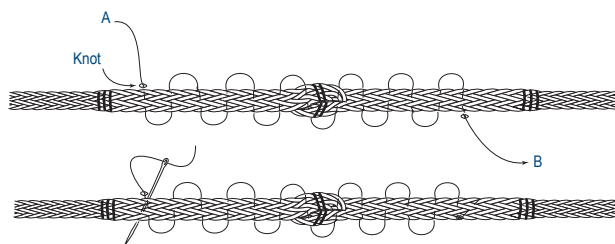
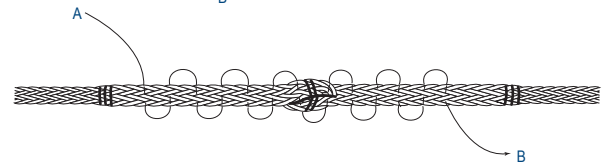
LOCK STITCH PROCEDURE

From Mark 2 at crossover, count 8 picks in either direction and insert stitching twine.



STEP 2

Working towards the crossover, pass end "B" back and forth through splice until a minimum of three (3) complete stitches have been made on each side of crossover.



2A Tie an overhand knot in each tail, as close to its exit point as possible.

2B Insert tail of stitching twine at exact location where twine emerges. Using needle or small fid, pull (or push) through rope at a slight angle. Pull hard on the end of the twine so that the knot disappears inside the rope. Trim off the remaining twine close to the rope.



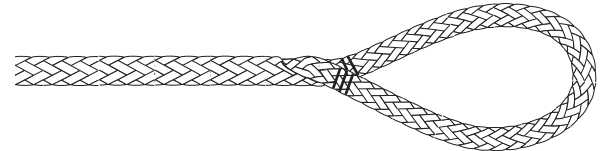
EYE SPLICE 12-STRAND CLASS II

Class II ropes are made in whole or part from any of the following high modulus fibers: Dyneema®, Vectran®, Technora®, and Zylon®.

The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

This eye splice may be performed on new or used rope. This is an all-purpose splice technique designed for people who generally splice used rope as frequently as new rope. By following the procedure below, the splice can retain from 90% to 100% of average new rope strength and in used rope up to the same proportion of residual used rope strength.

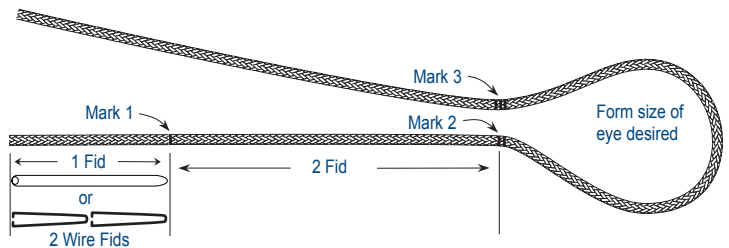
Additional rope needed for splice:
3-1/2 fid lengths plus length of eye;
with thimble: 3-1/2 fid lengths plus 1/2
circ. in feet.



STEP 1 MEASUREMENT

Tape end of line to be spliced and measure 1 tubular fid length (or 2 wire fid lengths because wire fids are half the length of tubular fids) from taped end of line and make Mark 1.

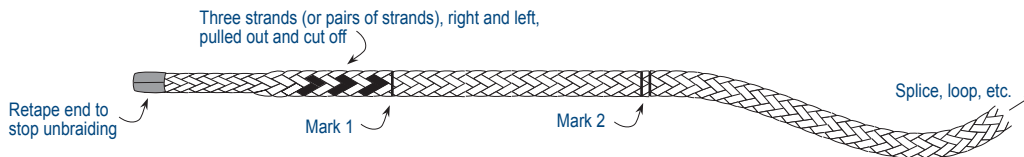
From Mark 1 measure 2 tubular fid lengths (or 4 wire fid lengths) and make Mark 2. Now form size of eye desired and make Mark 3.



STEP 2 MAKING TAPER

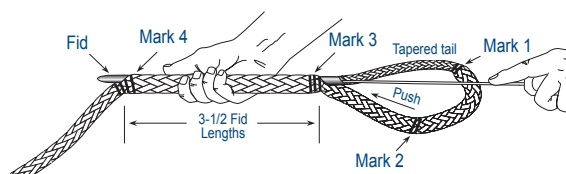
From Mark 1, in the direction of the taped end of the line, mark every second right and left strand* for three strands.** Cut every marked strand and pull out of line (tape at end can cause resistance and may have to be removed in order to pull out cut strands). Tapered end will now have only 6 strands remaining (or 4 strands for an 8 strand braid). Tape tapered tail tightly to keep from unbraiding.

*Some rope diameters may have pairs of strands in right and left direction. In this case, treat the pairs of strands as a single strand, marking and cutting both in each direction as described above.



STEP 3 BURY TAIL INTO STANDING PART OF LINE

Measure 3-1/2 tubular fid lengths (7 wire fid lengths), make Mark 4. Insert fid and tapered tail at Mark 3 and bring fid out at Mark 4. Pull fid and tapered tail out. Don't let the line twist.



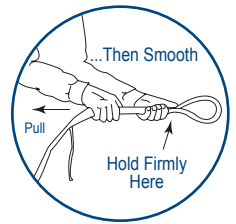
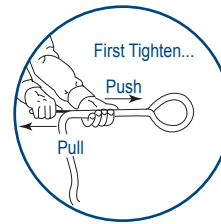
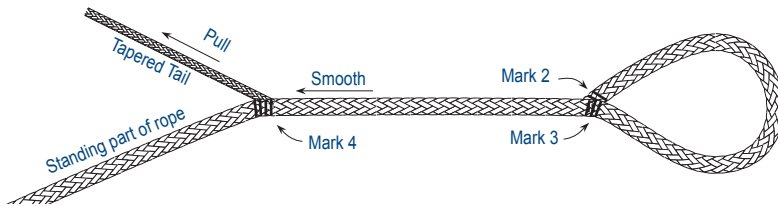


EYE SPLICE 12-STRAND CLASS II

STEP 4

FINISHING BURYING

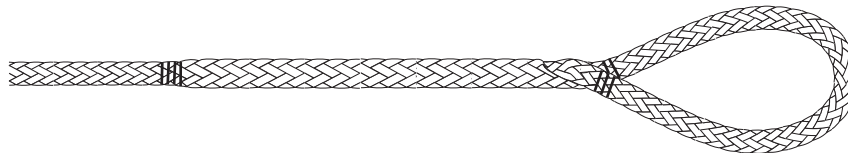
Remove fid. Pull hard on tapered tail with one hand. With other hand, smooth bunched line towards eye splice until Marks 2 and 3 converge. Now, smooth the cover away from eye towards Mark 4. Mark the tapered tail where it emerges at Mark 4. Pull tail out several inches, cut tail off at an angle, so the angle cut ends at this mark. Then with both hands and weight of body, smooth cover slack to bury tail in standing part of the line.



STEP 5

TO FINISH EYE SPLICE

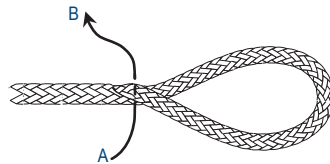
When finished, Mark 2 and Mark 3 should be at the same point in the vertex of the eye—which, yields eye size desired. To finish eye splice, the splice must be lock-stitched (procedure following).



LOCK STITCH PROCEDURE

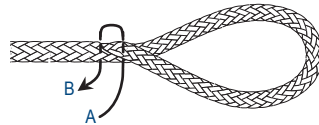
STEP 1

Pass stitching through spliced area near throat of eye as shown.



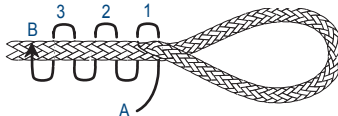
STEP 2

Reinsert as shown pulling snug but not tight.



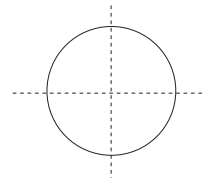
STEP 3

Continue to reinsert as shown until you have at least 3 complete stitches.



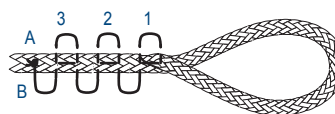
STEP 4

After completing Step 3, rotate spliced part of rope 90° and reinsert end A into spliced area in the same area and in the same fashion as in Steps 1, 2 and 3. The splice will now be stitched on two planes perpendicular to each other.



STEP 5

After stitching at least three complete stitches as in Step 3, extract both ends A and B together through the same opening in the braid. Tie them together with a square knot and reinsert back into braid.





END FOR END 12-STRAND CLASS II

Class II ropes are made in whole or part from high modulus fibers: Dyneema®, Vectran®, Technora®, and Zylon®.

Additional rope needed for splice: 7 fid lengths.

This end for end splice may be performed on new or used rope. This is an all-purpose splice technique designed for people who generally splice used rope as frequently as new rope. By following the procedure below, the splice can retain from 90% to 100% of average new rope strength and in used rope up to the same proportion of residual used rope strength.

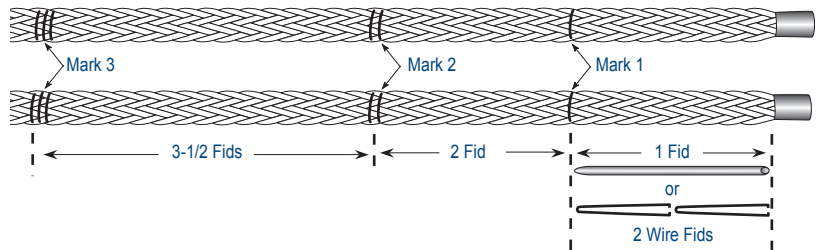


STEP 1 MARKING MEASUREMENTS

Tape ends of line to be spliced. Lay two ropes to be spliced side-by-side and measure one tubular fid length, (two wire fid lengths because wire fids are half size) from taped end of each line and make a mark — Mark 1.

From Mark 1 measure two tubular fid lengths (four wire fid lengths) and make Mark 2 on both lines.

From Mark 2 measure three and one-half tubular fid lengths (seven wire fid lengths) and make Mark 3 on both lines.

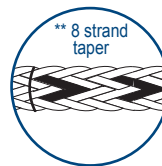
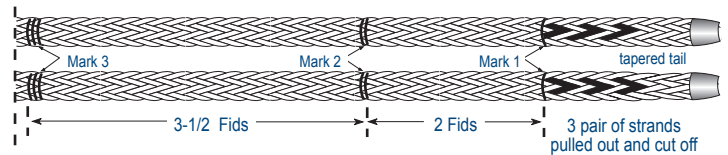


STEP 2 TAPERING TAIL

From Mark 1, in the direction of the taped end of the line, mark every second right and left strand* for three strands.**

Cut every marked strand and pull out of line (tape at end can cause resistance and may have to be removed in order to pull out cut strands).

Tapered end will now have only 6 strands remaining (or 4 strands if the rope is an 8 strand construction). Tape tapered tail tightly to keep from unbraiding.

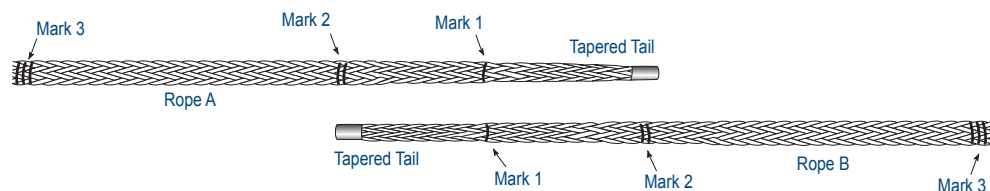


*Some rope diameters may have pairs of strands in right and left direction. In this case, treat the pairs of strands as a single strand, marking and cutting both in each direction as described below.

**For an 8 strand construction, mark every third left and right strand for two strands.

STEP 3 REPOSITIONING ROPES

Reposition ropes for splicing according to diagram above.



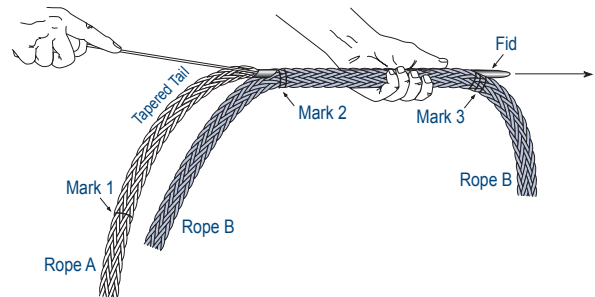


END FOR END 12-STRAND CLASS II

STEP 4 BURYING ROPE A INTO ROPE B

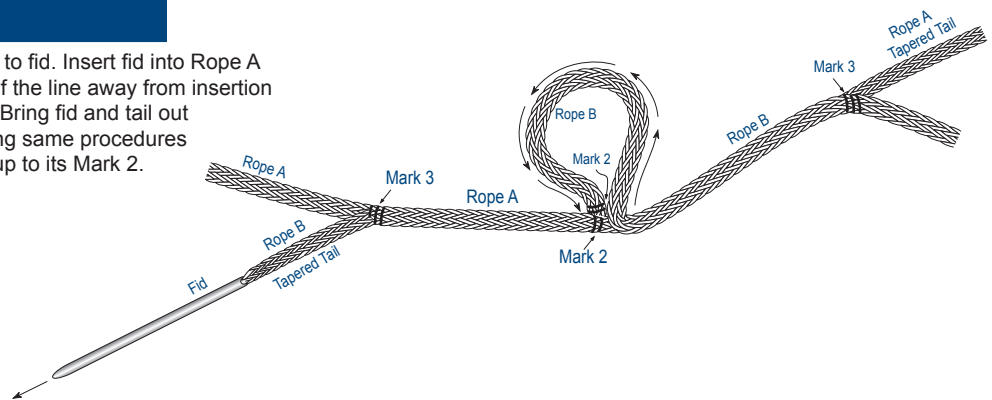
Attach fid to tapered end of Rope A and insert fid into Rope B at Mark 2 and bring out at Mark 3. Then remove fid.

Pull tapered tail of Rope A until you have buried up to its through the line, tie off tail to stationary object; then use both hands and weight of body to bury Rope B up to Mark 2. Leave tail sticking out.



STEP 5 FINISH BURYING

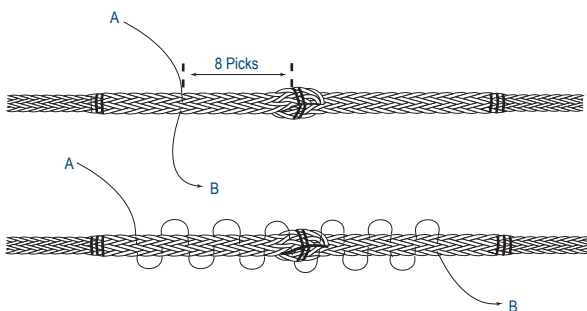
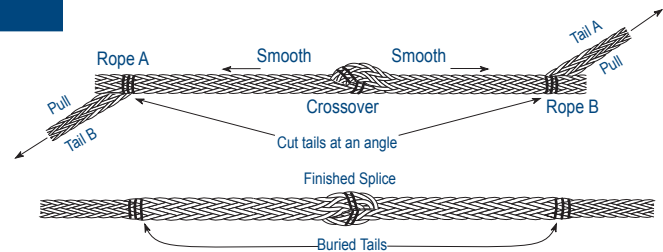
Attach tapered tail of Rope B to fid. Insert fid into Rope A approximately the diameter of the line away from insertion point of Rope A into Rope B. Bring fid and tail out at Mark 3 of Rope A. Following same procedures as in Step 4 to bury Rope B up to its Mark 2. Leave tail sticking out.



STEP 6 SMOOTH OUT SPLICE

Pull tails to tighten crossover. Then, smooth braid in both directions away from the crossover. Now cut off tails—cut tails on an angle so as to give them a point.

Give a final smoothing, away from crossover, stroking rope firmly. Tails should bury inside cover.



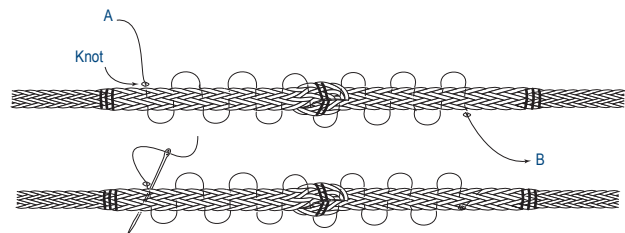
2A Tie an overhand knot in each tail, as close to its exit point as possible.

2B Insert tail of stitching twine at exact location where twine emerges. Using needle or small fid, pull (or push) through rope at a slight angle. Pull hard on the end of the twine so that the knot disappears inside the rope. Trim off the remaining twine close to the rope.

STEP 1 LOCK STITCH PROCEDURE

From Mark 2 at crossover, count 8 picks in either direction and insert stitching twine.

STEP 2 Working towards the crossover, pass end "B" back and forth through splice until a minimum of three (3) complete stitches have been made on each side of crossover.





TUCK BURY SPLICE 12-STRAND – HMPE ONLY

The Tuck Bury splice is designed as a short splice for HMPE (Dyneema® fiber) 12 strand ropes only.

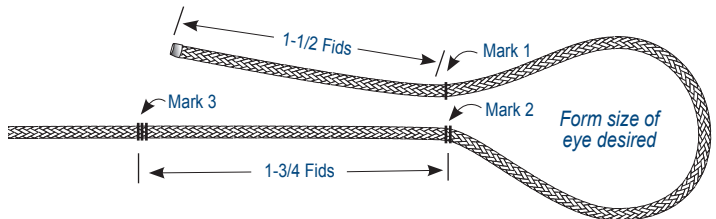
Additional rope needed for splice:
1-3/4 fid lengths plus length of eye;
with thimble: 1-3/4 fid lengths plus 1/2
circ. in feet.

STEP 1 MEASURING AND MARKING

Tape end to be spliced. Then measure 1-1/2 fid lengths from the bitter end and mark. This is Mark 1. Put tight tape wrap at Mark 1.

1A From Mark 1, form a loop the size of the eye desired and mark. This is Mark 2.

1B From Mark 2, measure down the rope 1-3/4 fids and mark. This is Mark 3.



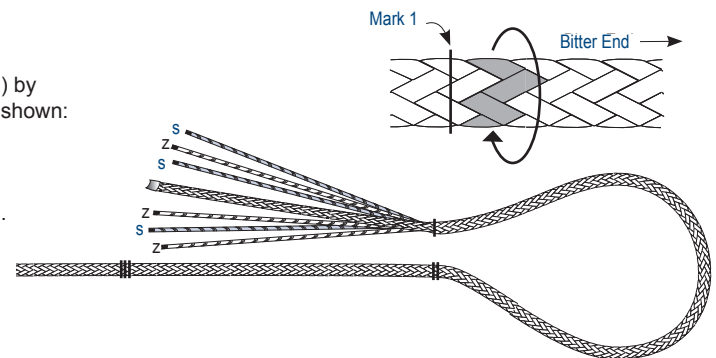
STEP 2 TAPERING THE TAIL

At Mark 1, pull out half the strands (three "S" and three "Z") by rotating around the rope, pulling out strands in the pattern shown:

Z Strand = counter clockwise twist
S Strands = clockwise twist

This should leave six strands still braided down the middle. Tightly tape the ends of the six individual strands, and the end of the remaining braided portion.

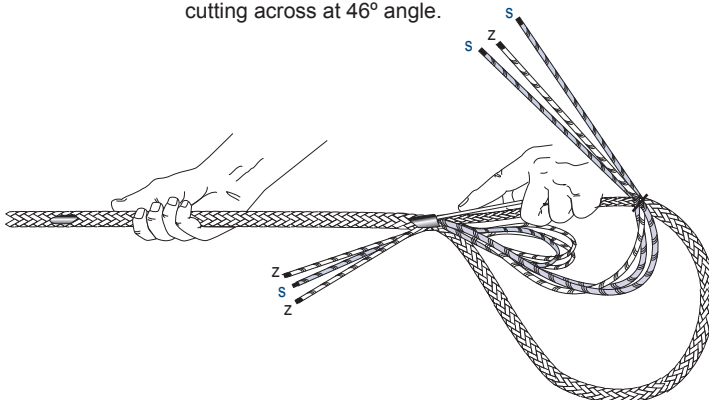
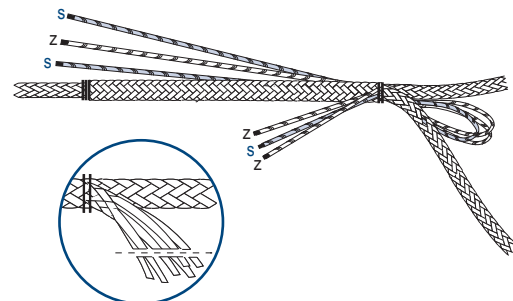
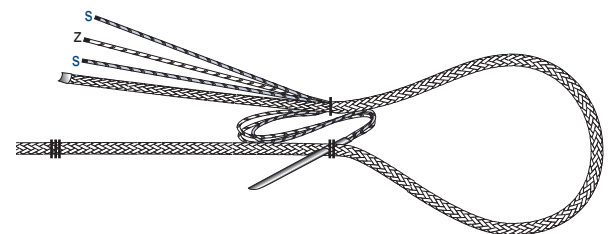
2A On one side you should have two "S" and one "Z" and on the other side, two "Z" and one "S".



STEP 3 BURYING THE TAIL

3A Pass the three strands closest to Mark 2 through the rope at Mark 2. Do not pull strands all the way through at this stage.

3B With all six strands that are still braided, start to bury them down the center of the rope, entering at Mark 2 and exiting at Mark 3. Tail should enter standing part at the same point where the three strands pass through the rope. Pull the tail out until Marks 1 & 2 meet. Taper end of tail by cutting across at 46° angle.

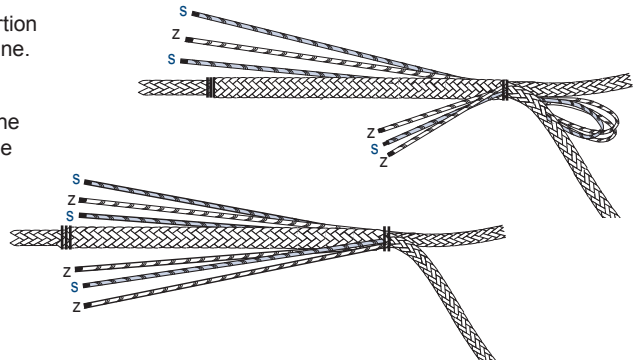




TUCK BURY SPLICE 12-STRAND – HMPE ONLY

3C Smooth bunched line away from eye. The braided portion of the tail should disappear into the standing part of line.

3D When the braided section is buried, make sure that the three strands that have been passed through the rope are all the way through, with no slack in the strands.

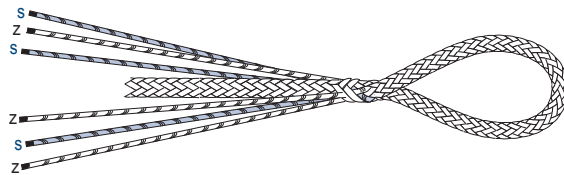


STEP 4

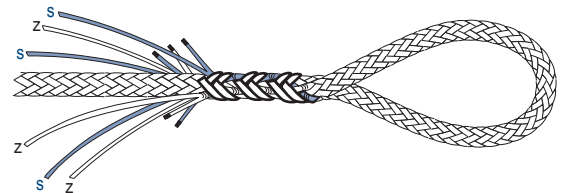
TUCKING THE STRANDS

Start the tuck splice the same way as a standard tuck splice. One complete tuck consists of passing a strand over one strand and under two strands.

4A Do three complete tucks for all six strands. Each strand is always tucked under the same line of the braid so that the tucks progress straight down the body of the rope.



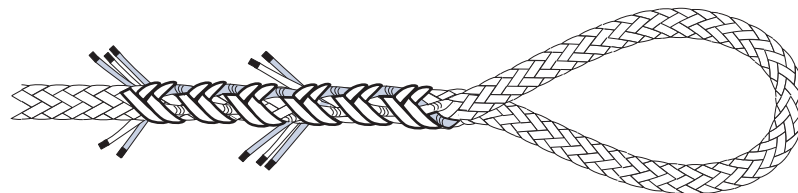
4B After completing the first three tucks remove 1/2 of the volume of the twisted yarns from each of the six strands near the taped ends and complete three more tucks with the reduced volume strands.



STEP 5

FINISHING THE SPLICE

After completing the second set of three tucks, cut off the excess material and tape the ends. Leave enough of an end protruding so that the end does not slip back into the rope when the rope is loaded.





WHOOPIE SLING 12-STRAND TENEX & TENEX-TEC

NOTE: These instructions are intended for use with Samson's Tenex and Tenex-TEC (2 end per carrier Tenex). Published Whoopie Sling strengths are for Samson's Tenex-TEC when spliced in accordance with these instructions.

CUT LENGTHS FOR SLINGS:

Rope Size	Cut Length	Sling Adjusts From/To
1/2"	10'	30" to 48"
5/8"	12'	36" to 60"
3/4"	15'	42" to 72"

All slings use the same measurements with proper size fid.

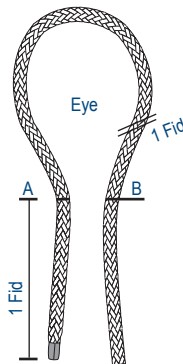
STEP 1

SPLICING FIXED EYE

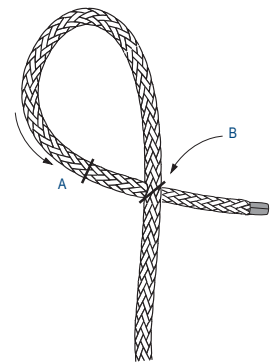


Using these measurements do the Locked Brummel Splice. Directions are as follows...

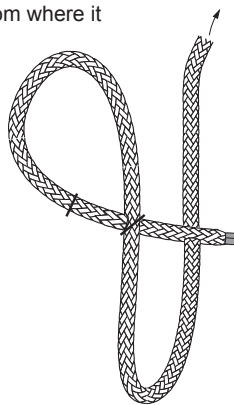
1A Leave tail at full volume. Just cut end at an angle, then tape.



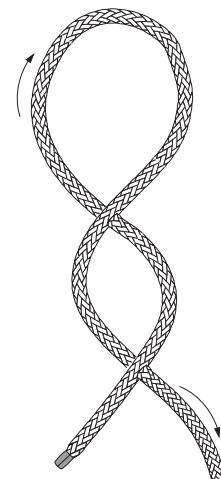
1B Pass taped end through center of rope at Mark B. Do not bury Mark A, leave on entry side of standing rope.



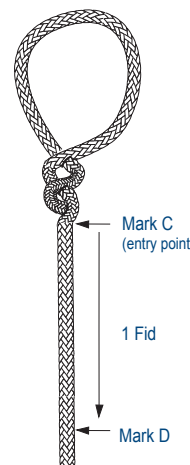
1C Pass the opposite end through the center of the tail approximately 2 picks from where it exits the standing rope.



1D Close up Brummel.



1E To bury the tail into the standing end, make a mark approximately 2 picks from where the standing part passes through the tail (Mark C). This will be the tail entry point. From Mark C, measure down the standing part 1 fid length and make Mark D. Insert fid and tapered tail at C and bring out at D. Remove fid and smooth the standing part out, which will bury the entire tail.

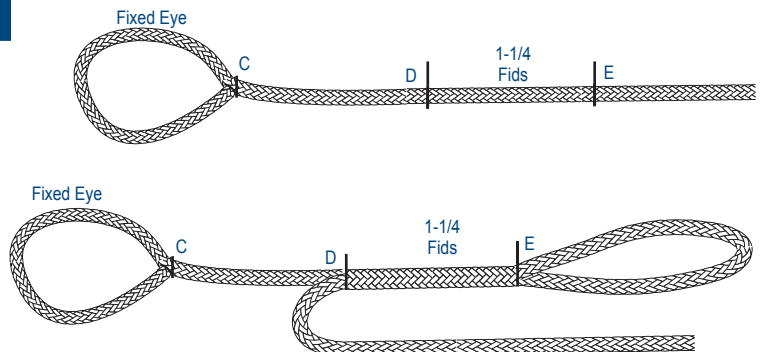


WHOOPIE SLING 12-STRAND TENEX & TENEX-TEC

STEP 2 CREATING ADJUSTABLE LOOP

2A From Mark D measure 1-1/4 fids and make Mark E.

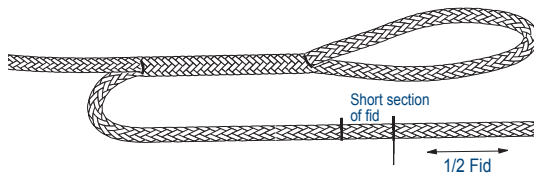
2B Attach end of rope to a fid and pass the fid and tail in at Mark E and out of Mark D. Pull the tail end through the buried portion and leave the tail exposed.



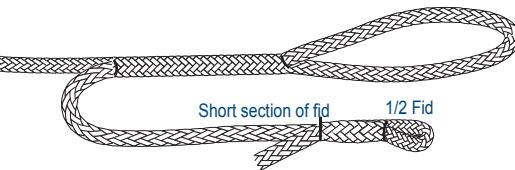
STEP 3 BACK SPLICING THE END

From the unspliced end of the rope, measure 1/2 fid then measure a fid short section. Use these marks to do a Back Splice as follows:

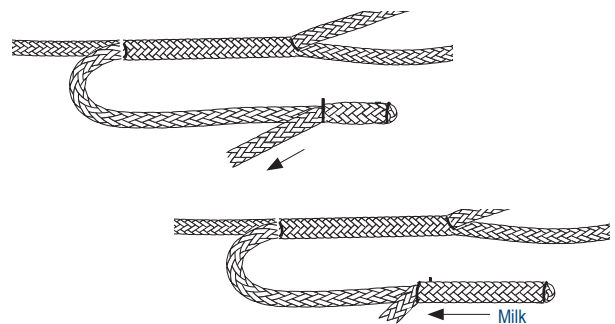
3A Insert the end of the rope in at the 1/2 fid mark and out at the short section mark.



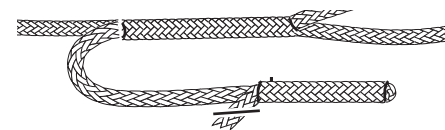
3B Pull firmly on the tail until the "eye" completely closes.



3C Grasp the "butt" of the splice and milk back towards exit point.



3D Mark the tail at the exit point. Pull the tail out slightly and cut off at an angle.



3E Re-milk to bury tail.





WHOOPIE SLING 12-STRAND TENEX & TENEX-TEC

NOTE: These instructions are intended for use with Samson's Tenex and Tenex-TEC (2 end per carrier Tenex). Published Whoopie Sling strengths are for Samson's Tenex-TEC when spliced in accordance with these instructions.

CUT LENGTHS FOR SLINGS:

Rope Size	Cut Length	Sling Adjusts From/To
1/2"	10'	30" to 48"
5/8"	12'	36" to 60"
3/4"	15'	42" to 72"

All slings use the same measurements with proper size fid.

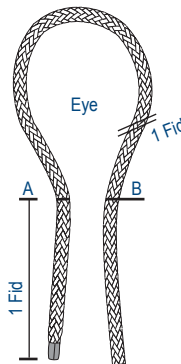
STEP 1

SPLICING FIXED EYE

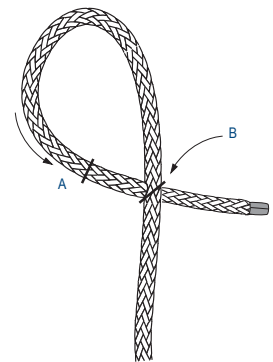


Using these measurements do the Locked Brummel Splice. Directions are as follows...

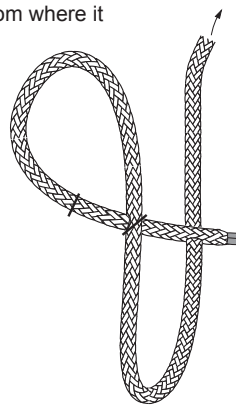
1A Leave tail at full volume. Just cut end at an angle, then tape.



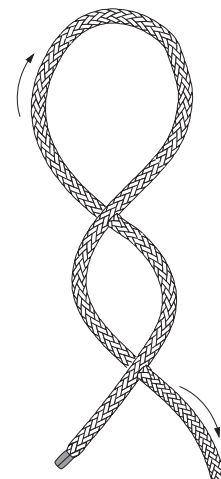
1B Pass taped end through center of rope at Mark B. Do not bury Mark A, leave on entry side of standing rope.



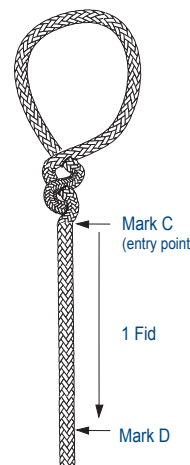
1C Pass the opposite end through the center of the tail approximately 2 picks from where it exits the standing rope.



1D Close up Brummel.



1E To bury the tail into the standing end, make a mark approximately 2 picks from where the standing part passes through the tail (Mark C). This will be the tail entry point. From Mark C, measure down the standing part 1 fid length and make Mark D. Insert fid and tapered tail at C and bring out at D. Remove fid and smooth the standing part out, which will bury the entire tail.

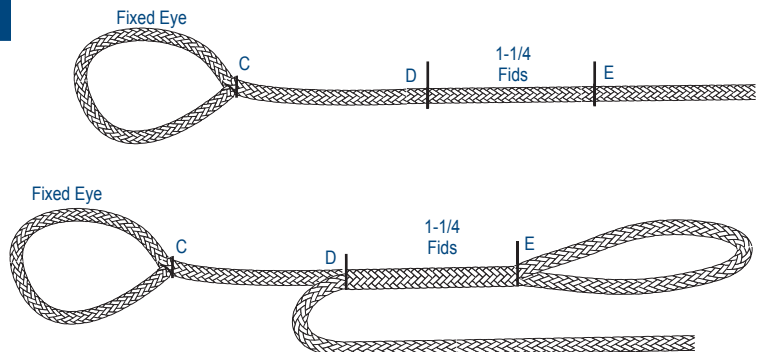


WHOOPIE SLING 12-STRAND TENEX & TENEX-TEC

STEP 2 CREATING ADJUSTABLE LOOP

2A From Mark D measure 1-1/4 fids and make Mark E.

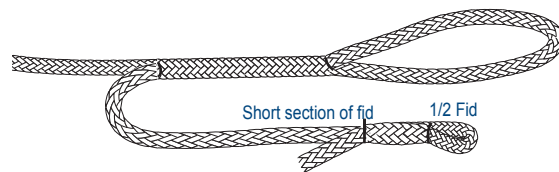
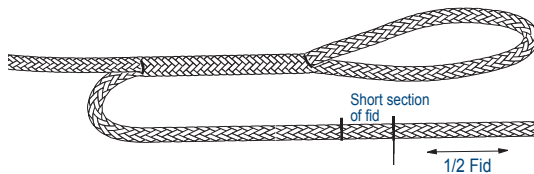
2B Attach end of rope to a fid and pass the fid and tail in at Mark E and out of Mark D. Pull the tail end through the buried portion and leave the tail exposed.



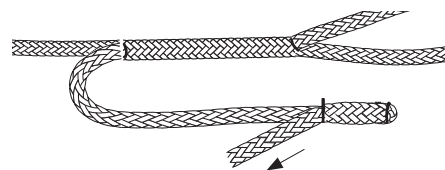
STEP 3 BACK SPLICING THE END

From the unspliced end of the rope, measure 1/2 fid then measure a fid short section. Use these marks to do a Back Splice as follows:

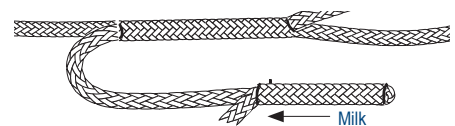
3A Insert the end of the rope in at the 1/2 fid mark and out at the short section mark.



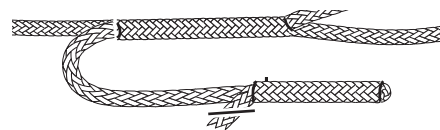
3B Pull firmly on the tail until the "eye" completely closes.



3C Grasp the "butt" of the splice and milk back towards exit point.



3D Mark the tail at the exit point. Pull the tail out slightly and cut off at an angle.



3E Re-milk to bury tail.





EYE SPLICE 16-STRAND CLASS I

Class I 16-strand ropes are made from any or all of the following fibers: olefin, polyester, or nylon.

The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

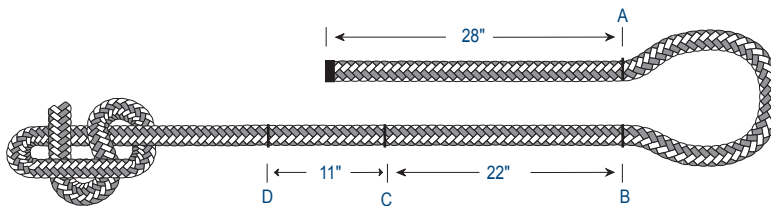
Additional rope needed for splice:
28: plus length of eye.

TIP: For this rope awire fid is easier to use than a tubular fid.

STEP 1

MEASUREMENTS

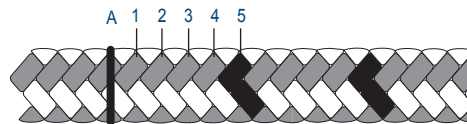
- 1A** Measure 28-inches from end of rope and make Mark A.
- 1B** Form desired size of eye and make Mark B opposite Mark A.
- 1C** Measure 22-inches down from Mark B and make Mark C.
- 1D** Measure 11-inches down from Mark C and make Mark D.
- 1E** Tie a knot in body of the rope about 11-inches down from Mark D.



STEP 2

MARKING COVER TAPER

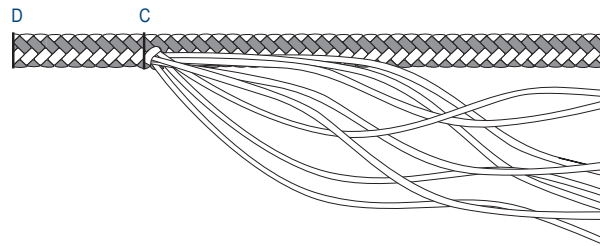
- 2A** From Mark A count 5 strand pairs toward the end of rope and mark the 5th pair (left and right strands).
- 2B** Continue counting down 5 pairs and marking the 5th pair until a total of 5 strand pairs are marked.



STEP 3

CORE REMOVAL

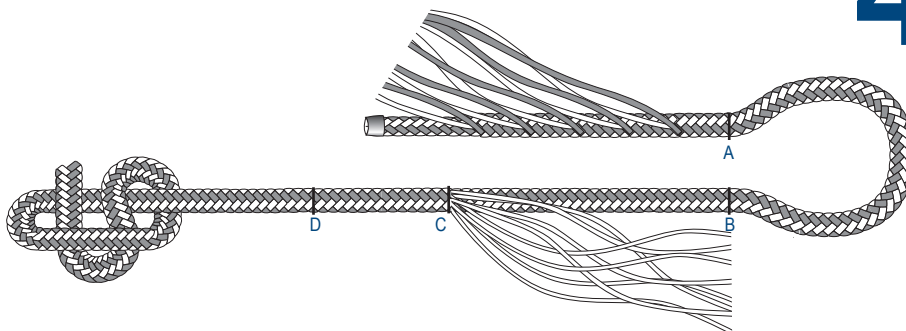
Carefully open up the braid at Mark C and pull out the core yarns from the end of the rope back to Mark C.



STEP 4

TAPERING END OF ROPE

- 4A** Pull out marked strand pairs from braid. Do not cut.
- 4B** Tape end of cover tail and attach fid to tapered end of rope.



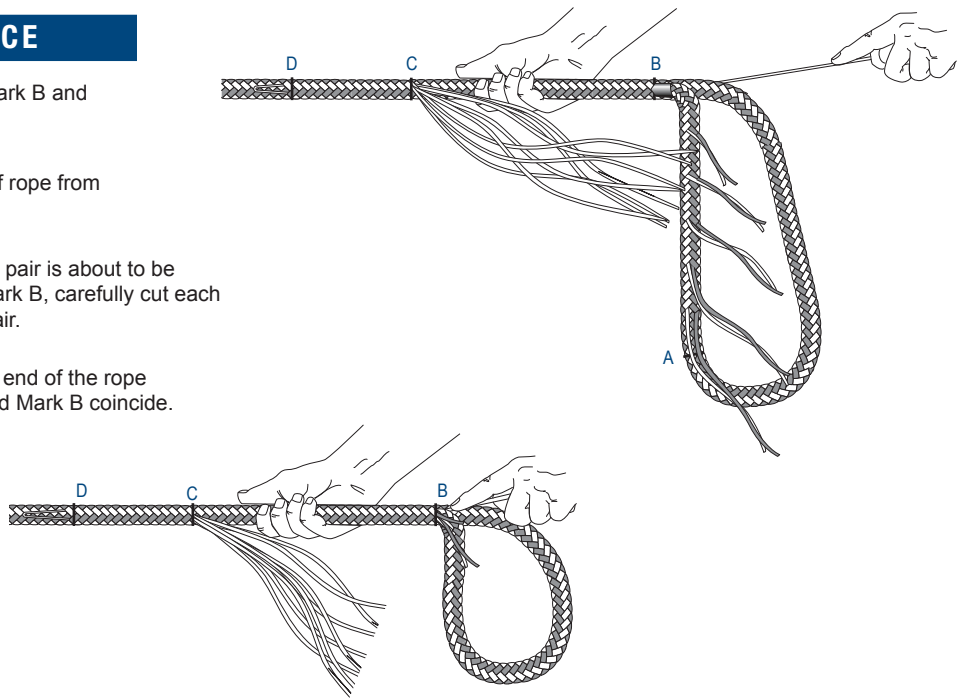


EYE SPLICE 16-STRAND CLASS I

STEP 5

PERFORMING SPLICE

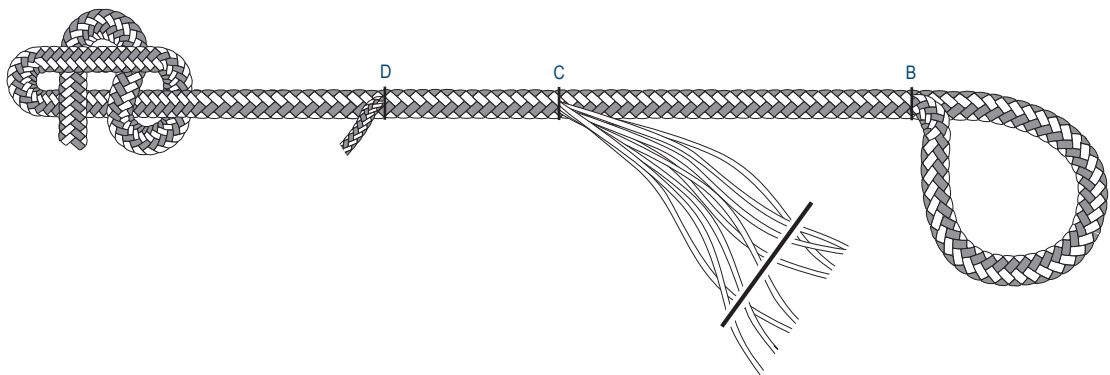
- 5A** Insert fid into rope at Mark B and out at Mark D.
- 5B** Pull tail through body of rope from B to D.
- 5C** As each marked strand pair is about to be buried in the rope at Mark B, carefully cut each strand in the marked pair.
- 5D** Continue to pull the tail end of the rope until Mark A and Mark B coincide.



STEP 6

MARKING TAILS

- 6A** Smooth rope from eye back to Mark D to remove all slack in the braid.
- 6B** Smooth rope from knot to Mark C to bury as much of the core yarns as possible.
- 6C** Mark both cover tail and core yarns where they exit from the body of the rope.





EYE SPLICE 16-STRAND CLASS I

STEP 7

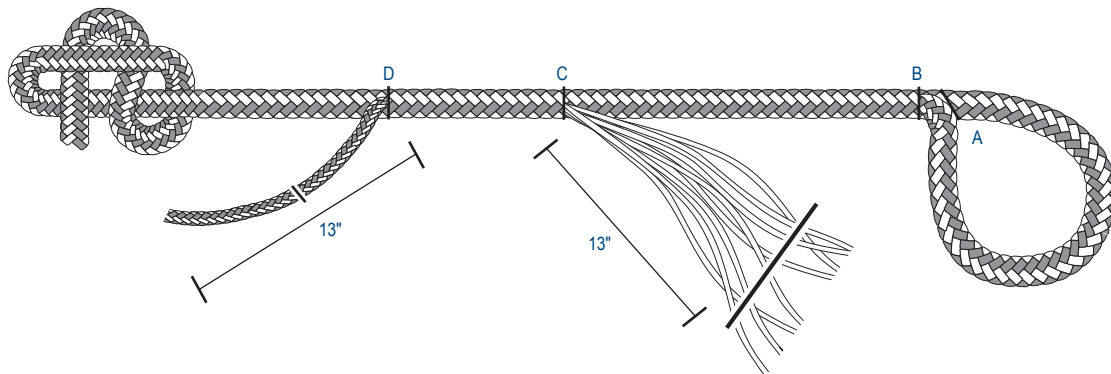
FINAL TAPER

7A Pull buried tail and cover yarns out of rope at their respective exit points until about 13-inches are exposed. This is the distance that the tail and core yarns overlap in the splice.

7B Cut both cover tail and core yarns where they were marked in step 6C above.

7C Taper both cover tail and core yarns from the ends back about 6.5-inches. This taper provides a smooth transition from the buried tail of the splice to the core yarns extending down the remainder of the rope.

7D Bury the exposed ends by alternately smoothing the rope from the eye down and from the knot up.

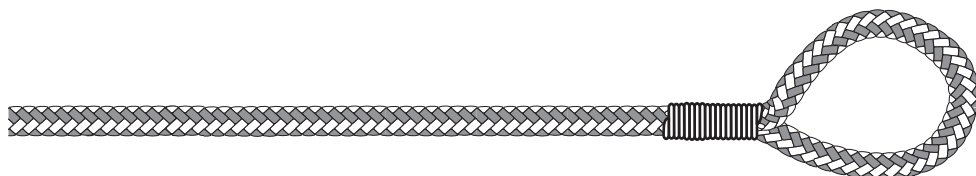


STEP 8

FINISHING THE SPLICE

8A Secure knot firmly in place and pull sharply on eye to make sure all slack is removed from splice area and cover and core tails are seated properly.

8B Apply whipping to base of eye for a distance of about 1-inch or 2 rope diameters.





EYE SPLICE ROUND PLAIT CLASS I

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

The Round Plait construction requires a splicing technique different from other 12-strand braided ropes. The "tuck" procedure may be performed in the field on both new and used rope with a minimum of tools.

The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

Additional rope needed for splice:
1-1/4 fid lengths plus length of eye;
with thimble: 1-1/4 fid lengths plus
1/2 circ. in feet.

Fid Specifications: A fid length is equal to 7 times the rope circumference. To complete the splice a Samson 2" diameter wire fid may be used for most rope sizes. The dimensions of this fid are:



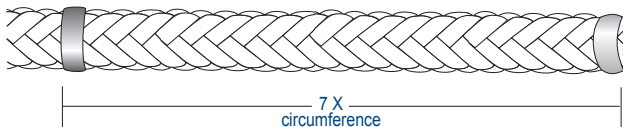
FID DIMENSIONS:

Fid Length	Wire Diameter	Width
21" (1/2 scale*)	1/4"	1-1/4"

*1/2 Scale used to keep wire fids to a practical length.

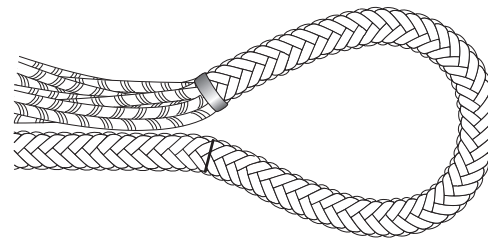
STEP 1 MEASUREMENT

Lay out the rope and measure down from the end of the rope a length that is equal to 7 times the rope circumference. At this point put one loose wrap of tape around the rope.



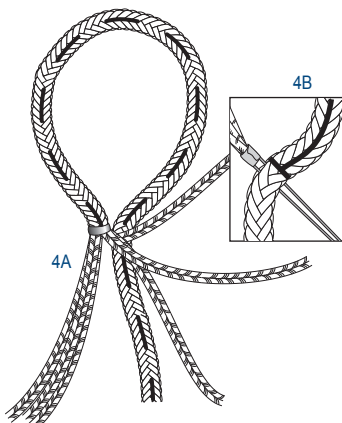
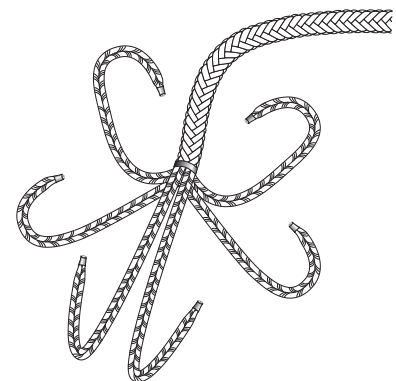
STEP 2 MARKING EYE SIZE

Individually tape each of the 12 strand ends at the end of the rope. After the ends are taped, unbraid the rope back to the point wrapped with tape in Step 1. Form the desired eye size using the tape wrapped around the rope as a reference mark. Mark the body of the rope at the point coinciding with the tape.



STEP 3 TAPE STRAND-PAIRS

Combine the 12 individual strands into six pairs of two strands each. The strands that are paired together should be adjacent to each other at the point where the unbraided rope meets the tape wrapped around the rope. If done correctly, there should be one "S" strand (strand with clockwise twist) and one "Z" strand (strand with counterclockwise twist) in each pair. Before taping the two strands together, twist each strand separately to maintain the twist of the fiber.



STEP 4 INSERT STRAND-PAIRS INTO BODY OF ROPE

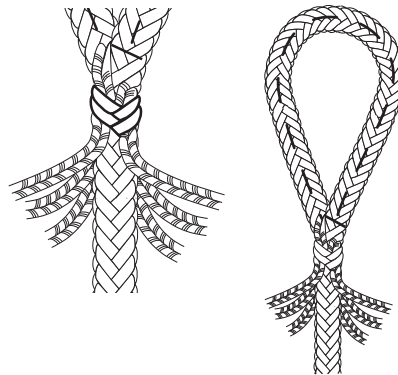
Lay out the rope to form an eye taking care there are no twists in the rope (4a). The black line running along the axis of the rope illustrates how the strand-pairs are separated for the splice. The 3 strand-pairs on one side of the line adjacent to the standing part of the rope will be passed directly through the body of the rope. The 3 strand-pairs must be passed directly through the middle of the rope to the other side (4b).



STEP 5

BEGIN TUCKS

After the 3 strand-pairs have been passed through the body of the rope you can start tucking the strand-pairs into the braid of the standing part of the rope. One complete tuck consists of passing a strand-pair under two individual strands in the braid and over one strand. Each strand-pair is always tucked under the same line of braid so that the tucks progress straight down the body of the rope.



STEP 6

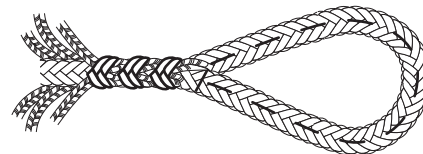
REMOVING SLACK FROM FIRST TUCK

After one complete tuck has been made with each of the six strand-pairs, pull on each pair to remove any slack from the strands and snug-up the base of the eye. Note: When pulling the strand-pairs, do not attempt to pull them so tight that they become straight. It is desirable to leave the tucked strands with some twist in them so they have the necessary elongation when the rope is placed under load.

STEP 7

COMPLETE TUCKING PROCEDURE

Do 3 complete tucks with all 6 strand-pairs. Each strand-pair is always tucked under the same line of the braid so that the tucks progress straight down the body of the rope.



STEP 8

TAPERING THE SPLICE

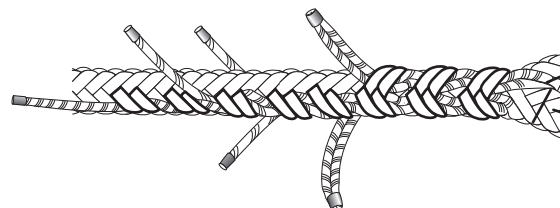
After completing the first 3 tucks drop every other strand-pair and continue to do three more tucks with the remaining 3 pairs.



STEP 9

FINISHING THE SPLICE

After completing the second set of 3 tucks, untape the 3 strand-pairs used to make these tucks. Drop one strand from each pair and do at least 2 more tucks with the remaining single strand of each pair. Once you have completed the last tucks, cut off the excess material and tape or whip the ends. Leave enough of an end protruding so that the end does not slip back into the rope when the rope is loaded.





samson
THE STRONGEST NAME IN 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 splice is not suitable for core-dependent double braid constructions (Double Braid Class II).

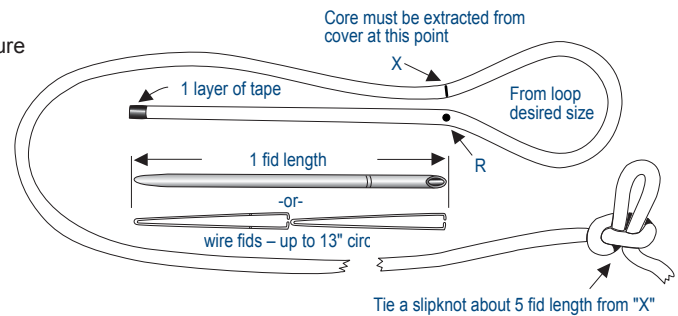
The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

Additional rope needed for splice:
Circ. of rope in feet plus length of eye;
with thimble: 1-1/2 x circ. of the rope in feet.

STEP 1 MARKING THE MEASUREMENTS

Tape end to be spliced with one thin layer of tape. Then measure one (1) tubular fid length or two (2) wire fid lengths (because a wire fid is half size) from the end of the rope and mark. This is point R (Reference).

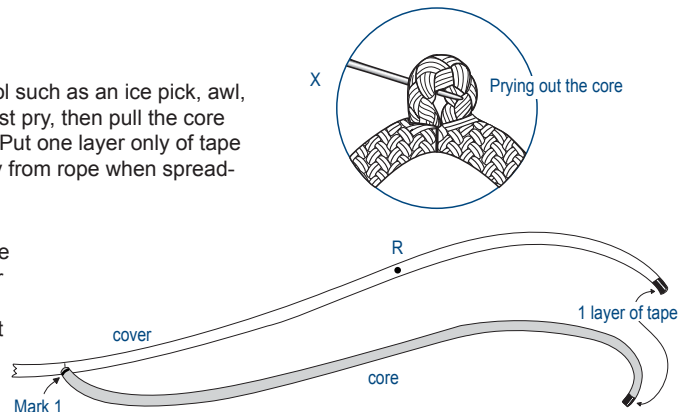
From R form a loop the size of the eye desired and mark. This is point X where you extract the core from inside the cover. If using a thimble, form the loop around the thimble. Tie a tight slipknot approximately five (5) fid lengths from X.



STEP 2 EXTRACTING THE CORE

Bend the 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 of tape on the end of the core. **Note:** Do not pull cover strands away from rope when spreading cover as this will distort the rope unnecessarily.

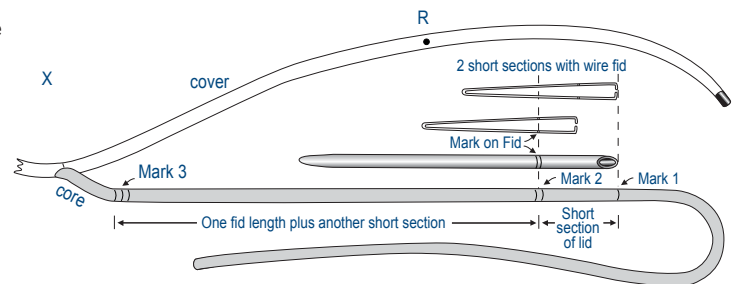
To assure correct positioning of Mark 1 do the following: Holding the exposed core, slide cover as far back as possible toward the tightly tied slipknot. Then, firmly smooth the cover back from the slipknot toward the taped end. Smooth again until all cover slack is removed. Then, mark the core where it come out of the cover. This is Mark 1.



STEP 3 MARKING THE CORE

Again slide the cover toward the slipknot to expose more core. From Mark 1, measure along the core toward X a distance equal to the short section of a tubular fid (two short sections if using a 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 a wire fid, double measurements) make three (3) heavy marks. This is Mark 3.



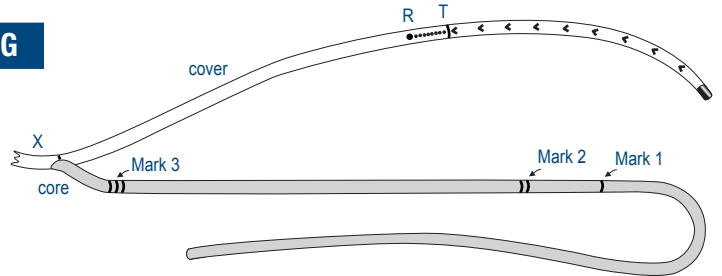


STEP 4 MARKING THE COVER FOR TAPERING

STEP 4

Note the nature of the cover braid. It is made up of strands with either one, two or three ends. By inspection you can see half the strands revolve to the right around the rope and half revolve to the left.

Beginning at R and working toward the taped end of the cover, count eight (8) consecutive strands (single or pairs) which revolve to the right (or left). Mark the eighth (8th) strand. This is point T. Make point T go completely around the cover. Starting at T and working toward the taped cover end, count and mark every fifth (5th) right and left strand until you reach the end of the taped cover. For those ropes with a 20 strand cover, count and mark the fifth (5th) right and left strand. From that mark count to the fourth (4th) right and left strand. Proceed in this manner, marking the fifth (5th) right and left strand and then marking the fourth (4th) right and left strand, until you reach the end of the taped cover.

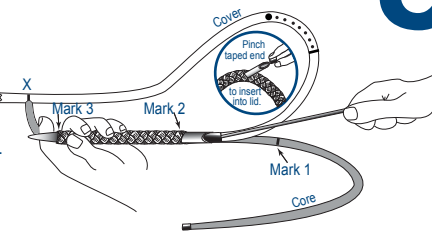


STEP 5

PUTTING THE COVER INSIDE CORE

Insert the fid into the core at Mark 2. Slide it through and out at Mark 3. Add extra tape to the cover end; then jam it tightly into the hollow end of the fid (see insert). Hold core lightly at Mark 3, place pusher joint into taped end and push fid and cover through at Mark 2 and out at Mark 3 (with a wire fid, first press prongs into cover, then tape over. Then, after fid is on, milk braid over fid while pulling fid through from Mark 2 to Mark 3). Take the fid off the cover; continue pulling cover tail through the core until Mark R on the cover emerges from Mark 3. Then remove the tape from the end of the cover.

*If splicing an eye with a thimble with "ears", insert thimble prior to inserting cover into core. Put core through ears and slide past Mark 3.

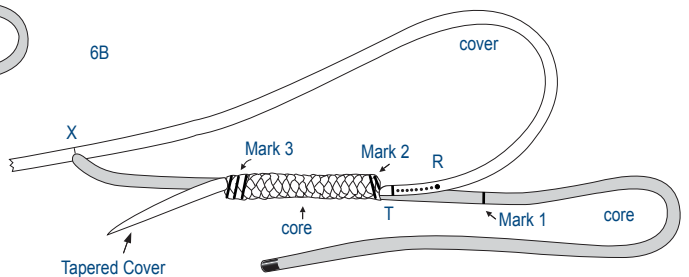
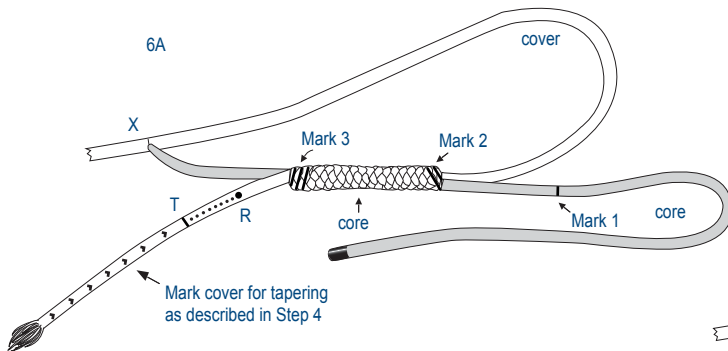


STEP 6

PERFORMING TAPER

Make sure the tape is removed from the cover end. Start with the last marked pair of cover strands toward the end, cut and pull them completely out (Fig. 6A). 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 result should be a gradual taper ending in a point. Very carefully pull the cover back through the core until point T emerges from Mark 2.





EYE SPLICE DOUBLE BRAID CLASS I

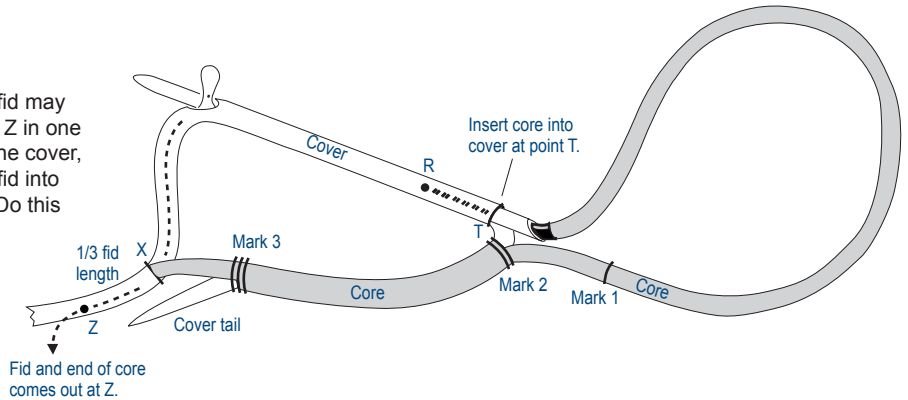
STEP 7 REINSERTING CORE INTO COVER

From X on the cover, measure approximately one-third (1/3) a tubular fid length toward the slip knot on the rope and mark this as Z.

You are now ready to put the core back into the cover from T to Z. Insert the fid at T, jam the taped core end tightly into the end of the fid. With the pusher, push the fid and core through the cover tunnel, past X and through the cover at Z.

When pushing the fid past X to Z, make sure the fid does not catch any internal core strands.

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

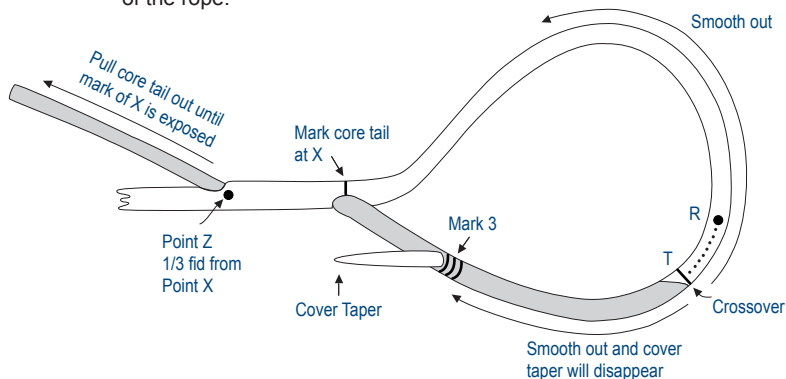


STEP 8 MARKING REDUCE VOLUME TAIL CORE

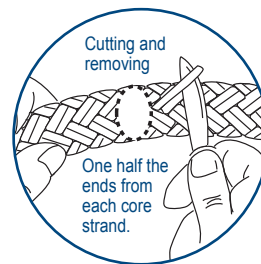
Alternately pull on the core tail at Z, then pull on the tapered cover at Mark 3. The crossover should be tightened until it is approximately equal to the diameter of the rope. Smooth out the cover of the eye completely, from crossover T toward X to get all the slack out of the eye area.

Mark the core tail through the cover at Point X.

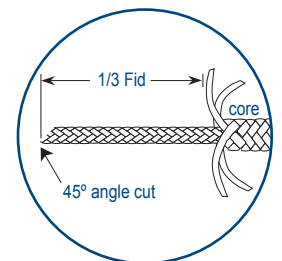
Pull the core tail out until the mark just made on the core is exposed at Z. Reduce the core volume at this point by cutting and removing one strand at each group, progressing around the circumference of the rope.



8A Measure 1/3 fid from start of reduction cuts (mark) toward end and mark. Cut off remaining tail at this point. Make cut on a 45° angle to prevent a blunt end (see insert). With one hand, hold crossover — MARK T. Smooth cover section of eye out firmly and completely from crossover toward X; reduced volume core tail should disappear into cover at X. Smooth out core section from crossover towards Mark 3 and cover taper will disappear into core.



Do this at mark made on core (through cover at X).





EYE SPLICE DOUBLE BRAID CLASS I

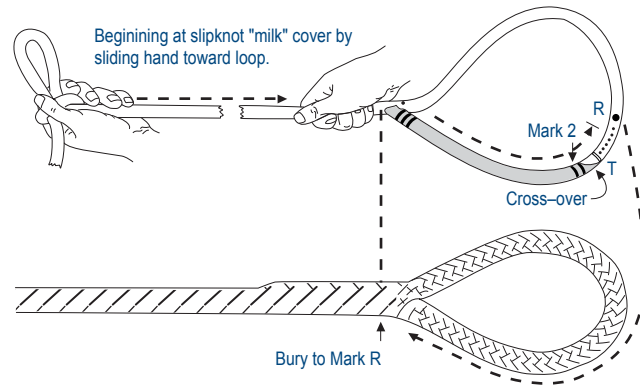
STEP 9

BURYING THE EXPOSED CORE

Hold the rope at the slipknot and with the other hand milk the cover toward the splice, gently at first, then more firmly. The cover will slide over Mark 3, Mark 2 and crossover T up to R (it may be necessary to occasionally smooth out eye during milking to prevent reduced volume tail catching in the throat of the splice).

If bunching occurs at the crossover preventing full burying, smooth cover from T to X. Grasp crossover at T with one hand and then firmly smooth cover slack (female side of eye) with the other hand toward the throat (X). Repeat as necessary until bunching disappears.

Continue milking until all cover slack between the knot and the throat of the eye has been removed.



STEP 10

TIP: BEFORE BURYING THE CORE

A. Anchor the loop of the slipknot by tying it to a stationary object before starting to bury. You can then use both hands and the weight of your body to more easily bury the cover over the core and crossover (see Figure 1 and Figure 2).

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

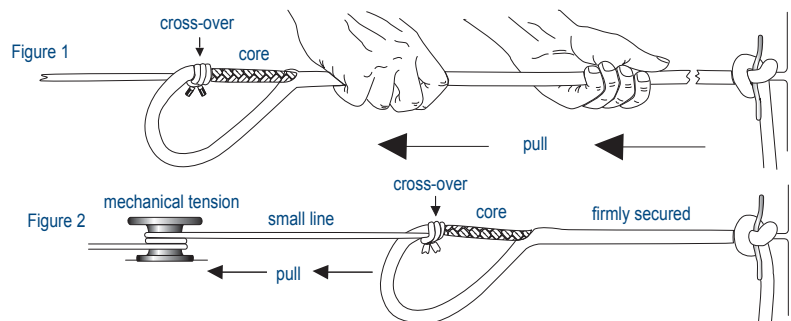
Flex and loosen the rope at the crossover point during the final burying process. Hammering the cover at X will help loosen the strands.

With larger ropes it is helpful to securely anchor the slipknot, 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.

Tension will reduce the diameter of the core and crossover for easier burying (see Figure 2).

In order to prevent no-load opening of your eye splice, Samson recommends lock-stitching the eye.

Please download lock stitch instructions to complete this splice.



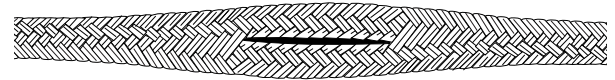


END FOR END DOUBLE BRAID CLASS I

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

Additional rope needed for splice:
circ. of rope in feet x 2.

This splice can be performed on new and 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 85% of average new rope strength and in used rope up to 85% of the remaining used rope strength.

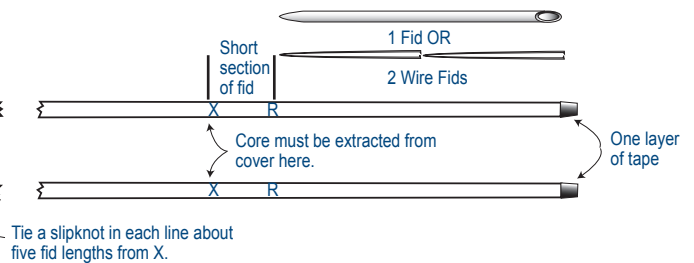
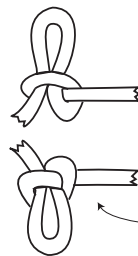


STEP 1 MARKING THE MEASUREMENTS

Tape the end of each rope with one thin layer of tape. Lay two ropes to be spliced side by side and measure one tubular fid length (two wire fid lengths because wire fid is 1/2 size) from end of each rope and make a mark. This is point R (Reference).

From R measure one short fid section length as scribed on the fid; then, mark again. This is Point X, where you should extract core from inside cover. Be sure both ropes are identically marked. Tie a slipknot approximately five fid lengths from X.

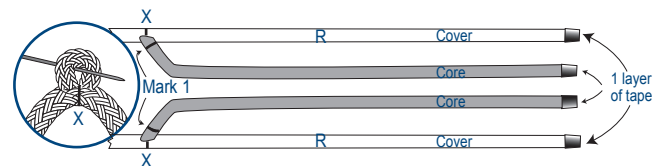
If you require the rope with the finished splice to be a certain overall length, refer to "Special Tips for Splicing", page 8 of this book.



STEP 2 EXTRACTING THE CORES

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

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 cover back from the slip knot towards taped end. Smooth again until all cover slack is removed. Then, mark core where it comes out of cover. This is Mark 1. Do this to both ropes.



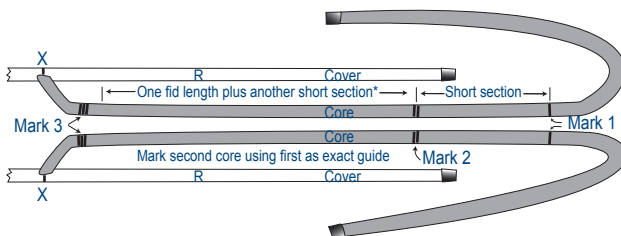
STEP 3 MARKING THE CORES

Hold one core at Mark 1 and slide cover back to expose more core.

From Mark 1, measure along core towards X a distance equal to the short section of 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* and make three heavy marks. This is Mark 3.

Mark second core by laying it alongside the first and using it as an exact guide.



* With wire fid double measurements up to 13" circumference.



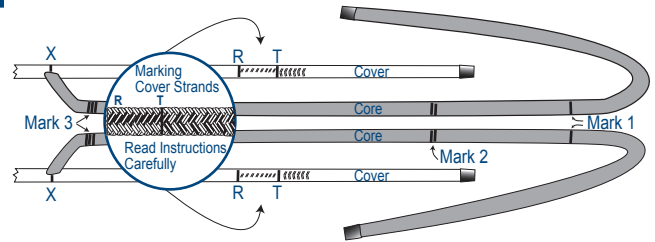
END FOR END DOUBLE BRAID CLASS I

STEP 4

MARKING THE COVER FOR TAPERING

Note nature of the cover braid. It is made up of strands. By inspection you can see that half the strands revolve to the right around the rope and half revolve to the left. Beginning at R and working toward the taped end of cover, count eight consecutive pairs of cover strands which revolve to the right (or left). Mark the 8th pair. This is Mark T. Make Mark T go completely around cover.

Starting at T and working toward taped cover end count and mark every second right pair of strands for a total of six. Again, starting at T, count and mark every second left pair of strands for a total of six. Make both ropes identical.

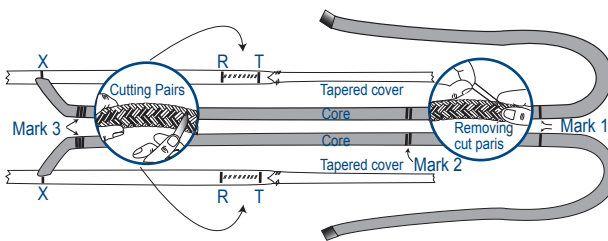


STEP 5

PERFORMING THE TAPER

First remove tape from cover end. Starting with last marked pair 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. Retape tapered end.

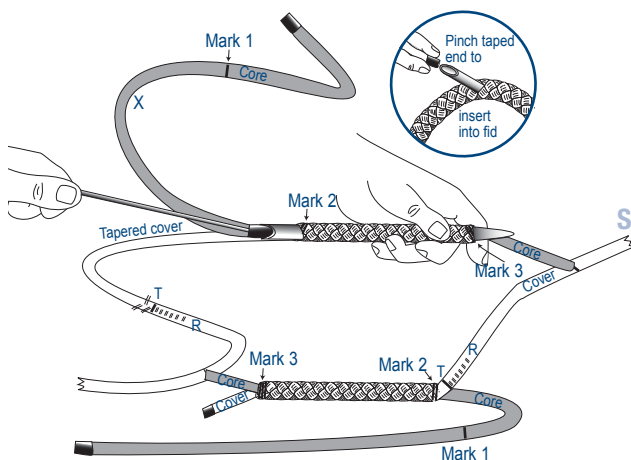
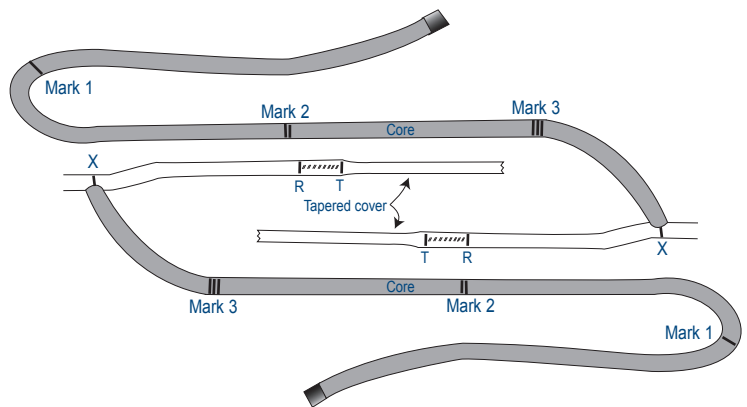
Cut and remove marked strands on the other marked cover, again stopping at T. Retape tapered end.



STEP 6

REPOSITIONING THE ROPES

Reposition ropes for splicing according to diagram. Note how cover of one rope has been paired off with core of the opposite line. Avoid twisting.



STEP 7

PUTTING THE COVER INSIDE CORE

Insert fid into one core at Mark 2 and bring it out at Mark 3. Add extra tape to tapered cover end then jam it tightly into hollow end of fid. Hold core lightly at Mark 3, place pusher point into taped end pushing fid and cover in it from Mark 2 and out at Mark 3. When using wire fid, attach fid to cover. Then pull fid through from Mark 2 to Mark 3. Pull cover tail through core until Mark T on cover meets Mark 2 on core. Insert other cover into core in same manner.

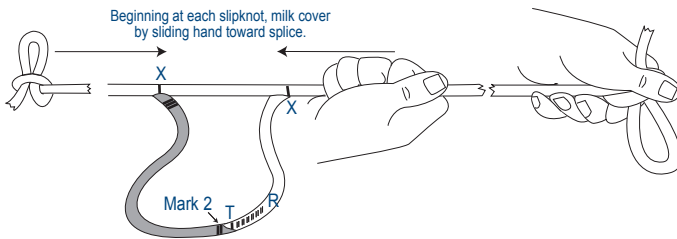
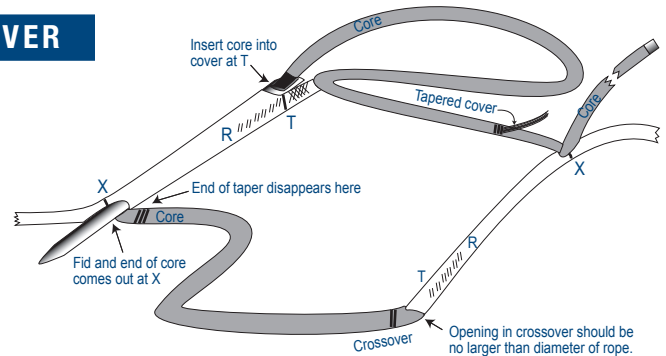


END FOR END DOUBLE BRAID CLASS I

STEP 8

REINSERTING THE CORE INTO THE COVER

Now put core back into cover from T to X. Insert fid at T, jam taped core tightly into end of fid. With pusher, push fid and core through cover bringing out at Point X. When using wire fid attach fid to taped core. Then pull fid and braid through from T to X. Do this to both cores. Remove tape from end of cover. Bring crossover up tight by pulling on core tail and on tapered covered tail. Hold crossover tightly smoothing out all excess braid away from crossover in each direction. Trim end of Tapered cover at an angle to eliminate blunt end. Tapered cover tail will disappear at Mark 3. Cut core tail off close to Point X at an angle.



STEP 9

BURYING THE EXPOSED CORE

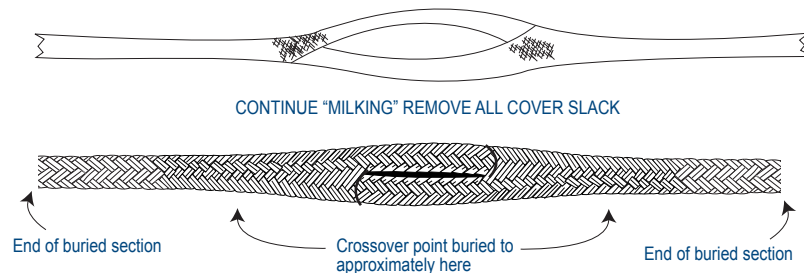
Hold rope at slipknot and with other hand milk cover toward the splice, gently at first, and then more firmly. The cover will slide over Mark 3, Mark 2 the crossover and R. Repeat with the other side of the splice. Continue burying until all cover slack between the knot and the splice has been removed.

STEP 10

FINISHING THE SPLICE

The splice is done when all cover slack has been removed and there is an opening in the splice approximately equal in length to the diameter of rope. If, at the opening, one side of the splice is noticeably longer than the other side, something is wrong. Check Steps 1–9 and remake if necessary.

Now untie the slip knots.





BACK SPLICE DOUBLE BRAID CLASS I

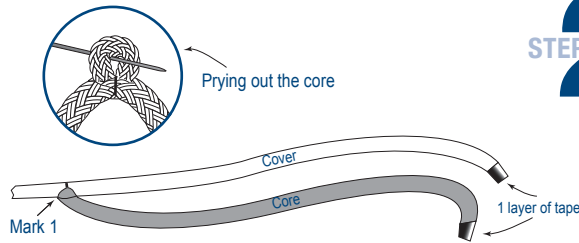
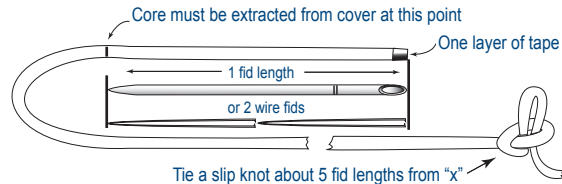
Class I Double Braids are made from any or all of the following fibers: olefin, polyester, or nylon.

The Samson Back Splice is a neat and permanent way to terminate the end of a line. It is flexible and can be tapered to reduce bulk. To make a Back Splice half as long as described, use half measurements.

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 X (Extraction).

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



STEP 2 EXTRACTING THE CORE

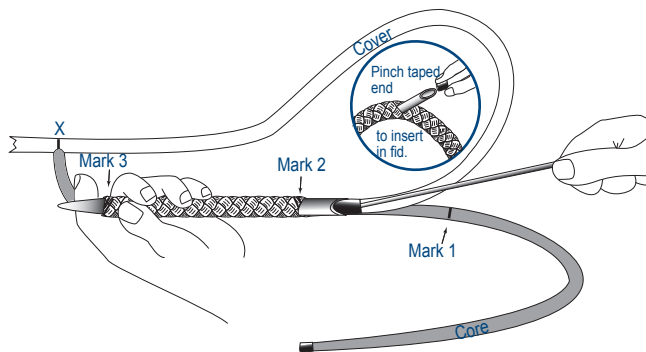
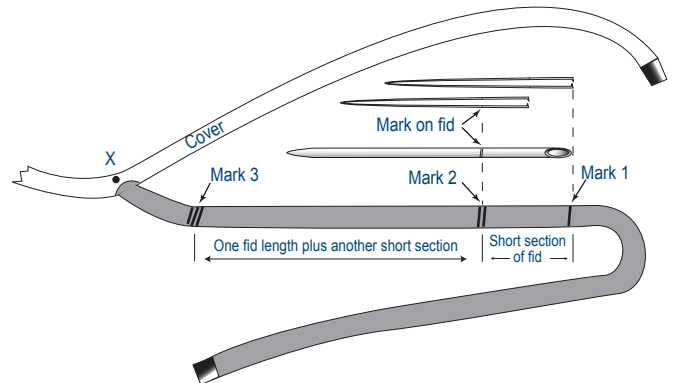
Bend rope sharply at X. With pusher or any sharp tool such as an ice pick, awl, or marlin spike, separate cover strands to expose core. First pry; then, pull core completely out of cover from X to the taped end of rope. Put one layer only of tape on end of core.

To assure correct positioning of Mark 1 do the following. Holding exposed core, slide the cover as far back towards the tightly tied slip knot as you can. Then, firmly smooth cover back from slip knot towards the taped end. Smooth again until all cover slack is removed. Then, mark core where it comes out of the cover. This is Mark 1.

STEP 3 MARKING THE CORE

Again slide cover towards the slipknot to expose more core. From Mark 1 measure along core towards X a distance equal to the short section of fid and make two heavy marks. This is Mark 2 (double measurements with wire fid).

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



STEP 4 PUTTING THE COVER INSIDE CORE

Insert fid into core at Mark 2. Slide fid through and out at Mark 3. Pinch taped end of cover, jam it tightly into hollow end of fid. Hold core lightly at Mark 3, place the pusher point into the taped end, and push fid and cover through from Mark 2 and out at Mark 3. When using wire fids for larger size ropes, attach fid to taped cover.

After fid is on, milk the braid over the fid while pulling fid through from Mark 2 to Mark 3.

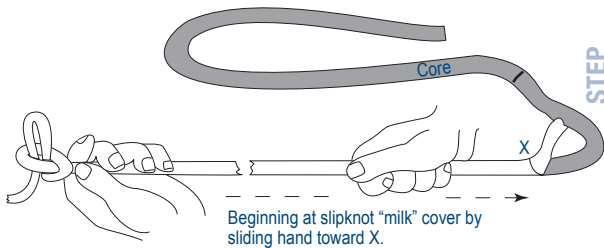
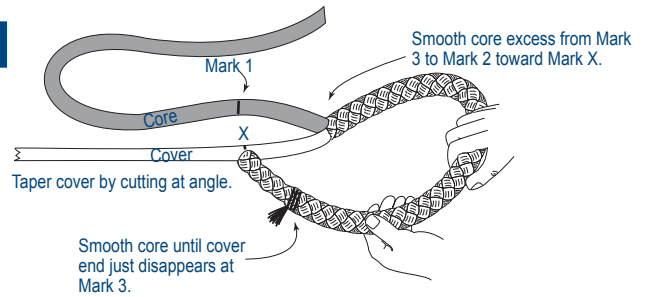


BACK SPLICE DOUBLE BRAID CLASS I

STEP 5

ADJUSTING THE CORE OVER COVER

Remove tape from cover end. Cut (trim) cover strands at an angle (taper) to avoid blunt end. Smooth core from Mark 2 towards Mark 3 until cover ends just disappear inside. Next, holding core at Mark 3, smooth core from Mark 3 to Mark 2. Do this until all excess is eliminated.



STEP 6

BURYING THE EXPOSED CORE

Hold rope at slipknot and with other hand, milk the cover toward splice, gently at first, and then more firmly. The cover will slide over Mark 3, Mark 2, and finally X. Be sure all excess cover is milked out so that X (a bump) is well inside the cover.

If final burying is difficult, flex the splice to loosen the strands, then continue burying.

STEP 7

FINISHED SPLICE

Cut the protruding core off close at the cover. Once again milk cover firmly towards the end so that it covers the cut off core.





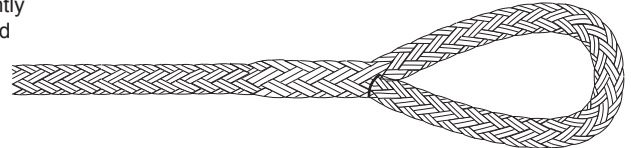
USED ROPE EYE SPLICE *DOUBLE BRAID CLASS I*

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.

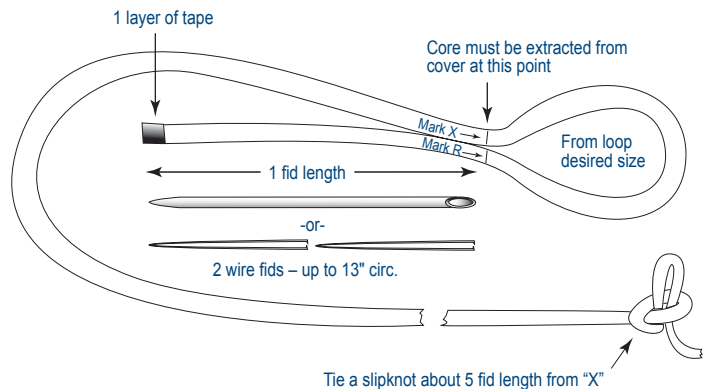
Splicing used rope can be made easier by first understanding the rope condition. Natural shrinkage has occurred caused by water and heat. In addition, the cover yarns have often been abraded. Soak the section of rope to be spliced in water for several minutes – this lubricates and loosens fibers.



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.

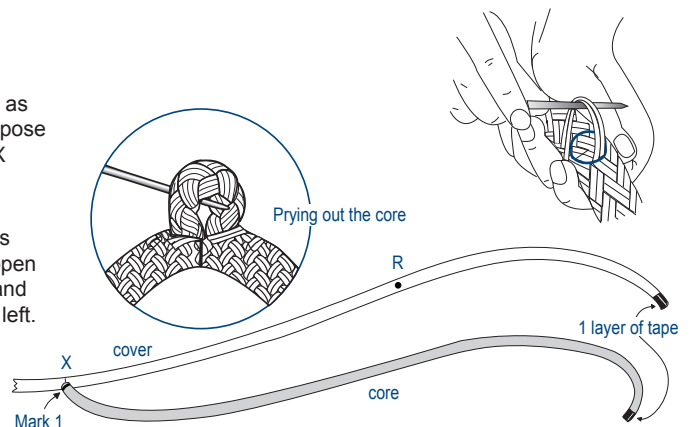
Tip: After marking cover untape end of rope, grasp end of core, and slide back cover pulling out core. This loosens and bunches up cover strands in the area of Point X and makes it easier to open up cover strands for extraction. Also, thoroughly loosen 3-4 strand pairs at X to assure a large and flexible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

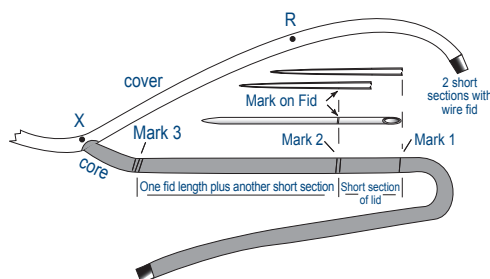


STEP 3 MARKING THE CORE

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*

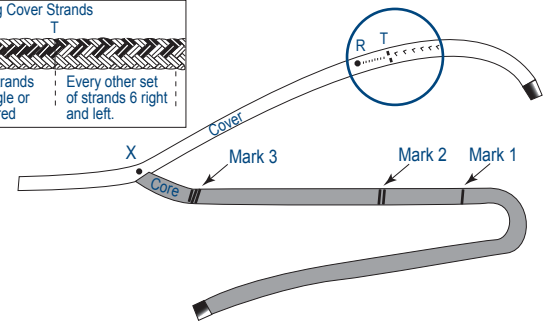
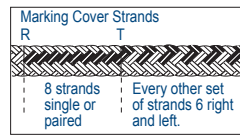
STEP 4

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.



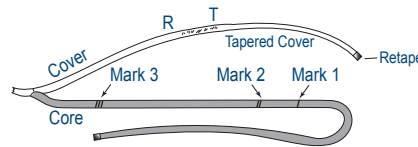
STEP 5

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

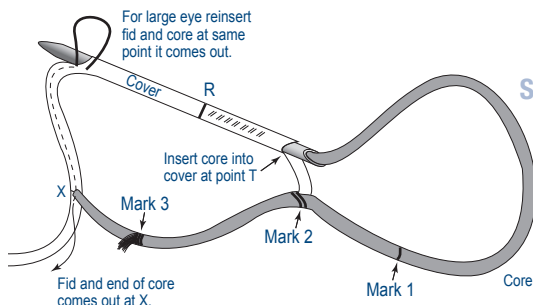
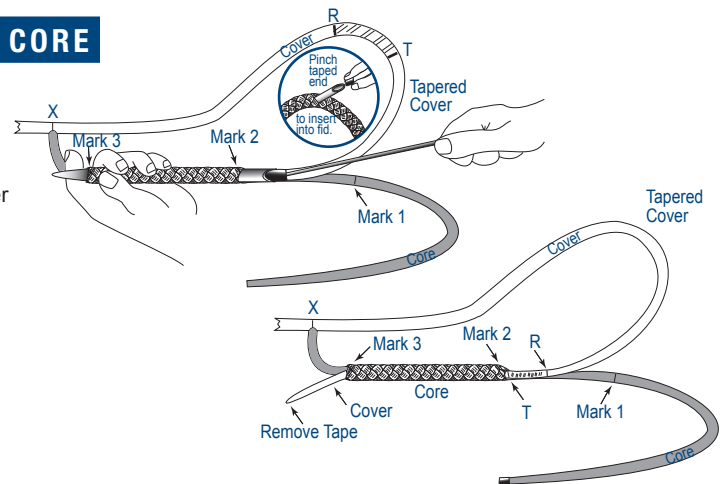
PUTTING THE COVER INSIDE THE CORE

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

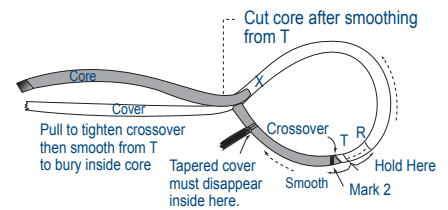
PREPARING TO BURY CORE

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:

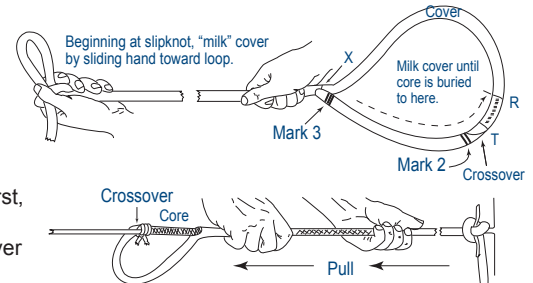
A. Anchor loop of slipknot by tying it to stationary object before starting to bury. You can then use both hands and weight of body to more easily milk cover over core and crossover (See Fig. 1 & 2).

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

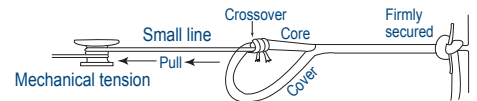
Flex and loosen the rope at the crossover point during the final burying process. Hammering cover at point X will help loosen strands.

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

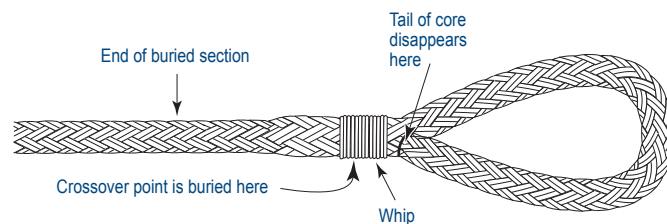
FINISHING THE SPLICE

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.





SPECIAL TIPS FOR SPLICING DOUBLE BRAID

SPLICE WITH THIMBLE

Follow Step 1 of the Eye Splice Double Braid Class I for determining the correct eye size. When burying exposed core, as in Step 8, bury to crossover, then insert thimble into eye before milking cover all the way. If using a thimble with ears, before inserting cover into core, as in Step 5, insert core through the rings (dog ears) and slide thimble beyond Mark 3. Then proceed to make the splice according to instructions. Note: Before final burying, slide thimble around to cover side of eye. To secure finished eye tightly around thimble, either whip throat or dip the eye in hot water for several minutes. Hot water will shrink eye tightly around thimble for nylon and polyester fiber ropes.



MINIMUM LENGTHS

Minimum Eye and Eye Sling length with Class I Double Braid is 5 fid lengths from extraction Mark X to extraction Mark X, regardless of rope diameter. The size of eye does not affect the minimum length. Proceed to make the eye splice as per instructions.

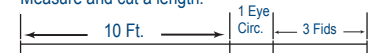
Exact Overall Lengths with eye splices are determined by allowing for extra rope consumed in making the splices. For each splice the length of extra rope is equal to 1-1/2 fid lengths plus 1/2 the circumference of the eye.



Example: To make an Eye and Eye Sling 10' overall with two 6" eyes:



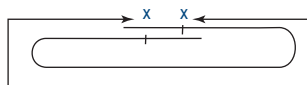
Measure and cut a length:



Then start with step #1 of class 1 double braid splice.

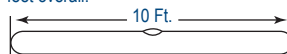
END FOR END SPLICE

Minimum Endless Loop (Grommet) with Class I Double Braid is 10 fid lengths between extraction Mark X to extraction Mark X, regardless of rope diameter. Proceed with the Class I Double Braid End for End splicing instructions.

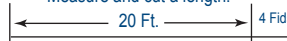


Exact Overall Lengths with endless loops are determined by allowing for extra rope consumed in making the End-for-End Splice. The length of extra rope is equal to 4 fid lengths.

Example: To make an endless loop 10 feet overall:



Measure and cut a length:



Then start with step 1 of the Class I Double Braid End-for-End splicing instruction.



SPECIAL TIPS FOR SPLICING USED DOUBLE BRAID

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 abraided. Therefore, by using the technique outlined in the Used Rope Eye Splice for Class I Double Braids, along with the following tips, you can splice used Braided Rope more easily and with better results.

Soak the section of rope to be spliced in water for several minutes - this lubricates and loosens fibers.

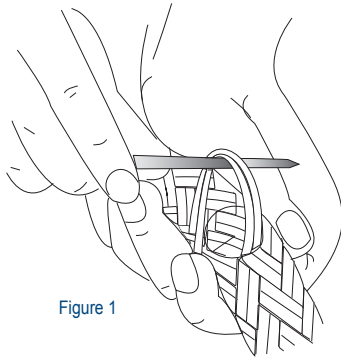


Figure 1

After marking cover (as shown in Step #2 of the splicing instruction) 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, carefully loosen 3-4 strand pairs at X to assure a large and flexible hole for extraction. (Figure 1)

Final Burying:

The use of a 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. (Figure 2)

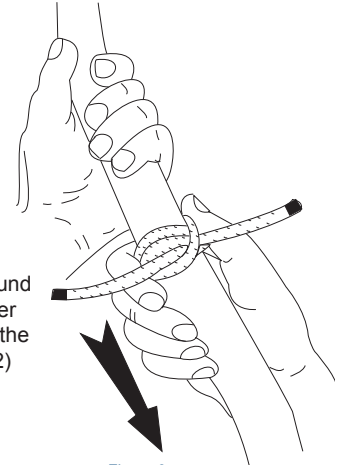


Figure 2



MOORING MASTER EYE SPLICE CLASS I & II

A. Fid Length:

The splicing instructions refer to "fid lengths" when making measurements on the rope. A fid length (in inches) may be calculated in the following manner:

1. Divide the rope diameter by 3.
2. Multiply the amount by 21.
3. Round up the answer to the next highest inch.

B. Splice Protection:

The finished splice area below the eye requires some type of protection in the form of a chafe sleeve, tape, etc. For most types of service, heavy wall shrink tubing may be used. Alternatives include whipping the splice, wrapping with tape and /or heavy urethane coating. If a sleeve of any sort is going to be used in the splice area, it must be installed prior to beginning the splice.

C. Rope Construction:

The Mooring Master construction consists of seven 12-strand braided cores contained within an outer braided jacket. The cores are arranged in parallel within the braided jacket with one core in the middle and six cores around the center (Fig. 1). The cores are numbered in the splicing instructions to help identify which core is used when splicing.

Example:

The fid length for a 1-1/2" diameter Mooring Master is:
Rope diameter divided by 3: $(1.5 \div 3) = .5$

Multiply answer by 21: $(.5 \times 21) = 10.5$

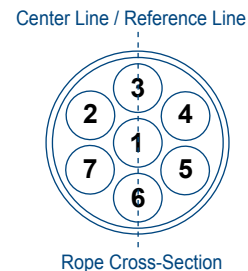
Round answer up to next highest inch: 11 inches

*Number of Fid Lengths:

Class I Mooring Master (N-7 and P-7) = 4 fids required to do splice. Overall splice length is approximately 3 fids.

Class II Mooring Master (D-7 and DD-7) = 5 fids required to do splice. Overall splice length is approximately 4 fids.

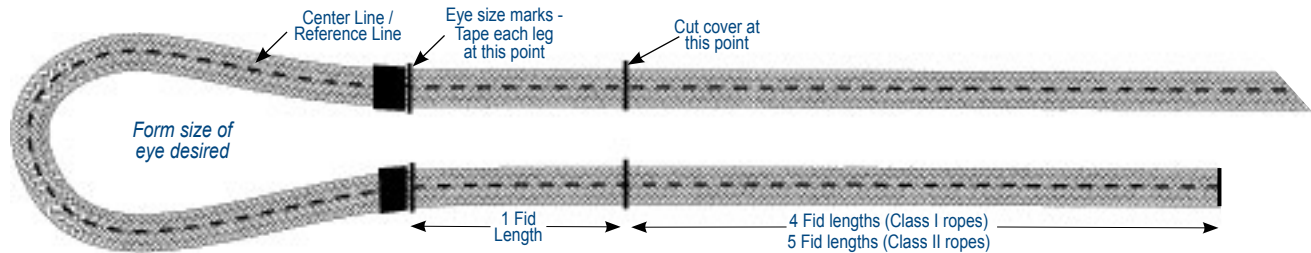
Fig. 1



STEP 1 MEASURING AND MARKING

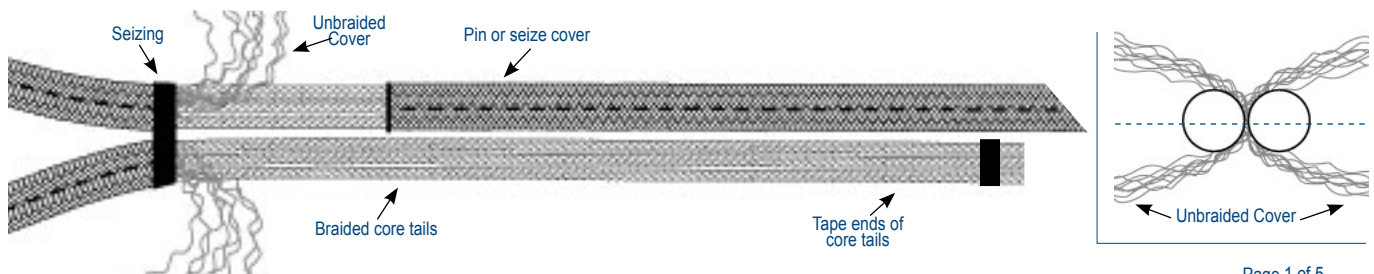
Based on the core size (see Fig. 1 above) and the type of Mooring Master being spliced*, measure the appropriate number of fid lengths up from the end of the rope and make a mark. This is one side of the eye. Form the size of the eye required and make a second mark directly opposite the first mark. Tightly tape the cover at each eye size mark. Measure down 1 fid length from each eye size mark and mark the cover again. Completely cut the cover away at each of these second marks.

NOTE: When laying out the rope it is important to make sure that there is not twist in the rope and that one of the six inner cores is directly on top. This can be done by unbraiding a short length of the cover from the end of the rope to expose the core braids and then turning the rope until one of the cores is directly on top. If necessary, a line (the center line/reference line) can then be drawn on the cover braid to serve as a guide in removing any twist.



STEP 2 UNBRAID COVER AND TAPE ENDS

After cutting the cover at the two locations, unbraid each section of cover back to the tape at the eye size marks. Divide the cover yarns at each eye size mark horizontally as shown and tape the ends together to keep them out of the way. Slide the remaining cover off the end of the rope and discard and tape the ends of the cores. Pin or tightly seize the body of the rope at a point about 15 fid lengths down from the point where the cover was cut and slide the cover down away from the eye to expose the cores in the body of the rope. Finally, tightly seize or tape the two sides of the eye together to keep the shape of the eye.





MOORING MASTER EYE SPLICE CLASS I & II

STEP 3

MEASURE & MARK CENTER CORES

The first part of the splice uses the center core and the center core tail (core No. 1 in Fig. 1). Both the center core and the tail should be pulled out between the top 3 cores and the bottom 3 cores as shown in Fig. 3A. Put the center core tail under the center core so that the two sections continue the line of the two legs of the eye. Mark the side of the center core and the top of the core tail where the two intersect then measure down the center core a distance of 3 fids (Class I ropes) or 4 fids (Class II ropes) and make a mark on the center core.

Insert the core tail in the center core at the first mark and bring it out at Mark 4 (3 fids down on Class I ropes and 4 fids down on Class 2 ropes) as shown in Fig. 3B. Line up the mark on the core tail with the mark on the center core at the base of the eye and tape tightly. Smooth all of the slack in the center core.

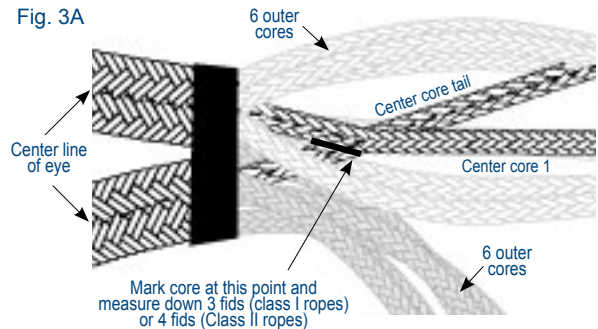
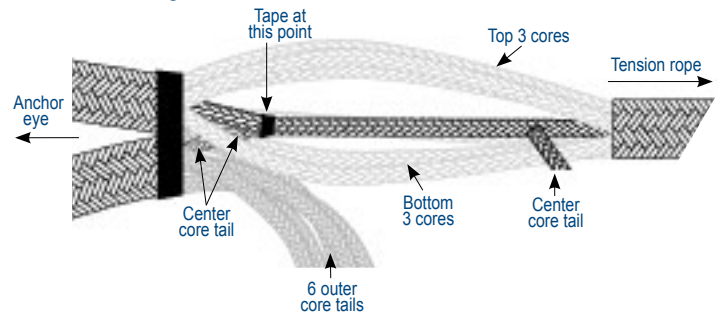


Fig. 3B



STEP 4

MARK CORES AND TAILS

Attach the eye to an anchor point and put the rope under tension (about 100 lbs.). Then lay out the top three cores and core tails as shown. Core tail No. 4 (the one closest to the inside of the eye) passes under all three cores, core tail No. 3 (the top core in the center) passes under two of the cores and core tail No. 2 (the outside core tail) passes under one core. Maintain the angle of the legs of the eye splice when positioning the cores and core tails. Mark the side of the core and the top of its respective core tail where the two intersect (as shown in the Figure). Remove the core tails and then measure down three fids (on Class I ropes) or four fids (on Class II ropes) from each mark on the cores and make a second mark.

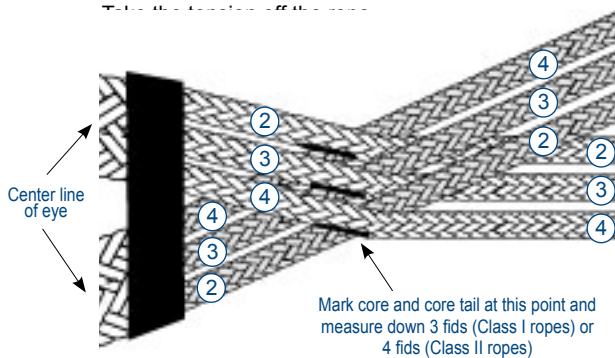
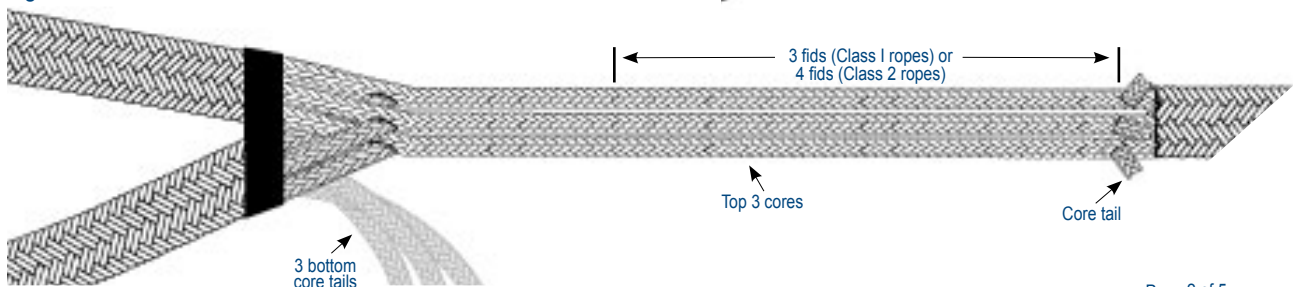


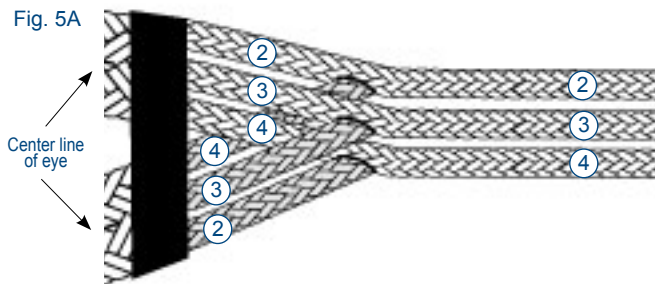
Fig. 5B



STEP 5

BURY CORE TAIL INTO CORE

Pass core tail No. 4 under cores No. 4 and No. 3 and then insert it at the first mark on core No. 2 and out at the second mark. Pass core tail No. 3 over core No. 4 and bury it at the first mark on core No. 3. Finally, insert core tail No. 2 directly into core No. 4. Align the marks on the paired up cores and core tails at the base of the eye and smooth out all of the slack in the cores. When finished, the rope should appear as in Fig. 5B.

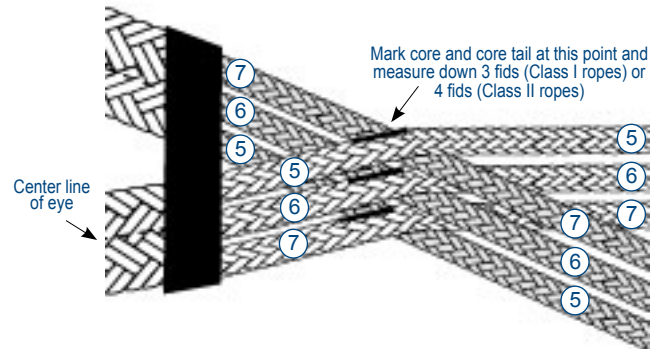




MOORING MASTER EYE SPLICE CLASS I & II

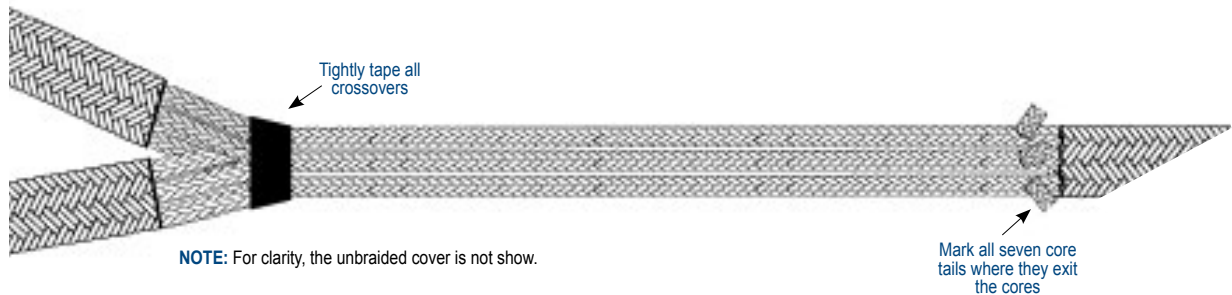
STEP 6 MARK REMAINING CORES AND TAILS

Turn the rope over and again place it under a slight tension. Repeat steps 4 and 5 using the last three cores and core tails. The procedure for laying out, marking and then burying the cores and core tails is identical to that described in the previous steps except that the direction of the core tails is reversed. Remove tension from the rope before attempting to bury the last three core tails.



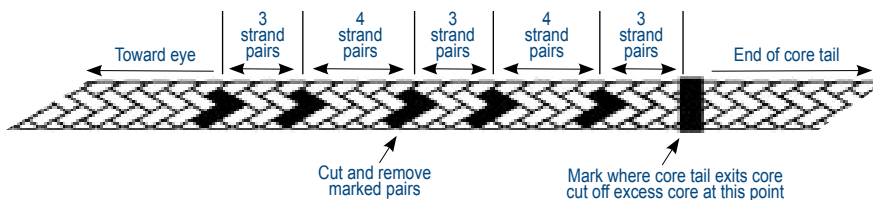
STEP 7 TAPE AND MARK CORE TAILS

After smoothing out the slack from the last three cores, place the rope under tension. Check to see if the cores are under approximately the same tension by lifting each core individually, including the center core. If one or more of the cores feels tighter than the others, continue to smooth out the tight cores until all cores are balanced. Once the cores are under uniform tension, tightly tape the circumference of the rope at the point where the core tails go into the cores. Then mark all seven core tails at the point where they exit from their respective cores.



STEP 8 MARK THE CORE FOR TAPERING

Remove the tension from the rope. Pull the end of each core tail out exposing a length of buried core tail. Mark the core for tapering as shown. Starting from the mark at the end of the core tail (the mark made on the core tail where it exited from the core) and working toward the eye splice, count 3 pairs of strands and mark a left and right-hand strand. Then count 4 pairs of strands and mark a left and right-hand strand. Continue this procedure, counting 3 pairs and marking, 4 pairs and marking and 3 pairs and marking. When finished a total of 5 left and right strand pairs should be marked. Cut off the excess core tail at the mark at the end of the core (the mark made on the core tail where it exited from the core) and then cut and remove each of the 5 marked strand pairs. Repeat this procedure for each of the seven cores.

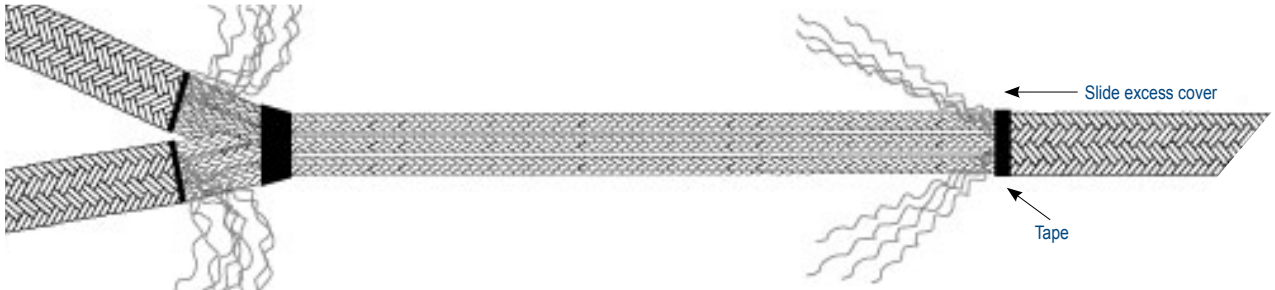
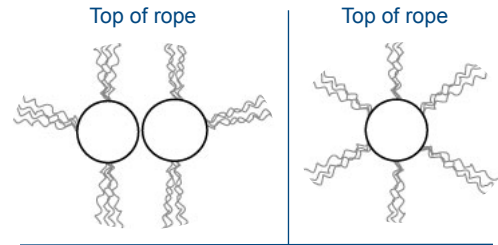




MOORING MASTER EYE SPLICE CLASS I & II

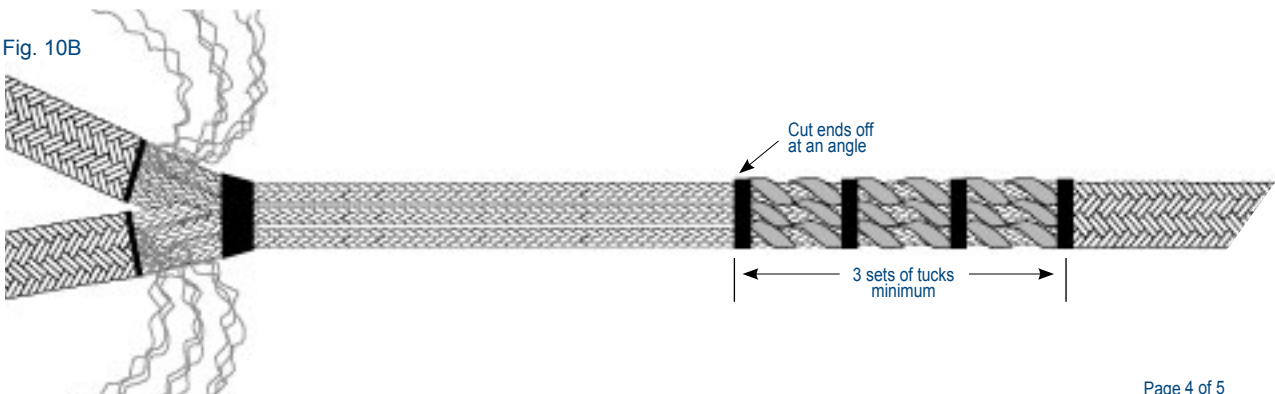
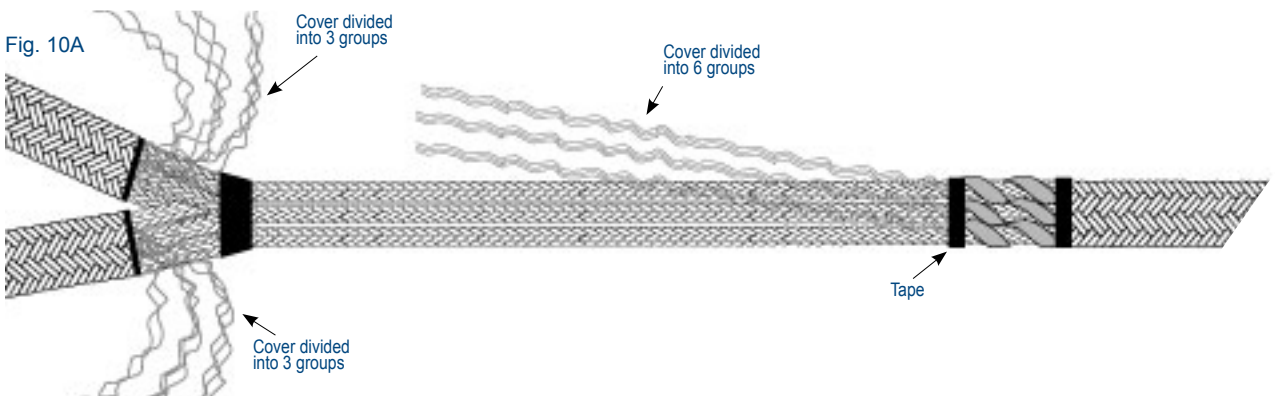
STEP 9 DIVIDE COVER INTO 6 BUNDLES

Put the rope under tension and slide the cover back up the rope towards the splice area. It will be necessary to unbraid the end of the cover for some length in order to remove all the slack from the braided section. Slide the braided section as far as possible up past the end of the splice. Then tightly tape the braided cover at the point where the braid begins to come apart and divide the unbraided cover yarns into 6 separate bundles. Finally, divide the unbraided cover yarns at each leg of the eye into 3 separate bundles.



STEP 10 GROUP AND TUCK COVER

Starting at the base of the splice, take one of the 6 cover braid bundles, pass it over one of the core braids and under the very next core braid (forming a simple tuck similar to that used in splicing 3-strand rope). When tucking the core bundle be careful not to go under the core braid in the center of the rope. Repeat this procedure with each of the 6 cover bundles. The direction of the tucks should be as shown in Fig. 10A. When all 6 bundles have been tucked once, tightly tape around the rope at the point where the tucks occur. Repeat this procedure until a minimum of three complete tucks have been made with all six cover bundles. Additional tucks can be made if there is sufficient length left. When the last set of tucks has been made and taped, cut off the excess cover yarn bundles flush with the last taped section.

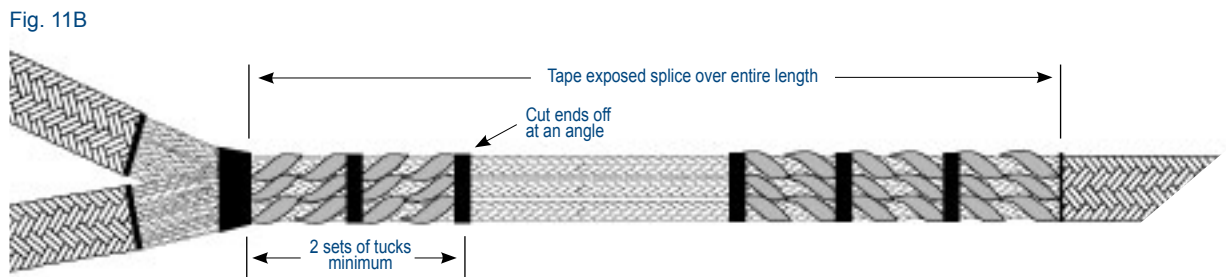
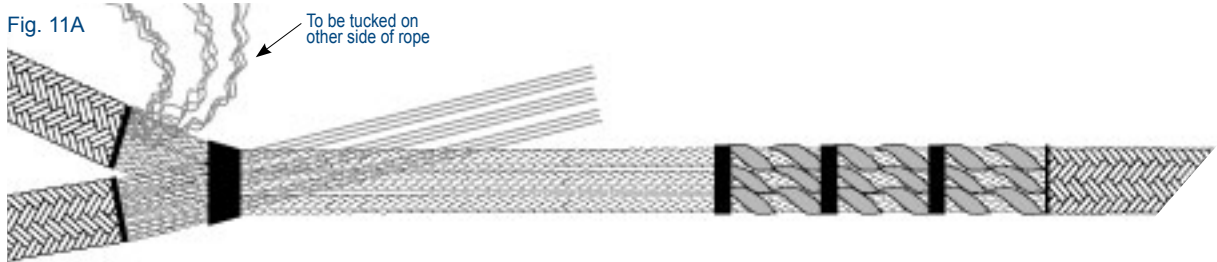




MOORING MASTER EYE SPLICE CLASS I & II

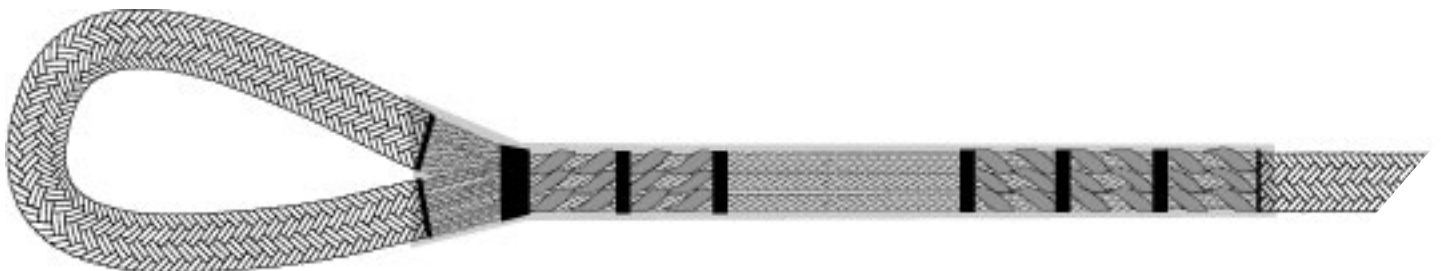
STEP 11 GROUP AND TUCK COVER

Tuck the 6 cover braid yarn bundles at the base of the eye. With the eye laying flat (as shown in Fig. 11A) take the bundle closest to the throat of the eye and pass it under the core braid at the top of the rope. Next, take the center cover yarn bundle and pass it under the middle core braid. Finally, take the remaining core bundle and pass it under the bottom core braid. Turn the eye over and repeat this process with the 3 remaining cover yarn bundles. The direction of the tucks should be as shown in Fig. 11B Tape around the rope at the point where the tucks occur. Repeat this procedure until a minimum of two tucks have been completed. When the last set of tucks has been made and taped, cut off the excess cover yarn bundles flush with the last taped section.



STEP 12 FINISH SPLICE

Tape the exposed splice over its entire length with a heavy duty vinyl or plastic tape. Install any other type of chafe gear at this time.





EYE SPLICE DOUBLE BRAID CLASS II

Class II (core-dependent) double braids are made in whole or part from any of the following high modulus fibers: Dyneema®, Vectran®, Technora®, and Zylon®.

The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

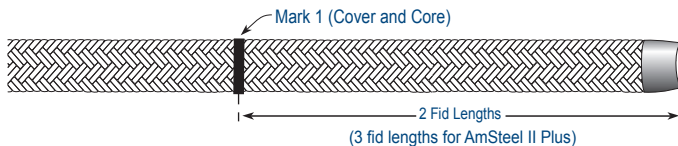
The following procedure is intended to preserve the strength of double braided rope constructions where the rope's core is the primary strength member.

Additional rope needed for splice:
 2-1/2 fid lengths plus length of eye:
 with thimble: 2-1/2 fid lengths
 plus 1/2 circ. in feet.
 (for AmSteel II Plus, 3 fid lengths.)

STEP 1

MARKING THE COVER

1A Measure 2 tubular fid lengths back from end:
 Place Mark 1 on cover and on core.
 (for AmSteel II Plus, the required bury length is 3 fids.)



Measure eye size back from Mark 1 and place Mark 2 on both the cover and core, as done with Mark 1.

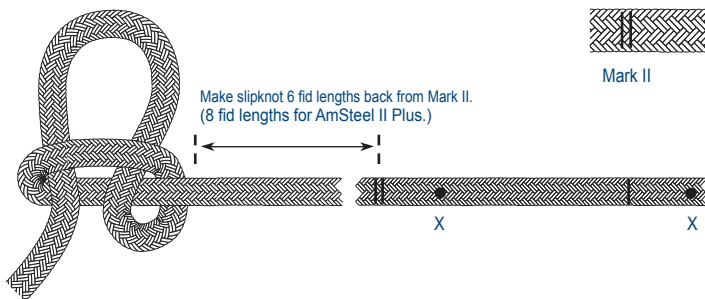
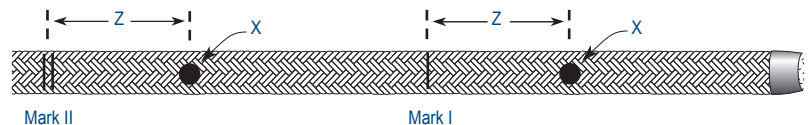
When splicing on a thimble with ears, slide thimble on and position between Mark 1 and Mark 2. Leave in place and continue with the splice. Thimble must be positioned between "X" points. (1B)

1B Mark on cover two extraction points (X),
 as measured by the "Z" length toward
 end of rope from Mark 1 and Mark 2.
 (8 fid lengths for AmSteel II Plus.)

1C Put slipknot in rope six fid
 lengths back from Mark 2.

Length of Z Section Based On Size of Rope as Follows:

Size (Dia.)	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	3/4"	7/8"	1"	1-1/8"	1-1/4"	1-5/16"	1-1/2"
Z Length	5"	5"	5"	5"	6"	6-3/4"	7-1/2"	8"	9"	9"	12"	12"	13"	13"
AmSteel II Plus	6-1/2"	6-1/2"	6-1/2"	6-1/2"	8"	9"	10"	10-1/2"	12"	12"	15"	15"	17-1/2"	17-1/2"



STEP 2

EXTRACTING THE CORE

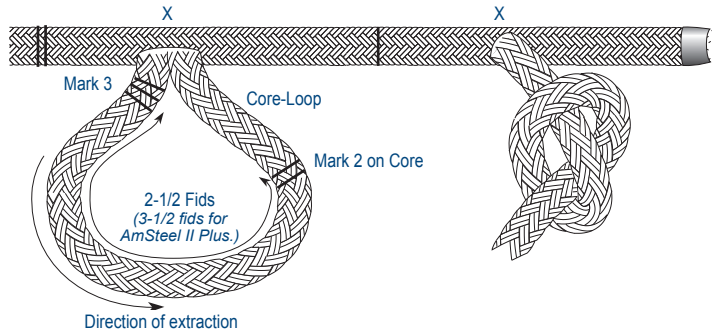
Extract core at extraction point X nearest end of rope. Put an overhand knot in core at the point where it comes out of the cover.



EYE SPLICE DOUBLE BRAID CLASS II

2A Now extract core at second core extraction point X in the form of a loop. Expose 2-1/2 fids from Mark 2 and make Mark 3. Extract from same side of rope as first extraction.
(3-1/2 fids for AmSteel II Plus.)

When using thimble with ears, move rope around thimble to expose second extraction point.

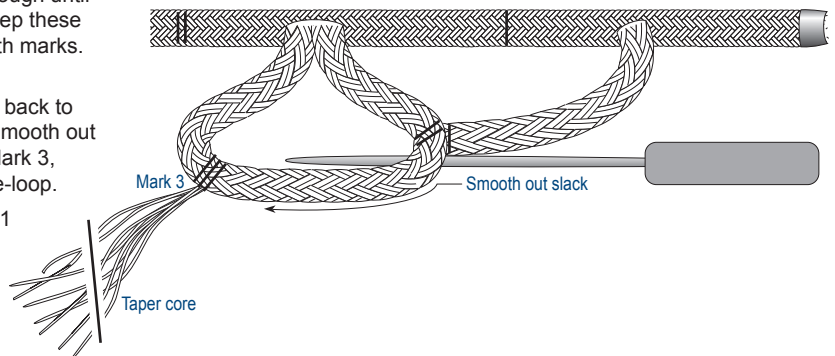


STEP 3 INSERTING CORE INTO CORE

Remove knot in core and insert core-tail into core loop at Mark 2 for 2-1/2 fid lengths. Pull core-tail through until Mark 1 on core meets Mark II on core-loop. Keep these marks together by inserting pusher through both marks.
(3-1/2 fids for AmSteel II Plus.)

Taper core tail by unbraiding core tail from end back to Mark 3. Angle cut strands to perform a taper. Smooth out slack away from Mark 2 on core-loop toward Mark 3, which will cause core tail to disappear into core-loop.

Remove pusher (inserted earlier to keep Mark 1 and Mark 2 together).

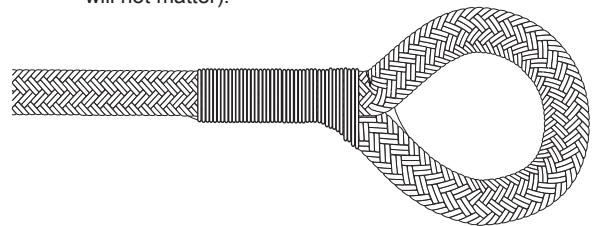


STEP 4 SMOOTHING COVER

Milk up cover completely away from slipknot and toward eye. This should bring cover up to Mark I and Mark II on core (a little over is acceptable).



4A Smooth out cover slack around eye. Extraction points X should close in and meet (a little long will not matter).



STEP 5 FINISHING THE SPLICE

Bring cover-tail down on side of rope (minimum 2 times rope circumference in inches) and lock stitch (or tape) excess cover to rope. After lock stitching, excess cover should be whipped to the neck of the rope with appropriate whipping twine.



END FOR END DOUBLE BRAID CLASS II

Class II double braid ropes are made in whole or part from any of the following high modulus fibers: Dyneema®, Vectran®, Technora®, or Zylon®.

Additional rope needed for splice:
5 fid lengths.

STEP 1

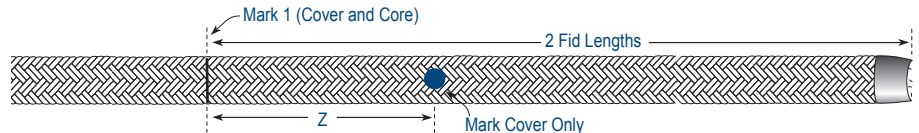
MARKING THE MEASUREMENTS

From the end of **each** rope, measure and mark as follows:

- A. 2 Fid Lengths from end – Mark 1 on Cover and Core
- B. From Mark 1 measure Z section lengths towards end of rope. (Mark cover only).

LENGTH OF Z SECTION BASED ON SIZE OF ROPE AS FOLLOWS:

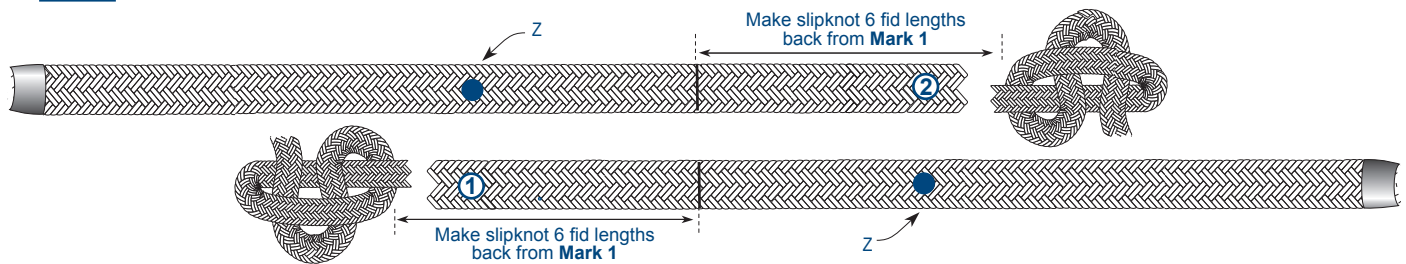
Size (Dia.)	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	3/4"	7/8"	1"	1-1/8"	1-1/4"	1-5/16"	1-1/2"
Z Length	5"	5"	5"	5"	6"	6-3/4"	7-1/2"	8"	9"	9"	12"	12"	13"	13"



STEP 2

KNOT AND POSITION

Measure back 6 Fid Lengths from Mark 1 and knot or spike each rope. Position ropes as shown.

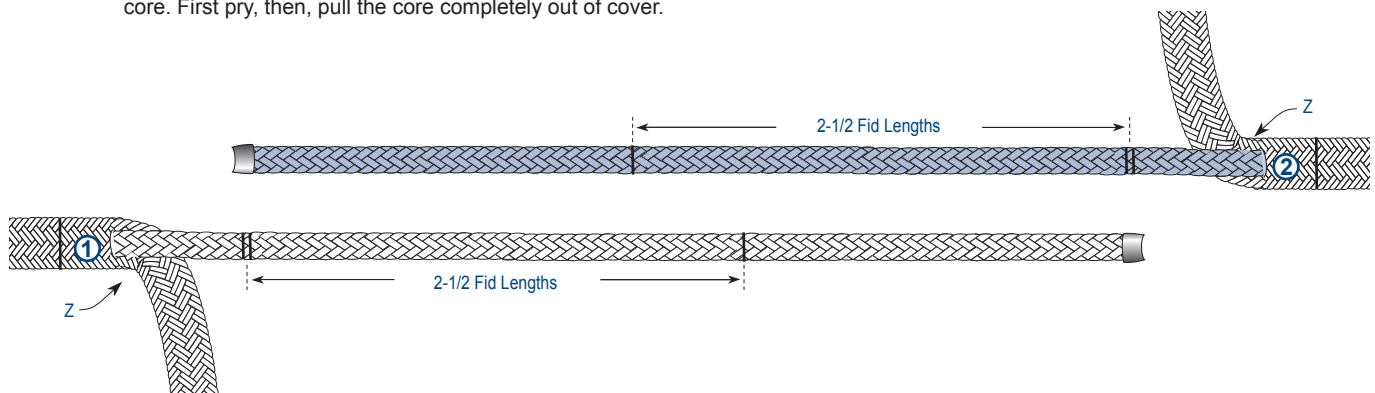
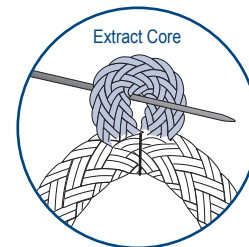


STEP 3

EXTRACT AND MARK CORES

Extract cores at Z Marks, pull out completely from the ends of the ropes. Tape core ends. Slide covers back toward knots/spikes, enhance Mark 1 on each core. Measure 2-1/2 Fid lengths from core Mark 1 towards knots/spikes and make core Mark 2 on each core.

Extracting the core: Bend rope sharply at Z. 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.



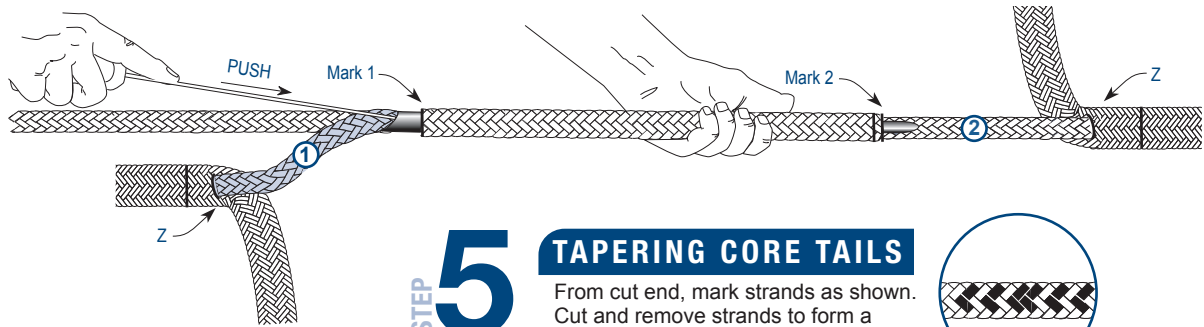


END FOR END DOUBLE BRAID CLASS II

STEP 4

BURYING CORES

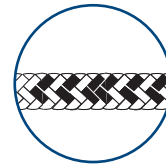
Insert the end of each core into the opposing core at Mark 1 and out at Mark 2. Inserting the core ends 1 pick down from Mark 1 on the entrance side of each core allows for a smoother crossover.



STEP 5

TAPERING CORE TAILS

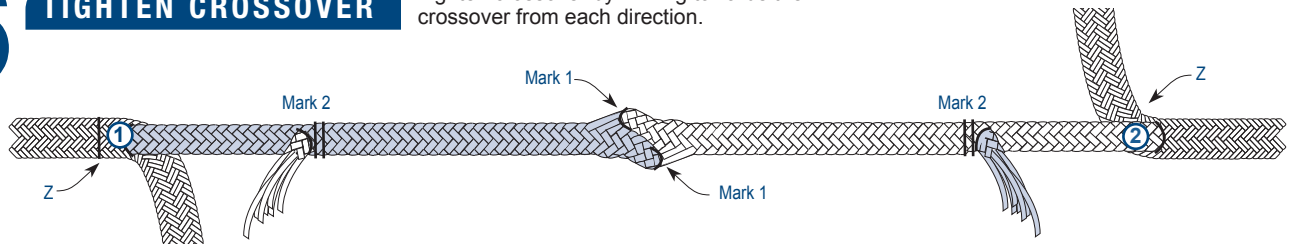
From cut end, mark strands as shown. Cut and remove strands to form a tapered tail.



STEP 6

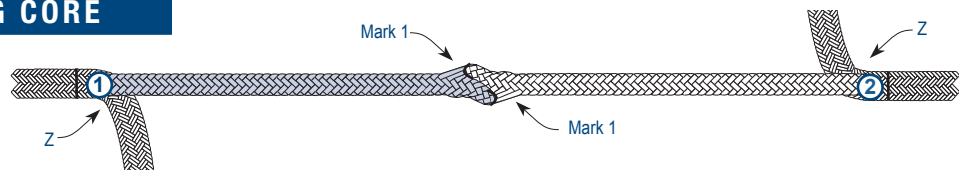
TIGHTEN CROSSOVER

Tighten crossover by milking towards the crossover from each direction.

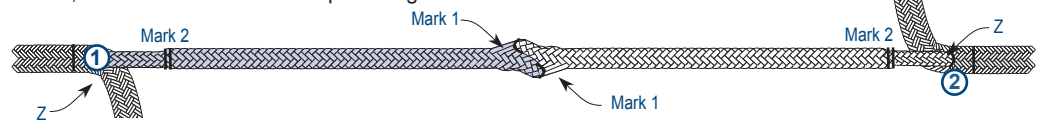


STEP 7

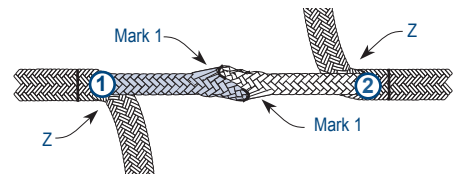
RECOVERING CORE



7A Milk away from the crossover in both directions. Tapered tails will disappear. Repeat until all slack is removed, the crossover and entire splice length should be smooth.



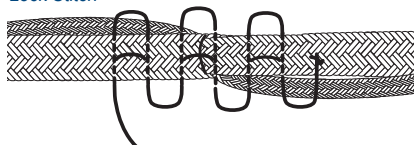
7B Milk the cover towards the crossover. Work one side at a time, hand tensioning the core splice area while working the cover up over it. Covers should meet at or near the crossover. Lock stitch and whip each side of crossover and through cover tails (see eye splice instructions).



STEP 8

LOCK STITCH AND WHIP

Lock Stitch



Whipping





STRIPPING COVER DOUBLE BRAID CLASS II

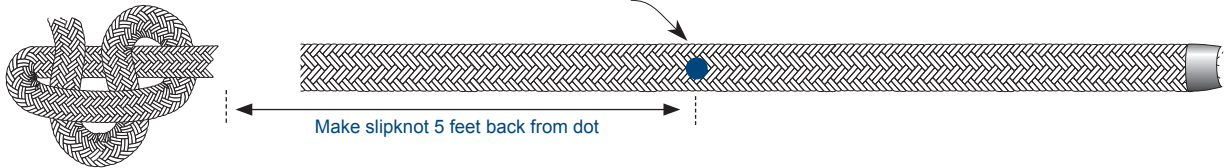
Class II core-dependent double braids are made in whole or part from any of the following high modulus fibers: Dyneema®, Vectran®, Technora®, and Zylon®.

Many high performance sailors like to strip the cover from the core to save weight aloft for halyard applications. In simple terms, you want to strip the cover from the core up to the area of the stoppers, cleats and winches. Leave the cover on the core wherever you have to cleat or winch the rope. The following is a simple, step-by-step method of stripping the cover and finishing the transition area where the cover ends and the core continues.

STEP 1

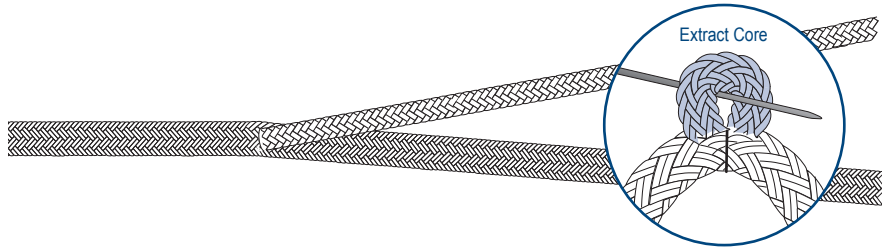
MARK & KNOT

Mark a dot on the cover in the area where you want the core to be exposed.



STEP 2

Tie a knot with a loop about 5 feet back from the dot on the cover.



STEP 3

EXTRACT CORE

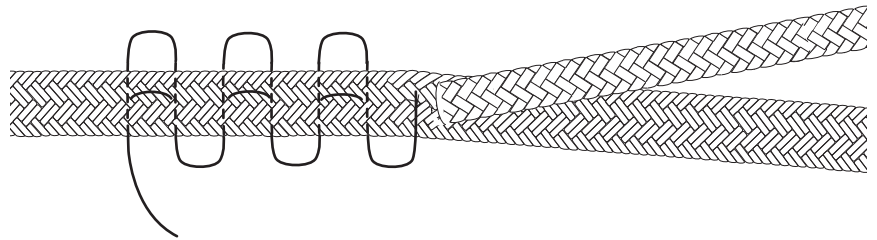
Extract the core from the cover at the dot.

Extracting the core: Bend rope sharply at extraction point. 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.

STEP 4

SLIDE & MILK COVER

Slide the cover back toward the knot, then milk the cover from the knot to the core to balance the cover and the core.



STEP 5

LOCK STITCH

Lock stitch the cover to the core from the dot back for about 3 complete passes.

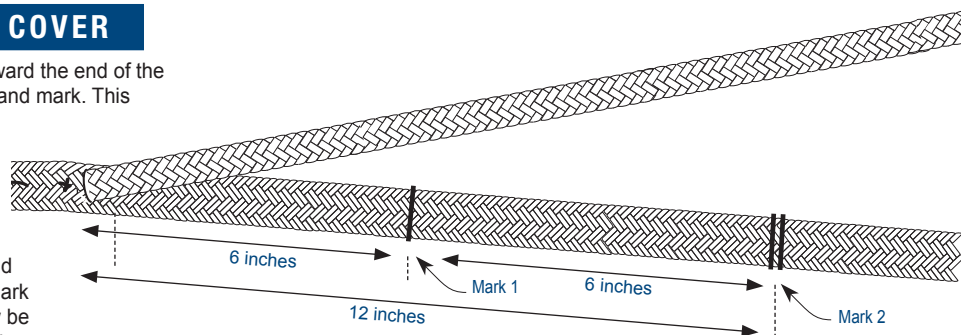
STEP 6

MEASURE & MARK COVER

From the point of the lock stitch toward the end of the cover material, measure 6 inches and mark. This will be Mark 1 on the cover.

STEP 7

From Mark 1 measure 6 inches and make another mark. This will be Mark 2 on the cover. Mark 2 should now be about 12 inches from the lock stitch.

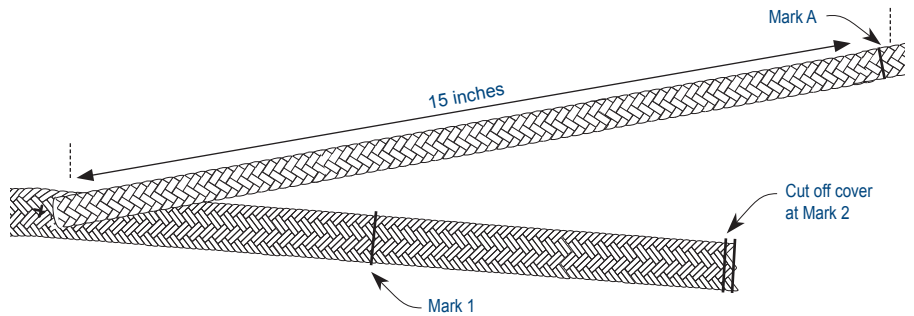




STRIPPING COVER DOUBLE BRAID CLASS II

STEP 8

Cut off the cover at Mark 2 and discard the rest of the cover material.



STEP 9

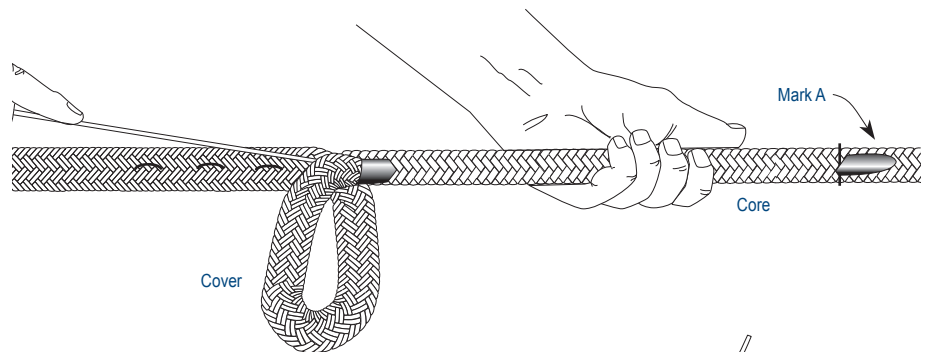
MARK CORE

From the front of the lock stitch toward the end of the exposed core, measure 15 inches and put a mark on the core. This will be Mark A on the core.

STEP 10

COVER INTO CORE

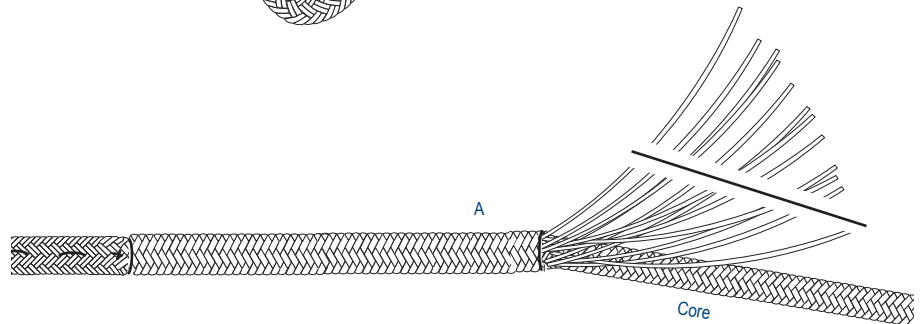
Insert a splicing fid with the cover into the core as close to the lock stitch as possible. Continue pushing the fid through the center of the core and extract the fid and cover at Mark A on the core.



STEP 11

UNBRAID COVER

Pull the cover out of the core until Mark 1 on the cover is exposed. Unbraid the cover from the end back to Mark 1 on the cover. Angle-cut strands from Mark 1 to the end of the cover to perform a taper.



STEP 12

MILK THE CORE

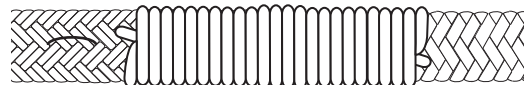
At the point of cover insertion into the core, milk the core down toward the end of the cover. This will cause the cover to disappear into the core.



STEP 13

WHIPPING

Whip the area where the cover is inserted into the core, to finish.





SPECIAL TIPS FOR SPLICING DOUBLE BRAID

SPLICE WITH THIMBLE

Follow Step 1 of the Eye Splice Double Braid Class I for determining the correct eye size. When burying exposed core, as in Step 8, bury to crossover, then insert thimble into eye before milking cover all the way. If using a thimble with ears, before inserting cover into core, as in Step 5, insert core through the rings (dog ears) and slide thimble beyond Mark 3. Then proceed to make the splice according to instructions. Note: Before final burying, slide thimble around to cover side of eye. To secure finished eye tightly around thimble, either whip throat or dip the eye in hot water for several minutes. Hot water will shrink eye tightly around thimble for nylon and polyester fiber ropes.



MINIMUM LENGTHS

Minimum Eye and Eye Sling length with Class I Double Braid is 5 fid lengths from extraction Mark X to extraction Mark X, regardless of rope diameter. The size of eye does not affect the minimum length. Proceed to make the eye splice as per instructions.

Exact Overall Lengths with eye splices are determined by allowing for extra rope consumed in making the splices. For each splice the length of extra rope is equal to 1-1/2 fid lengths plus 1/2 the circumference of the eye.



Example: To make an Eye and Eye Sling 10' overall with two 6" eyes:



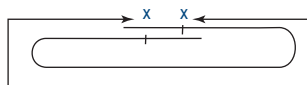
Measure and cut a length:



Then start with step #1 of class 1 double braid splice.

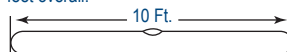
END FOR END SPLICE

Minimum Endless Loop (Grommet) with Class I Double Braid is 10 fid lengths between extraction Mark X to extraction Mark X, regardless of rope diameter. Proceed with the Class I Double Braid End for End splicing instructions.

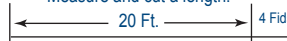


Exact Overall Lengths with endless loops are determined by allowing for extra rope consumed in making the End-for-End Splice. The length of extra rope is equal to 4 fid lengths.

Example: To make an endless loop 10 feet overall:



Measure and cut a length:



Then start with step 1 of the Class I Double Braid End-for-End splicing instruction.



SPECIAL TIPS FOR SPLICING USED DOUBLE BRAID

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 abraided. Therefore, by using the technique outlined in the Used Rope Eye Splice for Class I Double Braids, along with the following tips, you can splice used Braided Rope more easily and with better results.

Soak the section of rope to be spliced in water for several minutes - this lubricates and loosens fibers.

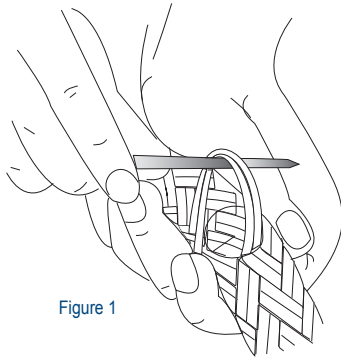


Figure 1

After marking cover (as shown in Step #2 of the splicing instruction) 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, carefully loosen 3-4 strand pairs at X to assure a large and flexible hole for extraction. (Figure 1)

Final Burying:
The use of a 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. (Figure 2)

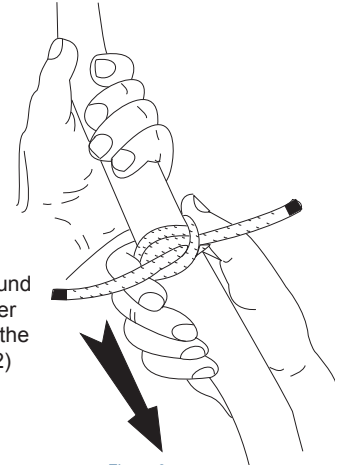


Figure 2



TS-II EYE SPLICE INSTRUCTIONS

For all measurements use fid one size larger than rope.
 For 1/2" use 9/16" fid, for 5/8" use 3/4" fid, etc.

Additional rope needed for splice:
 2-1/2 fid lengths plus length of eye:
 with thimble: 2-1/2 fid lengths plus
 1/2 circ. in feet.

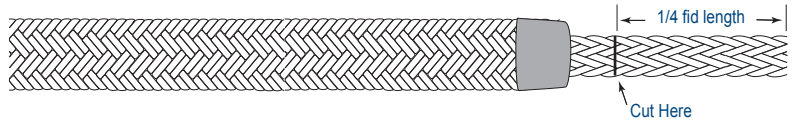
*Fid length for measurement purposes
 is 21 x rope diameter.

Example: use 3/4" fid length for
 5/8" rope - fid length for 5/8" rope
 = .75 x 21 or 15.75"

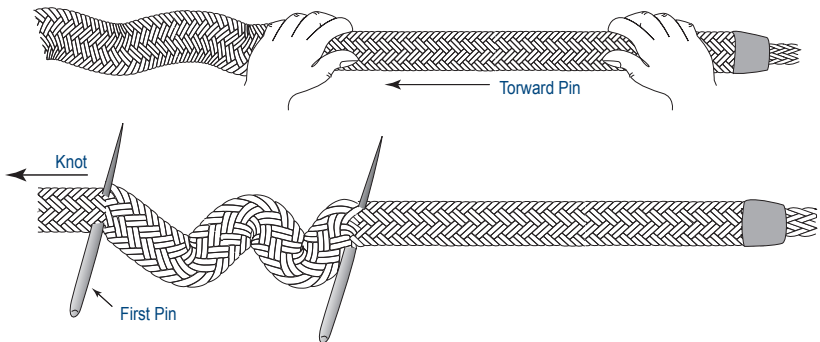
STEP 1 PREPARE ROPE

Tie rope to a fixed object approximately 12 fid lengths from end; place pin through cover and core near knot.

1A Slide taped end of cover back from end of core. Measure 1/4 fid length from end of exposed core and make a mark. Cut core off at mark.

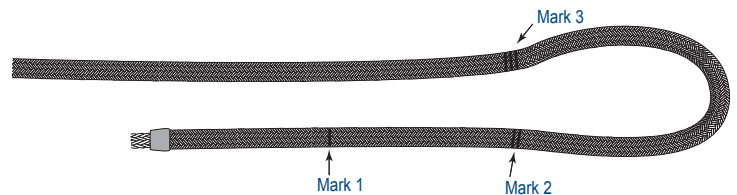


1B Leaving a small amount of core protruding from cover, grasp the taped end tightly with one hand, and with the other hand milk the cover back towards the pin. Pin back cover slack.

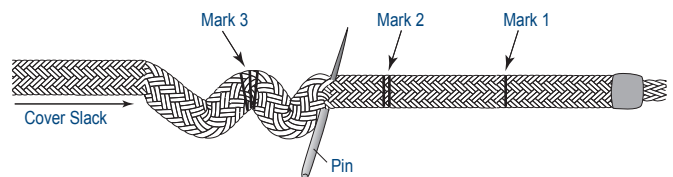


STEP 2 MARKING THE ROPE

From taped end, measure one fid length and make Mark 1. From Mark 1, measure another fid length and make Mark 2. From Mark 2, form desired eye size and make Mark 3. At Mark 3, press felt pen through cover and make a mark on the core.



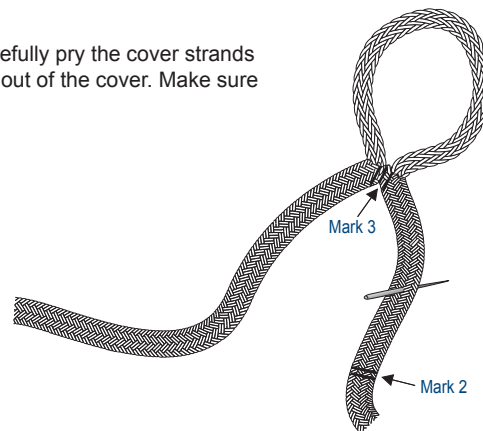
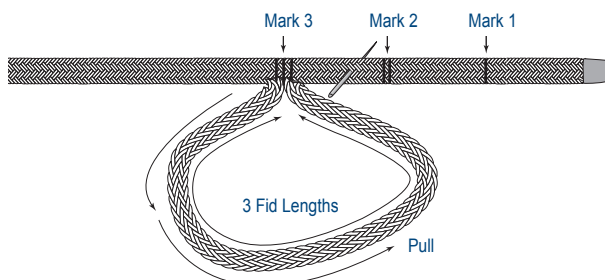
2A Straighten the rope out and place a pin through cover and core between Marks 2 and 3. Remove the pin holding back the extra cover slack and milk the cover slack back towards Mark 3.



STEP 3 EXTRACT THE CORE

Bend rope sharply at Mark 3. Using an awl or similar device, carefully pry the cover strands apart to create an opening. Using the awl, carefully pry the core out of the cover. Make sure the pin placed between Marks 2 and 3 stays in place.

3A With rope positioned as shown, pull on core in the direction shown. You will need to expose a minimum of 3 fid lengths of core.



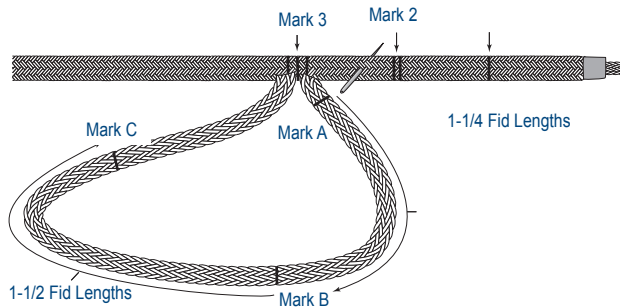


TS-II EYE SPLICE INSTRUCTIONS

STEP 4

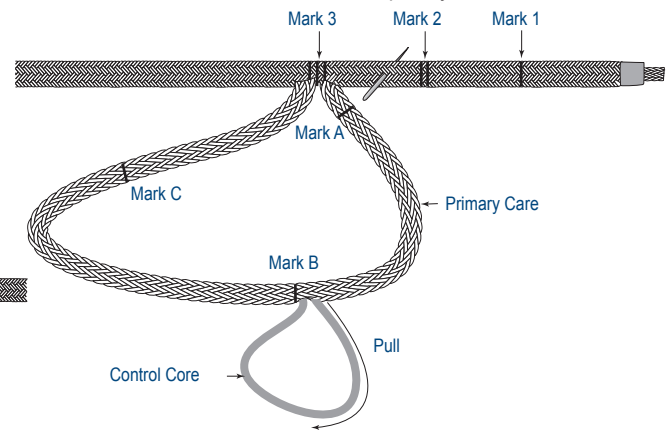
MARK THE CORE

Find the mark on the core made previously through the cover at Mark 3. This is Mark A. From Mark A, measure back a distance of 1-1/4 fid lengths, make Mark B. From Mark B, measure back a distance of 1-1/2 fid lengths and make Mark C.



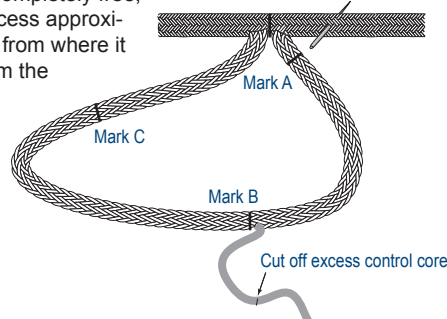
4A

Bend the primary (load bearing) core sharply at Mark B. Carefully pry the strands apart to expose the control (inner) core. Carefully pry the control core out of the primary core, and pulling in the direction shown, completely remove it.



4B

After the control core has been pulled completely free, cut off the excess approximately 1 foot from where it protrudes from the primary core.

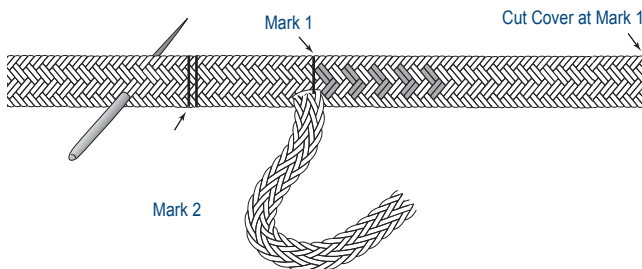
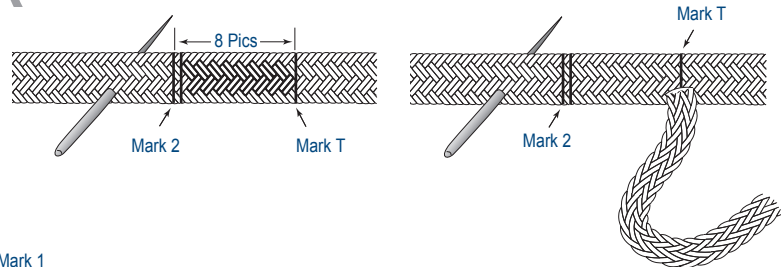


STEP 5

TAPER THE COVER

From Mark 2 on cover, count 8 picks (pairs of right and left laid strands) in the direction of Mark 1 and make Mark T.

Extract core from cover at Mark T and pull completely free.

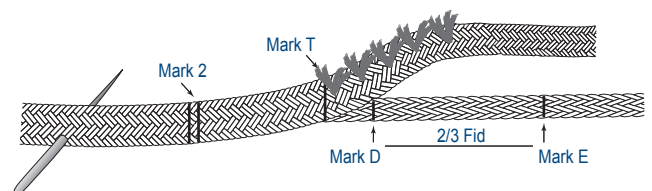


5A

Cut cover at Mark 1. Starting at Mark T on the side of the cover opposite from the core extraction point, mark every other right and left laid strand pair for a distance of 5, 6, or 8 pairs, depending on rope diameter (1/2" through 5/8" diameter, mark 5 pairs. 3/4" through 1-1/2" diameter, mark 6 pairs. 1-5/8" diameter and above mark 8 pairs).

5B

Reduce cover tail to 1/2 volume by cutting and removing the marked strand pairs. Milk cover from pin placed between Marks 2 and 3 towards exit point of core tail. Make Mark D on the core at its exit point. From Mark D, measure down the core a distance of 2/3 fid length, and make Mark E.

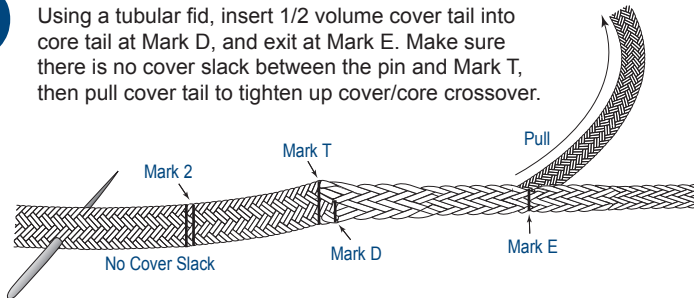




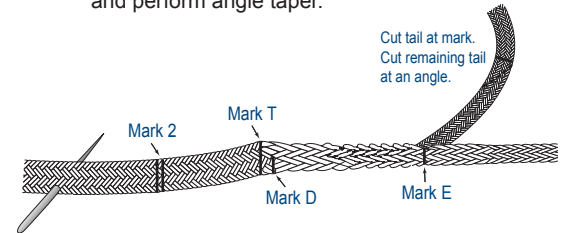
TS-II EYE SPLICE INSTRUCTIONS

STEP 6 INSERT COVER INTO CORE

Using a tubular fid, insert 1/2 volume cover tail into core tail at Mark D, and exit at Mark E. Make sure there is no cover slack between the pin and Mark T, then pull cover tail to tighten up cover/core crossover.



6A Thoroughly milk core tail from Mark D to Mark E. Make a mark on the 1/2 volume cover tail where it exits the core tail. Pull on cover tail to expose several inches. Cut cover tail off at the exit mark and perform angle taper.

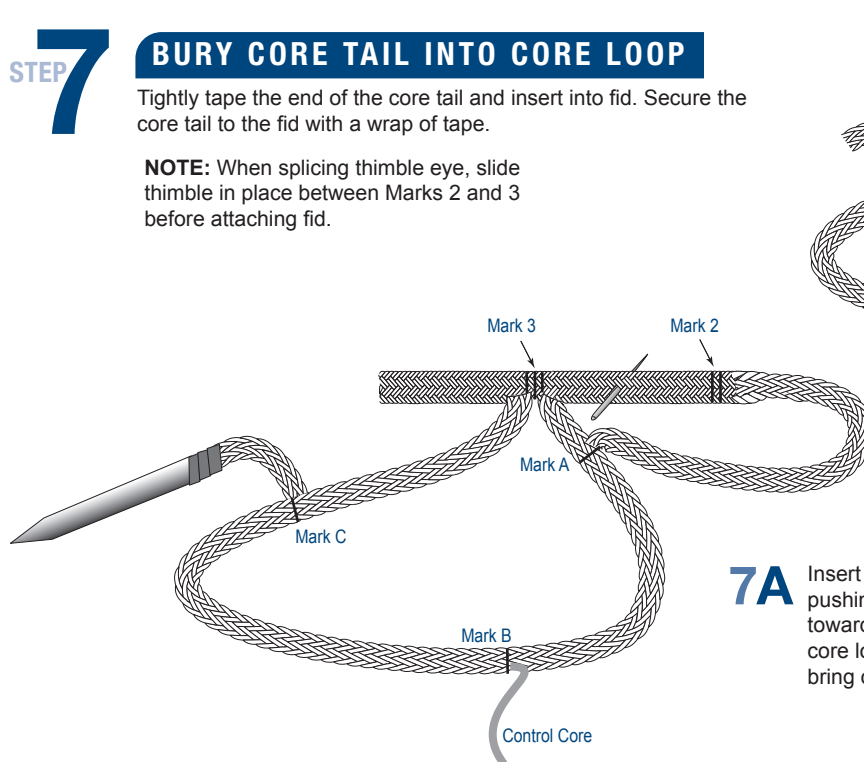


6B Re-milk core tail from D to E. Cover tail should disappear inside core tail. You are now ready to bury the core tail into the core loop.

STEP 7 BURY CORE TAIL INTO CORE LOOP

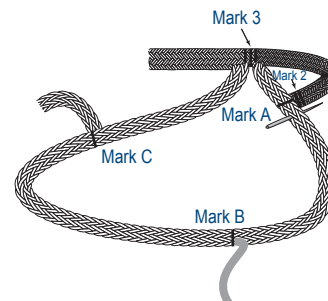
Tightly tape the end of the core tail and insert into fid. Secure the core tail to the fid with a wrap of tape.

NOTE: When splicing thimble eye, slide thimble in place between Marks 2 and 3 before attaching fid.



7A Insert the fid into the core loop at Mark A. By alternately pushing the fid forward and milking the core loop back towards Mark A, feed the fid and core tail through the core loop past Mark B, alongside of the control core and bring out at Mark C.

7B Pull core tail through core loop until Mark 2 on cover meets Mark A on core loop. Remove pin between Marks 2 and 3, and place through core loop at junction of Mark 2 and Mark A.



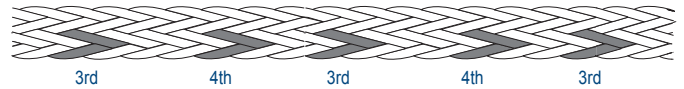


TS-II EYE SPLICE INSTRUCTIONS

STEP 8

TAPER THE CORE

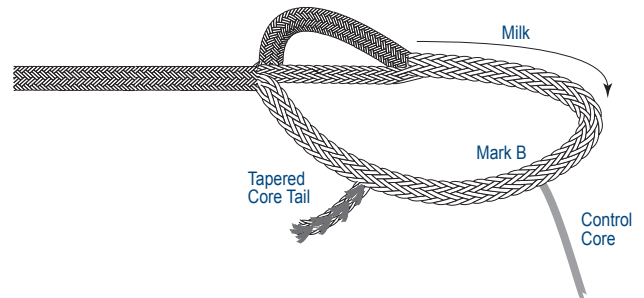
Pull end of core tail to expose approximately 2/3 fid length of core tail. Remove fid and all tape from end of tail. From end of core tail, count 3 strands and mark a right and a left strand. From marked strands, count 4 strands and mark a right and left strand. Alternately mark third right and left strands then fourth right and left strands until a total of 5 right and left pairs have been marked. Taper core by cutting and removing marked strands.



STEP 9

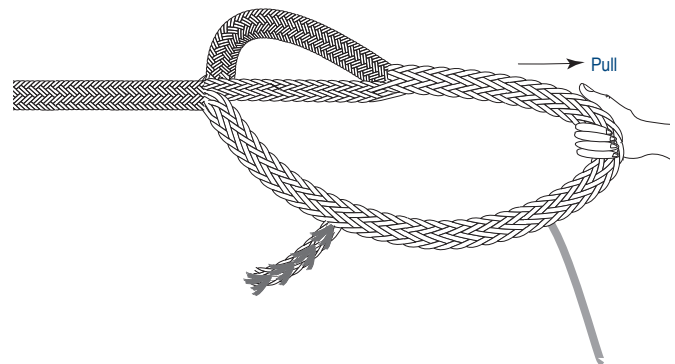
FINISHING THE SPLICE

With rope positioned as shown, milk core loop away from pin, working slack beyond Mark B where control core exits primary core. Hold core loop as shown and pull sharply. This will set the position of the control core and cause the core tail to disappear inside the core loop. Repeat milking and pulling until all slack is removed from core loop.



9A Mark control core right where it exits the core loop. Pull control core out slightly, then cut off just short of the mark. Repeat previous step one final time to seat control inside of core loop. Remove the pin.

9B Create tension on core loop by pulling on it with one hand, then begin to milk cover up over splice area with other hand. On larger sizes, mechanical tension may be required. Continue cover milking until Marks 2 and 3 come together.



9C After the cover is completely milked and the core loop is fully buried, there may be a small loop of core material protruding from the cover at Mark 3. Milk the cover around the eye towards the core material and pull sharply on eye. Excess core material should disappear inside of eye.



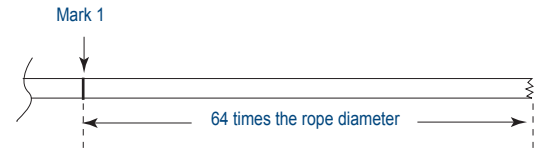
DPX-75 / TURBO-75 EYE SPLICE INSTRUCTIONS

The eye splice is used to place a permanent loop in the end of a rope, generally for attachment purposes to a fixed point. An eye is also used to form the rope around a thimble, which is used to protect the rope, especially when it is to be attached to a shackle, chain or wire rope.

*Additional rope needed for splice:
64 x rope dia. plus length of eye:
with thimble: 64 x rope dia.
plus 1/2 circ. in feet.*

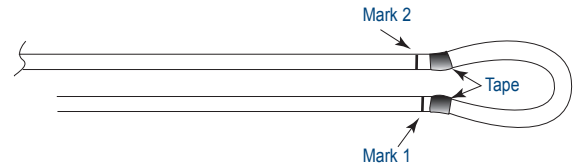
STEP 1 MEASURING AND MARKING

From the end of the rope, measure a length that is equal to 64 times the rope diameter and make a mark on the jacket. This is Mark 1.



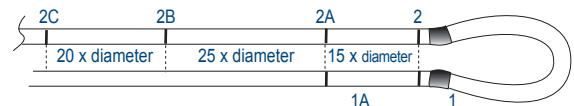
STEP 2

Using Mark 1 for reference, form the desired eye size and make Mark 2. Securely tape the jacket just beyond Mark 1 and just ahead of Mark 2.



STEP 3

Keeping Marks 1 and 2 aligned, measure in the direction shown, a distance of 15 times the rope diameter, and mark the jacket on both legs. These are Marks 1A and 2A. From 2A measure down standing part 25 times rope diameter and make Mark 2B. From 2B measure down standing part an additional 20 times rope diameter and make Mark 2C.



3B

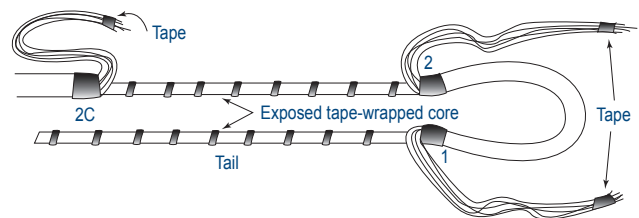
If the splice area is to be covered with a braided cover material, add this cover in here. Slide length of cover down the rope, beyond Mark 2C. Cover material should be long enough to cover splice area plus an additional 4 times the rope diameter.

Braided cover material is not required if the splice area will be whipped and coated when finished.

STEP 4 CUT AWAY THE COVER

At Marks 1A and 2A, working around the rope circumferentially, carefully cut away all cover strands, so that the cover can be unbraided to expose the core. The cover material from Mark 1A to the end of the rope may be discarded, while the unbraided cover material from Mark 1A to Mark 1 must be retained, as this will be used to incorporate the cover into the splice. Likewise, the cover material between marks 2A and 2B may be discarded, while the material unbraided from mark 2A to Mark 2, and from Mark 2B to Mark 2C must be retained.

Tape the unbraided cover material at each of the three locations. This will help keep it out of the way as you proceed.



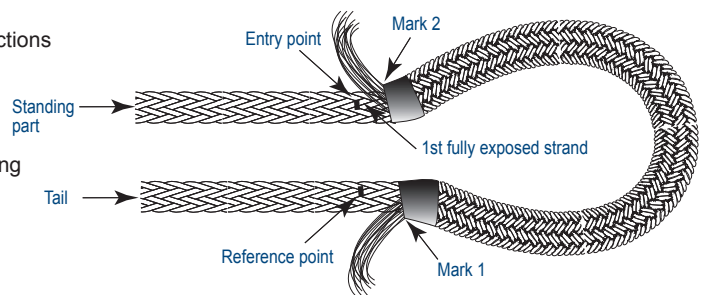
STEP 5

Carefully remove all of the tape – wrap from the exposed sections of core. You are now ready to begin splicing the core.

STEP 6

From Mark 2, find the first fully exposed strand on the standing part of the core, facing the core tail. Make a mark where this strand intersects with a strand going the opposite direction, also facing the core tail. This is the entry point or "throat" of the splice.

Now, keeping Marks 1 and 2 aligned, make a mark on the core tail, directly opposite the entry point. This is the reference point.

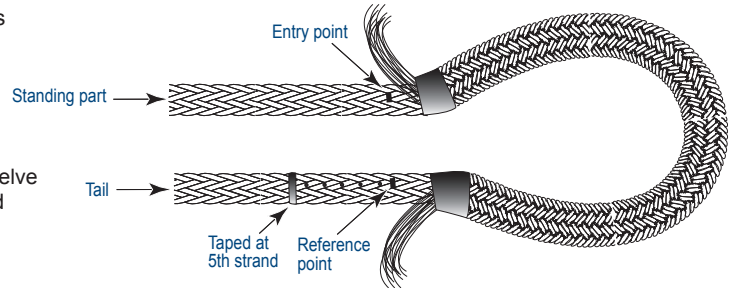




DPX-75 / TURBO-75 EYE SPLICE INSTRUCTIONS

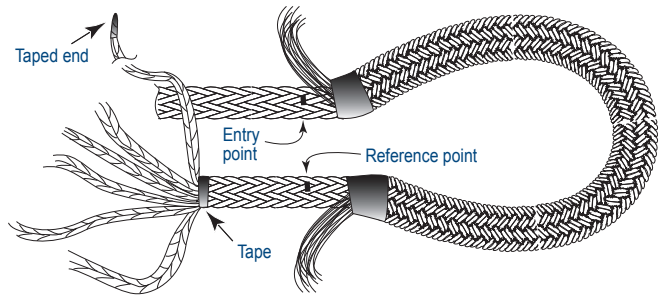
STEP 7

From the reference point on the core tail, count 5 strands towards the end, and mark the 5th strand. Securely tape the core tail at this mark.



STEP 8

At the end of the core tail, tape the end of each of the twelve strands, then un-braid the core back to the tape wrapped around it in Step 7.



STEP 9

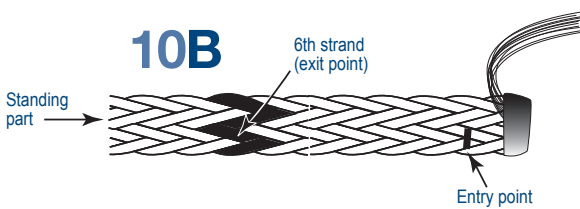
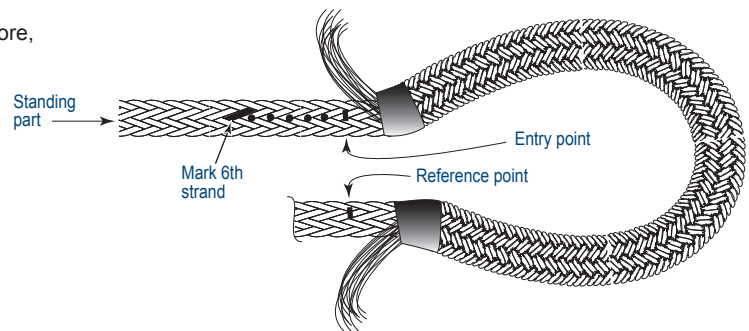
After unbraiding the core tail, combine the 12 individual strands into 6 pairs of strands. Each pair should consist of 1 "S" (clockwise twist) strand, and an adjacent "Z" (counter clockwise twist) strand. Now tape the paired strands together. As you tape the ends of the paired strands together, be sure that the individual strands have maintained their twist. Add twist if necessary, but be careful not to over twist.

STEP 10

From the "entry point" mark on the standing part of the core, count 6 strands and mark the 6th strand.

This will be the exit point.

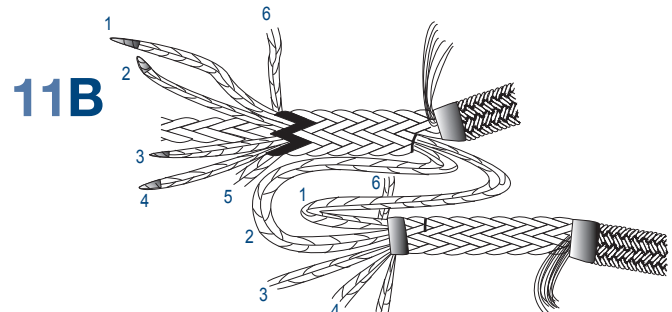
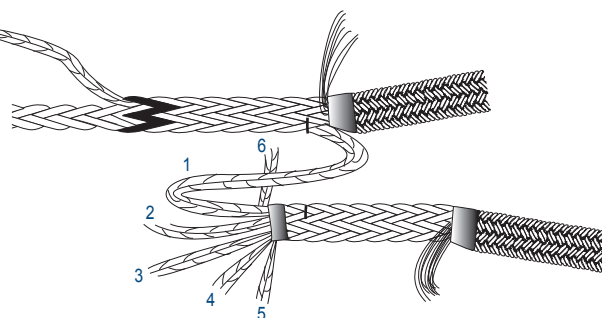
Now, working your way around circumference of the core, mark an additional 5 strands in the pattern shown.



STEP 11

Carefully open up the braid at the entry point. Each of the six strand pairs will be inserted into the center of the braid at this point, and brought out behind its corresponding marked strand. Starting with the strand pair most nearly facing the standing part, use a tubular fid or similar device to insert the strand pair between strands at the entry point and bring it out behind the marked strand on the opposite side of the standing part. Next, insert the adjacent strand pair and bring it out behind the adjacent marked strand.

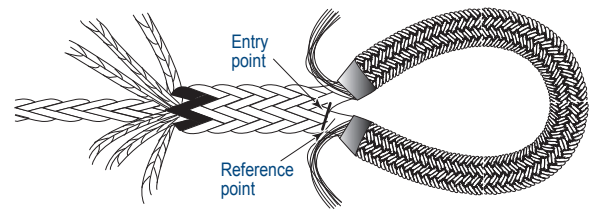
Continuing in this fashion, work your way around the rope, inserting each strand pair, and bringing it out behind its corresponding marked strand. When inserting the strand pairs, be careful not to entangle them with previously inserted pairs. When all six pairs have been inserted, they should have a common entry point, and run parallel through the center of the rope.



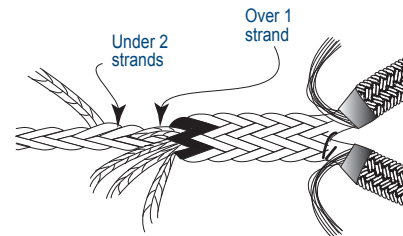


DPX-75 / TURBO-75 EYE SPLICE INSTRUCTIONS

STEP 12 Alternately pull on each of the six strand pairs until the tape wrapped around the core tail approaches the entry point. Continue to gently pull on the strand pairs until the tape passes inside of the standing part, and the reference point is aligned with the entry point.

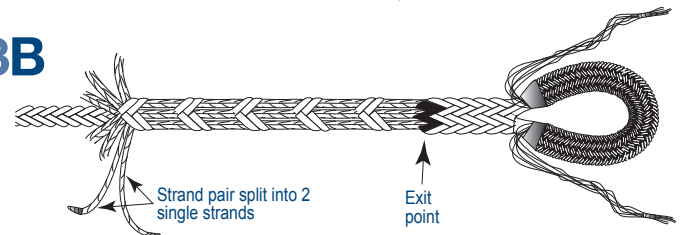


STEP 13 Begin the tuck procedure by selecting any strand pair and passing it over the strand following the marked exit point, and under the next two strands. Following this procedure, make 1 tuck with each of the remaining strand pairs. A tuck is defined as passing over 1 strand and under 2 strands, and successive tucks should always progress in a straight line down the body of the rope.



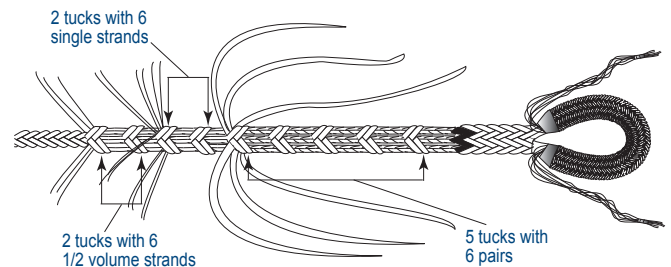
After one tuck has been completed with each strand pair, continue the procedure until a total of 5 tucks has been made with each pair.

13B

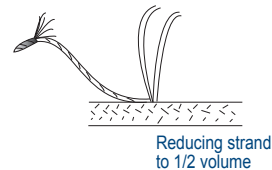


STEP 14 Once 5 tucks have been made with all 6 strand pairs, split each strand pair into 2 single strands. Make 2 more tucks with one single strand from each pair. Leave the un-tucked single strands where they are. These will eventually be trimmed back.

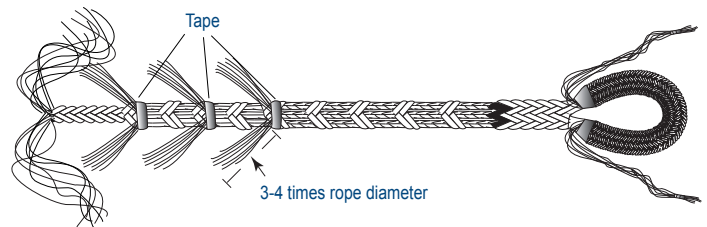
STEP 15 Note that the individual strands are made up of individual twisted yarns. The tuck portion of the splice is completed by cutting away half of the twisted yarns from each of the six individual strands near the taped end of the strand and performing 2 tucks each with six half-volume strands. If the strand make-up consists of an odd number of yarns, divide the number by 2 and round down to determine the number of yarns to cut away. For example, if a strand is made up of 7 yarns, $7 \div 2 = 3.5$ and 3.5 rounded down is three, therefore, you will cut away 3 yarns and tuck the remaining 4 yarns.



NOTE: Due to slight variations in core construction, it may be necessary to unbraid several inches of additional cover to complete the final tucks.



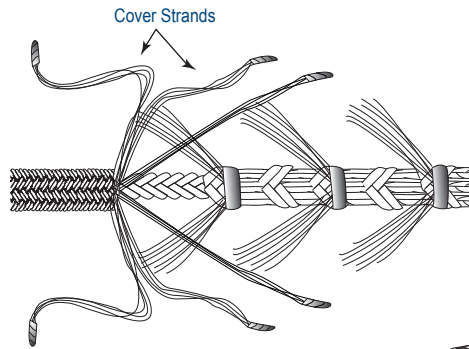
STEP 16 After completing the tuck procedure, place a tight wrap of tape at the end of each group of tucks, then trim off the excess material leaving 3-4 times the rope diameter protruding.



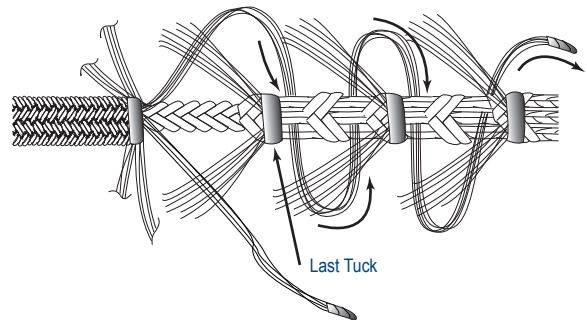


DPX-75 / TURBO-75 EYE SPLICE INSTRUCTIONS

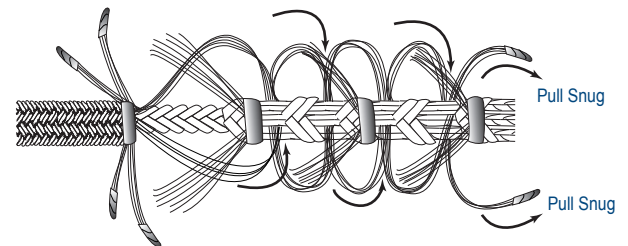
STEP 17 Divide the unbraided cover material at the base of the splice into six equal groups and tape the end of each group.



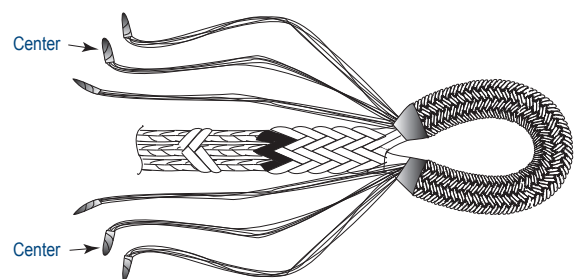
STEP 18 Select one of the six groups and pass it back and forth underneath two adjacent tucked core strands as shown. A minimum of four passes should be made.



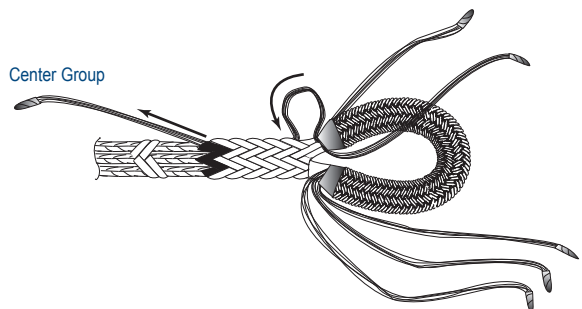
STEP 19 Now select the adjacent group and pass it back and forth in the opposite direction under the same two tucked core strands so that the two groups cross underneath the tucked core strands. Pull the two groups snug.



STEP 20 Roll the rope over slightly and repeat steps 18 and 19 using the next two adjacent groups of cover material, passing them back and forth under the next two adjacent tucked core strands. Then repeat again using the final two adjacent cover groups and the final two adjacent tucked core strands.



STEP 21 Divide the unbraided cover material on each leg of the eye into three equal groups and tape the ends. Each leg of the eye should have one center group, with one group to either side.



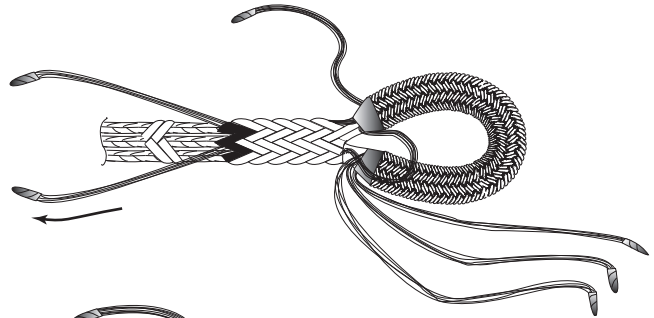
STEP 22 Starting with the top/center group as indicated, carefully insert it into the core at a point directly opposite the entry point. Bring it out behind its corresponding marked strand and pull snug.



DPX-75 / TURBO-75 EYE SPLICE INSTRUCTIONS

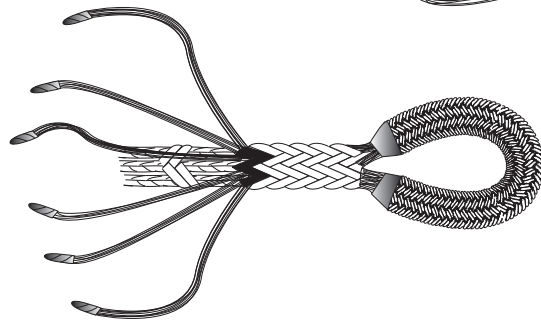
STEP 23

Now take an adjacent group and insert it into the core at the entry point and bring it out behind its corresponding marked strand.



STEP 24

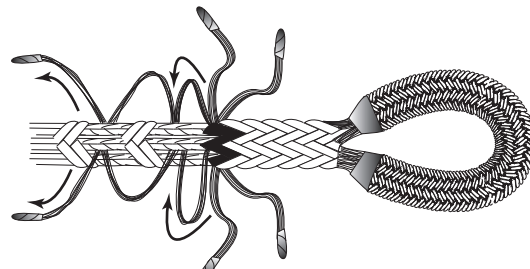
Repeat Step 23 with the remaining groups, inserting each at the entry point and exiting behind the corresponding marked strand. When finished, the groups should be parallel to one another and should not be entangled with any core material.



STEP 25

Make sure that each group has been pulled snug. Then pass adjacent groups back and forth underneath two adjacent pairs of tucked core strands in the manner described in Steps 18–20.

A minimum of two passes should be made with each group.



STEP 26

After all six groups have been secured in this fashion and pulled snug, place the entire splice under light tension and wrap the entire splice area with heavy duty tape, making sure all of the protruding cover and core material is wrapped down.

Finish the splice by milking "cover only" length up to the tape applied at Mark 1 & 2.

Secure cover only section by whipping each end, then applying heavy duty two part urethane.

* For field splicing – replace "cover only" with whipping twine.

(See Instructions for Whipping – Method I or II on pages 11 & 12 of this book.)





TURBO-37

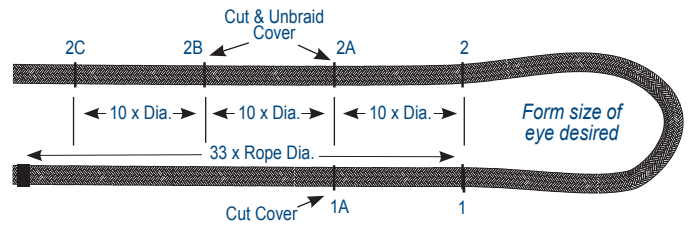
STEP 1

MEASURING AND MARKING

From the end of the rope, measure a length that is equal to 33 times the rope diameter (in inches) and make a mark on the jacket. This is Mark 1.

Using Mark 1 for reference, form the desired eye size and make Mark 2. Securely tape the jacket just beyond Mark 1 and just ahead of Mark 2.

Keep Marks 1 and 2 aligned, measure in the direction shown, a distance of 10 times the rope diameter, and mark the jacket on both legs.



These are Marks 1A and 2A. From 2A measure down standing part 10 times rope diameter and make Mark 2B. From 2B measure down standing part and additional 10 times rope diameter and make Mark 2C.

STEP 2

INSTALL SPLICE COVER MATERIAL

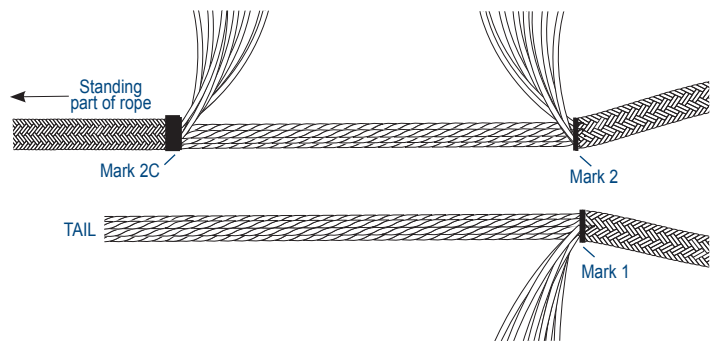
Using an appropriate size cover material, slide the cover onto the rope and slide back past Mark 2 C (onto the standing part of the rope). This cover material will later be used to cover the exposed cores in the splice area.

STEP 3

REMOVE COVER

Cut the cover of the rope at Mark 1A and remove. Cut the cover at Marks 2A and 2B and unbraid the cover strands back to Marks 2 and 2C, respectively. Unbraid the section of cover between marks 1A and 1.

Remove and discard the section of cover between Marks 2A and 2B.



STEP 4

START SPLICING SUB-ROPE

All tucks should be made against the lay (Fig. 1). After the 1st tuck, each tuck consists of passing the tail over 1 strand, then under the next strand. When pulling the tail through, pull perpendicular to the direction the rope is lying in, and take care not to over tighten the tuck (this will cause unnecessary distortion (Fig. 3). As the splice progresses, the tail should gradually spiral around the standing part. To accomplish this, it is necessary to pull the tail underneath the standing part of every 3rd or 4th tuck (Fig. 4).

Complete 15 tucks with full volume tail, then remove one strand from tail and complete 3 tucks with the remaining two strands (Fig. 5). Now remove one strand and complete 3 tucks with the remaining one strand (Fig. 6). Tape the tails to the rope.

FIG. 1A

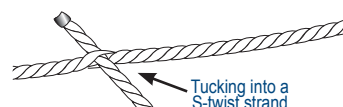


FIG. 1B

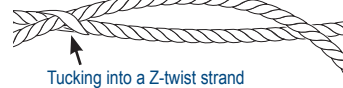


FIG. 2



FIG. 3



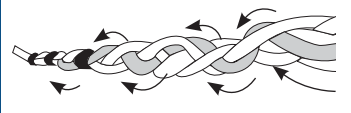
FIG. 4



FIG. 5



FIG. 6



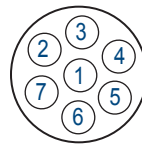


TURBO-37

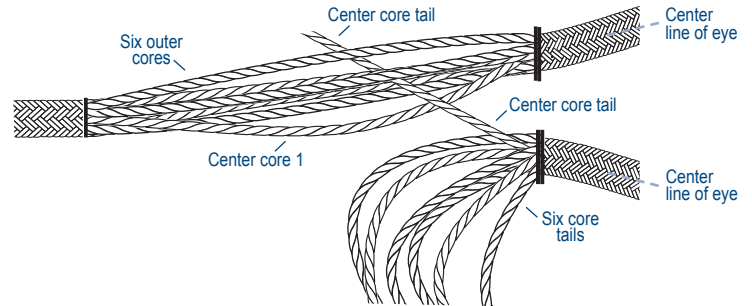
STEP 5

SPLICE CENTER CORE

The first part of the splice uses the center core and the center core tail (core No. 1). Both the center core and the tail should be pulled out between the top three cores and the bottom three cores. Put the center core tail under the center core so that the two sections continue in the line of the two legs of the splice. Begin tucking the core tail into the standing part where they intersect.



The cores are arranged parallel within the braided jacket with one core in the center and six cores around the center. The cores are numbered in the splicing instructions to help identify which core is used when splicing.



STEP 6

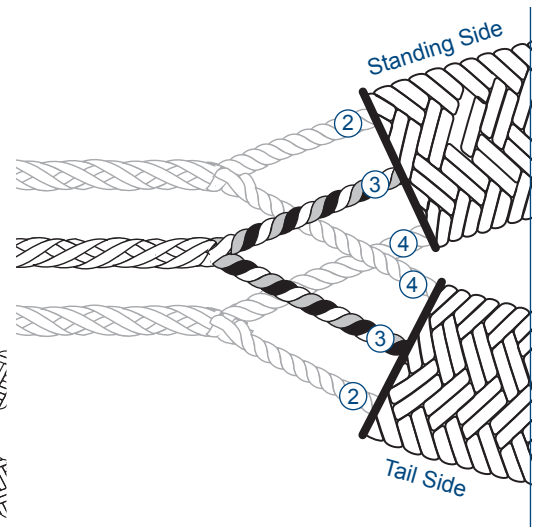
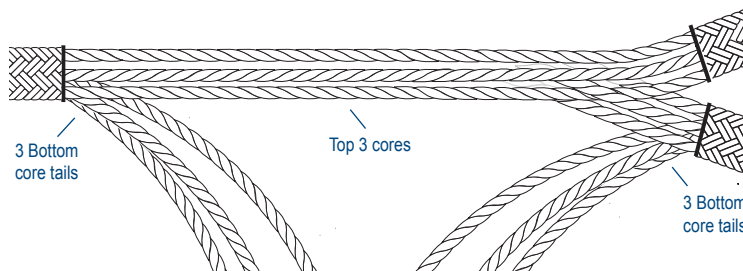
SPLICE TOP 3 CORES

Lay out the top three cores and core tails as shown.

Maintain the angle of the legs of the eye splice when positioning the cores and core tails. Pass core tail No. 4 under cores No. 4 and No. 3 and then begin tucking into core No. 2 where they intersect.

Pass core tail No. 3 over core No. 4 and begin tucking into core No. 3. Finally, begin tucking core tail No. 2 into Core No. 4.

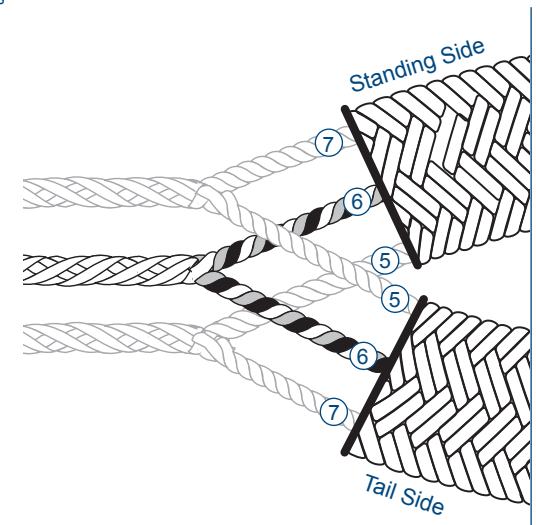
When finished, the rope should appear as shown here.



STEP 7

SPLICE BOTTOM 3 CORES

Turn the rope over and repeat Step 6 using the last three cores and core tails. Core tail No. 5 passes over core No. 5 and No. 6 and tucks into No. 7. Core tail No. 6 passes over core No. 5 and tucks into No. 6. Core tail No. 7 tucks directly into No. 5.

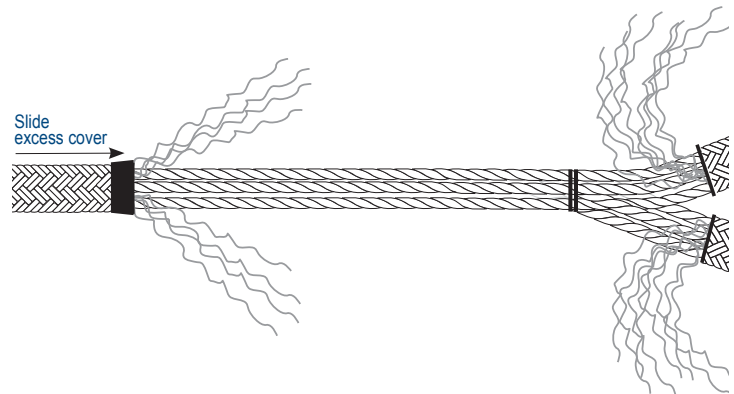


TURBO-37

STEP 8

DIVIDE COVER INTO 6 BUNDLES

Put the rope under tension and slide the cover from the base of the splice back up the rope towards the splice area. It will be necessary to unbraided the end of the cover for some length in order to remove all the slack from the braided section. Slide past the braided section as far as possible up past the end of the splice.

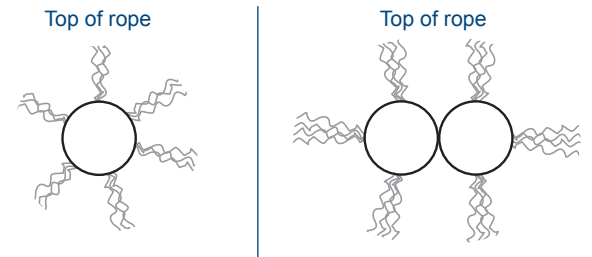


Then tightly tape the braided cover at the point where the braid begins to come apart and divide the unbraided cover yarns into 6 separate bundles. Finally divide the unbraided cover yarns from the eye into 6 separate bundles (3 bundles from each leg of the eye).

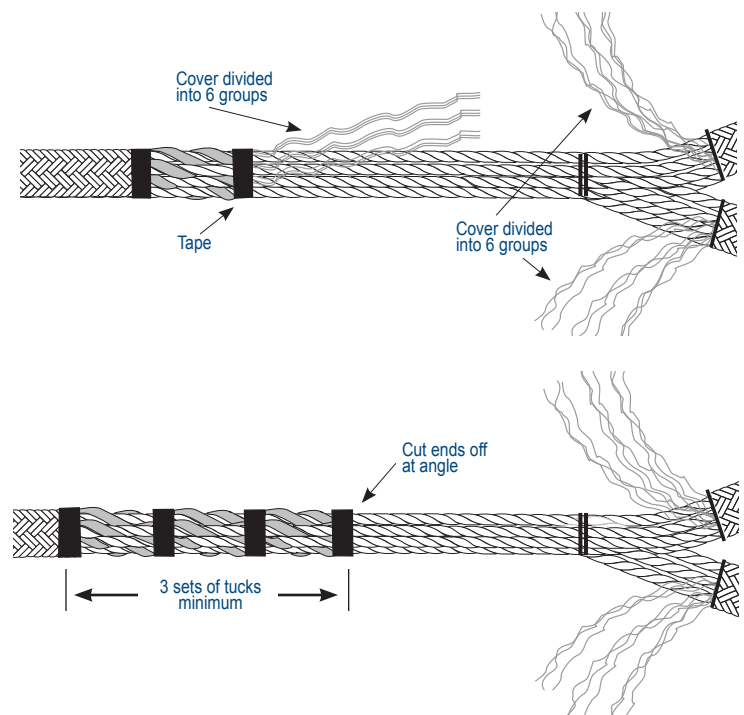
STEP 9

GROUP AND TUCK COVER

Starting at the base of the splice, take one of the 6 cover braid bundles, pass it over one of the cores and under the very next core (forming a simple tuck similar to that used in splicing 3-strand rope). When tucking the cover bundle be careful not to go under the core in the center of the rope. Repeat this procedure with each of the 6 cover bundles. The direction of the tucks should be as shown.



When all 6 bundles have been tucked once, tightly tape around the rope at the point where the tucks occur. Repeat this procedure until a minimum of 3 complete tucks have been made with all 6 cover bundles. Additional tucks can be made if there is sufficient length left. When the last set of tucks has been made and taped, cut off the excess cover yarn bundles flush with the last taped section.

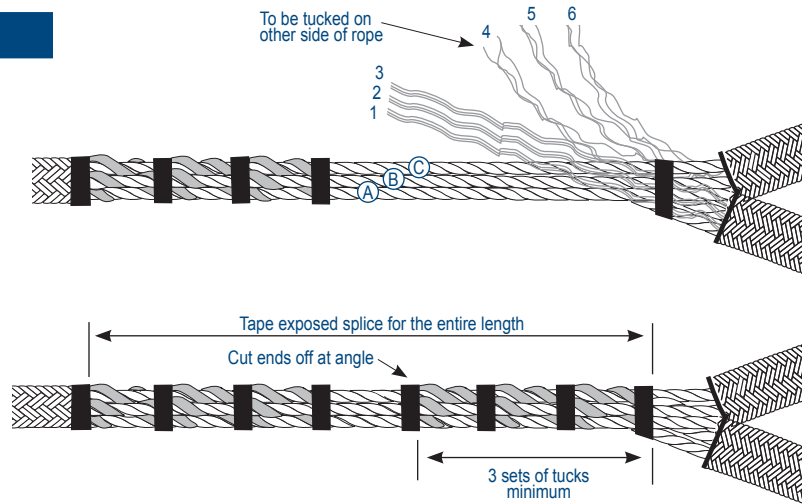




TURBO-37

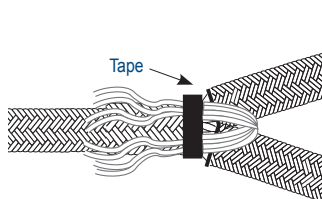
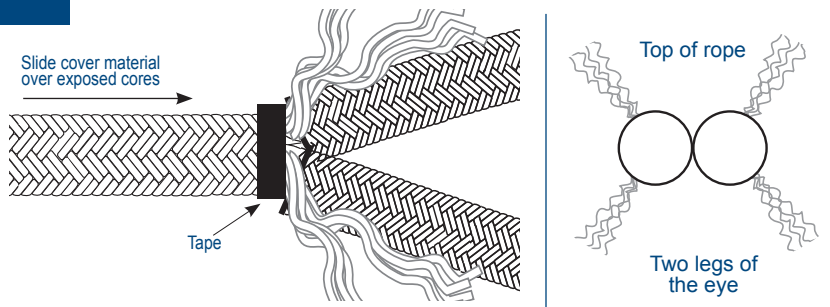
STEP 10 TUCK EYE COVER BUNDLES

Next, tuck the 6 cover braid yarn bundles at the base of the eye. With the eye laying flat (as shown in fig. 6) take bundle closest to the throat of the eye (bundle #1) and pass it under core A. Take the next cover yarn bundle (#2) and pass it under core B. Take core bundle #3 and pass it under core C. Rotate the rope and continue this process with the 3 remaining cover yarn bundles. The direction of the tucks should be as shown. Tape around the rope at the point where the tucks occur. Repeat this procedure until a minimum of three tucks have been completed. When the last set of tucks has been made and taped, cut off excess cover yarn bundles flush with the last taped section.

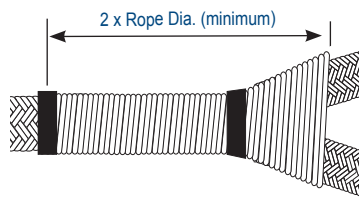


STEP 11 FINISHING THE SPLICE

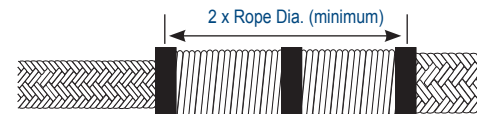
Slide the cover material (which was put on the rope in Step 3) up over the exposed cores. At the eye-end of the splice, separate the strands of the cover material into 4 equal size bundles (2 on the top of the rope and 2 on the bottom).



One at a time, pull the two strand bundles through the throat of the eye. Pull the bundles tight and tape them down on the back side of the rope. Turn the rope over and repeat with the remaining two bundles.

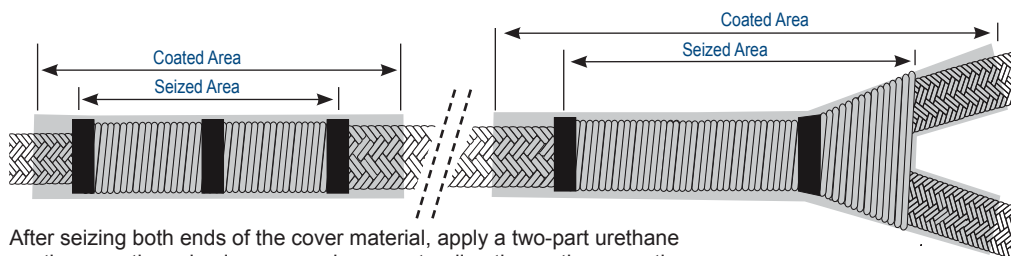


Seize over the area (from the throat of the eye down the standing part) for a distance of 2 x rope diameter (in inches) using nylon seizing material.



Milk all of the excess cover slack from the cover material down towards the standing part of line. Tightly tape the cover to the rope approximately 1 x rope diameter (in inches) back from the end of the cover. Unbraid the cover strands from the tape to the end.

Seize over the area for a distance of 2 x rope diameter (in inches) with nylon seizing material.



After seizing both ends of the cover material, apply a two-part urethane coating over the seized areas as shown, extending the urethane coating 1/2 the length of the seized area on both sides of the seizing.



MOORING MASTER EYE SPLICE CLASS I & II

A. Fid Length:

The splicing instructions refer to "fid lengths" when making measurements on the rope. A fid length (in inches) may be calculated in the following manner:

1. Divide the rope diameter by 3.
2. Multiply the amount by 21.
3. Round up the answer to the next highest inch.

B. Splice Protection:

The finished splice area below the eye requires some type of protection in the form of a chafe sleeve, tape, etc. For most types of service, heavy wall shrink tubing may be used. Alternatives include whipping the splice, wrapping with tape and /or heavy urethane coating. If a sleeve of any sort is going to be used in the splice area, it must be installed prior to beginning the splice.

C. Rope Construction:

The Mooring Master construction consists of seven 12-strand braided cores contained within an outer braided jacket. The cores are arranged in parallel within the braided jacket with one core in the middle and six cores around the center (Fig. 1). The cores are numbered in the splicing instructions to help identify which core is used when splicing.

Example:

The fid length for a 1-1/2" diameter Mooring Master is:
Rope diameter divided by 3: $(1.5 \div 3) = .5$

Multiply answer by 21: $(.5 \times 21) = 10.5$

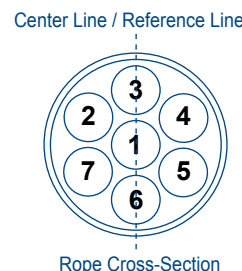
Round answer up to next highest inch: 11 inches

*Number of Fid Lengths:

Class I Mooring Master (N-7 and P-7) = 4 fids required to do splice. Overall splice length is approximately 3 fids.

Class II Mooring Master (D-7 and DD-7) = 5 fids required to do splice. Overall splice length is approximately 4 fids.

Fig. 1

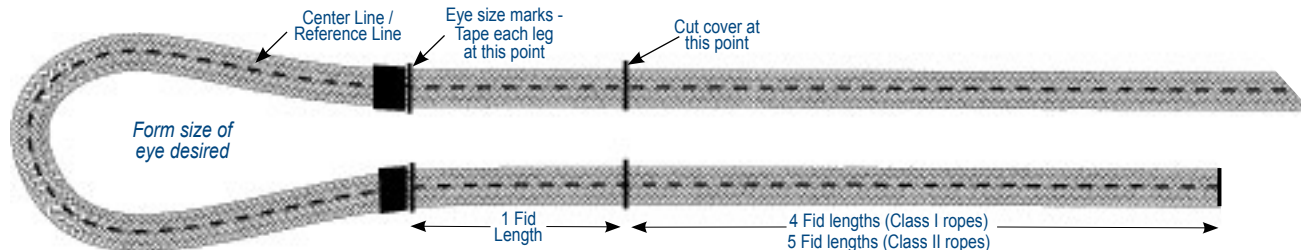


STEP 1

MEASURING AND MARKING

Based on the core size (see Fig. 1 above) and the type of Mooring Master being spliced*, measure the appropriate number of fid lengths up from the end of the rope and make a mark. This is one side of the eye. Form the size of the eye required and make a second mark directly opposite the first mark. Tightly tape the cover at each eye size mark. Measure down 1 fid length from each eye size mark and mark the cover again. Completely cut the cover away at each of these second marks.

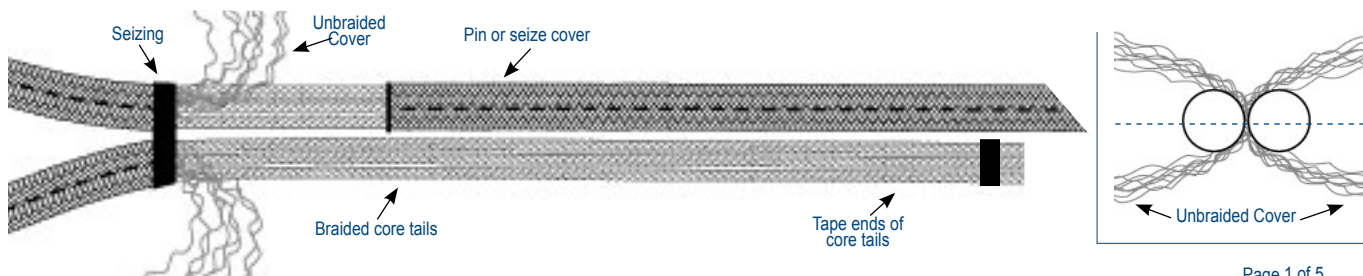
NOTE: When laying out the rope it is important to make sure that there is not twist in the rope and that one of the six inner cores is directly on top. This can be done by unbraiding a short length of the cover from the end of the rope to expose the core braids and then turning the rope until one of the cores is directly on top. If necessary, a line (the center line/reference line) can then be drawn on the cover braid to serve as a guide in removing any twist.



STEP 2

UNBRAID COVER AND TAPE ENDS

After cutting the cover at the two locations, unbraid each section of cover back to the tape at the eye size marks. Divide the cover yarns at each eye size mark horizontally as shown and tape the ends together to keep them out of the way. Slide the remaining cover off the end of the rope and discard and tape the ends of the cores. Pin or tightly seize the body of the rope at the point where the cover was cut and slide the cover down away from the eye to expose the cores in the body of the rope. Finally, tightly seize or tape the two sides of the eye together to keep the shape of the eye.





MOORING MASTER EYE SPLICE CLASS I & II

STEP 3

MEASURE & MARK CENTER CORES

The first part of the splice uses the center core and the center core tail (core No. 1 in Fig. 1). Both the center core and the tail should be pulled out between the top 3 cores and the bottom 3 cores as shown in Fig. 3A. Put the center core tail under the center core so that the two sections continue the line of the two legs of the splice. Mark the side of the center core and the top of the core tail where the two intersect then measure down the center core a distance of 3 fids (Class I ropes) or 4 fids (Class II ropes) and make a mark on the center core.

Insert the core tail in the center core at the first mark and bring it out at Mark 4 (3 fids down on Class I ropes and 4 fids down on Class 2 ropes) as shown in Fig. 3B. Line up the mark on the core tail with the mark on the center core at the base of the eye and tape tightly. Smooth all of the slack in the center core.

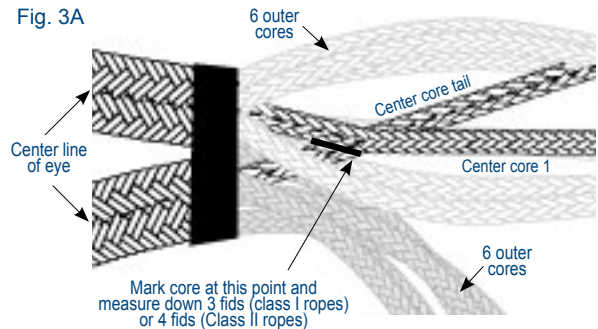
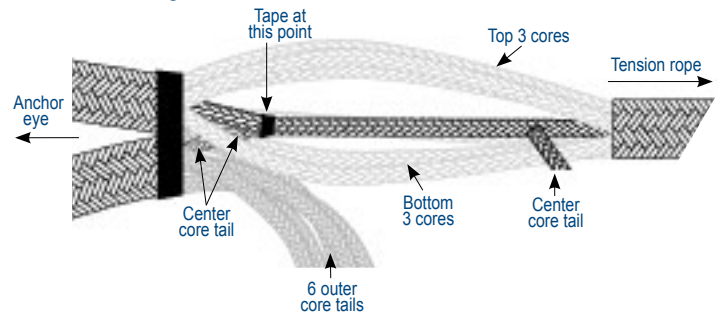


Fig. 3B



STEP 4

MARK CORES AND TAILS

Attach the eye to an anchor point and put the rope under tension (about 100 lbs.). Then lay out the top three cores and core tails as shown. Core tail No. 4 (the one closest to the inside of the eye) passes under all three cores, core tail No. 3 (the top core in the center) passes under two of the cores and core tail No. 2 (the outside core tail) passes under one core. Maintain the angle of the legs of the eye splice when positioning the cores and core tails. Mark the side of the core and the top of its respective core tail where the two intersect (as shown in the Figure). Remove the core tails and then measure down three fids (on Class I ropes) or four fids (on Class II ropes) from each mark on the cores and make a second mark.

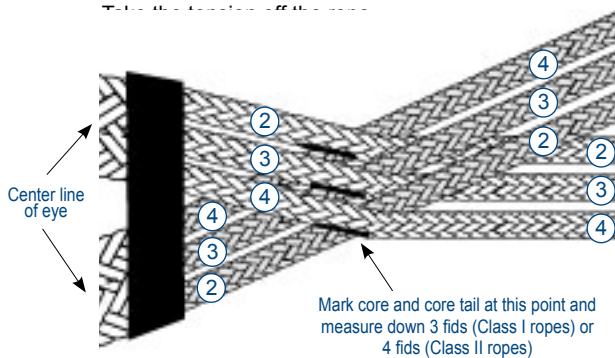
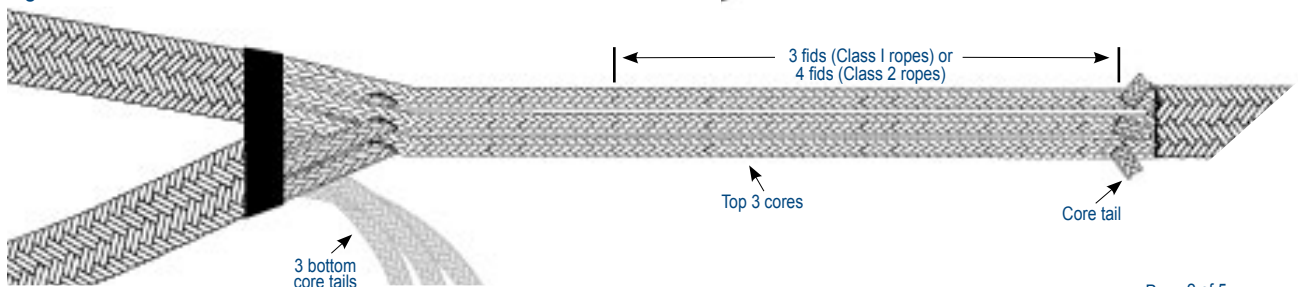


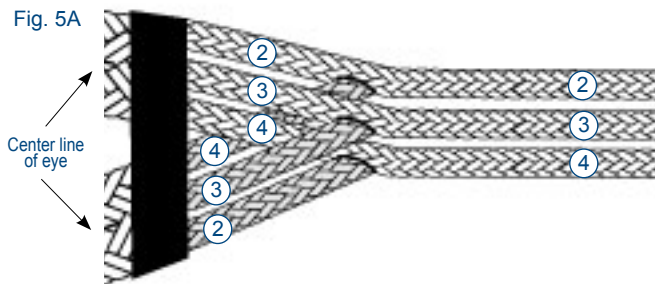
Fig. 5B



STEP 5

BURY CORE TAIL INTO CORE

Pass core tail No. 4 under cores No. 4 and No. 3 and then insert it at the first mark on core No. 2 and out at the second mark. Pass core tail No. 3 over core No. 4 and bury it at the first mark on core No. 3. Finally, insert core tail No. 2 directly into core No. 4. Align the marks on the paired up cores and core tails at the base of the eye and smooth out all of the slack in the cores. When finished, the rope should appear as in Fig. 5B.

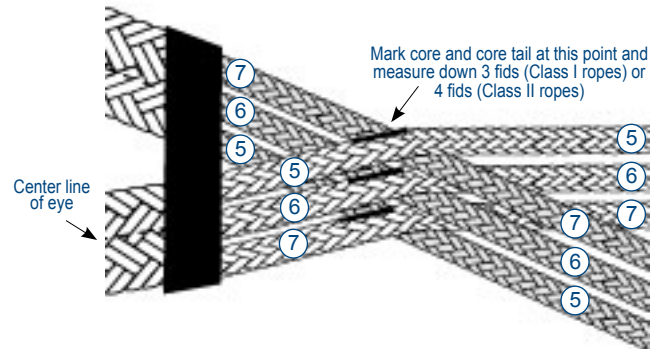




MOORING MASTER EYE SPLICE CLASS I & II

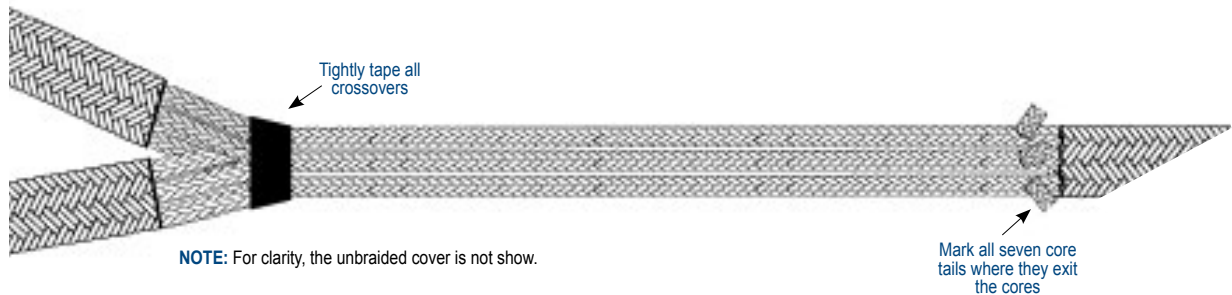
STEP 6 MARK REMAINING CORES AND TAILS

Turn the rope over and again place it under a slight tension. Repeat steps 4 and 5 using the last three cores and core tails. The procedure for laying out, marking and then burying the cores and core tails is identical to that described in the previous steps except that the direction of the core tails is reversed. Remove tension from the rope before attempting to bury the last three core tails.



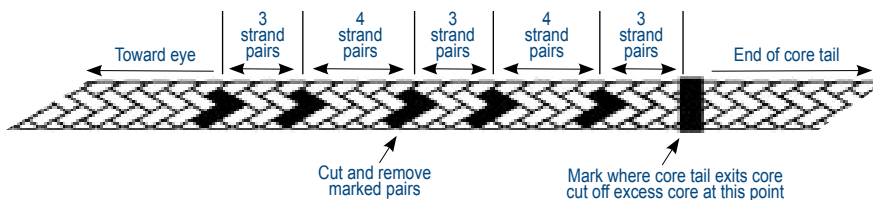
STEP 7 TAPE AND MARK CORE TAILS

After smoothing out the slack from the last three cores, place the rope under tension. Check to see if the cores are under approximately the same tension by lifting each core individually, including the center core. If one or more of the cores feels tighter than the others, continue to smooth out the tight cores until all cores are balanced. Once the cores are under uniform tension, tightly tape the circumference of the rope at the point where the core tails go into the cores. Then mark all seven core tails at the point where they exit from their respective cores.



STEP 8 MARK THE CORE FOR TAPERING

Remove the tension from the rope. Pull the end of each core tail out exposing a length of buried core tail. Mark the core for tapering as shown. Starting from the mark at the end of the core tail (the mark made on the core tail where it exited from the core) and working toward the eye splice, count 3 pairs of strands and mark a left and right-hand strand. Then count 4 pairs of strands and mark a left and right-hand strand. Continue this procedure, counting 3 pairs and marking, 4 pairs and marking and 3 pairs and marking. When finished a total of 5 left and right strand pairs should be marked. Cut off the excess core tail at the mark at the end of the core (the mark made on the core tail where it exited from the core) and then cut and remove each of the 5 marked strand pairs. Repeat this procedure for each of the seven cores.

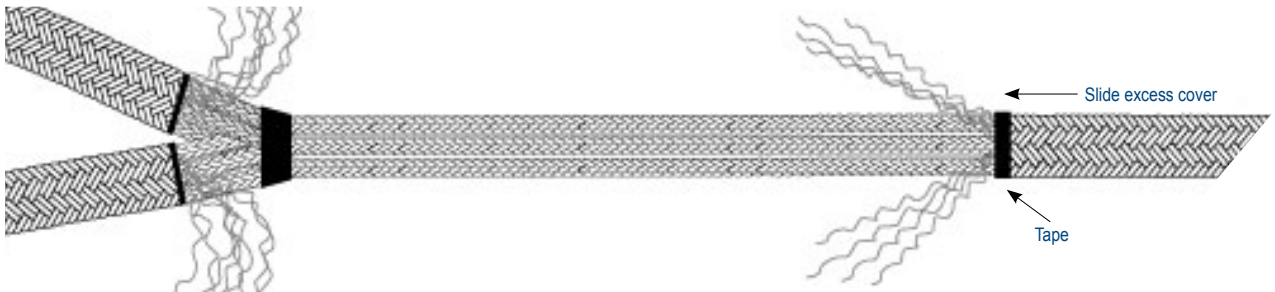
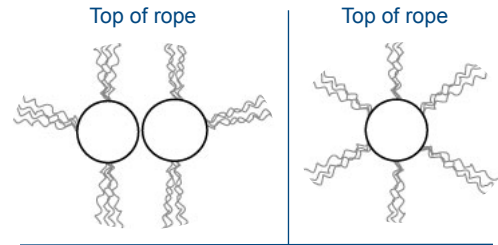




MOORING MASTER EYE SPLICE CLASS I & II

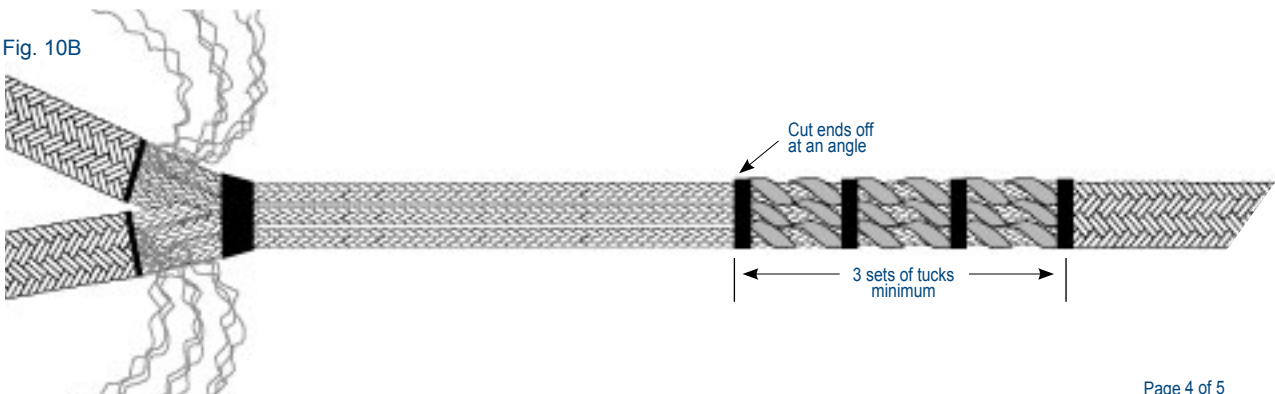
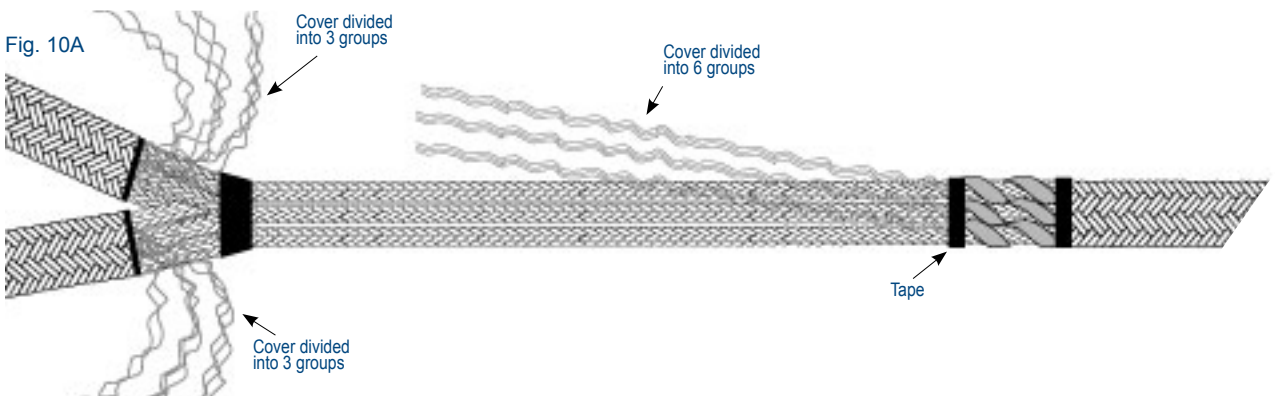
STEP 9 DIVIDE COVER INTO 6 BUNDLES

Put the rope under tension and slide the cover back up the rope towards the splice area. It will be necessary to unbraid the end of the cover for some length in order to remove all the slack from the braided section. Slide the braided section as far as possible up past the end of the splice. Then tightly tape the braided cover at the point where the braid begins to come apart and divide the unbraided cover yarns into 6 separate bundles. Finally, divide the unbraided cover yarns at each leg of the eye into 3 separate bundles.



STEP 10 GROUP AND TUCK COVER

Starting at the base of the splice, take one of the 6 cover braid bundles, pass it over one of the core braids and under the very next core braid (forming a simple tuck similar to that used in splicing 3-strand rope). When tucking the core bundle be careful not to go under the core braid in the center of the rope. Repeat this procedure with each of the 6 cover bundles. The direction of the tucks should be as shown in Fig. 10A. When all 6 bundles have been tucked once, tightly tape around the rope at the point where the tucks occur. Repeat this procedure until a minimum of three complete tucks have been made with all six cover bundles. Additional tucks can be made if there is sufficient length left. When the last set of tucks has been made and taped, cut off the excess cover yarn bundles flush with the last taped section.





MOORING MASTER EYE SPLICE CLASS I & II

STEP 11

GROUP AND TUCK COVER

Tuck the 6 cover braid yarn bundles at the base of the eye. With the eye laying flat (as shown in Fig. 11A) take the bundle closest to the throat of the eye and pass it under the core braid at the top of the rope. Next, take the center cover yarn bundle and pass it under the middle core braid. Finally, take the remaining core bundle and pass it under the bottom core braid. Turn the eye over and repeat this process with the 3 remaining cover yarn bundles. The direction of the tucks should be as shown in Fig. 11B Tape around the rope at the point where the tucks occur. Repeat this procedure until a minimum of two tucks have been completed. When the last set of tucks has been made and taped, cut off the excess cover yarn bundles flush with the last taped section.

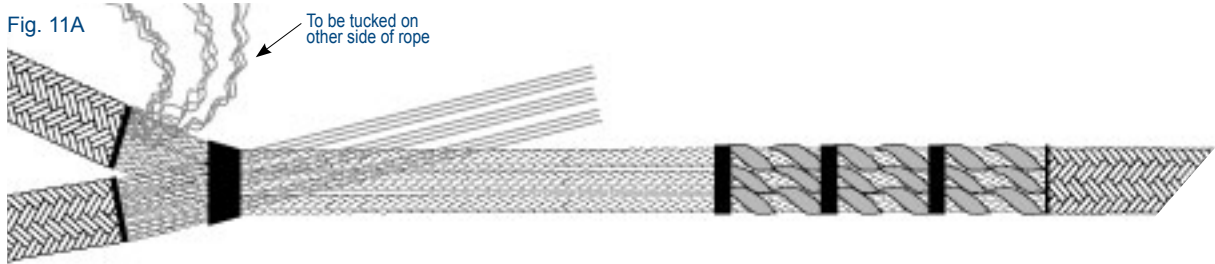
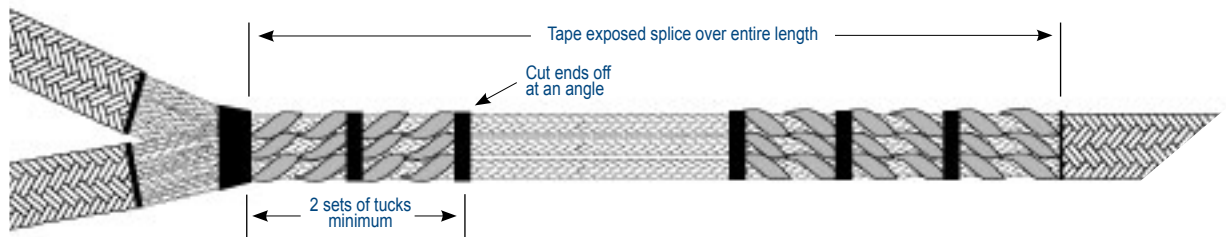


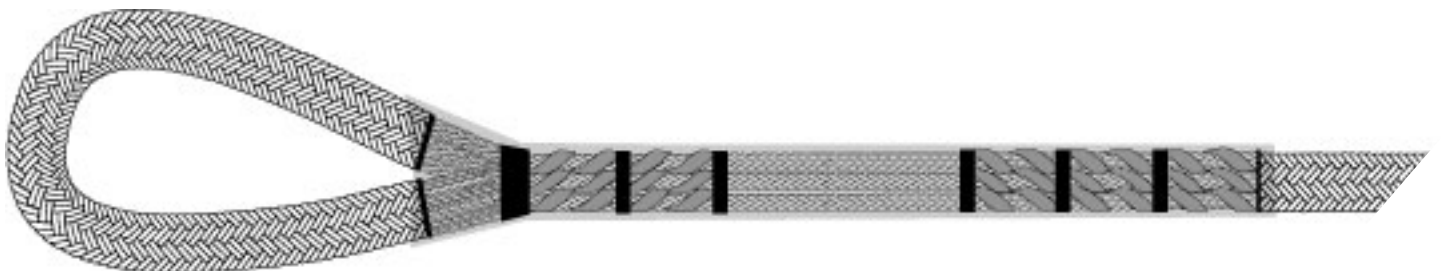
Fig. 11B



STEP 12

FINISH SPLICE

Tape the exposed splice over its entire length with a heavy duty vinyl or plastic tape. Install any other type of chafe gear at this time.





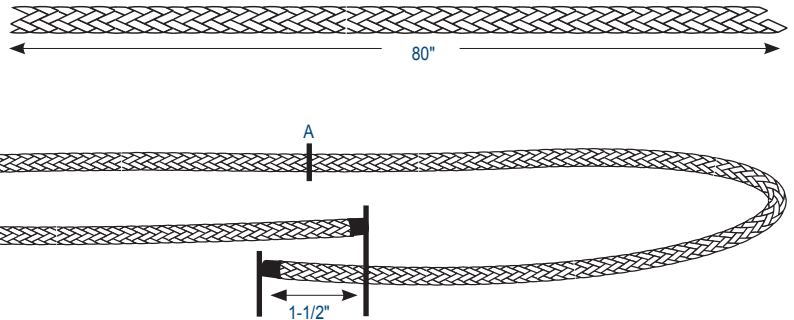
EYE AND EYE TAIL SPLICE

NOTE: These instructions are intended for use with Samson's Tenex, Tenex-Tec (2 end per carrier Tenex), IceTail, or Tech-12 only.

The desired tail length will dictate the starting length of cordage required. For a 33" finished Eye and Eye Tail, an 80" length of 3/8" rope is required.

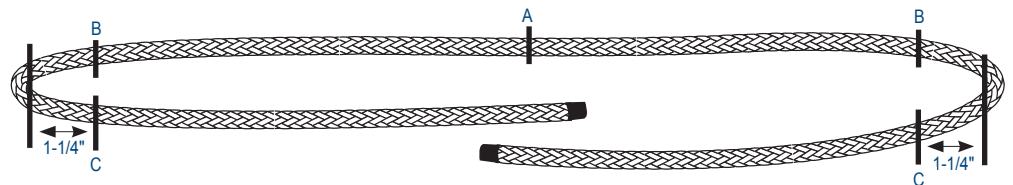
STEP 1 TAIL LENGTH

Mark the center point of the rope. This is mark A. Bring both ends of the rope towards the center point as shown and overlap the tails 1-1/2"



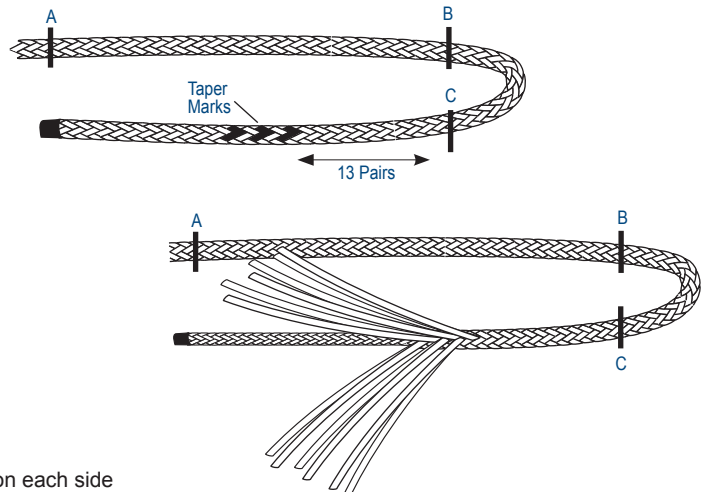
STEP 2 MARK EYE SIZES

Mark the size of the eye on each tail. From the inside of the eye, mark both legs of the eye at 1-1/4". These are marks B and C, as shown.



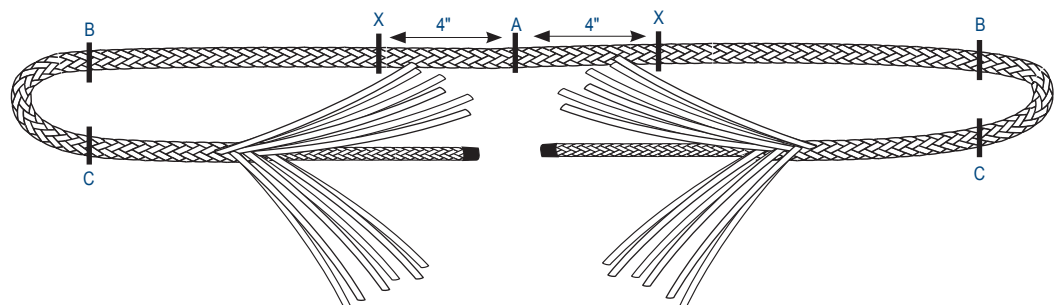
STEP 3 MARK AND PULL TAPERS

Mark the tapers. From mark C towards the ends, count twelve strand pairs and begin taper marks on the thirteenth pair. Mark both a left hand and a right hand strand pair at each point for removal. Mark the 13th, 15th, and 17th. You should have a total of six strand pairs marked for removal at each end. Pull the marked strands from the rope, but do not cut. Replace the tape on both ends of the rope.



STEP 4 MARK EXIT POINTS

From the midpoint marked in step 1, measure four inches on each side of the center mark and make a mark. These will be the exit points X.

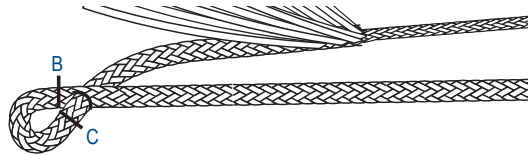




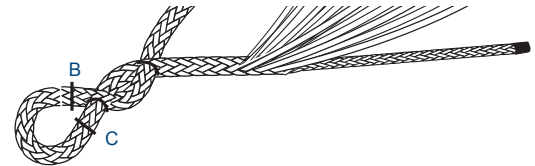
EYE AND EYE TAIL SPLICE

STEP 5 FORM AND CLOSE BRUMMEL

5A Form the locked Brummel on both ends. Pass the shorter taped end through the center of the rope at mark B. Do not bury mark C, leave on the entry side of standing rope.



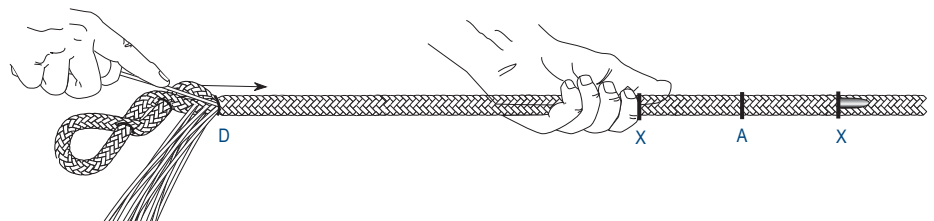
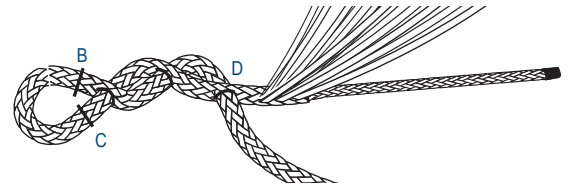
5B Pass the opposite end through the center of the tail approximately two picks from where it exits the standing part of the rope. Close up the Brummel, bringing marks B and C together at the vertex of the eye.



STEP 6 BURY TAILS

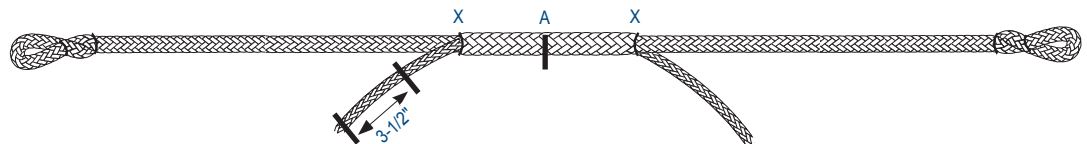
Measure 2 picks from the point where the standing part passes through the tail. This is mark D.

With a fid attached to the taped end of the tail, bury the tail from mark D past the midpoint A to mark X. Just before the pulled taper strands are buried into the standing part of the rope, cut them off. Pull the tail out at mark X as far as possible, and repeat steps 5, 6, and 7 for the opposite end.



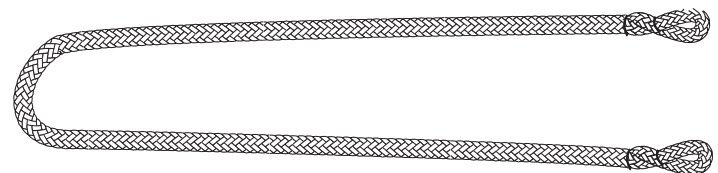
STEP 7 MARK AND CUT ENDS

Smooth all slack from the rope, working from the Brummels to the center mark. Mark where the tapered ends exit the rope at both marks X. Pull both tapered ends out from mark X, measure 3-1/2" from previous mark where the tapers exited at mark X (this is the section of both tapered ends that overlap in the center section), and cut off at an angle.



STEP 8 FINISH SPICE

Milk all slack from the Eye and Eye Tail. The goal is to keep the diameter and fullness of the rope consistent tied into a climbing hitch. When all slack has been removed and the diameter is consistent, lock stitch the eyes at both ends.





LOCK STITCHING & WHIPPING PROCEDURES

LOCK STITCHING:

STEP 1

Pass stitching through spliced area near throat of eye as shown.

STEP 2

Reinsert as shown pulling snug but not tight.

STEP 3

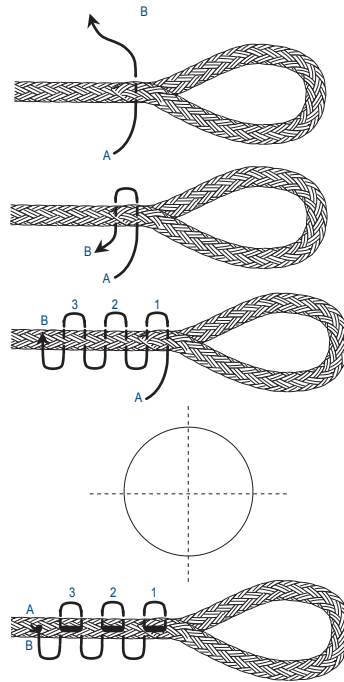
Continue to reinsert as shown until you have at least 3 complete stitches.

STEP 4

After completing Step 3, rotate spliced part of rope 90° and reinsert end A into spliced area in the same fashion as in Steps 1, 2 and 3. The splice will now be stitched on two planes perpendicular to each other. Make sure you do not pull the stitching too tight.

STEP 5

After stitching at least three complete stitches as in Step 3, extract both ends A and B together through the same opening in the braid. Tie them together with a square knot and reinsert back into braid. For double braids, re-insert the knot between the cover and core.



Twines for Lock Stitching:

In general, braided nylon twine is preferred for lock stitching. Polyester twines, or twisted twines in either polyester or nylon, or a strand from the rope itself (from a discarded or extra piece) can be substituted.

The twine used should be approximately the same diameter as a strand in the rope. If the rope or the cover of the rope is made up of pairs of strands rather than a single strand, the twine should be about the same diameter as these two strands together.

To check the twine size, lay the twine over the strands in the rope – if it covers the width of the strand(s), it is the right size.



LOCK STITCHING & WHIPPING PROCEDURES

LOCK STITCHING:

STEP 1

Pass stitching through spliced area near throat of eye as shown.

STEP 2

Reinsert as shown pulling snug but not tight.

STEP 3

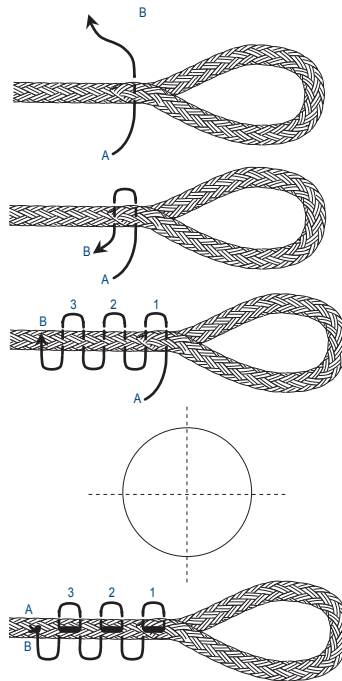
Continue to reinsert as shown until you have at least 3 complete stitches.

STEP 4

After completing Step 3, rotate spliced part of rope 90° and reinsert end A into spliced area in the same fashion as in Steps 1, 2 and 3. The splice will now be stitched on two planes perpendicular to each other. Make sure you do not pull the stitching too tight.

STEP 5

After stitching at least three complete stitches as in Step 3, extract both ends A and B together through the same opening in the braid. Tie them together with a square knot and reinsert back into braid. For double braids, re-insert the knot between the cover and core.



Twines for Lock Stitching:

In general, braided nylon twine is preferred for lock stitching. Polyester twines, or twisted twines in either polyester or nylon, or a strand from the rope itself (from a discarded or extra piece) can be substituted.

The twine used should be approximately the same diameter as a strand in the rope. If the rope or the cover of the rope is made up of pairs of stands rather than a single strand, the twine should be about the same diameter as these two strands together.

To check the twine size, lay the twine over the strands in the rope – if it covers the width of the strand(s), it is the right size.

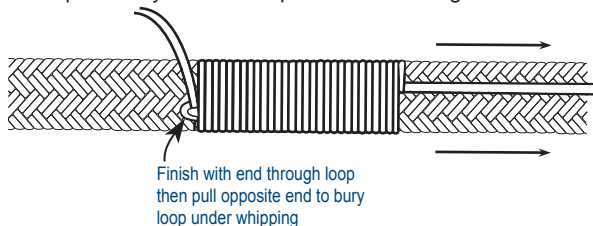
WHIPPING FINISH SPLICE (METHOD 1)

Whip or seize the end of the spliced area with whipping twine for extra security and a professional touch. Keeping tension on rope while wrapping results in tighter whipping.

STEP 1 Form loop with whipping twine.



STEP 2 Wrap securely at least 1 rope diameter in length.



STEP 3 Cut both ends close to whipping.



Choosing twines for whipping:

In general, braided nylon twine is preferred for whipping. Polyester twines, or twisted twines in either polyester or nylon, can be substituted.

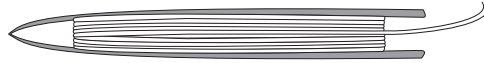
The twine used should be approximately twice the diameter of the strands in the rope.



WHIPPING FINISHED SPLICE (METHOD II)

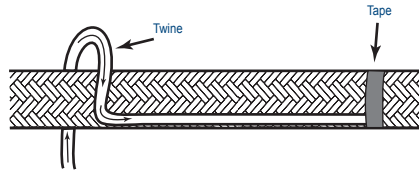
STEP 1

Attach twine to netting needle.



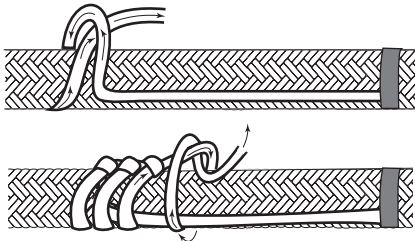
STEP 2

Tape the free end of the twine to the opposite side of the area to be whipped.



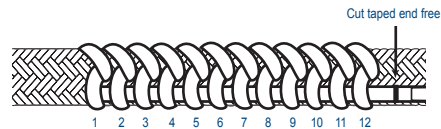
STEP 3

Start whipping. Wrap the needle around the circumference of the rope 1 complete turn. Pass the netting needle under the complete wrap left to right. Pull the loop tight. Pull the needle up maintaining tension on the completed half hitch and then quickly pull back down to lock the half hitch in place.



STEP 4

Continue with this procedure until the whipped area is approximately 1/2 of the desired length, then cut the taped free end near the last wrap.



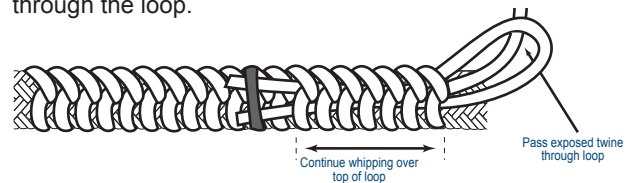
STEP 5

Using some spare twine, tape a loop that covers the length of the intended whipping distance, letting the two free ends of the looped twine pass over the completed whipping. Tape the free ends past the already whipped area.



STEP 6

Continue whipping for the desired length over the top of the looped twine. After whipping is complete, cut less than 1 inch of the exposed whipping twine. Remove the tape on the looped twine and pass the exposed whipping twine through the loop.



STEP 7

Remove the tape from the two free ends of the looped twine and use them to pull the loop through the whipped area. This should place the remaining whipping twine under the whipped area.



Special Tips for Splicing Used Rope

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 abraided. Therefore, by using the technique outlined in the Used Rope Eye Splice for Class 1 Double Braids, along with the following tips, you can splice used Braided Rope more easily and with better results.

Soak the section of rope to be spliced in water for several minutes - this lubricates and loosens fibers.

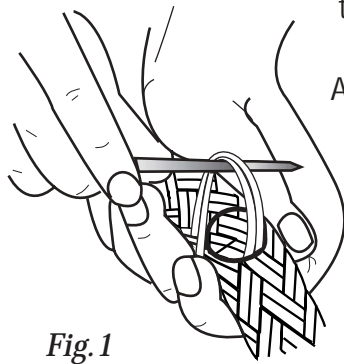


Fig. 1

After marking cover (as shown in Step #2 of the splicing instruction) 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, carefully loosen 3-4 strand pairs at X to assure a large and flexible hole for extraction. (See Fig.1).

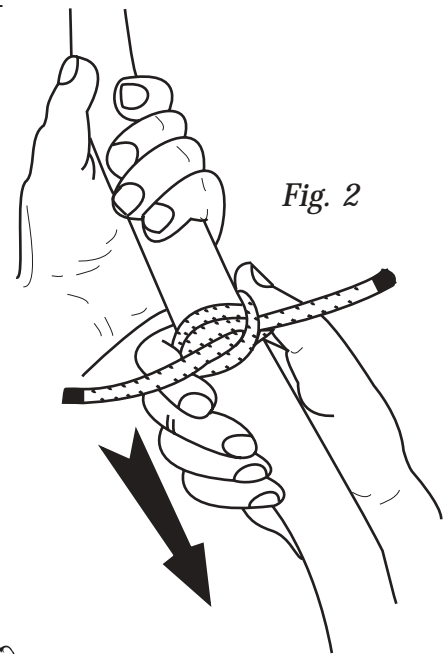


Fig. 2

Final Burying:

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 Fig. 2)



2090 Thornton St.
Ferndale, WA 98248
{T} 360.384.4660 / {F} 360.384.0572

samson
THE STRONGEST NAME IN ROPE

samsonrope.com

Additional Rope Needed for Samson Class 1 Splices

SOFT EYE SPLICE

Circumference of rope in inches expressed as feet, (allows for rope in buried section), plus length of the Eye Splice.

EXAMPLE

Extra rope needed for a 6 ft. soft eye in a 10" circumference 2-in-1 Braid would be 16 ft. (10' + 6').

THIMBLE EYE SPLICE

Circumference of rope in inches expressed as feet, (allows for rope in buried section), plus 1/2 the circumference of the rope in feet, (allows for rope around thimbles).

EXAMPLE

Extra rope needed for a Thimble Eye Splice in 15" circumference 2-in-1 Braid would be 22 ft. (15' plus 7-1/2').

END-FOR-END SPLICE

Circumference of rope in inches expressed as in feet times 2.

EXAMPLE

End-for-End Splice in 8" circumference 2-in-1 Braid figure on 16 ft. extra for the buried sections of the crossover.



2090 Thornton Street
Ferndale, Washington 98248
{T} 360.384.4669 / {F} 360.384.0572

samsonrope.com

©2004 Samson Rope Technologies 4.2.04



TOOLS & MATERIALS REQUIRED FOR SPLICING

FID:

Samson Tubular, Wire or Selma fids are available in a variety of sizes depending on the rope type and diameter you're splicing.

PUSHER:

Helpful for extracting cores or pushing a fid through the rope.

TAPE:

Masking tape, electrical tape or a similar plastic tape can be used during splicing.

SCISSORS OR KNIFE:

For cutting away strands – must be sharp.

TWINE:

Good quality nylon braided or twisted twine in a size adequate for the rope diameter being spliced. (See pgs. 10-13 for sizing twine for whipping and lock stitching).

RULER OR TAPE MEASURE

MARKING PEN



SPLICING KIT

The Samson Splicing Kit comes with 5 aluminum tubular fids (size range 1/4" through 1/2" diameter)



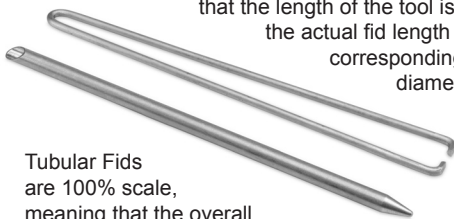
SPLICING TRAINING KIT

The Samson Splice Training Kit comes complete with a fid, pusher, instruction manual and two lengths of double braided ropes.



WIRE AND ALUMINUM TUBULAR FIDS

Our wire fids are 1/2 scale, meaning that the length of the tool is 1/2 the actual fid length for the corresponding rope diameter.



Tubular Fids are 100% scale, meaning that the overall length of the tool is equal to the actual fid length for the corresponding rope diameter.

SELMA FIDS

Made from highly polished stainless steel, Selma Fids are patented worldwide. Available in sets only, the Selma Fid may be used to splice hollow braided lines from 1/8" to 9/16" or double braid and three strand rope up to 1-1/8".





FID INFORMATION

FID LENGTH DEFINITION

The "fid length" for a rope is calculated as 21 times the rope diameter. As the rope diameter increases, so does the fid length. For example the fid length for a 4" diameter rope is 84".

The length of the splicing tool, called a "fid", may or may not have a 1:1 correlation with the fid length for a given rope diameter. Refer to the example above and imagine trying to splice a 4" diameter

rope with an 84" fid. To keep fids to a manageable length, they may be scaled to the actual fid length of a given rope diameter. Our tubular fids are 100% scale, meaning that the overall length of the tool is equal to the actual fid length for the corresponding rope diameter. Our wire fids are 1/2 scale, meaning that the length of the tool is 1/2 the actual fid length for the corresponding rope diameter.

ALUMINUM TUBULAR FIDS

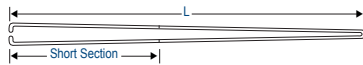
A different sized splicing fid is required for each size of rope.



Fid Size = Rope Dia. (Inches)	Total Fid Length (Inches)	Short Fid Section (Inches)
1/4"	5-1/2"	2-1/16"
5/16"	6-3/4"	2-1/2"
3/8"	7-3/4"	2-7/8"
7/16"	9-1/2"	3-9/16"
1/2"	11"	4-1/8"
9/16"	12-1/4"	3-5/8"
5/8"	14"	4-1/8"
3/4"	16"	4-3/4"
7/8"	19"	4-3/4"
1"	21"	5-1/4"

WIRE FIDS

For rope sizes above 3" circ. (1" dia.), use a wire fid.
Fid scale: 1/2 (for rope diameters between 1" and 2").



Fid Size = Rope Dia. (Inches)	Total Fid Length "L" (Inches)	Short Section "C" (Inches)
1"	10-1/2"	2-5/8"
1-1/8"	12-1/4"	3"
1-1/4"	13-1/4"	3-1/4"
1-5/16"	14"	3-1/2"
1-1/2"	16"	4"
1-5/8"	17-1/2"	4-1/2"
1-3/4"	19"	4-3/4"
2"	21"	5-1/4"

CALCULATING FID SHORT SECTION

1/4"-1/2" short section is 37.5% of fid length

9/16"-3/4" short section is 30% of fid length

7/8" and up short section is 25% of fid length

