

SPlicing MANUAL



WORKERS' COMPENSATION BOARD OF BRITISH COLUMBIA

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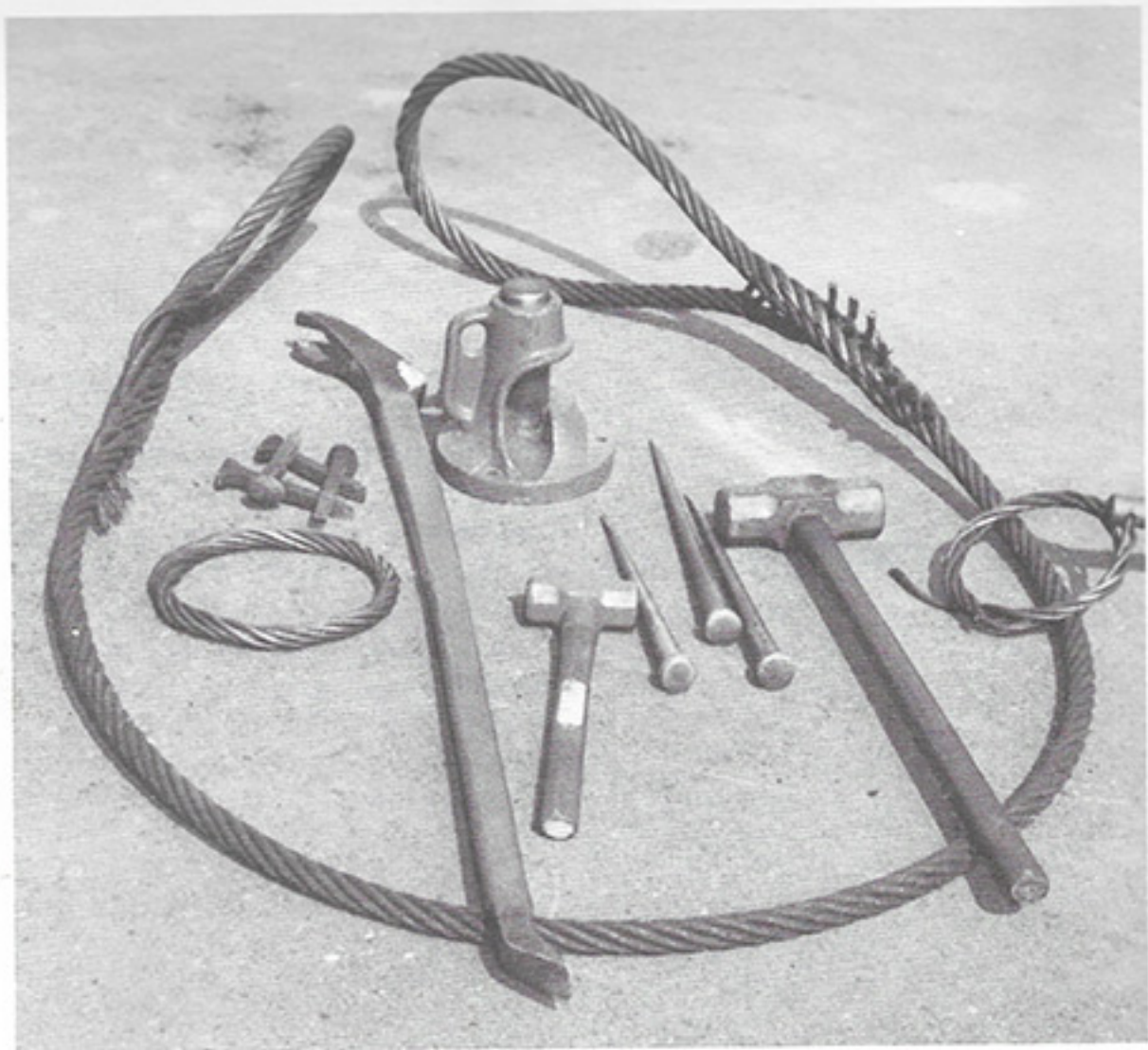
WORKERS' COMPENSATION BOARD OF BRITISH COLUMBIA

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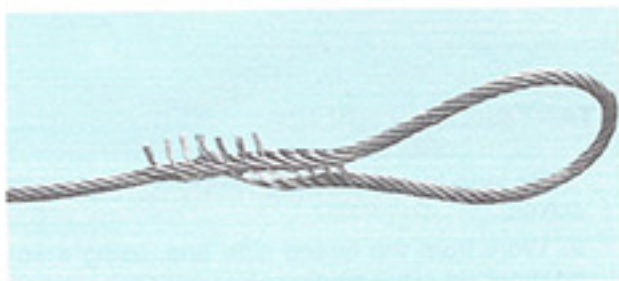
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THE LOGGER'S EYE SPLICE

STARTING PROCEDURE

1. When splicing the second eye for a strap, the already-spliced eye should be in the position shown. The eye must be vertical and the cut off strands upright before the line is spiked secure.
2. This will result in a curved strap that will fit nicely around a tree or stump. The eyes will be turned correctly to fit in the shackle or gooseneck. This procedure is recommended for use with 1 1/4" (32 mm) lines as demonstrated here.



STEP 1

SPIKING THE LINE DOWN SECURELY

1. Whenever possible select a solid high stump on which to spike the line down.
2. Drive four spikes into the stump, two on each side and the proper distance apart to hold the lines together.
3. Keep the spikes well back from the edge of the stump to avoid splitting out.
4. Drive the two spikes on the strand side down far enough so that the line can just be slipped in under the heads.
5. Drive the other two spikes down only far enough so the lines can be inserted between the head of the four spikes. If they are driven too far down, the lines cannot be inserted.
6. Leaving a good long end, insert the strand end first.
7. Hold the strand end tight against the two spikes.
8. Leave a large loop before inserting the other line between the four spikes.



9. It is hazardous to try and spike down a small loop as the line can spring off the spikes violently.
10. Some splicers secure the strand end with additional spikes before making the loop.

11. When both lines are fitted between the spikes with a large loop, drive the spikes down to hold the line from springing out, but loose enough to allow adjustment to the loop and strand end.
12. Drive one or two spikes in about half way between the two lines.
13. Adjust the length of strand end desired, about 4 feet (1.2 meter).

14. Spike the strand end secure.
15. Adjust the loop to the size of eye desired, then spike it solid.
16. Drive all spikes down solid.
17. Be certain that the side to be spliced into is spiked solid so it will not turn when the splice is being made.

STEP 2

STARTING THE SPLICE

1. Be sure to use properly tempered long marlin spikes.
2. Work from the strand side and, using a soft hammer, drive the marlin spike under two strands.
3. Start as close as possible to the stump.
4. The marlin spike can be inserted more easily if it is driven in slightly, turned in the direction of the lay then driven through. Hold it tightly while inserting the spike so the spike does not jump out.
5. If the spike pierces the core, drive another spike in clear in the correct place.



STEP 3

SELECTING AND INSERTING THE FIRST STRAND

1. When the spike is inserted clear under two strands, drive it well in to open the line.
2. Roll the spike down the lay of the line.
3. Select a strand that is about two strand widths below the lay where the spike is.
4. This is important in order to make a neat, tight splice and to bring the remaining strands into their proper place without bulging out.



5. This first strand, when tucked, should be laid across sharply.
6. Take the selected strand and press it across the line firmly in order to bend it into position.
7. Without twisting the strand, insert it in the opening made by the spike. Illustrations 6 and 7.
8. The strand is now ready to pull through into its first position.



STEP 4

ROLLING IN AND TUCKING THE FIRST STRAND

1. Make sure that there is no twist in the strand and then pull it in firmly.
2. Maintain tension on the strand to prevent it from slipping back.



STEP 5

COMPLETING THE FIRST TUCK OF #1 STRAND

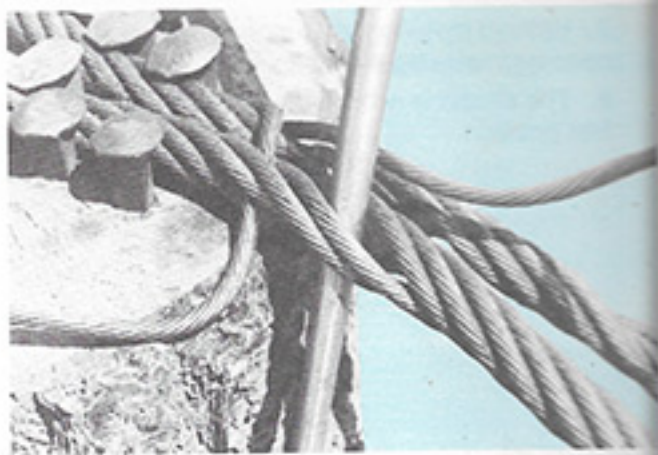
1. Keep a firm tension on the strand and bring it back under the line.
2. Pull on the strand firmly and at the same time roll the spike back up the lay, pushing the strand ahead, as far up as it will go.
3. Sometimes it may be necessary to tap the strand behind the spike to get it to lay in tightly.
4. Keep a tension on the strand to prevent it from springing back. Pull the spike out.
5. Tap the two overlaying strands lightly to help hold the tucked strand in place.



STEP 6

TUCKING THE NEXT STRAND #2

Drive the spike in, one strand further down the line and under two, as shown.



STEP 7

SECOND STEP IN TUCKING STRAND #2

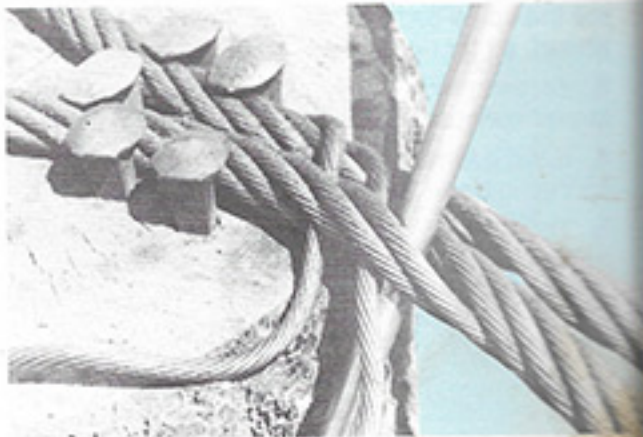
1. Roll the spike down along the lay.
2. Drive the spike well in to make a large opening.
3. Press the strand firmly over the top to kink it slightly before inserting.
4. Insert the strand and pull all the way firmly.



STEP 8

COMPLETES FIRST TUCK OF STRAND #2

1. Keep a firm tension on the strand and bring it back underneath.
2. Roll it up the lay, tight against strand #1.
3. Maintaining the tension, tap the strand tightly to set it in firmly.
4. Remove the spike.



STEP 9

CONTINUING THE SPLICE

1. Follow the same procedure used for strands #1 and #2 for strands #3 and #4.
2. Be sure to keep all strands in tight, ensuring that they do not bulge out on the strand side.
3. Take care to roll the strands as far up the lay as possible.
4. Do not remove the spike yet.



STEP 10

INSERTING THE SPIKE FOR THE SECOND TUCK OF STRAND #1

1. After #4 strand is tucked once and rolled up tight, leave the spike in.
2. Roll the spike back up the lay and press down firmly.
3. This will open the line slightly and expose the core, making it easier to insert a second spike.
4. Drive a second spike down between the core and under two strands.
5. This can also be done by removing the first spike and driving it the same way as when tucking the four strands, but two strands away from the last strand instead of only one.
6. This method could be used throughout the splice, and the end result would be the same.
7. When the second spike is inserted, remove the first spike from the line.



STEP 11

INSERTING #1 STRAND FOR ITS SECOND TUCK

1. Drive the second spike well in to form a good opening.
2. Roll the spike down along the lay, keeping the unravelled strands #5 and #6 and the core on top of the spike.
3. Take #1 strand under the splice and pull it up solidly against the underside of the splice. This will tend to bend the strand slightly so it will lay in better.



4. From the splice slide, insert the strand through the opening on the upper side of the spike, underneath the two strands.

5. Make sure strands #5, #6 and the core are on top, outside the loop of strand #1.

STEP 12

CONTINUING WITH #1 STRAND

1. Pull strand #1 all the way through with the spike in this position.
2. Make sure that the strand is pulled up tightly, and there is no loop left underneath.
3. Keep a strong, steady tension on the strand to prevent it from springing back underneath, creating a loop.



STEP 13

NEAR COMPLETION #1 STRAND, SECOND TUCK

Pulling hard on the strand, roll the spike up the lay, forcing the strand ahead of it.



STEP 14

COMPLETED SECOND TUCK OF #1 STRAND

1. Keeping a strong tension on the strand, roll the spike all the way, forcing the strand as far as it will go.
2. Keep firm tension on the strand until the spike has been removed.



STEP 15

INSERTING THE SPIKE TO TUCK THE #1 STRAND FOR THE THIRD TIME

1. Drive the spike in, one strand down the line from where #1 strand is protruding on the second tuck.
2. The spike is driven one strand away, and under two strands, exactly the same distance apart as the first four.
3. Drive it well in to make a good opening.



STEP 16

INSERTING #1 STRAND FOR THE THIRD TUCK

1. Roll the spike down the lay of the line.
2. Before inserting the strand, press the strand over and down into the position where it will be when tucked.
3. This will tend to bend it, making it easier to pull in tight.
4. Insert the strand and pull it all the way up tightly with the spike in this position.



STEP 17

COMPLETING THE THIRD AND FINAL TUCK OF STRAND #1

1. Holding a tension on the strand, pass it under the line.
2. Pull it firmly to the line side, and at the same time roll the spike up the lay, forcing the strand up tight as far as it will go.
3. Do not hammer on top of the strand if it does not lay right in, because this will force it back underneath, forming a loop. If it does not lay right in, roll the spike back down the lay and pull from the other side again, but harder this time.
4. Do not remove the spike when the third tuck is completed.



STEP 18

COMMENCING THE FIRST TUCK OF STRAND #5

1. After strand #1 is tucked in tight on the third tuck, leave the spike in the line.
2. Roll the spike down the lay of the line to where it was when tucking the last strand.
3. Drive it in to make a good opening, as strand #5 will go in the same place.
4. Insert strand #5 as with the other strands.
5. Pull it all the way through, up tight with the spike in this position.



STEP 19

COMPLETING THE FIRST TUCK OF STRAND #5

1. Holding a good tension on the strand, pass it under the line.
2. Still pulling on the strand, roll the spike up the lay, forcing the #5 strand up tight against the completed tucked #1 strand.
3. This first tuck can be tapped in to shorten the strand side, because it is the first tuck and cannot be driven back.
4. It is important to pull these first tucks in as much as possible to make a professional job.
5. Leave the spike in the line.



STEP 20

PREPARING TO TUCK STRAND #2 FOR THE SECOND TIME

1. Roll the spike back up the lay as when tucking strand #1 for the second time.
2. Press the spike down solidly to help open the line, exposing the core. This will make it easier to insert the second spike.
3. Insert the second spike alongside the core and under two strands exactly as shown in Step 10.



STEP 21

TUCKING STRAND #2 FOR THE SECOND TUCK

Follow the same procedure as with strand #1 throughout the remainder of the splice.



STEP 22

COMPLETED SECOND TUCK OF STRAND #2



STEP 23

STARTING THE THIRD TUCK OF STRAND #2



STEP 24

COMPLETED #2 STRAND, TUCKED THREE TIMES

Leave spike in to start first tuck of #6 strand.



STEP 25

STARTING FIRST TUCK OF STRAND #6

Roll spike down the lay. Insert #6 strand for the first tuck. Pull through, up tight.



STEP 26

COMPLETING FIRST TUCK OF STRAND #6

Pass strand under splice and roll into place with spike for completion of first tuck of strand #6. Leave spike in.



STEP 27

PREPARING TO TUCK STRAND #3 THE SECOND TIME

Insert the second spike to place the second tuck of strand #3.



STEP 28

STARTING SECOND TUCK OF STRAND #3

Remove the first spike. Roll second spike down the lay.

Pull #3 strand up hard under the splice to bend it. Insert it through the opening above the spike.



STEP 29

COMPLETING SECOND TUCK OF STRAND #3

Pull the strand through firmly so it is tight underneath.

Pull the strand firmly. At the same time, roll the spike up the lay of the line, forcing the strand as far as it will go. Remove spike.

Completed second tuck of strand #3.



STEP 30

PREPARING THIRD TUCK OF STRAND #3

Starting the third tuck of strand #3.

Drive the spike through, one strand away and under two, as before.

Roll the spike down the lay, keeping a good opening.

Bend the strand and insert it with the spike in this position.



STEP 31

COMPLETING THIRD TUCK OF STRAND #3

Pull the strand through from the strand side.

Place the strand back under the splice.

Pull it hard from the line side.

Roll the spike up the lay, forcing it into place. This completes the third tuck for strand #3. Do not remove the spike.



STEP 32

TUCKING THE CORE

Tucking the core for the first time, use the same procedure as for any strand.

Roll the spike down the lay of the line.

Drive the spike to make a wide opening as the core is slightly larger than a strand.

Insert the core and pull it through from the strand side.



STEP 33

STILL TUCKING THE CORE

Pass the core under the line. Pull it tight.

Roll the spike up the lay, forcing the core in tight against the #3 strand.

Leave the spike in the line.

NOTE: The first tucks of #5, #6 and the core are tucked in the same place, behind the third tucks of #1, #2 and #3.



STEP 34

TUCKING #4 STRAND AGAIN

Tuck #4 strand for the second time. Roll the spike up the lay, press down and drive in the second spike.



STEP 35

STILL TUCKING #4 STRAND

Remove the first spike and roll the other one down the lay.

Bring the #4 strand under the line, then pull it up firmly to bend it.

Insert the strand and pull it through from the line side.



STEP 36

STILL TUCKING #4 STRAND

Keep a firm tension on the strand.

Pull it hard from the strand side. At the same time, roll the spike up the lay, forcing the strand in tightly.

Keep tension on the strand when removing the spike.

The #4 strand is tucked two times.



STEP 37

STILL TUCKING #4 STRAND

Tuck #4 strand for the third time.

Drive the spike one strand away from the tucked core and under two.



STEP 38

STILL TUCKING #4 STRAND

Roll the spike down the lay of the line.

Force the strand across the top of the splice to bend it a little.

Insert the strand from the line side and pull it through tightly from the strand side.



STEP 39

FINAL TUCK #4 STRAND

Keep tension on the strand. Pass it under the splice.

Pull it firmly from the line side. At the same time, roll it into place with the spike up the lay.

Leave the spike in.

NOTE: There are no strands left to go in with this tuck.



STEP 40

STARTING TO TUCK #5 STRAND AGAIN

Tuck strand #5 for the second time.

Roll the spike up the lay and press down to open the line.

Drive in the second spike between two strands and the core.

Remove the first spike.



STEP 41

STILL TUCKING #5 STRAND

Roll the spike down the lay.

Bring strand #5 under the line.

Strand #5 is protruding with the third tuck of strand #1; #5 will be the lower strand of the two. If the two strands are pressed together, follow them to make sure you have the correct strand #5.

Bend the strand and insert it from the strand side.



STEP 42

STILL TUCKING #5 STRAND

Pull the strand through, up tight from the line side. Holding the tension, pull the strand up the lay from the strand side.

Roll the spike up the lay, forcing the strand in place.

Remove the spike.



STEP 43

FINAL TUCK OF #5 STRAND

Tuck #5 strand for the third and final time. Drive the spike in, one strand away from #5 and under two strands. Roll it down the lay. Force the strand over the top of the splice to bend it. Insert the strand from the line side.

NOTE: If you are splicing unusually tight line, and it becomes difficult to insert the spike, have a bar held under the splice and on the stump.



STEP 44

STILL ON FINAL TUCK OF #5 STRAND

Pull the strand through up tight from the strand side.

Keeping a tension, pass the strand back underneath.



STEP 45

FINISHED FINAL TUCK #5 STRAND

Pull the strand firmly from the line side.
Roll the spike up the lay, forcing the strand into place.
This completes three tucks of #5 strand.
Leave the spike in.



STEP 46

STARTING TO TUCK #6 STRAND AGAIN

Tuck the #6 strand for the second time.
Roll the spike up the lay and press down to open the line.
Drive in the second spike between the core and two strands, as with the other five strands.
Remove the first spike.



STEP 47

STILL TUCKING #6 STRAND THE SECOND TIME

Roll the spike down the lay.
Drive the spike in to make a good opening.
Pull the #6 strand up underneath firmly to bend it slightly. Be sure you have the correct strand.
Strands #2 and #6 will be in the same lay.
Insert #6 alongside the spike from the strand side.



STEP 48

FINISHING THE SECOND TUCK OF STRAND #6

Pull the strand through tightly from the line side.
Pull the strand back up the lay of the line from the strand side.
Roll the spike up the lay to force the strand into place. This completes two tucks of strand #6.
Remove the spike.



STEP 49

STARTING THE THIRD TUCK OF STRAND #6

Tuck strand #6 for the third and final time.

Drive the spike in from the top of the line, angled down the lay, one strand down from strand #6 and under two.

Roll the spike down the lay.

Bend the strand as before and insert it as shown.



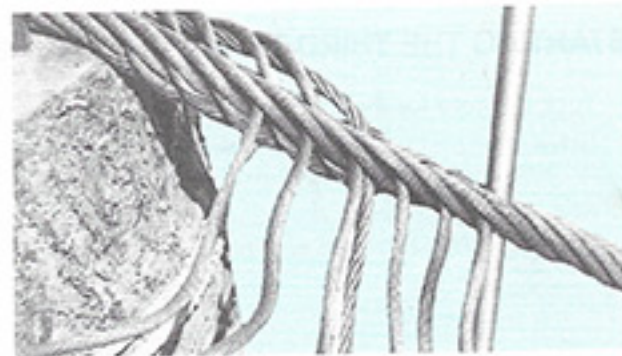
STEP 50

FINISHING THE THIRD TUCK OF STRAND #6

Pull the strand firmly through from the strand side. Hold the tension on the strand and pass it to the line side.

Pull it firmly up the lay. Roll the spike up the lay to force it into place.

This completes three tucks of strand #6. Leave the spike in.



STEP 51

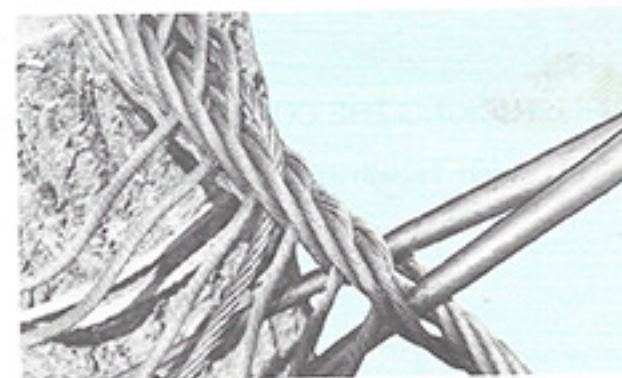
STARTING THE SECOND TUCK OF THE CORE

Tuck the core for the second time.

Roll the spike up the lay and press it down to open the line.

Insert the second spike as before, alongside the core and under two strands.

Remove the first spike.



STEP 52

STILL TUCKING THE CORE THE SECOND TIME

Roll the spike down the lay of the line. Drive it in to make a good opening as the core is slightly larger than the strands.

Bring the core under from the line side and pull it up firmly to bend it a little.

The core is in the same lay as #3 but it is easily recognizable.

Insert the core in the space on the top side of the spike, as for the other strands.



STEP 53

FINISHING THE SECOND TUCK OF THE CORE

Pull the core through up tight from the strand side.
Keep tension on the core.

Pull it over the top of the splice, up the lay. Roll the spike up the lay to force the core into place.

This completes two tucks of the core. Remove the spike.



STEP 54

STARTING THE THIRD TUCK OF THE CORE

Tuck the core for the third and final time.

Drive the spike from the top in the direction of the lay, one strand away from the core and under two.

Roll the spike down the lay, making a good opening. Bend the core and insert it as shown.



STEP 55

STILL TUCKING THE CORE THE THIRD TIME

Pull the core through tightly from the strand side.



STEP 56

FINISHING THE THIRD TUCK OF THE CORE

Bring the core back under the splice and pull it up the lay from the line side.

Roll the spike up the lay, forcing the core into place.

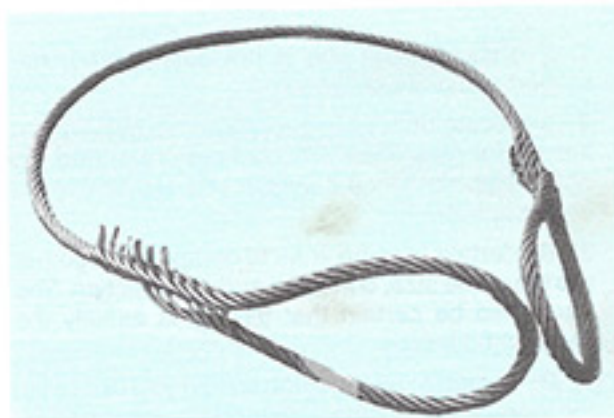
This completes the splice with all the strands and core tucked three times. Remove the spike.



COMPLETED STRAP

Because the first strand was kept crossed over sharply, the remaining strands have not bulged out.

The second eye splice of a strap was made with the first eye in the correct position (eye vertical with the strands upright) and the strap and eyes are curved correctly for easier hanging. This is most important when splicing short straps.



THE COMMON LONG SPLICE

The long splice can be completed by a number of methods, although the end result will be the same. The method described here is one of the simplest and easiest procedures to follow.

Splicing any line takes practice, as it takes experience to learn how to handle the line and marlin spikes effectively.

Most of the lines now used in industry have been preformed, which is a big advantage in splicing.

POINTS TO CONSIDER WHEN MAKING A LONG SPLICE

1. Ensure that the line is not deteriorated, damaged or significantly worn.
2. If splicing unused line together, be certain that it is preformed. If the lines are not preformed, do not attempt to splice it unless you are an experienced splicer.
3. Be certain that the lines to be spliced together are the same size, condition and construction. You must also be certain that the lay is exactly the same in both lines.
4. Be certain to use enough line so you can roll in the strands an adequate distance inside the lines. Using too little line is the commonest mistake that inexperienced splicers make.
5. At least two good marlin spikes are necessary. It is advisable to have one or two extra spikes available.
6. At least two persons are required, and it is good

to have more help, to hold the line and to unravel and ravel the ends.

7. Always handle the lines gently, particularly when they are unravelled. This helps keep the strands in their lay and prevents the ends from fraying.

8. Do not cut off any strands until you are quite certain that they are waste ends.

9. Select a mud-free, clear area to splice the line.

10. An inexperienced splicer may have trouble deciding how much line to use in the long splice. This is often determined by the length of ends that the splicer wants to roll in to make an adequate splice. In the example shown here, the ends are to be rolled in about $4\frac{1}{2}$ feet (1.37 meters) in a $\frac{7}{8}$ inch (22 mm) diameter line. As there are 12 strand ends to roll in, the minimum length of line required will be $12 \times 4\frac{1}{2}$ feet (12×1.37 meters) = 54 feet (16.4 meters).

11. It is always advisable to add a little extra length. In this example, 6 feet (1.8 meters) has been added, making a total length of 60 feet (18 meters).

12. Each end of the lines to be joined will have to be unravelled 30 feet (9 meters).

13. A rough rule to follow is to unravel each end 10 times the circumference of the line.

14. The splicer may decide to make the splice longer or shorter, depending on how it will be used.

15. It is always wise to use extra length to ensure a proper splice can be made.

STARTING THE LONG SPLICE

STEP 1

Measure back from each end of the lines 30 feet (9 meters) and mark it.



STEP 2

Split each end of the lines into two — three in one set and three plus the core in the other.

Unravel each line to the 30 foot (9 meters) mark.

To make the line easier to unravel, the sets with the core can be cut off as they are unravelled.

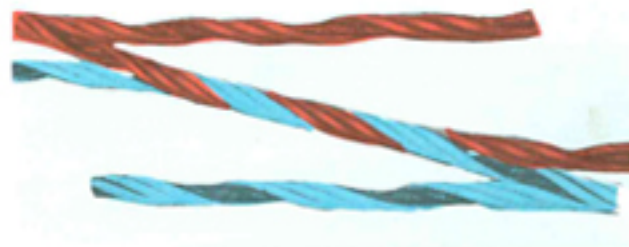


STEP 3

When the line is unravelled to the mark, cut off the sets of three plus cores, as shown

Lay the two sets of three without the core together.

Be sure to overlap the two sets with the cores at least 8 inches (20 cm). This will be trimmed later.

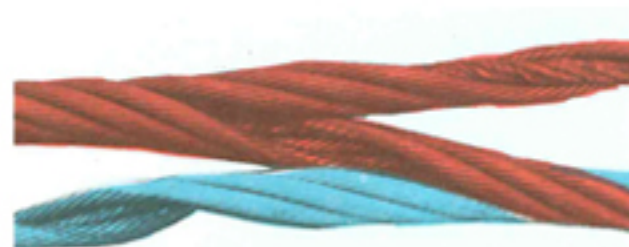


STEP 4

Starting with the left side, unravel the set with the core.

At the same time, keeping the two sets close together, unravel in the set of three without the core.

Do this for about 4.5 feet (1.37 meters) — not less — from the end of the cut-off sets which overlapped about 20 cm.

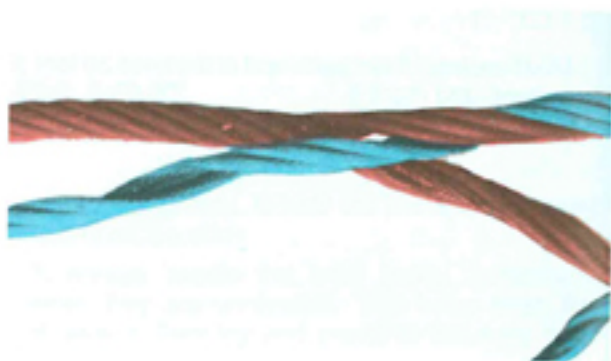


STEP 5

Be careful not to let the set of three with the core removed, shown in red, collapse or close up.

If there are signs of collapse, cross the sets over each other, and force the blue set into the lay with the core set (red).

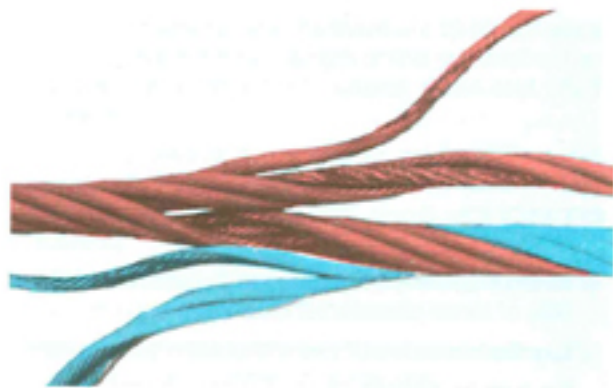
This is difficult, but if the line is closing up, it is necessary. The sets should not collapse or close up if you are using preformed line.



STEP 6

When the sets are ravelled back to the 1.37 meter mark, unravel the top strand of each set, leaving the core with the remaining two strands.

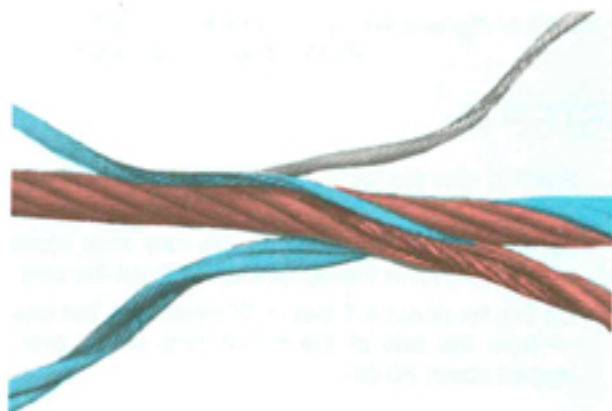
Make certain that the strands unravelled are in line with each other.



STEP 7

When the correct strands are unravelled, cross the lower one as shown around the red (two plus core) strands.

Bring it alongside the other unravelled strand.

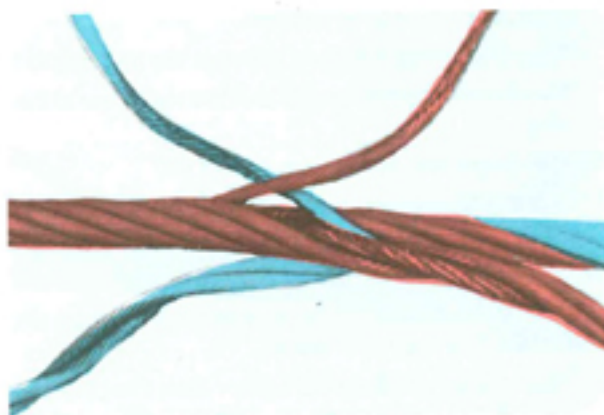


STEP 8

Cross the two single strands and leave them alone.

The single blue strand can be cut off as it is unravelled from the other two blue strands, but not shorter than 6 feet (1.8 meters) at this time.

The two red strands with the core can be cut off at this point.



STEP 9

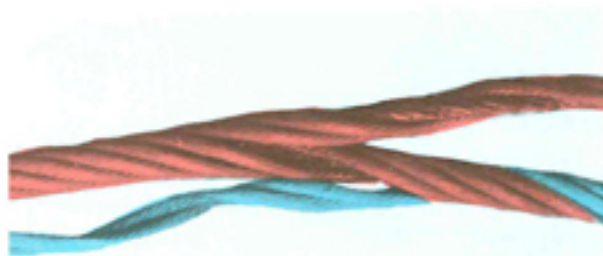
Unravel the two blue strands and core and lay in the two red strands as closely as possible.

Keep the strands tightly together, as the line tends to close up when unravelling the two strands with the core.



STEP 10

Unravel and ravel the set of two blue strands to about 9 feet (2.7 meters) away from the two crossed single red and blue strands.



STEP 11

Unravel both sets of strands.

This time, keep the core with the top red strand.

This is as far as the core should be taken out at this time.

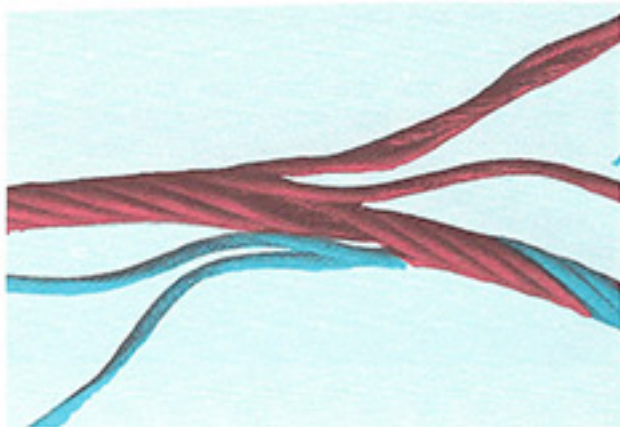
The single red strand can be cut off.

The top blue strand can be cut off, no shorter than 6 feet (1.8 meters) at this time. It will be trimmed later.

NOTE: Be sure not to cut any strands until you are certain that they are waste.

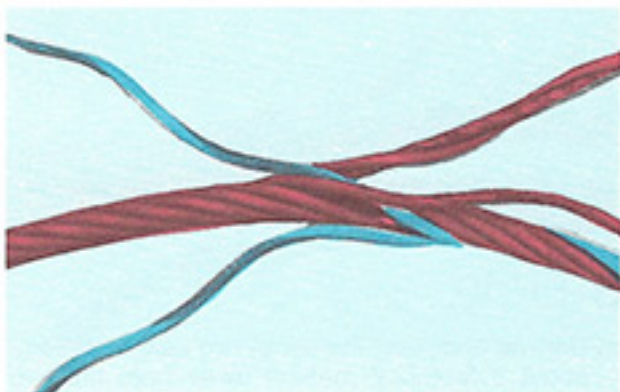
The core is not taken out further than this because the line can easily close up, making it difficult to lay in the single strand with the core out of the line.

This should only be done by an experienced splicer.



STEP 12

Cross the top blue strand over the single red strand.



STEP 13

Cross the top blue strand with the top single red strand and core. Now, the lower red and blue strands are ready to move on.



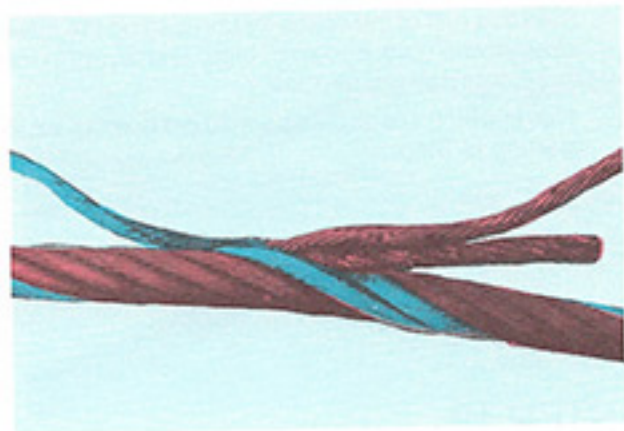
STEP 14

Now that the single blue and red strand with the core are locked, leave them there.

Unravel the other single red strand, ravelling the single blue strand in behind it.

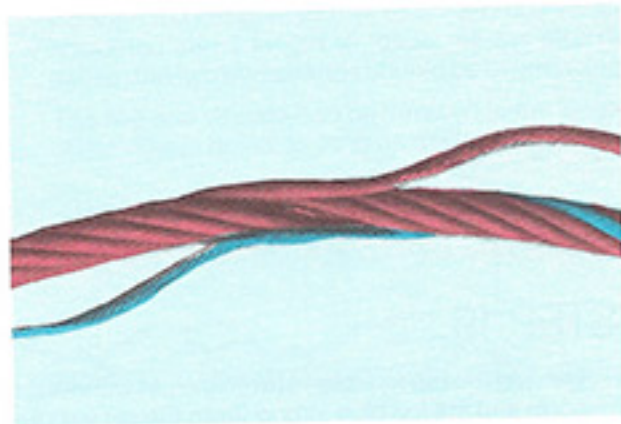
NOTE: Again, be sure that all strands are in line with each other.

The core will be unravelled and cut off, leaving the end protruding, as it will be rolled out before rolling in the last three single strands at each end of the splice.



STEP 15

Lay the two strands along about 9 feet (2.7 meters).



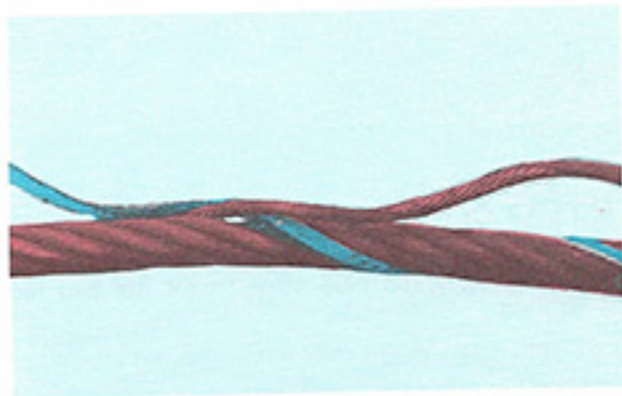
STEP 16

Lock (cross) the two strands at this point and leave them for now.

One half of the splice has been laid out.

The splice is free of the core except for the last two strands.

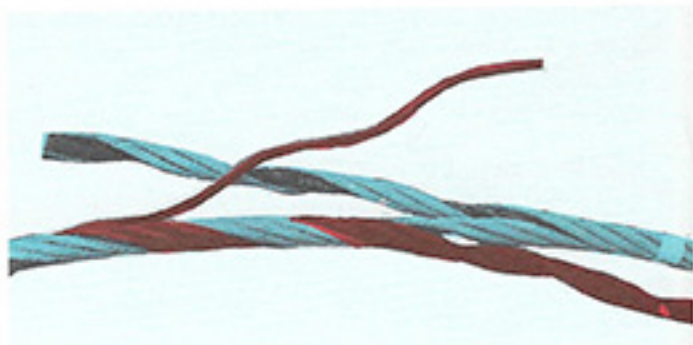
Leave this half of the splice for now, as the crosses will be adjusted and the ends trimmed later. The other half of the splice is carried out similarly, only the other way.



STEP 17

Start this half of the splice by unravelling the three strands and core, shown in blue, and laying in the three coreless red strands.

This is why there should be a 20 cm overlap when starting at Step 3.



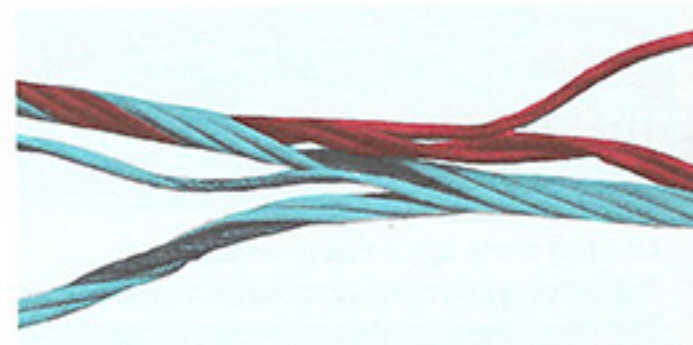
STEP 18

As with the other side of the splice, lay these sets of strands along about 4.5 feet (1.37 meters).



STEP 19

Unravel the top red strand (from the set without the core) and the top blue strand (from the set with the core).



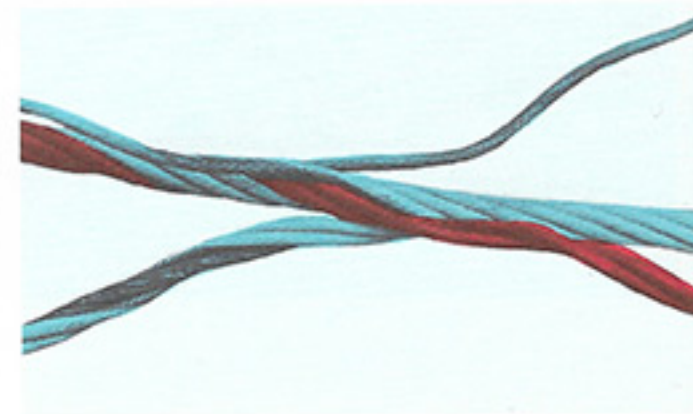
STEP 20

Cross the single blue strand over the two red strands.

Then cross it again over the single red strand.

Now the two sets of two strands are in place to move on.

The two blue strands with the core may be cut off at this point.

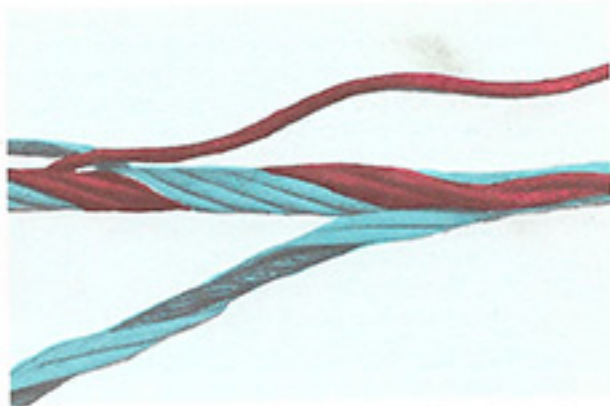


STEP 21

Unravel the blue set of two strands plus core and keeping them up tight, lay in the two red strands to about 9 feet (2.7 meters) from the crossed two single strands.

Proceed the same as the other side, being careful that the line does not close up.

Remember to leave the core in the line when laying in the last single strand. Also, remember not to cut any ends until you are certain and always leave plenty of end to trim later.



STEP 22

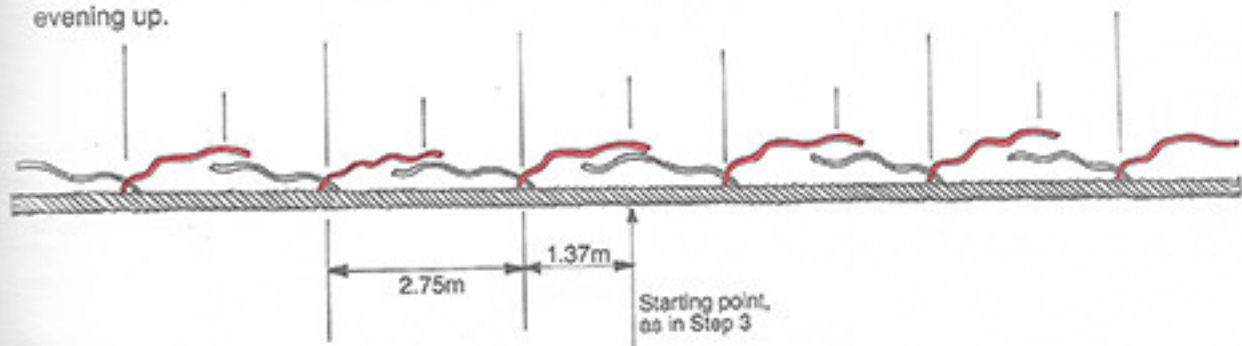
When both halves of the splice are laid in, stretch the splice out in a straight line.

Even-up the distance between the locked strands by moving them one way or the other.

Be sure to include the two end strands when evening up.

Arrange the crosses so that all the strands will be about the same length to roll in. All the strands except the two end strands should be overlapping.

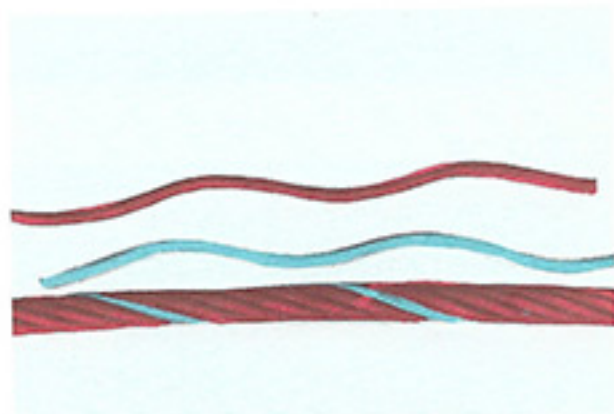
The two end strands can be trimmed to the length of the others or left as long as desired.



STEP 23

After all ends are evened up, trim the strands off, overlapping about 4 inches (10 cm).

More or less overlap may be used, depending on the length of the strands to be trimmed.



STEP 24

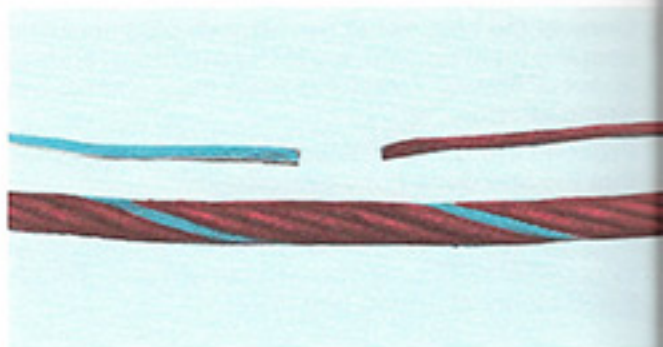
With the splicing hammer and a block of wood, hammer the preformed lay out of the end of each strand. The strands should be straightened out for about 10 inches (25 cm), so that there will be 5 or 6 inches (12 or 15 cm) of straightened strand end to roll in. After this, they are trimmed to about an inch (2.5 cm) apart.

Do not attempt to final trim the strand ends before straightening, as the hammering will usually fray the ends. This would make it difficult to keep the ends inside the line when they are rolled in.

Generally, it is better to start at the centre of the splice when rolling in the 12 strands. The strands may either be overlapped at the crosses, or laid straight, as shown.

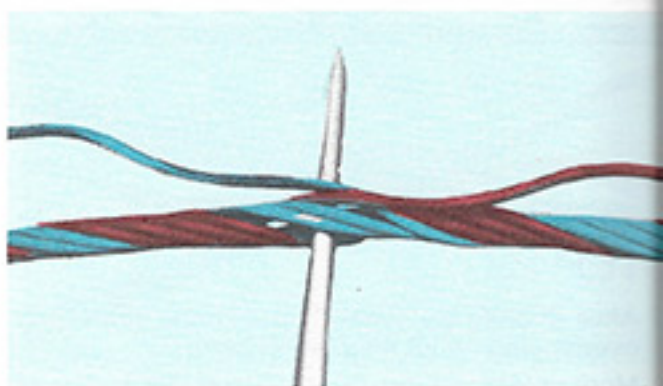
If the splice is done correctly with adequate ends left to roll in, there is no need to cross the strands. When the line is to be run through sheaves, the strands should not be crossed.

The method of overlapping the strands is shown later.



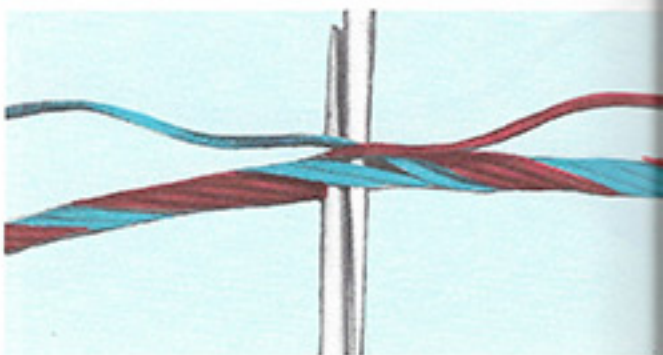
STEP 25

Push the spike A through the center of the line, with the two loose and two tight strands on top of the spike. The point of the spike must come out where the strand is to be rolled in.



STEP 26

Push another spike, B, in the same place, opposite to spike A from the direction that the strand is to be rolled. One person will be needed to handle each spike.



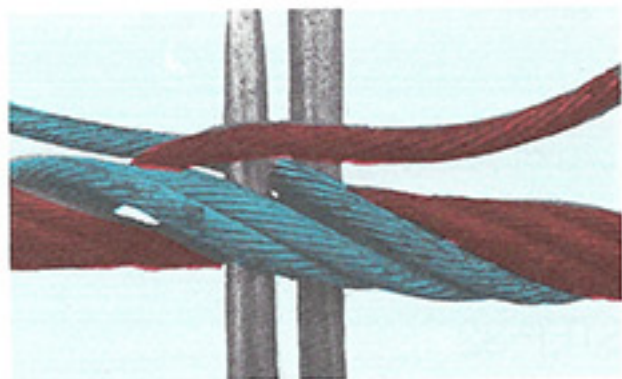
STEP 27

Push down and part both spikes a little. Place the strand to be rolled in between the spikes.



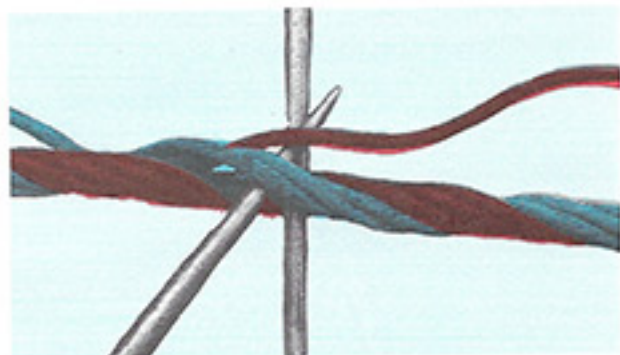
STEP 27A

Press the strand down between the two spikes, close to the line.



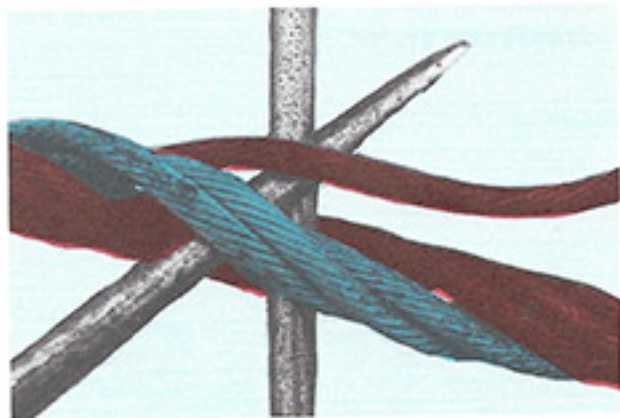
STEP 28

Holding both spikes secure, cross the point of spike A over spike B. Keep the strand pressed down between the two spikes.



STEP 29

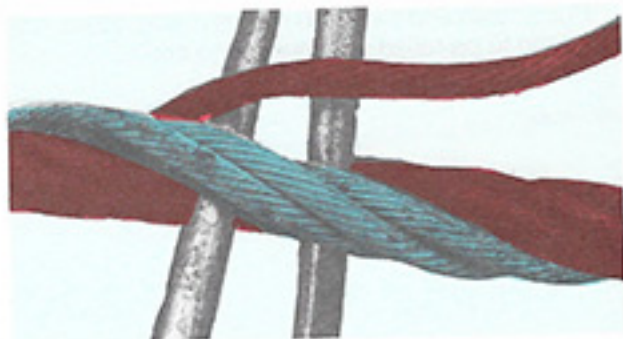
Pull up spike A against spike B. Force the strand down with the tip of the spike, inside the line where it will be rolled in.



STEP 30

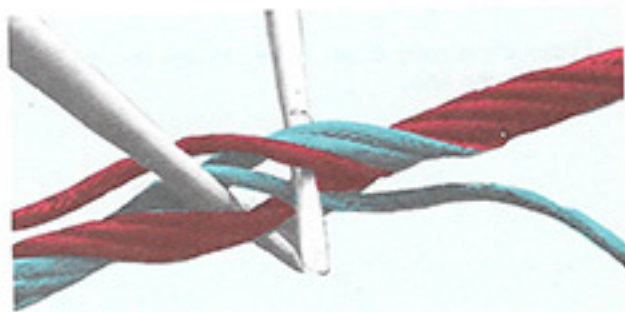
Return spike A to its original position, keeping the strand pressed down ready to roll in.

Leave spike B in the line to keep the line from turning when the strand is being rolled in.



STEP 31

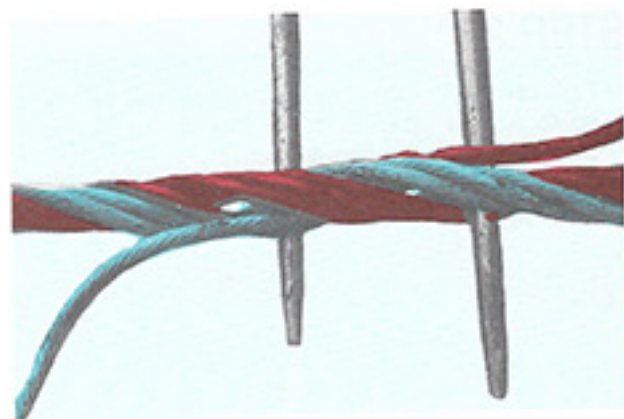
NOTE: Photo taken from spike B side of the line, as the blue strand starts to be rolled in.



STEP 32

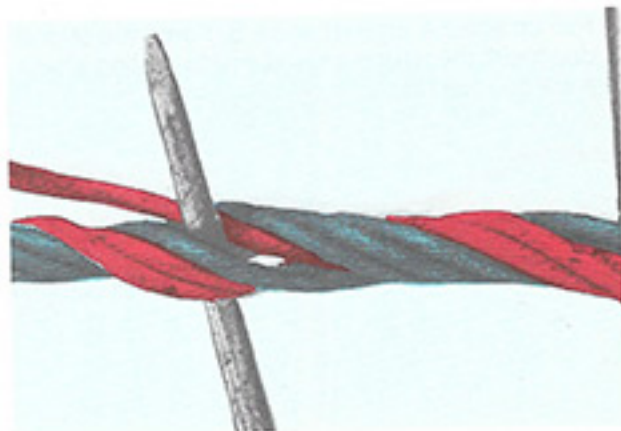
Hold spike B steady, to prevent the line from turning.

Push spike A forward, rolling the strand inside the line with the end of the spike.



STEP 33

Continue to roll the spike A around, rolling the strand inside the line.



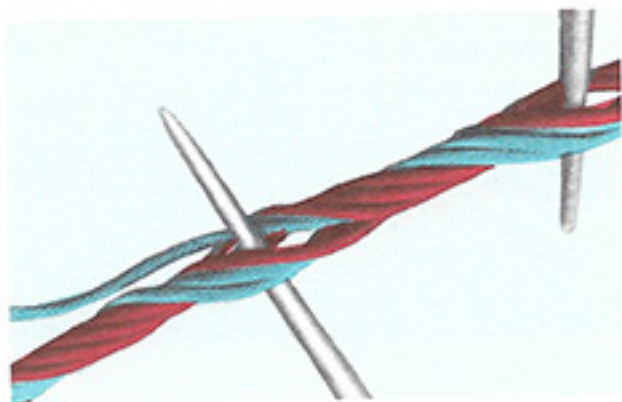
STEP 34

Hold the strand tight against the line. With the point of the spike at a slight angle up the lay, roll the strand inside the line.

Be sure that the line is closing up properly around the strand behind the spike.

The spike will keep working out, so push it in occasionally.

NOTE: If the strand does not roll in properly, roll spike A back a little to where the strand is inside. Turn the tip of spike A toward spike B and, holding the strand close to the line, start to roll it in again.

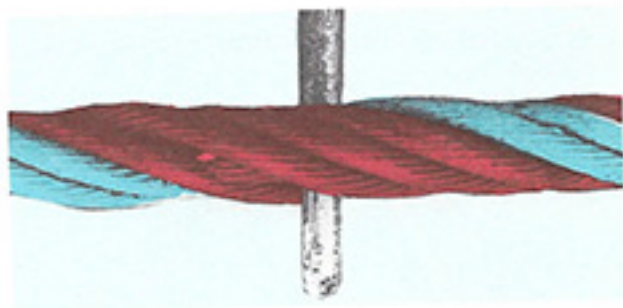


STEP 35

When rolling in the very end of the strand, be careful not to fray or unravel the end. Work slowly and use only the tip of the spike.

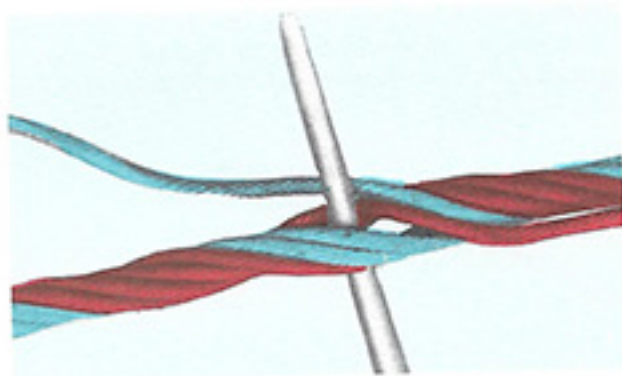
As the end is rolled inside the line with the tip of the spike, pull the spike out before rolling the spike over the end of the strand.

If the spike is rolled over the end of the strand, it will spread the wires and it can be difficult to keep all the wires inside the line.



STEP 36

If crossing the strands before rolling in is desired, push the rolling spike through the center of the line as shown. Have one of the free strands between the spike and the other free strand ready to roll in.

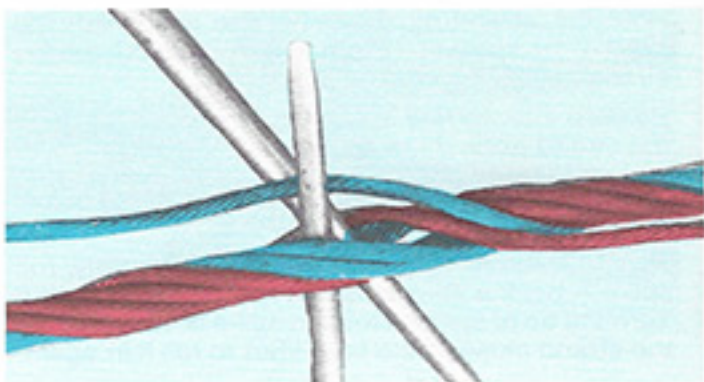


STEP 37

Place spike B alongside spike A but from the opposite side of the line.

Place the strand to be rolled in between the two spikes.

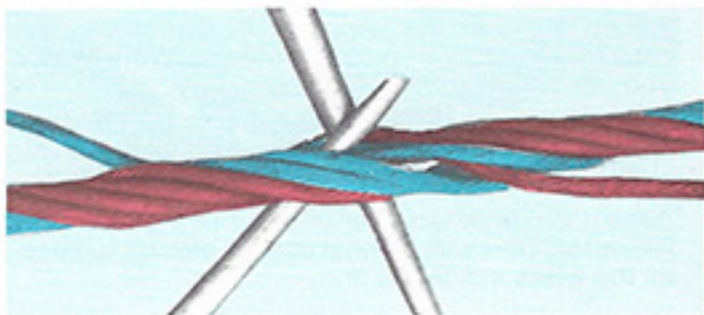
With one person holding spike B and the line firmly, cross spike A over spike B.



STEP 38

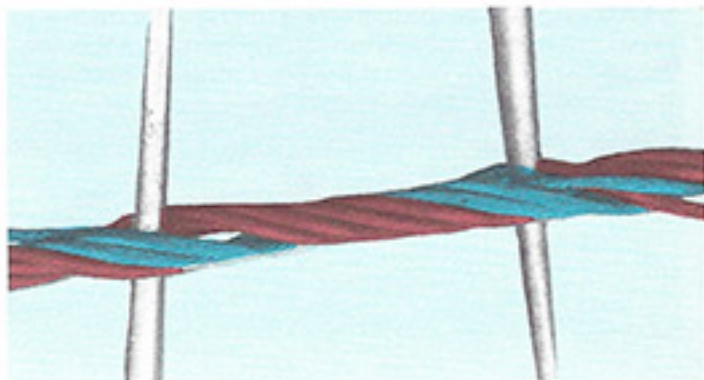
Press up on the end of spike A, forcing the tip down against spike B. Force the strand into the center of the line.

Keeping pressure on the strand, bring the point of spike A back to its original position.



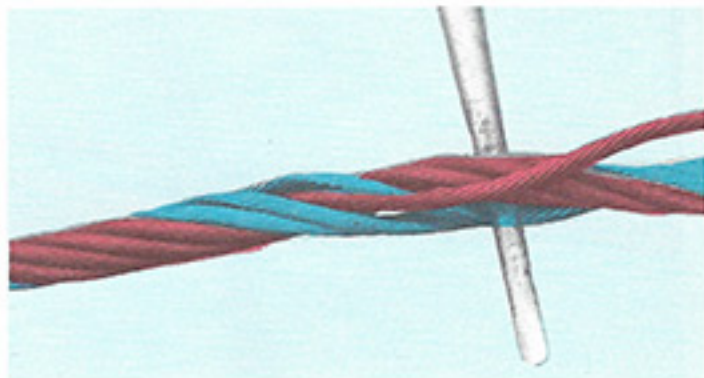
STEP 39

With spike B held to keep the line from turning, roll the strand inside the line to the end as previously described. Take extra care towards the end of the strand.



STEP 40

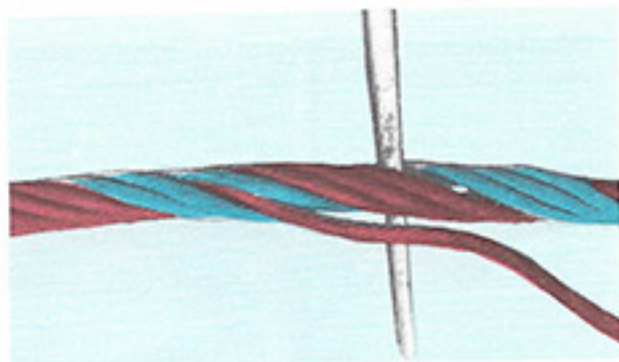
Rolling in the adjoining strands on crossed sections, the same procedure is followed, but in the opposite direction.



STEP 41

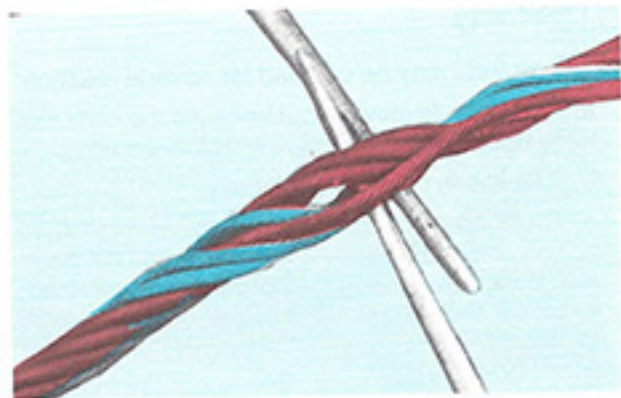
Push spike A through the center of the line with the point coming out alongside the strand rolled in the other way.

This strand must be between the point of the spike and the strand that is to be rolled in.



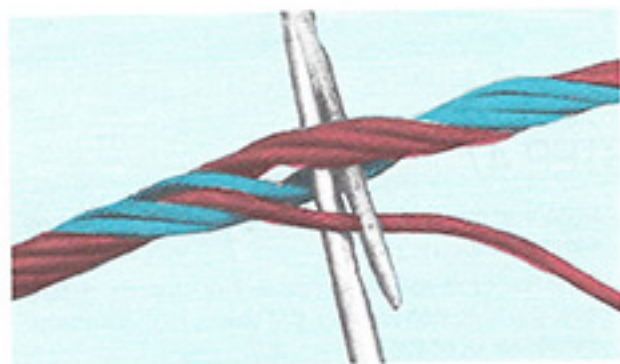
STEP 42

Push in spike B as before, alongside spike A but from the opposite direction.



STEP 43

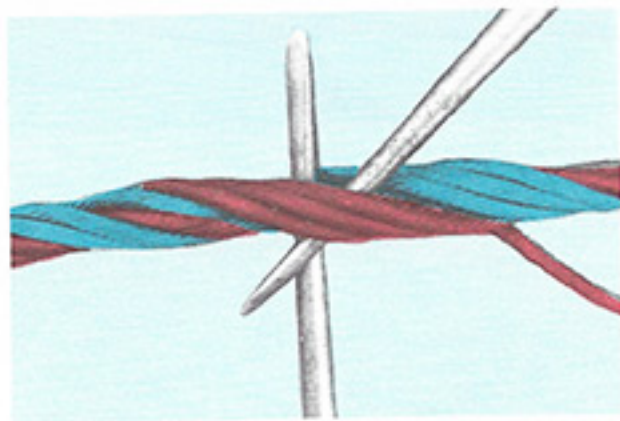
Place the strand to be rolled in between the two spikes.



STEP 44

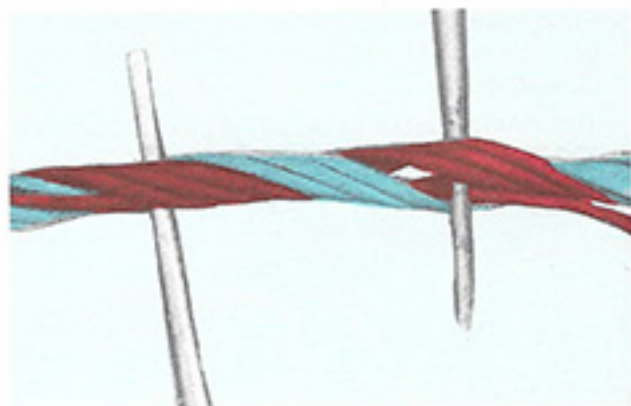
Cross spike A over spike B and with the point, force the strand into the center of the line.

NOTE: The strand to be rolled in now should be crossed over the strand rolled in from the opposite direction.



STEP 45

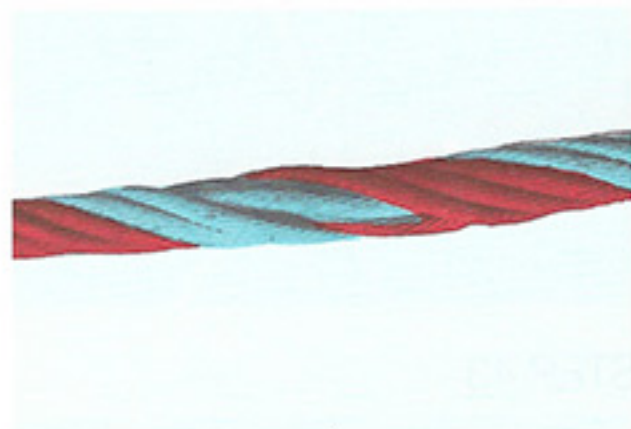
Return the point of the spike to its original position and roll the strand inside the line as before.



STEP 46

The strands may be crossed for several reasons:

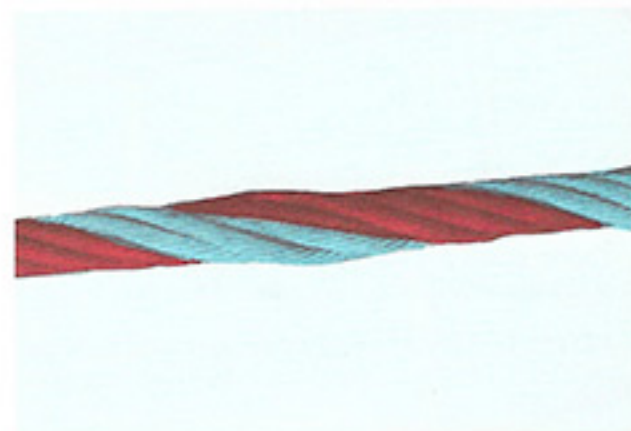
- a. The strands may roll out because the ends that have been left are too short to roll in securely.
- b. The line is excessively greasy.
- c. Crossing the strands may prevent them from coming out, particularly if the splice has not been well done. However, if the splice is to run through sheaves, that would rapidly wear off the crossed strands.
- d. If the line being spliced does not lay together adequately, it is advisable to cross the strands to help keep them from coming out.



STEP 47

Note that the strands are not crossed before they are rolled in.

If the lines are spliced properly, the strands should look like this, especially if the line is to run through a number of sheaves.



STEP 48

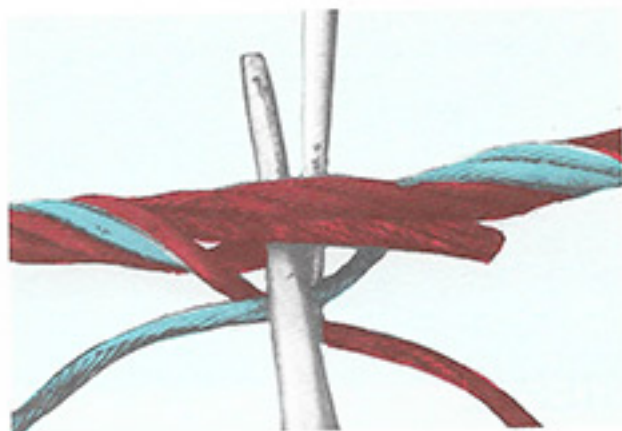
The procedure for rolling out the core applies to each end of the splice.

Where the strands are crossed and the core trimmed as in Step 14, Photo 16, the core must be rolled out before the strand is rolled in or at the same time.

The simplest method is to first roll the core out completely.

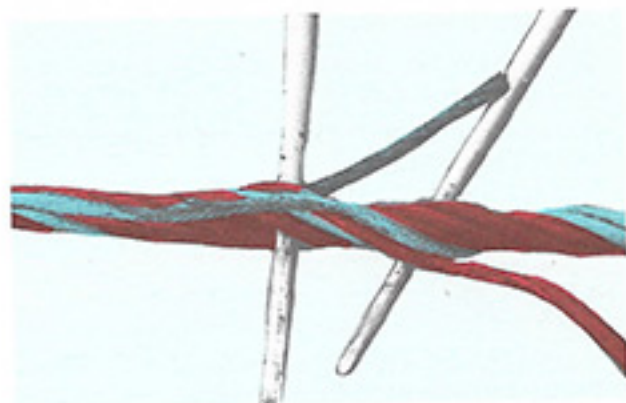
Push the spike in through the center, with the core on the upper side of the spike.

Insert a second spike from the opposite direction, to hold the line from turning.



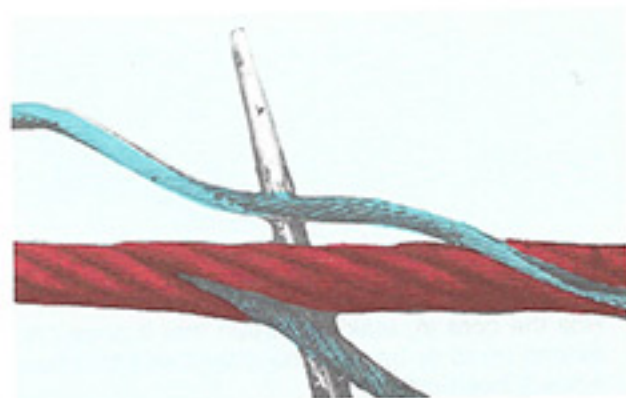
STEP 49

Roll the spike down the lay, forcing the core out ahead of the spike.



STEP 50

Continue to roll out the core past the next and last set of strands which will be rolled in on each end of the splice.



STEP 51

Roll the core well past the end of the strand that will be rolled in, about 5 inches (12 cm).



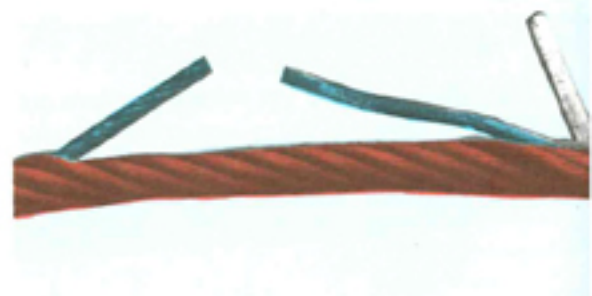
STEP 52

Lay the core and the strand alongside each other and cut the core off about one inch (2.5 cm) away from the strand.

Be careful when cutting the core that it is not flattened or unravelled.

Start where the strands are locked and roll the strand in completely.

It is useful to mark on the line where strand end is when it is rolled in.



STEP 53

Push a spike in through the center of the line. Roll the core in with the end of the spike.

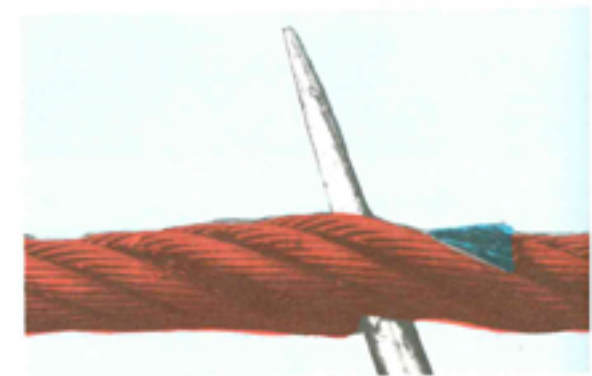
The line will still be held from turning by the spike inserted at the last strand crossing.



STEP 54

Roll the core in, making certain that it does not extend up to or beyond the strand end that has already been rolled in.

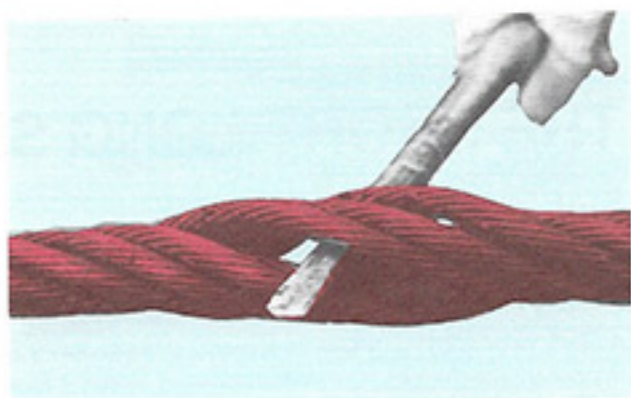
If the core is too long, roll it back and trim it again.



STEP 55

Using the tip of the spike, nurse the end of the core inside the line.

Do not roll the spike over the end of the core (or strand).

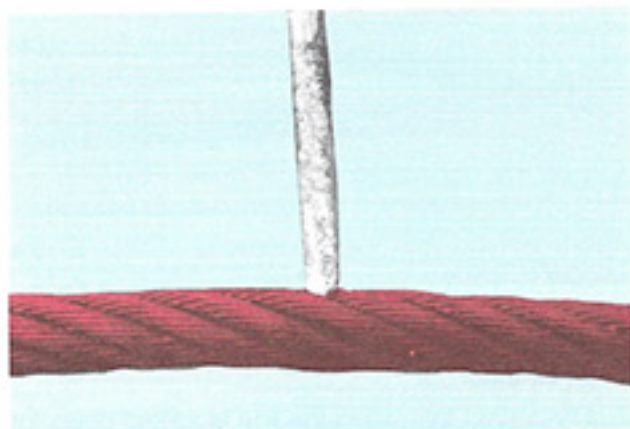


STEP 56

When the core and strand are both rolled in they should lie about 1 cm clear of each other.

This applies to all ends that meet through the splice.

If any wires from the core or strands spring out through the line, they can be pushed or driven in with the end of the spike.



THE SHORT LONG SPLICE

STARTING PROCEDURE

Split the two ends in half.

Unravel the two ends for equal distances.

If the splice is to be 6 feet (1.8 meters) between the inside finished tucks, unravel each end about 9 feet (2.7 meters).

Cut off the three strands with the core unravelled from one end.

Cut off the three strands without the core unravelled from the other end.

Unravel and lay in each set of three strands up to about 3 feet (1 meter) on each end. These two sets of three strands, one with the core in, each about one meter long, will be used for tucking.

Cut off the unravelled sets of three (one with the core), to leave about one meter ends for splicing.

There will be four tucked splices similar to the Logger's Splice.

The four splices will be the same except that two of the splices will have the core to tuck as well as the three strands.

It is important that when the line is spiked down for splicing, the first tuck is under two strands, one strand from each part of the line being joined together.

A worker should have experience with the Logger's Splice before attempting the Short Long Splice.

This splice is used to join two lines of the same diameter and lay.

The line is divided in half and ravelled together a distance and then the strands tucked in the conventional manner where they join.

It is generally used in an emergency or for temporary use in running lines.

It tends to wear quickly at the joins where the strands are tucked, because they protrude above the diameter of the line.

When used for running lines, reefing lines or running line extensions, it will pass through foul blocks and high lead leads easily and can be spooled around drums. For this use, the strands should be tucked at least four times with the strands cut off long. This is because the strands slip more because the splice is not as full as an eye splice.

The distance between the finished tucks should be approximately 8 feet (2.4 meters) for 1 1/4 inch (32 mm.) line and 6 feet (1.8 meters) for 7/8 inch (22 mm.) line. There is little advantage to having the splice any longer.

STEP 1

Split the two ends evenly.

Unravel each end for the desired distance.

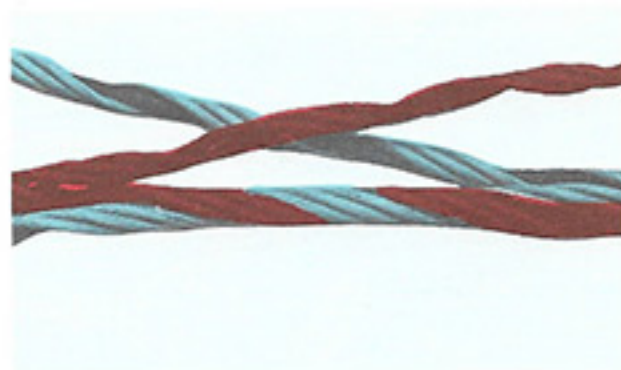


STEP 2

Cut off the three strands with the core that will be unravelled from one end.

Cut off the three strands without the core that will be unravelled from the other end.

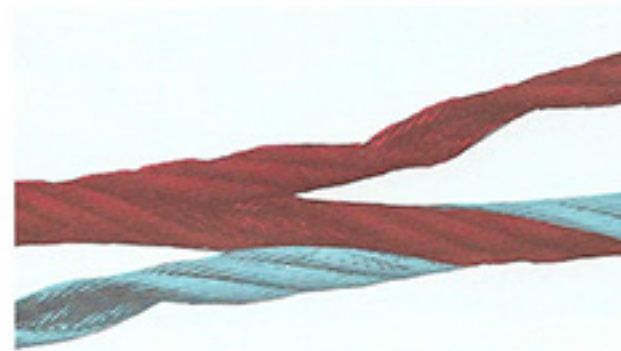
Lay the three (blue) strands without the core on the three (red) strands with the core.



STEP 3

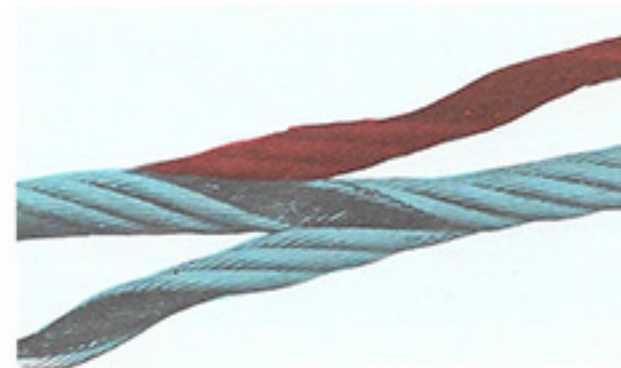
Continue to ravel the three (blue) strands around the three (red) strands with the core while unravelling the three (red) strands.

Unravel and ravel to about one meter from the end of the three (blue) coreless strands. This end will be used for splicing and tucking.



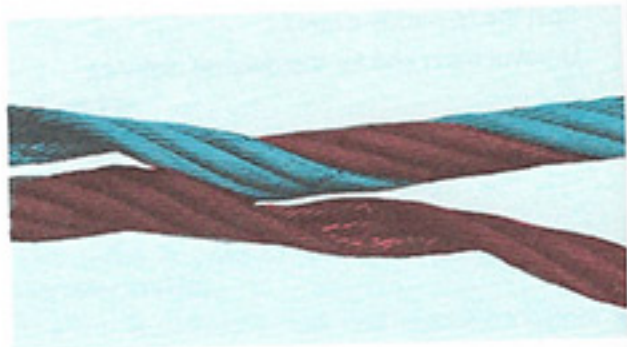
STEP 4

In the other direction, ravel the three (red) strands with the core onto the three (blue) strands to about one meter from the end.



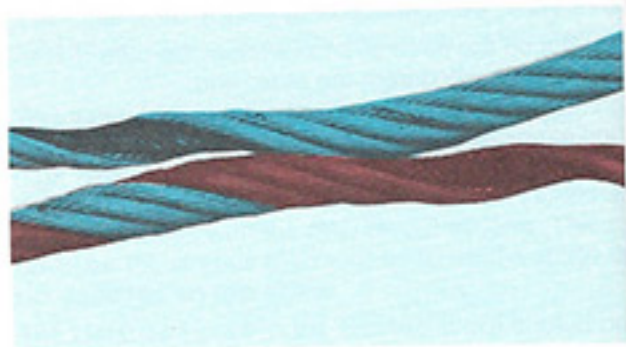
STEP 5

Cross the two sets of strands.



STEP 6

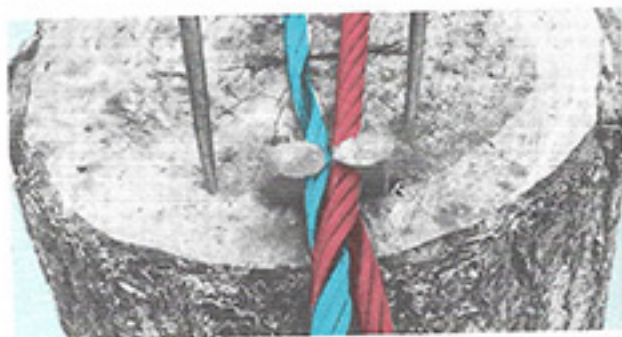
Cross the two sets of strands at the other join.



STEP 7

There are four short splices to do.

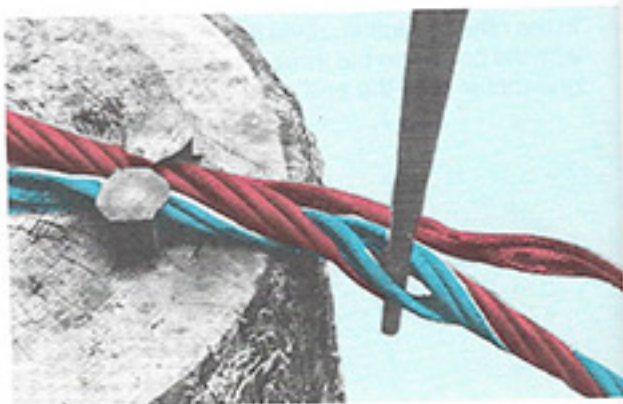
Starting with the strands with no core, spike the line down securely, keeping the line closed up.



STEP 8

Drive the spike under two strands.

Be sure to start with one strand from each section of line laid together.



STEP 9

Tuck in the first (top) red strand.



STEP 10

Tuck the three strands, as when making the Logger's Splice.



STEP 11

The Short Long Splice differs slightly from the Logger's Splice at this point.

To tuck strand #1 for the second time, drive the spike in the opposite way, one strand down the line from the third strand tucked.



STEP 12

Tuck #1 strand for the second time.
Pull and roll it up tightly with the spike.



STEP 13

Tuck #1 strand for the third time.



STEP 14

Tuck #2 strand for the second time.

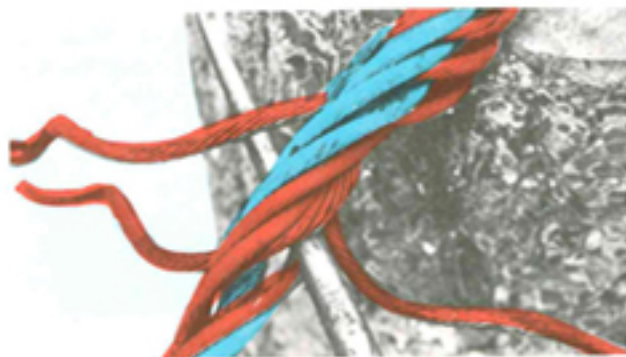
NOTE: Do not tuck it one strand away from last tucked strand, as when tucking the first strand for the second time.

This instruction only applies to that tuck because only three strands are being tucked.



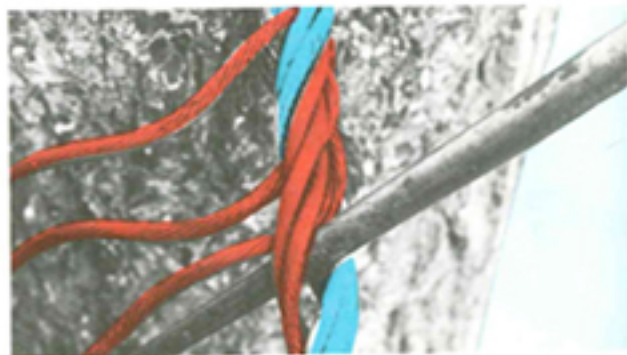
STEP 15

Pull the #2 strand and roll it around up tightly with the spike.



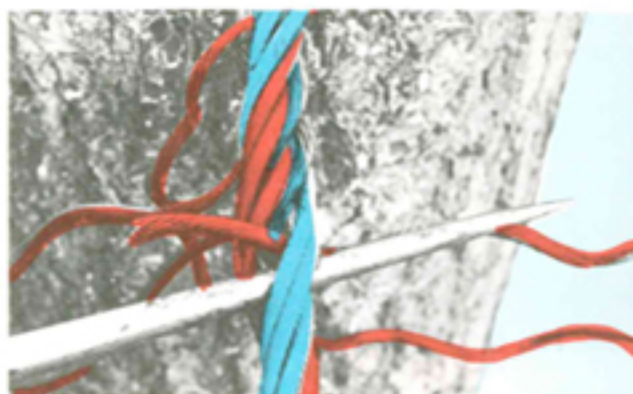
STEP 16

Tuck #2 strand for the third time.



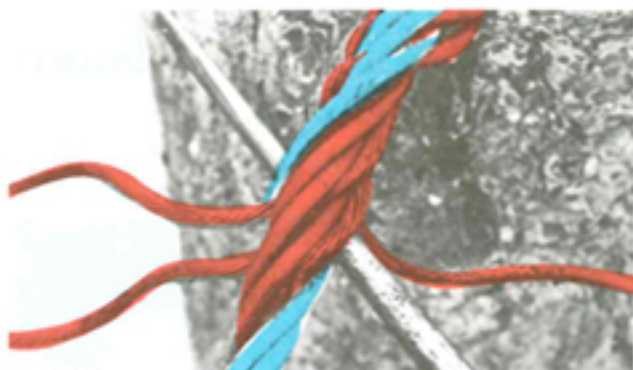
STEP 17

Tuck #3 strand for the second time.



STEP 18

Pull the #3 strand through and roll it around up tight with the spike.



STEP 19

Tuck #3 strand for the third time.

The illustration shows the three (red) strands tucked three times.



STEP 20

Remove the splice from the stump.

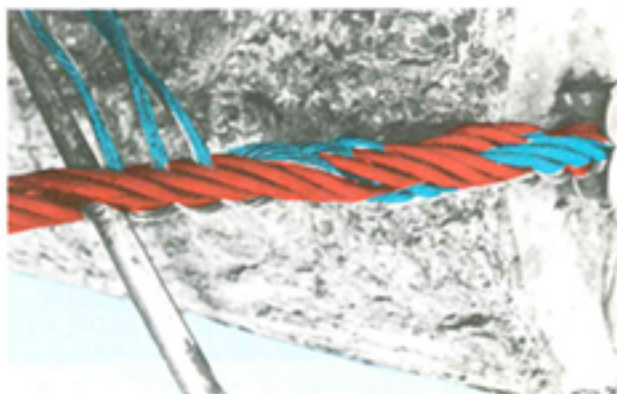
Turn the splice around and spike it down again, ready to tuck the other three (blue) strands.

Drive in the spike as before, under one strand from each section of the line ravelled together.



STEP 21

Tuck the three blue strands three times, as for the three red strands.



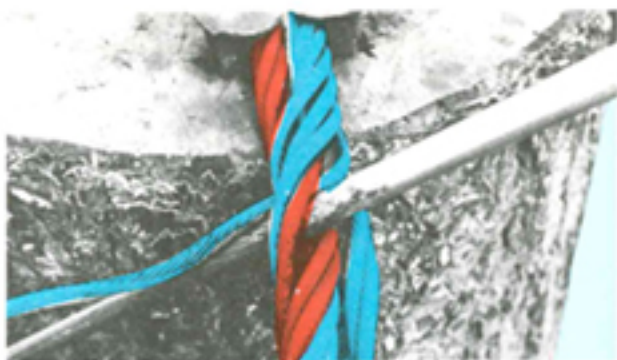
STEP 22

Remove the splice from the stump.
Spike down the other join where the core is to be tucked.



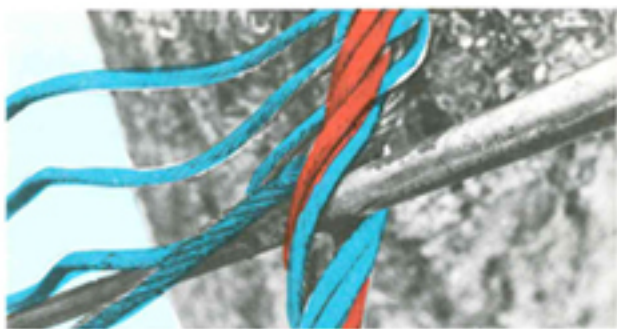
STEP 23

Tuck the three (blue) strands and the core. Be sure to start with the first tuck under two strands, one from each section of line ravelled together.



STEP 24

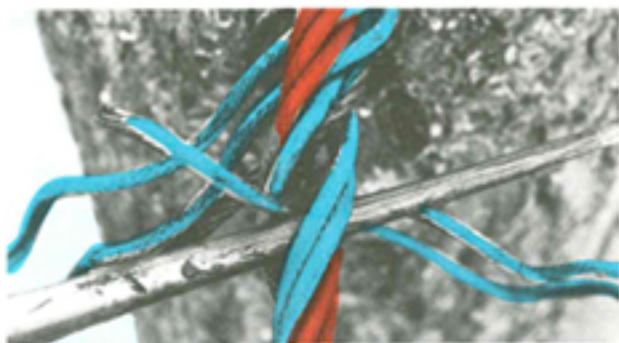
Tuck the three (blue) strands and core all through once.



STEP 25

Tuck the #1 strand for the second time.

Do not skip one strand at this point as you would when tucking only three strands.



STEP 26

Roll the #1 strand around up tight with the spike.



STEP 27

Continue to tuck the three (blue) strands and core three times, as for the Logger's Splice.

The illustration shows three (blue) strands and the core, tucked three times.

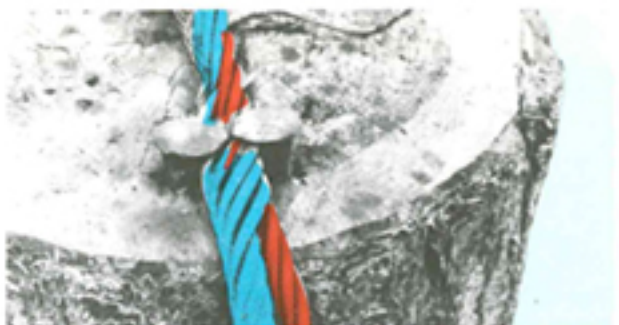


STEP 28

Remove the splice from the stump.

Turn the splice around and spike down the other end.

The last three (red) strands and core remain to be spliced in.



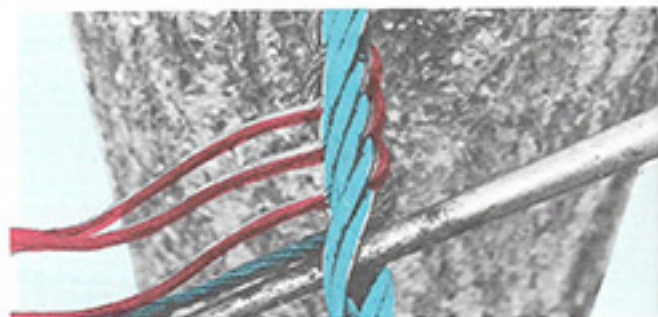
STEP 29

Splice the three (red) strands and core as for the others.



STEP 30

The three (red) strands and core are tucked three times.



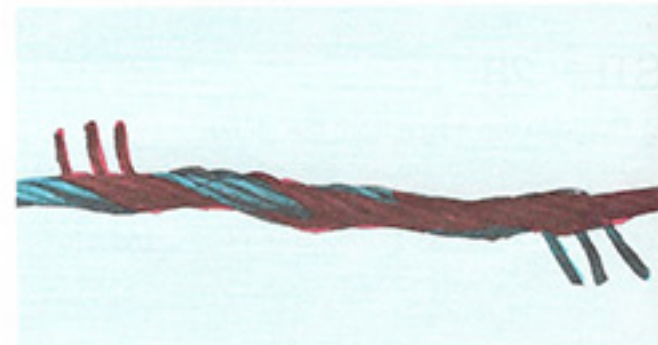
STEP 31

Two completed short splices with three strands and the core tucked three times.



STEP 32

Two completed short splices at the other end of the Short Long Splice, with the three strands only, tucked three times.



The strands should not be cut off too short, as the splice will pull in during use.

An extra tuck (to four full tucks) will generally ensure that a last tuck does not pull through if the line is used for excessive reefing.

PASSING SPLICE

This splice is a temporary means of joining two lines of the same diameter, construction and lay.

If spliced properly it will withstand as much direct loading as the line itself.

However, with continuous reefing, slackening and tightening and running through sheaves, it wears rapidly, tends to stretch and will pull out sooner than an eye splice.

A passing splice will generally wear longer than a line joined with two eye splices and Molly Hogans, as it is not exposed to cutting action.

It is used to join on, reefing lines, temporary haulback and mainline extensions and to make temporary fixes for broken running lines.

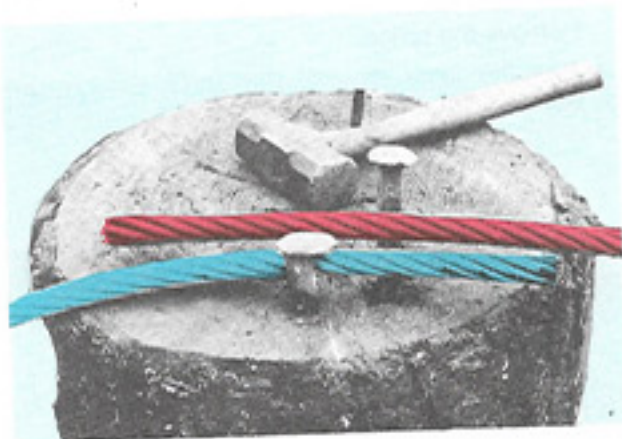
Its use is not permitted for any guylines, skylines or standing rigging.

When running through sheaves, the loading tends to be taken by one of the splices more than the other. As a result the line often forms a loop on one side of the splice and will pull out rapidly.

The distance between the splices should not be long as it is difficult to maintain exactly the same tension on each side.

STEP 1

Select lines of the same size, construction and lay.



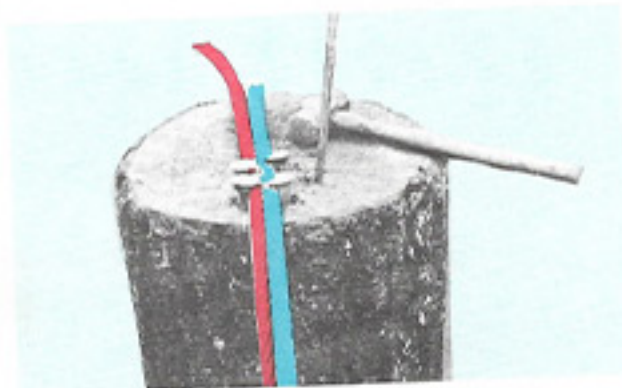
STEP 2

For illustration purposes, this splice is made short. A longer splice can be used but there is no advantage and it is more difficult to keep each side equal.

For this splice $\frac{3}{8}$ " (22.2 mm.) diameter lines, each 45 inches (114 cm.) long, were used.

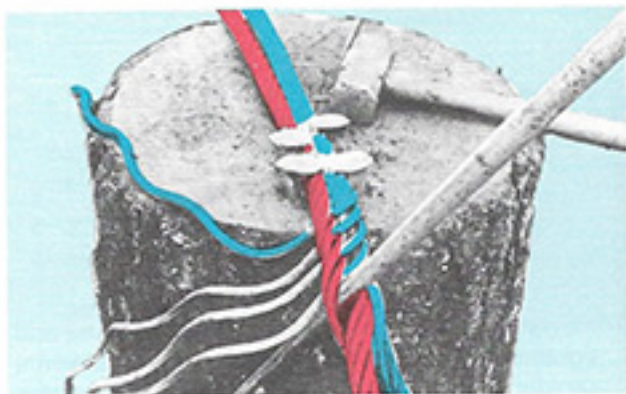
Spike the two lines down securely so the line does not turn when rolling the spike.

Keep about 30 inches (76 cm.) ends to tuck with.



STEP 3

Start the splice, keeping the strands pulled in tight, as with other splices.



STEP 4

Complete the splice with three full tucks.

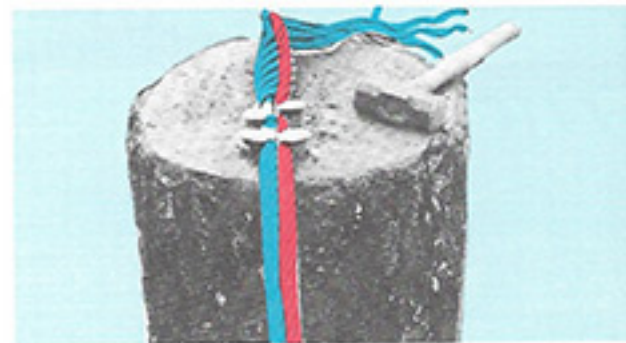
If the splice is to be used for long or is subject to continuous reefing, the strands should be tucked three and a half or four times.



STEP 5

Remove the splice.

Turn the lines around and spike them down securely.



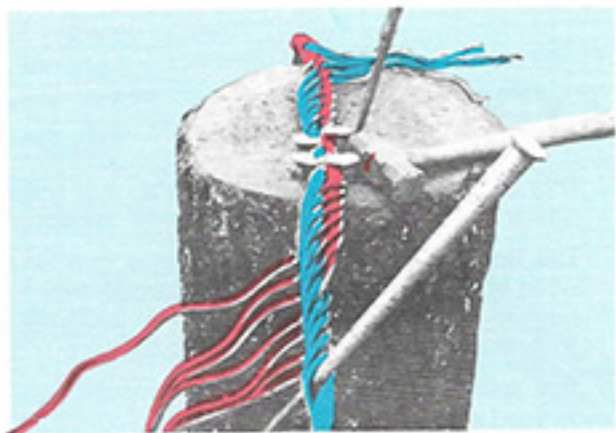
STEP 6

Splice the other ends. Make certain both lines and splices are equally tight.



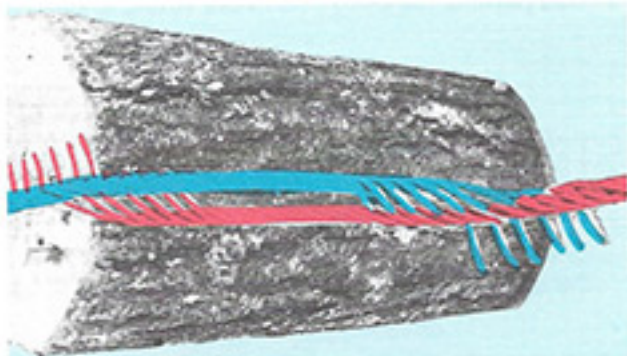
STEP 7

Complete the splice, tucking all strands and the core three times.



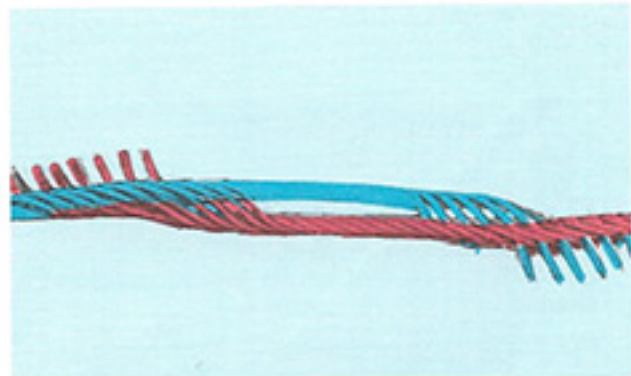
STEP 8

Remove the splice and trim the strands ends fairly long.



STEP 9

The completed splice, tucked three times on both ends.



TYPICAL ROLLED EYE SPLICE

This is a simple method of making an eye splice similar to the common Marine Splice.

This splice is generally used on lines with long, loose lays such as lang lay lines, which make it simpler to tuck the strands four or more times if there is concern that the splice may pull out.

This splice may, like the common Marine Splice, be used where eye splices are handled constantly, as the strands can be tucked often and alternately to bring the ends out around the line at one area. This permits handling free of the strand ends.

There is generally little need to use this splice in regular lay line. If the line is tight, with a short lay, this splice can be difficult to make.

Basically this splice consists of each of the six strands tucked around one strand in the line three or more times, as desired, by simply rolling the spike back and forth down the lay.

The spike is not removed until the strand is tucked completely.

STEP 1

Spike the line down securely.

Drive the marlin spike under one strand as close to the stump as possible.



STEP 2

Select a strand that, when tucked, will form a sharp angle over the line.

Roll the spike down the lay.

Insert the strand and pull it through.

Roll the spike up the lay, forcing the strand into place as far as it will go.

This completes the first tuck of strand #1.



STEP 3

Keep the strand in place.

Roll the spike down the lay, one turn around the line.

Bring #1 strand under the line and insert it from the splicer's side.



STEP 4

Pull the strand through from the strand side.

Roll the spike up the lay for the second tuck of strand #1.

Roll the spike down the lay.

Insert the strand for the third tuck.



STEP 5

Pull the strand through from the strand side.

Roll the spike up the lay, forcing the strand into place.

Strand #1 is now tucked three times.

Remove the spike.



STEP 6

Drive the spike under the next single strand, down the lay from the strand #1.



STEP 7

Tuck strand #2 three times.



STEP 8

The #3 strand is tucked three times.



STEP 9

The #4 strand is tucked three times.



STEP 10

Tuck #5 strand for the first time.

Roll the spike down the lay and insert the core.

Pull the core through from the strand side.



STEP 11

Pull #5 tight from the line side, rolling the spike up the lay.

Force the core in under strand #5.

Place the core in, under the spike.



STEP 12

Roll the spike down the lay to tuck #5 strand as with the other strands.

Keep the core strand under the spike. Roll it in alongside the core as the spike is rolled down the lay to finish tucking strand #5.



STEP 13

Finish tucking strand #5 by rolling the spike and laying the core inside the splice.

Take the last strand, #6, and tuck it around the last free strand in the splice, as with the others.

The spike will be slightly more difficult to roll around when tucking strands #5 and #6 as the line is becoming tighter because of the tucked strands.

Completed splice, six strands tucked three times with the core strand rolled inside the splice.

The strands may be tucked more than three times if required.

Regardless of the number of tucks, each strand



should be tucked completely before starting to tuck the next strand.

Once a splicer understands the procedure, this splice can be made easier by tucking in this sequence:

1. Completely tuck strands #1, 2 and 3.

2. Roll the core in when tucking strand #3.
3. Tuck through strands #4 and #5 once only.
4. Completely tuck strand #6.
5. Complete tucking strand #5.
6. Complete tucking strand #4.

A MARINE ROLLED SPlice

This splice is similar to the Common Rolled Splice. It is best suited for use when splicing lang lay or loose lay lines.

One advantage of this splice is that it can be tucked extra times for special use or because of the condition of the line.

The strands can be tucked so that all the strand ends are cut off at the same location around the line. This makes it more suitable for use where the eye splice must be handled often.

Generally, there is no advantage to using this splice on tight, ordinary lay line. If the line is tight, this splice can be difficult to make.

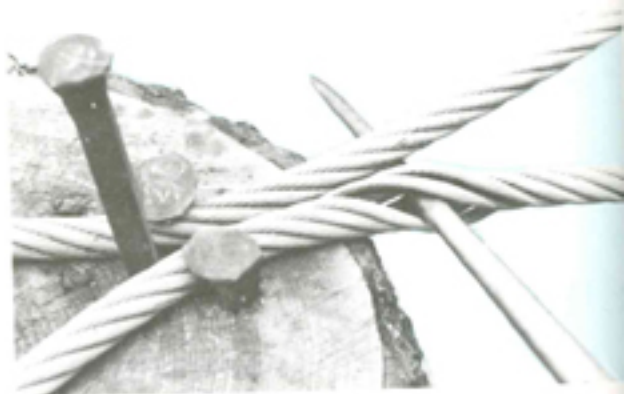
It is useful if the splicer knows how to do the Logger's Splice before he attempts the Marine Rolled Splice.

STEP 1

Spike the line down securely as for the Logger's Splice.

Drive the spike through the line, under four strands.

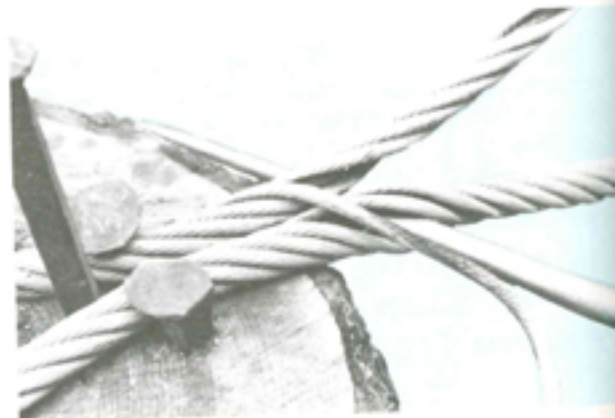
Two strands and the core will be on one side of the spike, with four strands on the other.



STEP 2

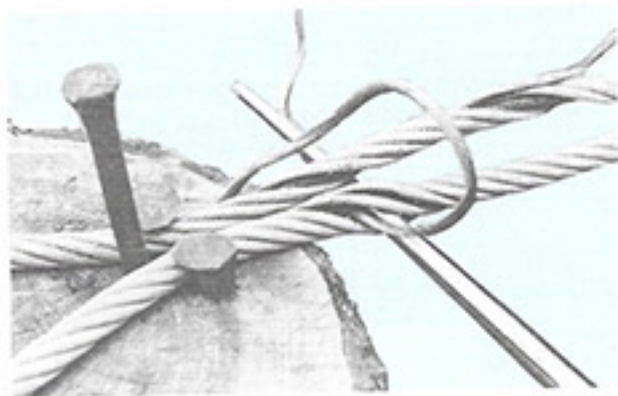
Roll the spike down the lay.

Select the first strand well up on the stump, so there is a sharp bend across the line.



STEP 3

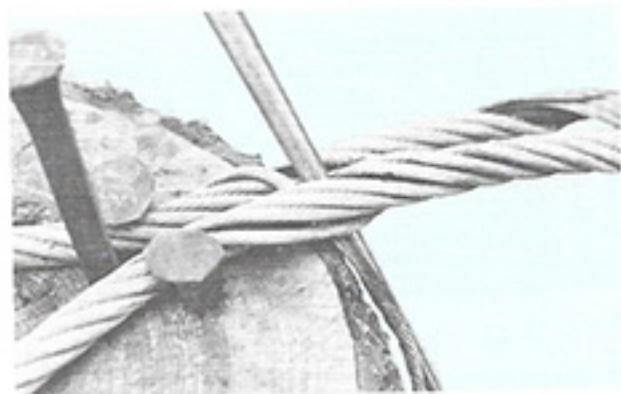
Insert the strand and pull it through from the splicer's side.



STEP 4

Hold the strand tight and roll it up the lay tightly with the spike.

Remove the spike.

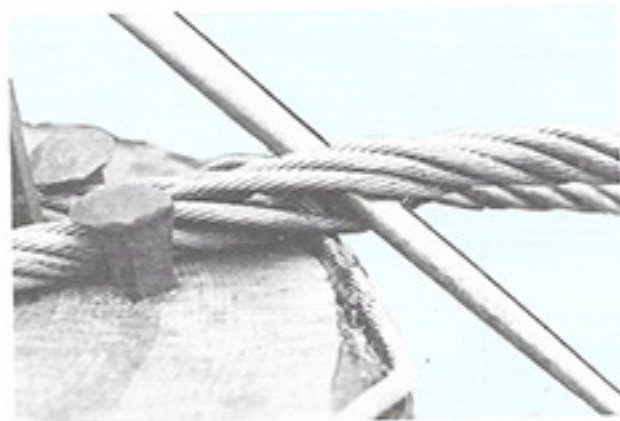


STEP 5

From the second strand, drive the spike in the same place as the first strand, but coming out one strand away on the low side.

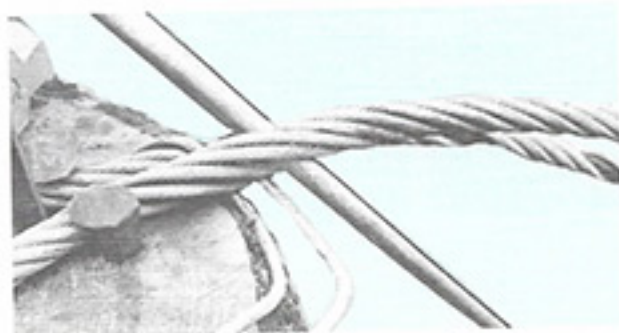
The spike will be under three strands only this time, not four.

Tuck the second strand, using the same method as for the first.



STEP 6

For the third strand, drive the spike in the same place again, but under two strands only.



STEP 7

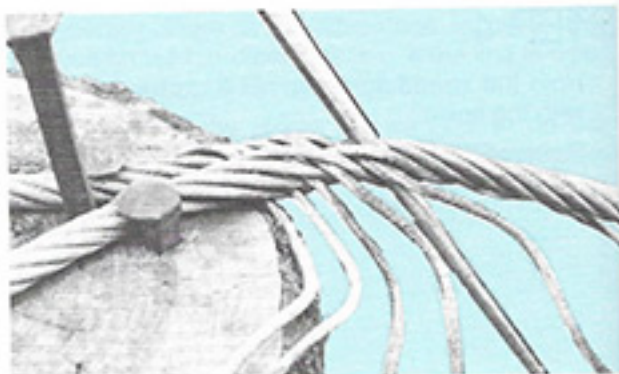
Repeat the tucking procedure with the fourth strand.

The four strands will all go in the same place but will come out one strand apart.



STEP 8

The fifth strand will go under the next single strand — just one strand.



STEP 9

When the fifth strand is tucked, roll the spike back down the lay and insert the core.



STEP 10

Put the core through at the same point as strand #5.

Tuck the core up tightly, as with the strand.

Twist the spike on top of the core, ready to roll in.



STEP 11

Roll the spike down the lay, rolling the core inside the line, alongside the core in the splice.



STEP 12

Roll the spike around to the splicer's side and insert strand #5 for its second tuck.



STEP 13

Pull strand #5 through and roll it up the lay, tightly tucked twice.



STEP 14

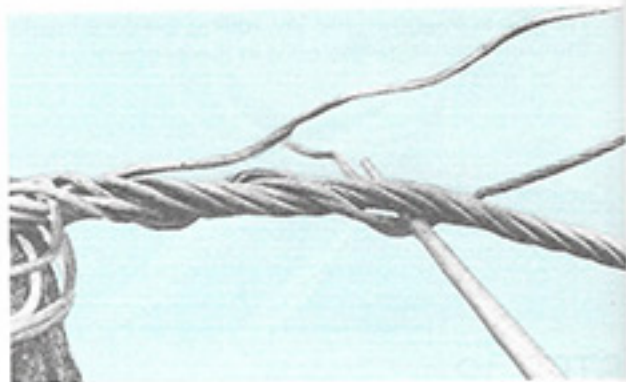
Roll the spike down the lay, rolling the core inside. Tuck strand #5 again for its third tuck.



STEP 15

Roll the spike down the lay again, forcing the core inside and tuck #5 for the fourth and final time.

Remove the spike.



STEP 16

Drive the spike under the next single strand. Roll the spike down the lay and insert strand #6.



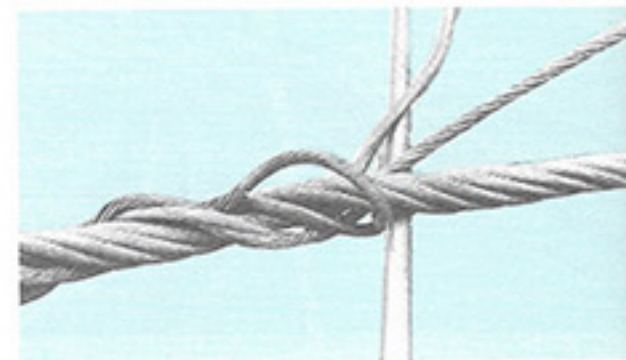
STEP 17

Roll the spike up the lay and pull the strand in tightly.



STEP 18

Roll the spike down the lay, tucking strand #6 around the single strand until it is tucked four times.



STEP 19

Now that strands #5 and #6 have been completely tucked and the core rolled inside, the first four strands remain to be tucked.

Drive the spike under the last single strand of the four, between the tucks.

Do **not** start with the upper, or first single strand of these four.

By tucking strands #4, #3, #2 and finishing with #1, instead of tucking strands #1, #2, #3 and finishing with #4, the splicer avoids difficulty with strand #1. This strand would be difficult to tuck as the strand in the splice around which the #1 strand needs to be tucked is normally buried in the splice by this stage. See the comments at the end of Step 23.



STEP 20

Insert strand #4 and tuck it around the single strand.

Roll the spike back up the lay to the tuck #4 strand for the second time.

Complete tucking by rolling the spike down the lay, as in the second illustration.



STEP 21

Insert the spike under the next single strand of the three remaining unwrapped strands.

Be sure that you have the lower strand of the three away from the stump.

Insert #3 strand and tuck it as for the other strands.

Remove the spike.



STEP 22

Insert the spike under the lower strand of the two remaining strands.

Tuck strand #2 as for the previous strands.

Remove the spike.



STEP 23

Insert the spike under the last remaining unwrapped strand.

Insert the last strand, #1, and tuck it in as for the others.

Note the position of the last single unwrapped strand. This makes it easy to push the spike under when tucking strand #1.

If the #1 strand was completely tucked first, then strands #2, #3 and #4, the last single unwrapped strand to tuck the #4 strand around would be hidden inside the splice. It would be difficult to dig the strand out to tuck #4 around it.



STEP 24

When tucking, always pull firmly on the strands and roll them up into the lay as far as possible.

The illustration shows the second tuck of strand #1, the last strand to be tucked.



STEP 25

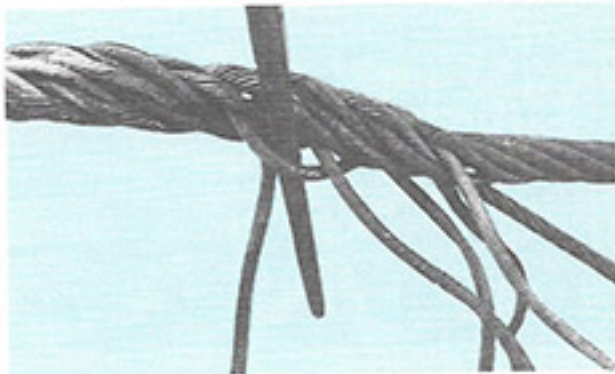
All strands are tucked four times, with the core rolled inside the splice. This illustration shows the last tuck of strand #1.



STEP 26

This illustration also shows the last tuck of strand #1.

The last single unwrapped strand has remained unburred and it is easier to complete tucking strand #1.



COMPLETED SPLICE

The strands have been tucked four times in this splice.

If the line is tight, three tucks are usually sufficient and this makes a neat short splice.

The strands may be tucked an uneven number of times if desired. This will bring the strand ends out around the same place at the end of the splice.



THREADED STRAWLINE CONNECTION

This method is often used to avoid tying a knot in the line to secure the strawline hook, as with similar connections.

The hook should always be on the live side of the line. The live side should not be split, as when the connection is made by splitting and opening the live side of the line to insert the dead end through, instead of unravelling the dead end as illustrated in this section.

The connection can be made as long or short as desired. If it is too short, it is difficult to wrap the end to make it more secure from unhooking.

The hook is always in the same position, and the connection can easily be wrapped or hooked up straight if desired.

The illustrations are of $\frac{3}{8}$ inch (9.5 mm.) wire core strawline.

SPLICING STRAWLINE BY THE TURNING METHOD

This method is shown in the section on the Threaded Strawline Connection.

Inexperienced splicers often splice strawline by tucking the six strands and the core through once then turning the eye over and tucking all the strands through for the second time. However, after turning the eye over again to tuck the strands and core through for the third time, it is difficult to tuck all the strands the last three times, and some of the strands may be left tucked only twice.

If the splicer follows the method shown in this illustration, it will be possible to tuck all the strands and the core without difficulty.

An experienced splicer can complete the three tucks by following the logger's splice method, without spiking the strawline down.

STEP 1

Select the proper size hook for the strawline being used.

Thread the line through the hook before starting the splice.



STEP 2

Split the line in two as shown and unravel 24 inches (60 cm.) or a little more or less, depending on the size of connecting end desired.



STEP 3

Make a mark on the line approximately 6 feet (180 cm.) from the end, or 4 feet (120 cm.) from the unravelled point.

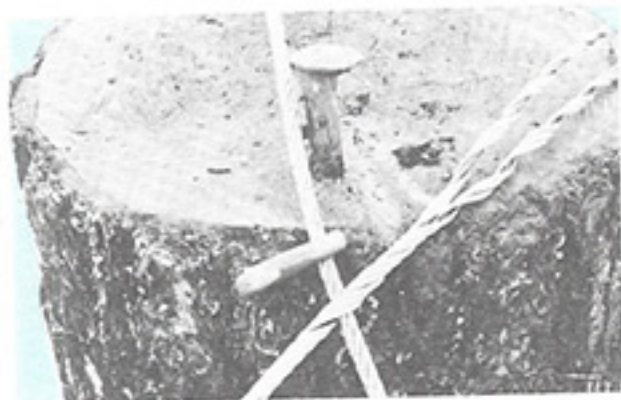
Make a loop closing at this point.



STEP 4

Wrap the unravelled strands together over the live section of line at this point.

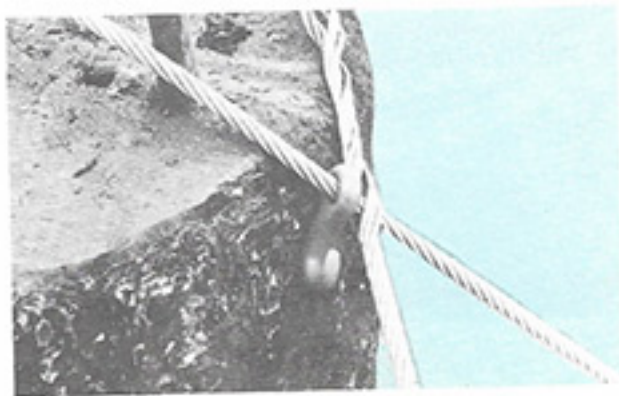
Keep the hook clear on the upper side of the loop, as shown.



STEP 5

Make one more wrap of the unravelled strands.

Note: There is one wrap over the live end where marked, then one more wrap, to help keep the strands together.



STEP 6

Make the third wrap of the unravelled strands over the live end of the line.

Make certain that the hook is on the section of the line between these two wrapover points.



STEP 7

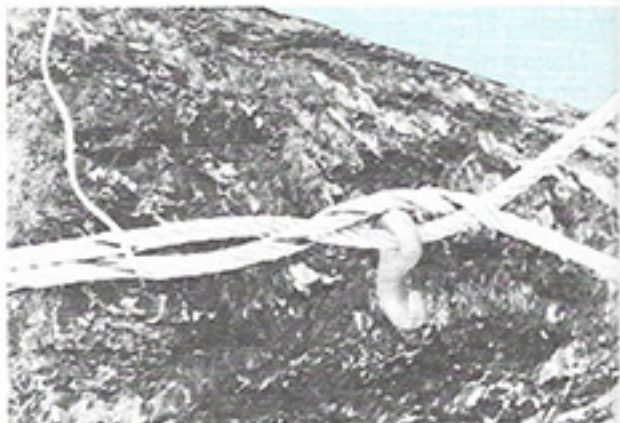
Make one more wrap of the unravelled strands.

Start to splice the unravelled ends into the live section of line.

Ravel the unravelled strands all together again.

Note: The method shown here is for making the full, three tuck logger's splice when the line is not spiked or secured down. It is done by turning the splice over from time to time to tuck all strands three times.

Tuck the first strand under two, keeping the lines tight and close together.



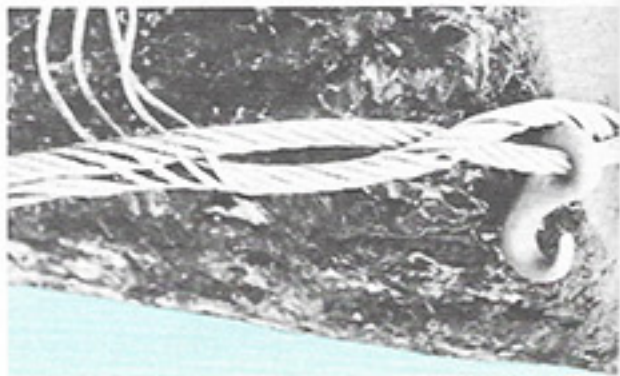
STEP 8

Tuck the second strand under two, as shown.



STEP 9

Tuck the third and fourth strands. Keep all four strands pulled up tight.



STEP 10

After the first four strands are tucked through once, turn the whole splice over. The strands tucked once are now on the right, or splicer's side.



STEP 11

Tuck the four strands through for their second tuck.

Pull them all up tight, they will not slip back loose as readily as before.



STEP 12

Turn the splice back to its original position when starting the splice.

Tuck the #1 strand through, over one and under two for its third and final tuck.

Do not remove the spike.



STEP 13

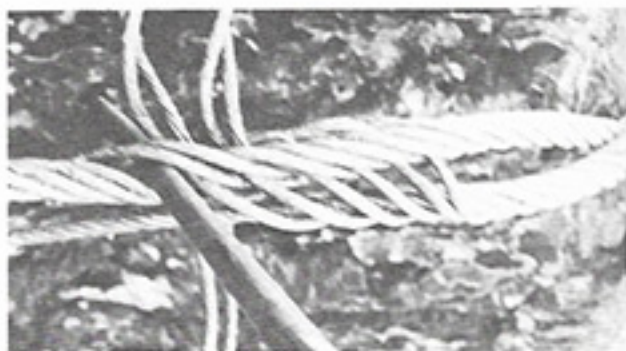
Tuck the next strand, #5, in to the same place. Pull it up tight for its first tuck.



STEP 14

Tuck #2 strand over one and under two for its third and final tuck.

Tuck the next untucked strand, #6, in to the same place for its first tuck.



STEP 15

Tuck #3 strand over one and under two for its third and final tuck.

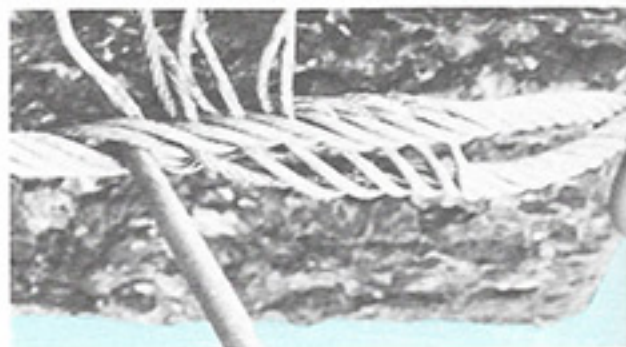
Tuck the last untucked strand, which is the core, in to the same place.



STEP 16

Tuck the last protruding strand, #4, over one and under two for its third and final tuck.

Note: There is no strand left to be tucked in with this strand. (The two strands and the core are wrapped around the strands tucked in the same place for illustration only.)



STEP 17

Turn the splice over again.

Tuck the #5, #6 strands and core through over one and under two for their second tucks. As these protrude with #1, #2 and #3 strands, be careful to select the proper strands. The core strand, being tucked last, is easy to identify.



STEP 18

Turn the splice over again to its original position. Tuck the #5 strand over one and under two for its third and final tuck.



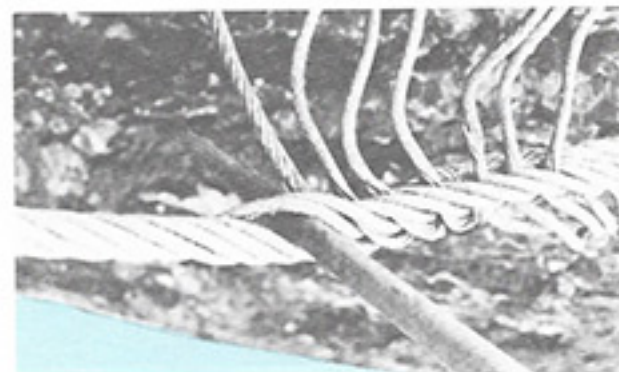
STEP 19

Tuck #6 strand over one and under two for its third and final tuck.



STEP 20

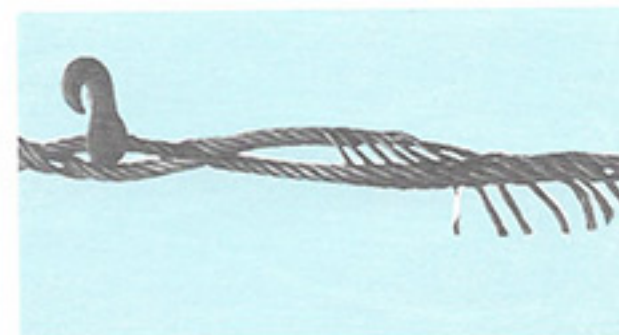
Tuck the core over one and under two for its third and final tuck.



STEP 21

The completed splice, all strands and the core, has been tucked three times.

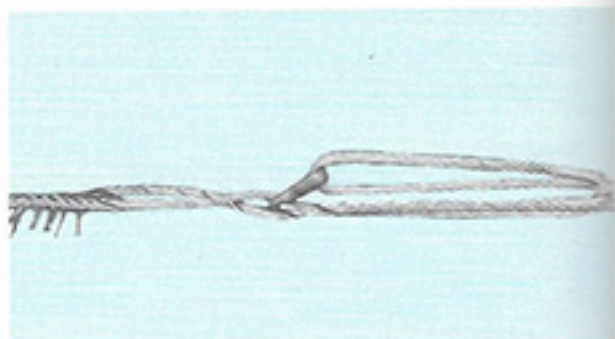
Note: The splice can be made in the same sequence as the spiked down logger's splice, but it is simpler this way for inexperienced splicers.



STEP 22

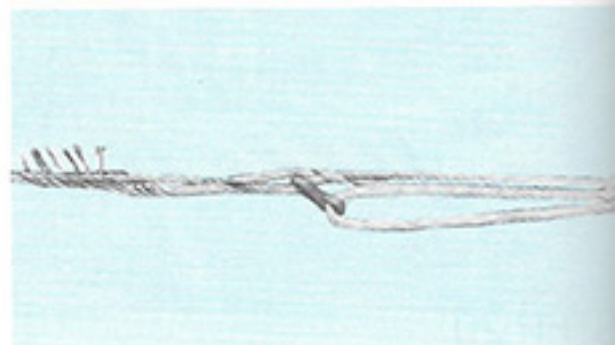
The completed connection, pulled tight.

Note: The hook should always be on the live section of the line.



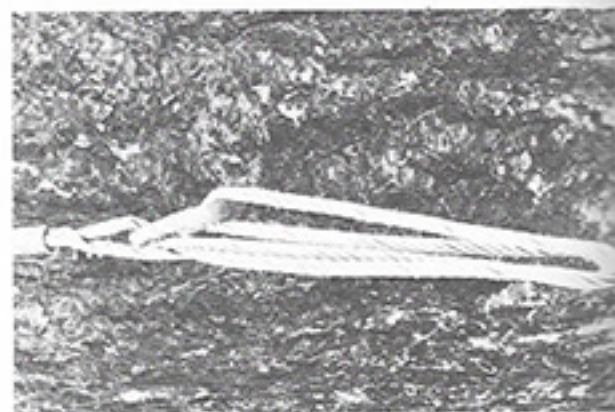
STEP 23

Once the connection is pulled tight, the eye can be wrapped to make it more secure from unhooking.



STEP 24

This is the same type of connection, but made with a pressed fitting instead of a splice.



KNOTTED STRAWLINE CONNECTION

This connection is similar to the Threaded Strawline Connection. It is used on each end of sections of strawlines to form extensions.

The method of tying a knot in the line to secure the hook has been used for years, but is generally being replaced with the Threaded Strawline Connection.

The connection can be made as long or short as wished. However, if it is made too short, it is difficult to wrap the end around to prevent unhooking.

The knot securing the hook is tied one way or the other, depending on whether the open side of the hook is to face in or out on the connection.

When the hook is placed to face in, as shown in the illustrations, it is a little more difficult to wrap the end.

Strawline connections and Hindus occasionally come unhooked and are not always reliable when working on long, steep sidehills. Ordinary eye splices joined with Molly Hogans may be used instead of the strawline connectors.

The illustrations show the Knotted Strawline Connection assembled with $\frac{3}{8}$ " (9.5 mm.) wire core strawline.

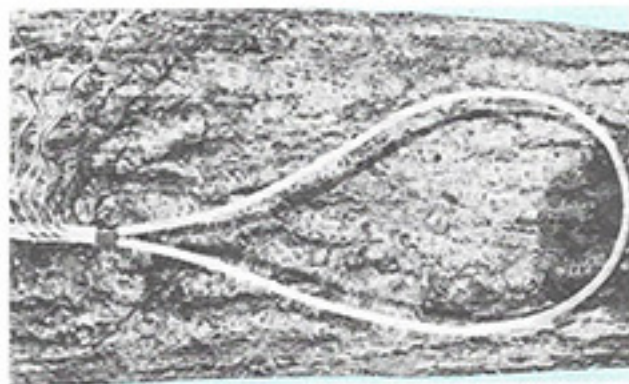
STEP 1

Select the proper size hook for the line being used.
Thread the line through the hook before starting the splice.



STEP 2

Make a loop approximately 54 inches (137 cm.) around.
Keep about 12 to 14 inches (33 cm.) of end for tucking.



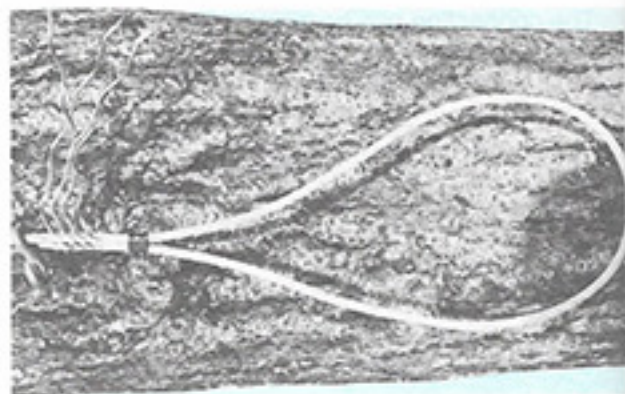
STEP 3

Taping or tying the lines together helps to keep the strands tight until they are further tucked.



STEP 4

Start the splice by tucking four strands as shown.



STEP 5

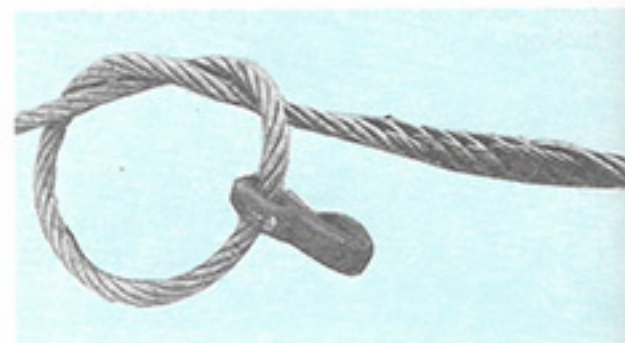
Complete the splice, tucking all strands and the core three times.



STEP 6

Tie an ordinary knot with the hook hanging on the low side, by the eye.

The direction in which the knot must be tied is dictated by the direction in which the hook was put on. For a connection as shown in Step 8, make the knot as shown here.



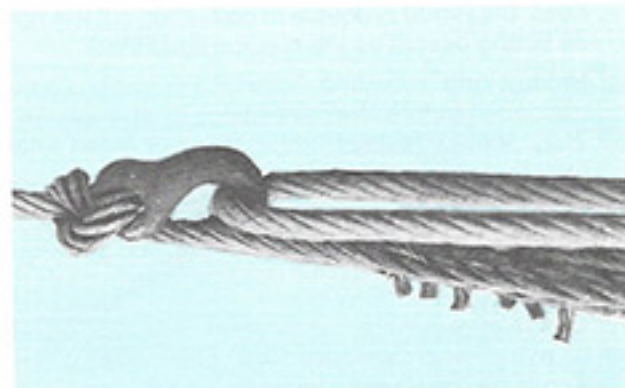
STEP 7

If the connection is to be made with the hook in the open position, the knot must be tied in the opposite direction, as shown here.



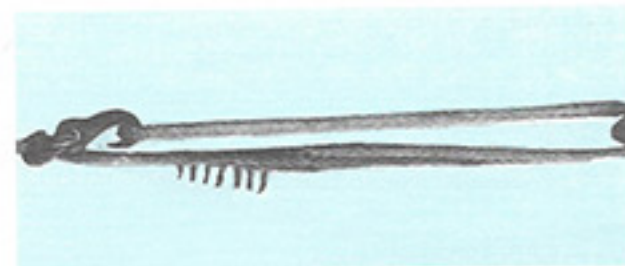
STEP 8

Before pulling the connection tight, make certain that the knot is a short distance away from the strand ends. The strand ends can interfere with hooking and unhooking if they are too close.



STEP 9

The completed connection, pulled in tight.



STRAWLINE HINDU CONNECTOR

The Hindu is used for connecting strawline eyes together, joining mainlines and haulbacks when threading and for general light bullcocking purposes.

Hindus made from heavier line and sturdier hooks are sometimes used around skyline operations.

Hindus can be made by splicing two short eyes, like a short strap, with the hook in one eye. In this case, the Hindu is double at both ends but it is not as strong overall as the method illustrated.

Hindus and strawline extensions easily come unhooked before they are pulled in and formed. They should be kept under strain or laced until they become formed.

Hindus and strawline connectors, even when formed, may occasionally come unhooked. They should not be relied on when working on long steep sidehills. Ordinary eye splices joined with Molly Hogans are preferable on steep sidehills.

Hindus and strawline connectors used for threading high lead sheaves or blocks should be laced even when wrapped, especially if they are not adequately formed.

The illustration shows the Hindu made with $\frac{3}{8}$ " (9.5 mm.) wire core strawline.

STEP 1

This connector is made with $\frac{3}{8}$ " (9.5 mm.) strawline, approximately 10'6" (3.2 meters). The length can be varied, depending on the length of Hindu desired.

Splice an eye approximately 45" (114 cm.) around around.



STEP 2

After measuring and cutting the length of line desired, thread on the hook.

Lay the spliced eye flat in the position it was when starting and finishing the splice. Thread the hook on so that the closed side of the hook is on the same side of the line as the top side of the splice.

From the end of the splice already in, measure off about 16" (40 cm.). Bend the line by hammering it slightly where the hook is, at the point of the eye. The line must be bent in the direction as shown in the illustration.

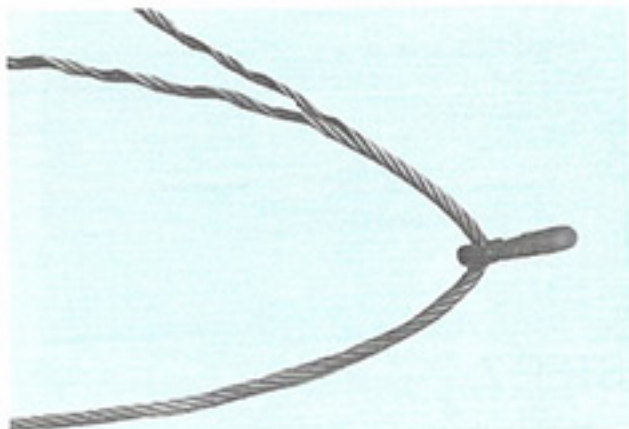
If the hook is not to be locked in as shown, bend the line in the opposite direction.

The tape is only used for illustration purposes.



STEP 3

Split the cut end of the line in two and unravel close to the hook.



STEP 4

Close the strands over the live part of the line and ravel up to the end.

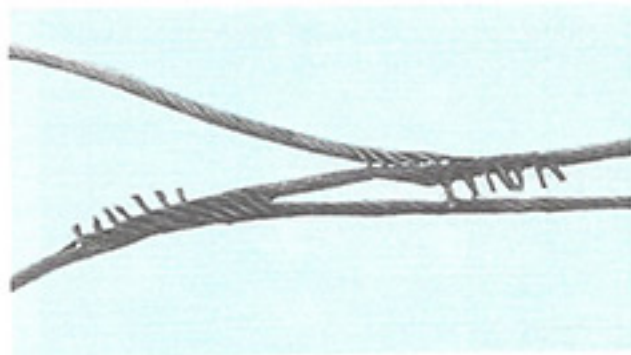
Locking the hook like this prevents it from sliding down the Hindu and makes it easier to hook up.



STEP 5

Keep the original eye flat in the position described in Step 3.

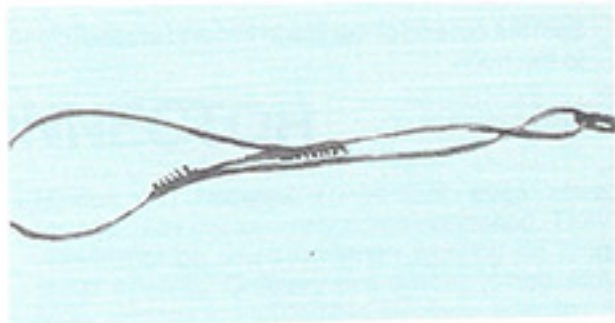
Splice the now ravelled up end into the live part of the already spliced eye, about 4" (10 cm.) from the splice. Do not splice into the strand or dead side of the eye.



STEP 6

Trim the strand ends. Lay the Hindu out flat.

Note: Both splices are in their original positions, with the open part of the hook underneath or facing away.



STEP 7

Hook up the Hindu, which will bend naturally to the illustrated position.



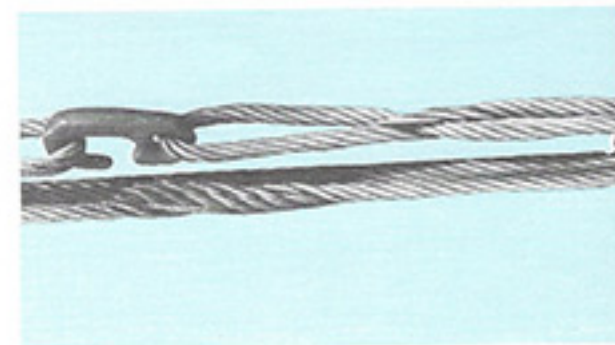
STEP 8

If the open side of the hook is required to be facing out, the Hindu can be bent backwards against its natural bend and then pulled tight. However, it would be better to reverse the hook at Step 2.



STEP 9

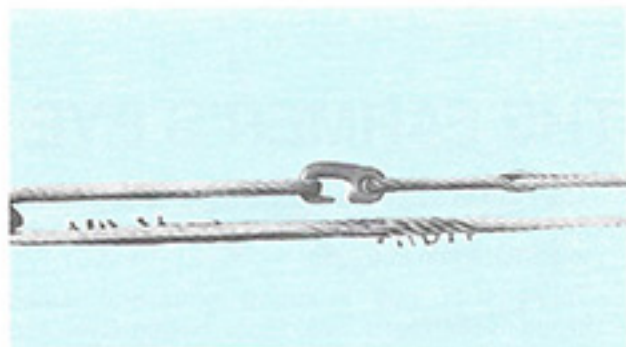
The locked-in hook.



STEP 10

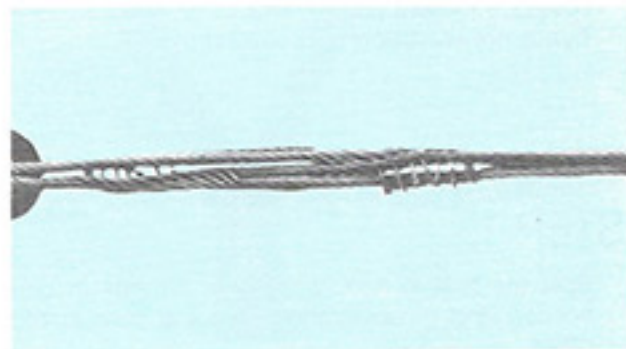
Using a shackle in each end, pull the Hindu tight and hammer lightly to form it a little.

Using shackles instead of the eyes of line to pull the Hindu tight will permit it to even-up better.



STEP 11

The splice at the back side of the Hindu.

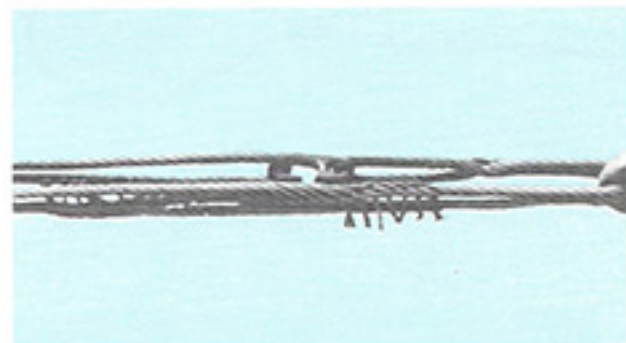


STEP 12

Completed Hindu, tucked three times.

Locked in hook.

Open part of the hook to the inside of the Hindu.



THE FARMER'S EYE

The Farmer's Eye is simply formed by unravelling the line in two sections and laying the sections together again in a loop.

This type of "eye" is known by several names including Farmer's Eye, Molly Hogan Eye, and Flemish Eye.

The Farmer's Eye is mainly used in temporary, or emergency situations where there will not be any excessive loadings.

Unless sufficient clamps are used, the Farmer's Eye is not as strong as a spliced eye.

If the Farmer's Eye is yarded backward through the brush it will generally pull apart.

Sometimes the Farmer's Eye is formed by dividing the line into two and four strands. However, unless clamps are used, it is better to divide the line three and three.

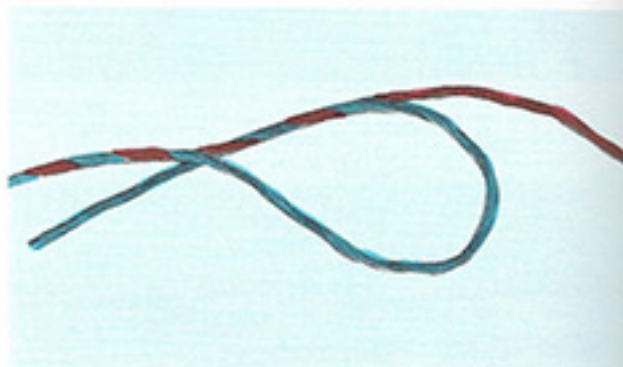
The heavier the line used to make the eye, the larger the loop should be, to make it easier to form the eye.

FORMING THE FARMER'S EYE

STEP 1

Split the line in half, with three strands in one section and three strands plus the core in the other.

Be sure to unravel enough line to make the size of eye desired, leaving sufficiently long ends to wrap together after the eye is formed.



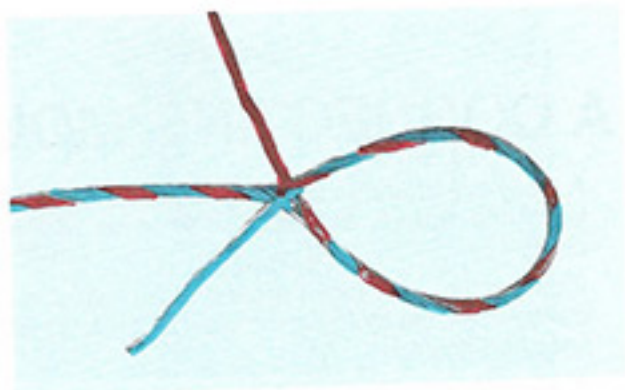
STEP 2

Form the loop for the eye from the section with three strands and the core. It is easier to wrap the lighter section around the one with the core.

If making the eye by splitting the line into two strands and four plus the core, use the four strands and core to form the loop.

When forming the loop, leave ends long enough to wrap together at least two or three times.

Both ends are wrapped to the bottom and crossed.



STEP 3

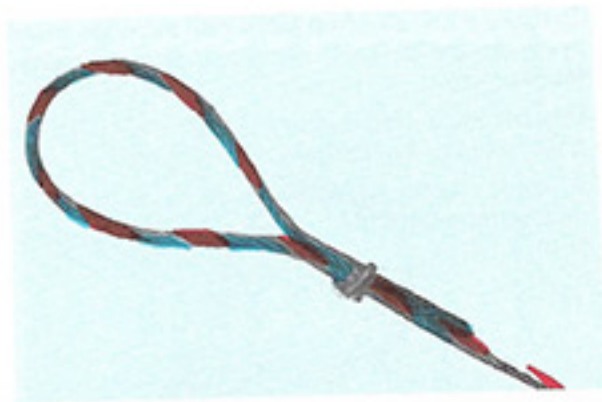
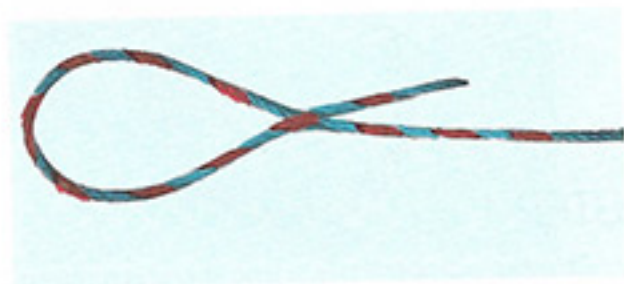
Cross the two ends over and wrap them together to the end.

The eye is completed with the strands crossed over and wrapped together again.

The Farmer's Eye, with the wrapped ends clamped to the line.

With two or more clamps attached, depending on the use, the eye will take as much stress as the line.

The eye is not suitable for use where it will be dragged through the brush, because it will be torn apart.



A CONNECTING MOLLY HOGAN

A Molly is a strand of line wrapped around in the lay of the strands a number of times to form a circle.

If the strand is wrapped around in a circle sufficiently often, the Molly can be used as a link to join lines and rigging.

A Molly is normally used in an emergency, or temporarily, until proper connecting devices can be obtained.

Mollies are used to connect strawlines on steep terrain to prevent the extensions from coming unhooked.

A Molly is used on running lines where shackles

cannot be run through leads such as on reefing lines, mainline and haulback extensions.

Mollies must be checked often, because they wear rapidly and cut the eye splices that they are joining.

Often on running line extensions, two Mollies are used together to join the eyes. If this is done, they must be of the same diameter, but need not have the six full wraps.

A Molly made properly with six full wraps and either tucked or rolled is a strong connecting link, although it will suffer from rapid wear and cutting.

A JOINING MOLLY HOGAN

This is the **wrong** way to wrap a strand when making a Molly.



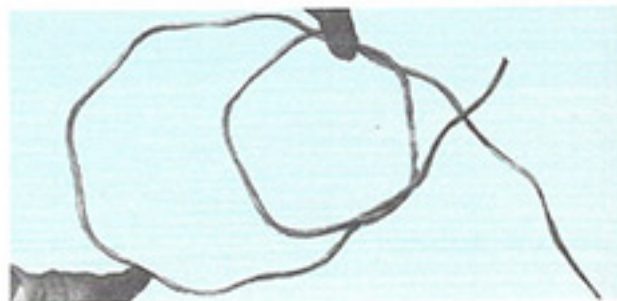
STEP 1

To make a proper Molly, a long strand is required. The smallest diameter Molly that should be made with a $\frac{3}{8}$ " (22 mm) line strand, requires a strand 15 feet (4.5 meters) long.

To make a full, six-wrap Molly with the ends rolled in will require 20 feet (6 meters) of strand, to allow for trimming.

When the first wrap is made, the circle should have a minimum of five corners.

A larger diameter Molly, with more corners, will require more strand.

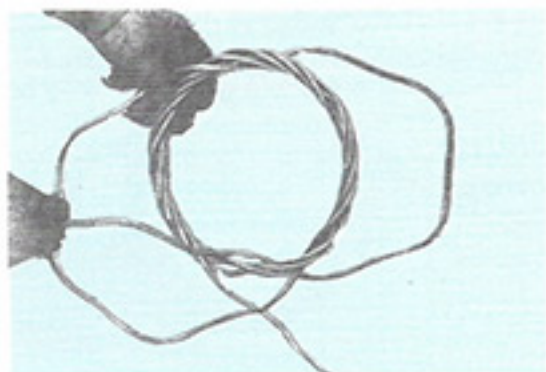


STEP 2

A Molly can be started from any section of the strand.

To avoid handling the long strand ends, the Molly may be started in the middle of the strand.

Here, the Molly is started at one end with the bight of the strand pushed through when wrapping.



The Molly with five full wraps.

With five wraps, the Molly is full and there appears to be no lay for another wrap.



The sixth wrap is laid over the closed five wraps. The sixth wrap appears to lay up on the top.

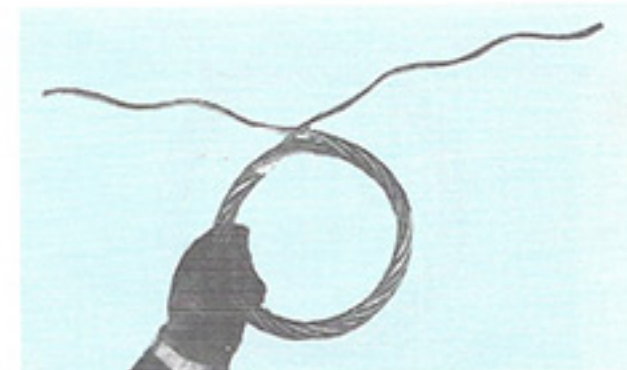


STEP 3

If the sixth wrap is hammered around with the marlin spike, it will lay in.

The Molly now has six full wraps.

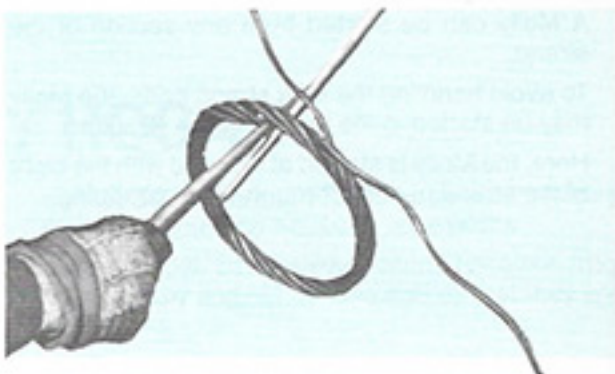
The strands should be crossed at every wrap.



STEP 4

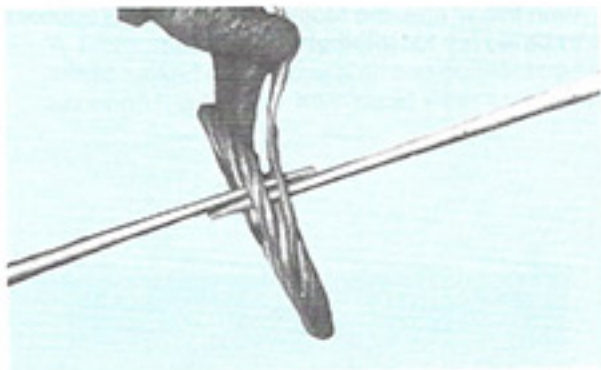
To roll the ends in, the strands must be crossed. Push the spike through the center of the Molly, with the point coming out where the strand is to be rolled in.

Each strand must cross over the other at the start of rolling in.



STEP 5

Push spike B through the same place as spike A but from the other direction.



STEP 6

Place the strand to roll in between the spikes. Cross the point of spike A over spike B and force the strand into the center of the Molly.



STEP 7

Bring spike A back, keeping it tight against the strand and roll the strand inside the Molly.

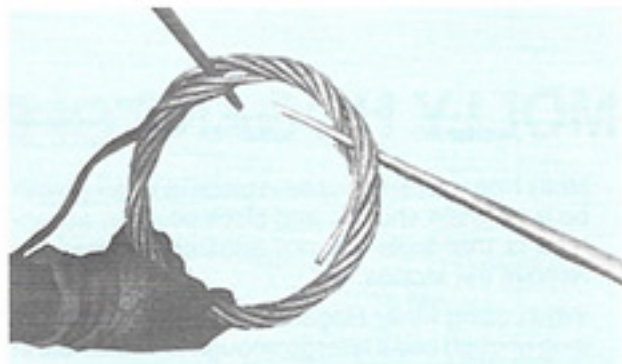


STEP 8

Roll the strand to the end, being careful not to fray the strand end.

The spike cannot be rolled all the way around because of the circled Molly.

Use a short spike and push it in and out to roll the strand in.

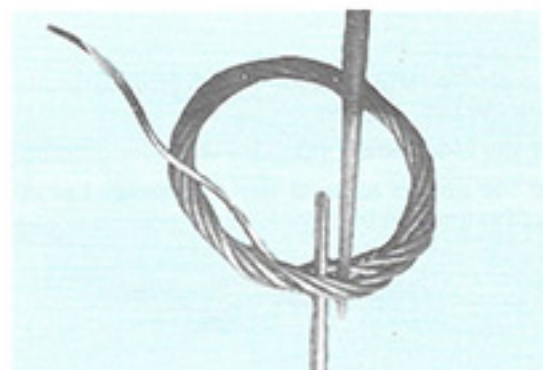


STEP 9

Bend the two strands around. Trim the ends so that they will not touch when they are rolled in.

Roll in the other strand in the same way.

Be sure that the strand is crossed over the first strand to be rolled in.



The strands are crossed over each other, then rolled in.



The completed Molly, with six full wraps, the rolled in strands crossed and with no ends protruding.



NOTE: The Molly shown has been made small for illustration purposes. It is much easier to make a larger Molly, starting with a longer strand and making a bigger circle.

MOLLY HOGANS — For Securing Pins

Molly Hogans can be used in place of cotter pins or bolts to retain shackle and block pins. An advantage is that tools are not required to attach or remove the Mollies.

When using Molly Hogans, be sure the strand is long enough and it is large enough to fill the hole in the pin. It should be slightly smaller than the pinhole, so it can be pulled through easily.

Be sure that the Molly is wrapped correctly and in the right direction.

Be sure that the Molly is wrapped sufficiently to prevent it from pulling out if it is caught on brush or knots.

STEP 1

Use a strand large enough in diameter to fill the hole in the pin.

Make the Molly small, normally with four corners. Wrap the strand at least two full circles before threading through the pin.

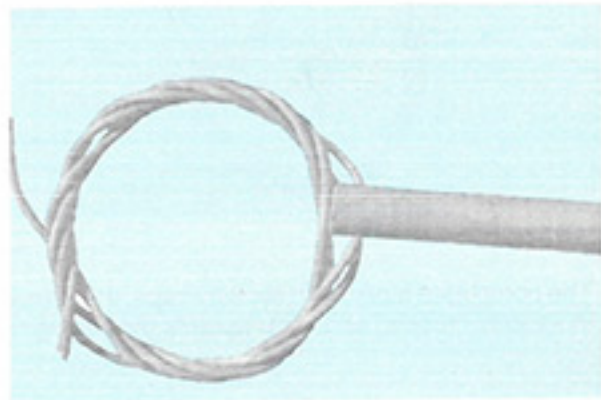


STEP 2

Pull the strand up tightly after threading it through the pin.

Wrap the strand at least one and a half circles after threading it through the pin. This will help the Molly from pulling out if it gets hung up.

As a guide for the person who has to unravel the Molly after use, leave the end that has been threaded through the pin longer than the other end.



GENERAL PURPOSE KNOT

This knot is used to form an eye that will not pull up tight. It is used only for emergency lashing or a quick strawline fix.

STEP 1

Tie a single knot in the line and thread the dead end through the shackle, etc.

Thread the end through the loop of the knot.

Be sure that the line is threaded the right way to wrap the loop.

Wrap the end again by threading it through the loop for the second time.

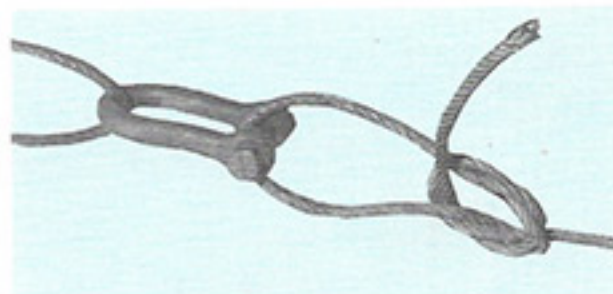
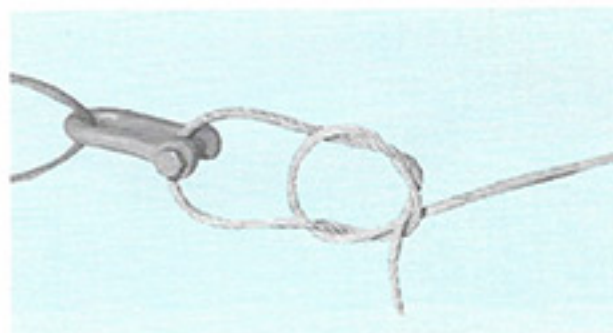
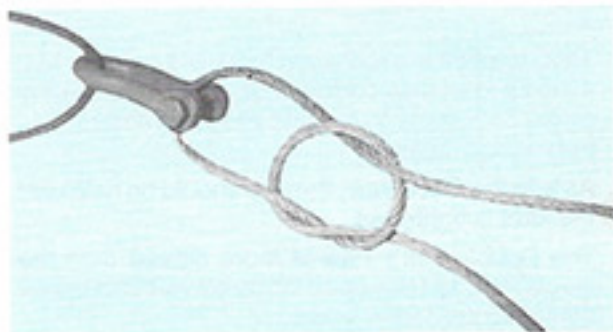


STEP 2

Thread the end through the loop once more, wrapping it again. This will pull tight, leaving a loop like an eye that can be removed from the shackle or whatever is used.

When the end is threaded and wrapped three times around the first loop, it is not necessary to hold the end when it is pulled tightly.

Be sure to leave enough end to prevent it from slipping through.

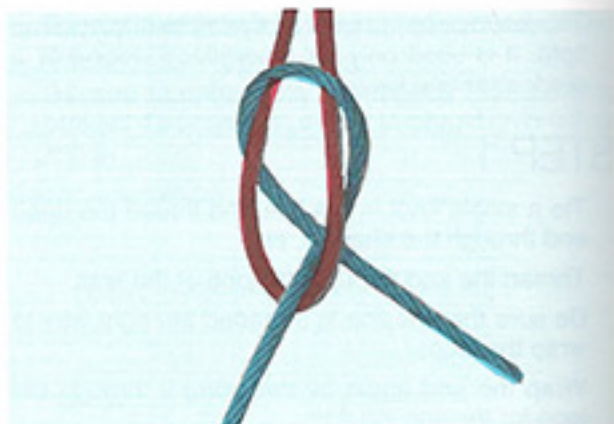


CAT'S PAW KNOT

The Cat's Paw Knot is used for lashing or temporary joining of lines. It can be a quick temporary fix for broken strawline and is used on rigger's rope.

A Cat's Paw can generally be removed after use.

The knot can be used on an eye as a loop. Whether used as an eye or a loop, the knot should be flattened and the end held until it is pulled tight.

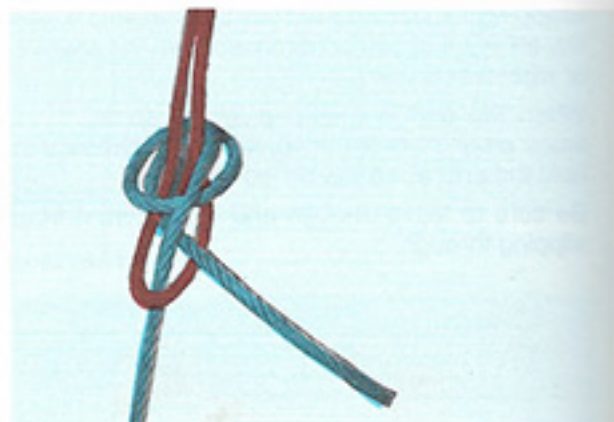


DOUBLE CAT'S PAW

This variation is used when there is a concern that a single knot may come apart. It is made like the single knot but with the end wrapped around and put through again.

As with the Cat's Paw, the end should be held until the knot is tightened.

The Double Cat's Paw is more difficult than the single knot to take apart once it has been pulled tight and used for a while.



JOINING TWO STRAPS BY THREADING

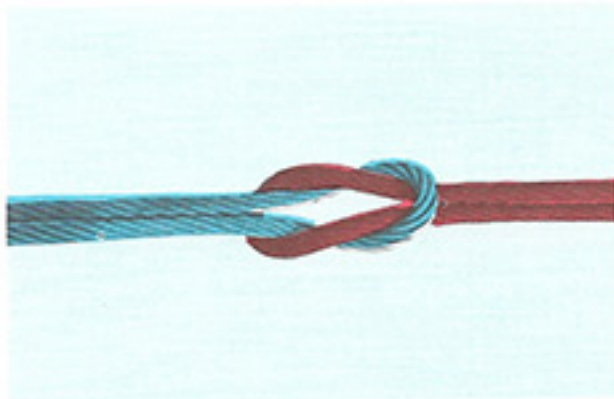
The method of joining two straps by threading is used in an emergency situation when a proper shackle is not available. It is sometimes used for wrapping the end of a short guyline when the threaded eyes are wrapped on the stump.

The method is also used when joining lines for lashing purposes.

The join is not permitted for any permanent application or standing assembly.

STEP 1

Using the largest eyes of the straps, thread the eye of one strap (red) over the eye of the other strap (blue).



STEP 2

Slide the eye of the red strap well along the blue strap.

Take the other eye of the red strap and thread it through the blue eye of the blue strap.

Pull the straps tight.

