Knots

Bowline.................................................................2
Bowline on the bight..............................................3
Clove hitch ............................................................4
Double sheet bend ...............................................5
Figure of eight .......................................................6
Fireman’s chair knot .............................................7
Fisherman’s bend ..................................................8
Overhand knot .......................................................9
Reef knot .............................................................10
Rolling hitch ........................................................11
Round turn and two half hitches ...........................12
Sheepshank (traditional) .......................................13
Sheepshank (fast version) .....................................14
Sheet bend ...........................................................15
Stevedore knot ......................................................16
Also
Surgeon’s knot ......................................................17

Splices

Back splice ............................................................18
Eye splice .............................................................20

Whippings

Common whipping ..................................................23
Sailmaker’s whipping ............................................25
**Bowline**

This is a rescue knot. This is one of the most useful knots to know. Used for tying loop at the end of a rope. If you can tie this knot there is no knot you can’t master.

**Step 1:**
Make a “W”. To do this bring end around in an anti-clockwise direction.

**Step 2:**
Make sure main is the underneath part of the “W”.

**Step 3:**
Put end through eye - “rabbit up the burrow”.

**Step 4:**
Bring end around the main rope. “Rabbit around the tree”.

**Step 5:**
Put end through eye - “rabbit back down the burrow”.

**Step 6:**
Pull main end and right side of loop to tighten.
**Bowline on the bight**

This is a rescue knot. Probably the trickiest knot to get right. Great care must be taken when tightening this knot. Always make sure loops are the correct size to go under arms and legs.

1. **Double rope.**
2. **Step 2:** Make a “U”. To do this bring end around in an anti-clockwise direction.
3. **Step 3:** Make sure main is underneath the “U”.
4. **Step 4:** Just do the same as for the common bowline: “nabibit up the burrow”.
5. **Step 5:** Instead of “going around the tree” pull loop down on itself.
6. **Step 6:** Put hand through small loop and grab main loops.
7. **Step 7:** Now pull loops through small loop, holding small loop with left hand.
8. **Step 8:** Pull small loop up towards main rope!
9. **Step 9:** To tighten pull right side of loop and the main end of rope.
10. **Step 10:** Put loops one under arms and one under legs using one end of rope to pull from above while the other keeps person clear from cliff.
Clove Hitch

This knot is usually used to start off a lashing. Except for this use it is necessary that there is an equal pull on each end of the hitch.

Step 1:
First place rope over spar. (Not under) This is the case for all knots tied to spars.

Step 2:
Bring rope around and cross over.

Step 3:
Bring rope around and to left side of standing end.

Step 4:
Tuck under. This is a half hitch.

Step 5:
Pull ends to tighten. Make sure knot is tied correctly before using. Easy
Double Sheet Bend

This knot is like the sheet bend except for it has an extra turn. Used for tying two ropes of unequal thickness together.

Step 1: Make bend in end of rope. Exactly as for the Sheet Bend. Bend away from you.

Step 2: Take a second piece of rope and bring it up through the centre.

Step 3: Bring the rope around.

Step 4: Tuck end under without pulling through bend.

Step 5: Go around again. This is different to the normal sheet bend.

Step 6: Go under again. On the right of the first tuck.

Step 7: Pull ends to tighten. Again care should be taken to ensure ends are on the same side.

THIS KNOT IS TIED INCORRECTLY. ENDS ARE ON OPPOSITE SIDES.
Figure of Eight Knot

The 2 most popular kinds of stopper knots are the figure of eight knot and the overhand knot. The figure of eight is the most useful in seamanship. This is demonstrated first. Another type of stopper knot is the stevedore. This will be treated separately as some confusion can sometimes occur with this knot. The figure of eight is used for tying at the end of the sheet (sail rope) to prevent the rope from pulling through the eye.

Step 1: Make bend in rope.
Step 2: Cross over.
Step 3: Bring behind standing end, holding top (at v) to stop reeling.
Step 4: Put end through loop formed.
Step 5: Pull ends to tighten knot.
Fireman’s Chair Knot

This is a rescue knot used to make a chair for a person in a rope. Care should be taken when tying this knot.

Step 1: Make half hitch. Place right over left. Loop is away from you.

Step 2: Make a second half hitch. Again right over left.

Step 3: Put right loop behind left loop.

Step 4: Pull loop through as shown.

Step 5: Pull each loop outwards.

Step 6: Pull each loop until loop is large enough to fit a person. Make sure the centre knot tightens as you do this.

Step 7: Make a half hitch. Right over left, exactly the same as the start.

Step 8: Put loop through half hitch.

Step 9: Bring half hitch up to centre of knot and tighten.

Step 10: Make another half hitch but this time on the left side. Again right over left.

Step 11: Put loop through half hitch.

Step 12: Bring half hitch up to centre of knot and tighten.

A word of caution:

Note: Although the centre may look similar to the correct knot as shown above, this knot shown here is completely wrong and must not be accepted.

Note: These ends don’t cross over as in stage 6, therefore this is wrong way to tie this knot.
Fisherman’s Bend

This is very similar to the round turn and two half hitches but is used for anchors. Also known as an Anchor Bend.

**Step 1:**
Put rope through ring. Over not under.

**Step 2:**
Put the rope around through the ring again. Ensure round turn is loose.

**Step 3:**
Cross over.

**Step 4:**
Bring rope behind through loop formed to make half hitch.

**Step 5:**
Pull down but keep round turn loose around ring.

**Step 6:**
Make second half hitch.

**Step 7:**
Squeeze it! ... to make permanent.
**Overhand Knot**

This is probably the simplest knot of all, and most people tie this knot, without realising it, to close a plastic bag. This stopper knot is used to stop end of rope going through eye.

1. **Step 1:**
   Make bend in rope. Exactly as for figure of eight.

2. **Step 2:**
   Cross over.

3. **Step 3:**
   Put end through loop formed.

4. **Step 4:**
   Pull ends to tighten.
Reef Knot

This knot is used for tying two ropes together. Also used for tying the reefing points on a sail or tying a triangular bandage in first aid.

- **Step 1:** Use two ropes. Cross over, right over left.
- **Step 2:** And under.
- **Step 3:** Cross over again. This time, left over right.
- **Step 4:** And under.
- **Step 5:** Pull ends to tighten knot.
Rolling Hitch

Similar to the clove hitch except used when there is a strain at an angle on a round object such as a spar or thick rope.

Step 1: First place rope over spar.

Step 2: Bring rope around and cross over as for the clove hitch.

Step 3: Bring round on the left side and back to right of the main rope.

Step 4: Cross over again.

Step 5: Bring round and tuck under one turn only to form hatt hitch, exactly as for clove hitch.

Step 6: To use, pull in direction of arrow pulling against the 2 turns.

NB: There are many variations of the rolling hitch and other similar hitches, like the magnus hitch that although look alike and have the same name as this rolling hitch demonstrated here, are not the standard required in some scouting competitions.

The great thing about this one is that if you can tie the clove hitch then you can easily tie this one.
Round Turn and Two Half Hitches

This knot secures rope to spar or ring. It is a very useful knot.

Steps:
1. First place rope over spar.
2. Bring rope round the spar.
3. Bring around again. This is the round turn forward.
4. Cross end over the main part of rope.
5. Tuck end through to form a half hitch.
6. Cross end again.
7. And tuck to make the second half hitch.
8. Pull main rope and the end to tighten.
Sheepshank

This knot is used for shortening a rope.

Step 1: Make a large bend in the middle of the rope. The more you want to shorten the rope the larger the bend. Lie the rope on the ground as it is easier this way.

Step 2: Make a second bend.

Step 3: Now make a half hitch.

Step 4: Put bend through the half hitch.

Step 5: Make another half hitch. This time beside the bend on the left.

Step 6: Put bend through this half hitch on the left hand side.

Step 7: Pull ends to tighten.
Sheepshank  (fast version)

It is worth mentioning here that there another way and easier way of tying the sheepshank. More care is needed to ensure that it is tied correctly. It is not wise to attempt it in competitions as it is easy to make a mistake (unless you are very proficient at tying it). Again this knot is used for shortening a rope.

Step 1: Make a half hitch. Right over left.

Step 2: Make another 2 half hitches.

Step 3: Put middle half hitch behind the left half hitch.

Step 4: ...and the right half hitch behind the middle one.

Step 5: Pull half hitches apart depending how much you have to shorten rope.

Step 6: Pull ends to tighten.
Sheet Bend

This knot is used for tying two ropes together. Has better strength than the reef knot.

Step 1:
Make bend in end of rope. Exactly as for the Sheet Bend. Bend away from you.

Step 2:
Take a second piece of rope and bring it up through the centre.

Step 3:
Bring the rope around.

Step 4:
Tuck end under without putting through bend.

Step 5:
Pull ends to tighten. Make sure the ends are on the same side. See V above.

X
THIS KNOT IS TIED INCORRECTLY. ENDS ARE ON OPPOSITE SIDES.
Stevedore Knot

This is just like the figure of eight knot but with an extra twist. It is not to be confused with the blood knot. The stevedore knot is a stopper knot.

**Step 1:**
Make bend in rope. Exactly as for figure of eight.

**Step 2:**
Cross over.

**Step 3:**
Bring behind standing end, holding top (at v) to stop twisting.

**Step 4:**
Cross over again.

**Step 5:**
Bring round and then through eye.

**Step 6:**
Pull ends to tighten and at same time push up turns. ↑
**Surgeon’s Knot**

This knot is not really used in scouting. Some scouts use the knot to tie the ends of the whipping twine to finish the sailmaker’s whipping although the reef knot is the preferred knot for this.

1. **Step 1:** Cross over, left over right.
2. **Step 2:** And under.
3. **Step 3:** Tuck under again.
4. **Step 4:** Tighten by pulling ends.
5. **Step 5:** Cross over, this time right over left.
6. **Step 6:** And under.
7. **Step 7:** Tighten by pulling ends.
8. **Step 8:** Pull main rope apart to tighten properly.

and that’s it done.
Back Splice
Step 1 of 2

1. Now try and make a back splice.

2. Unravel 6 strands down.

3. Number the strands.

4. Bend Strand 1 over Strand 2.

5. Bend Strand 2 over Strand 3.

6. Bend Strand 3 into Strand 1.
Back Splice
Step 2 of 2

7. Pull ends to tighten.

8. Pull ends until tight. This is the crown knot.

9. Now take one strand and go over and under.

10. Bring the other two strands down. Again over and under.

11. Cut off half of the strand and with the other half go over and under.

Eye Splice
Step 1 of 3

1. Let's make an eye splice at the end of this rope.

2. Bend to make loop at end of rope.

3. Unravel about 5 strands down.

4. Note 2 strands are to the right... one is to the left!! This is very important.

5. Put middle strand under any strand of the main part of rope.

6. Put left strand under the next strand above the white strand.
# Eye Splice

**Step 2 of 3**

<table>
<thead>
<tr>
<th>Step</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Turn splice over.</td>
</tr>
<tr>
<td>8</td>
<td>This is the most difficult part of the splice, knowing where to put this last strand. Put strand under white strand in picture. Note direction of strand. Note this white strand is between the two pale blue strands. Both the other strands are tucked under these pale blue strands.</td>
</tr>
<tr>
<td>9</td>
<td>Tuck under white strand.</td>
</tr>
<tr>
<td>10</td>
<td>Take this strand and go over-under. Over blue strand... Under white strand...</td>
</tr>
<tr>
<td>11</td>
<td>Over and under with the next strand.</td>
</tr>
<tr>
<td>12</td>
<td>Turn splice over. and tuck under the last strand. Again over-under.</td>
</tr>
</tbody>
</table>
Eye Splice
Step 3 of 3

13: Now bring this strand up again. Another over and under. Bring all three strands up like this.

14: Now bring up the two other strands. Again over and under. Do the same for the last strand - not shown.

15: Do another tuck with the three strands and then begin to taper. Tapering gives a neat appearance. Split strand in two and cut one half off.

16: Split and cut the other two strands.

17: Bring halved strands over and under twice more.

18: Cut long ends... Roll splice between hands. ..and that's it finished.
Common Whipping
Step 1 of 2

1. Now let's put a common whipping at the end of this rope.

2. Make a loop from the whipping twine and put it on centre of rope.

3. Use left hand to hold twine in position

4. Wrap the twine loosely around the rope for the first turn.

5. Get a good grip of the twine and pull as tight as you can for the second turn and all turns thereafter.

6. Keep turns tight and don't cross over the turns.

Again 8 or 9 turns is enough.
Common Whipping
Step 2 of 2

7. Keep a good hold on the turns.

8. Put end through loop.

9. Pull end all the way through.

10. Pull twine at the top end to tighten loop.

11. Pull tight so that loop disappears under turns.

12. Cut any long ends and that's it finished.
## Sailmaker’s Whipping

**Step 1 of 4**

1. Let’s put a sailmaker’s whipping on the end of this rope.

2. Unravel about 3 strands down.

3. Number the strands 1, 2, 3. Make sure the middle strand (strand 2) is at the back.

4. Make loop at the end of whipping twine.

5. Put loop over middle strand.

6. Pull loop down.
Sailmaker’s Whipping
Step 2 of 4

7. Lay the strands back up the rope in an anti-clockwise direction while at the same time twisting the strand in a clockwise direction.

This may seem complicated but it is not.

The strands lay neatly back in their original positions.

8. Hold the loop and smaller piece of whipping twine against the rope with your left hand.

9. Wrap the longer piece of twine around the rope - not too tight.

10. A sailmaker’s whipping is to be permanent so the turns from here on must be tight.

Grab a good hold of the twine and pull tightly as hard as you possibly can to make the turns.
Sailmaker’s Whipping
Step 3 of 4

11. The amount of turns should be about the thickness of the rope.

12. Hold turns with your thumb to stop loosening. Then unravel rope as far as the whipping turns.

Sailmaker’s Whipping
Step 4 of 4

14
Pull down.
Pull tight.

15
Bring bottom twine up.
Between the strands at 45 degrees.
Bring right of orange strand and tuck in at top.

16
Tuck top part of twine in on the left of the green strand. (left of the loop)

17
Tie a reef knot or a surgeon’s knot to finish.
Right over left and under.

18
Tighten.

Note: A surgeon’s knot is easier to tighten.

Cut long ends.

... and it’s a rap.