



OXFORD DIOCESAN GUILD OF CHURCH BELL RINGERS

Educational Leaflet

No. 1

ROPE SPLICING

by

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Version 1

GLOSSARY OF TERMS

- Yarn* - A number of fibres twisted together “right-handed”. (Fig.1)
- Strand* - Two or more yarns twisted together, generally “left-handed”. (Fig.1)
- Rope* - Three or more “left-handed strands twisted together “right-handed”. This is called a “plain laid rope”. (Fig.1)
- Twine* - A thin string, usually waxed to give it added strength.
- Lay up* - To twist strands together to form a rope.
- Whipping* - Tying off the end of a rope or strand to prevent fraying. (Fig.10)
- Seizing* - Tying off the rope at a point past which it is not required to unlay the strands. (Fig.2)
- Marrying* - Bringing the strands together ready for tucking. (Fig.2)
- Marline Spike* - A hardwood or metal spike, used for opening out a rope.
- Crutches* - The junction of the laid and unlay part of the rope. (Fig.2)
- Legs* - The unlay strands of a rope. (Fig.2)
- Unlay* - To untwist the strands of a rope.

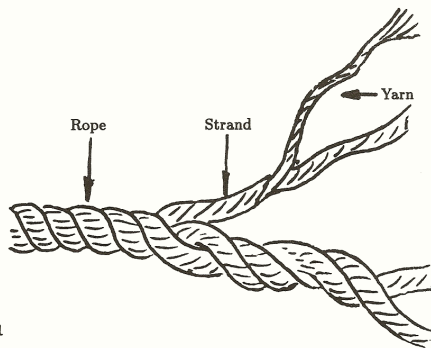


Fig. 1

THE SHORT SPLICE

To make a short splice, marry the two ends of the rope to be spliced as shown in Fig.2, pull the opposing crutches up together and proceed thus:

Start with the right hand side. Open out an opposing strand as shown in Fig.4. It is usual to perform this operation with the thumb and first finger of the left hand, but if the rope is hard a marline spike is required. Hold the rope firmly in the left hand and twist the right hand end in a clockwise direction; now insert the marline spike as shown in Fig.3. Remove the spike and insert the opposing strand as shown in Fig.4. pulling right through.

Turn the rope towards you into position for the next strand and repeat the whole operation. Finally turn once more and complete the third strand.

With one tuck now completed pull the ends fairly tight by pulling them parallel with the axis of the rope – **NOT** towards you.

Turn the rope end for end and tuck the ends on the other side, pulling tight as before. Continue to tuck over one, under one, until each end has three tucks.

To finish off, open out the strands and remove one third of the yarns from the under side, i.e. the side next to the standing part of the rope and tuck each end again. Now cut out another one third of the yarns and tuck each end once more. Cut off all ends flush, place the splice on the floor and roll it under the sole of the foot to work the strands together.

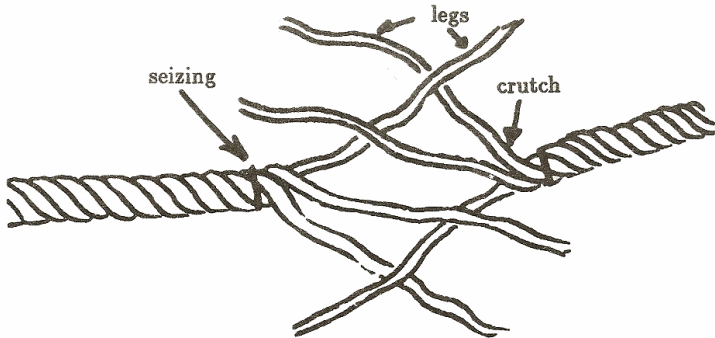


Fig. 2 shows the correct way to marry two three strand ropes before short splicing.

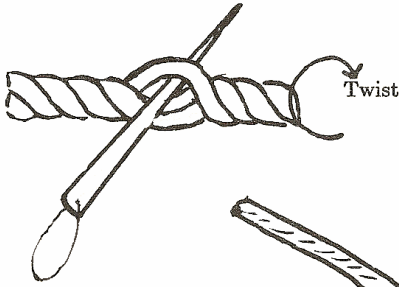


Fig. 3

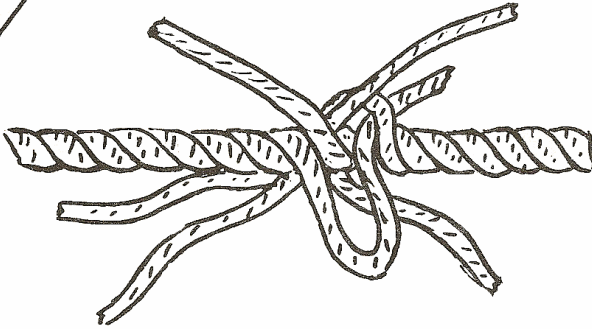


Fig. 4. To stick or tuck the strands, the first step in making a short splice.

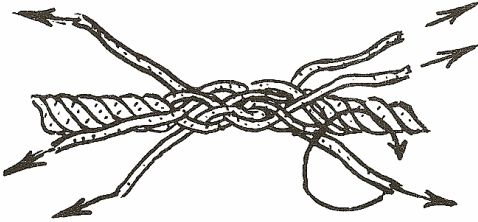
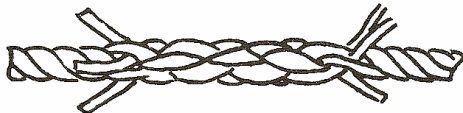


Fig. 5.
The first strands in process of being tucked. On completion of this stage pull the ends tight in the direction of the arrows.

Fig. 6.
The short splice, ends tucked twice and pulled tight. Tuck once more. Finish off as described.



THE LONG SPICE

A Long splice is used whenever it is necessary for a splice to pass through a block since it is smaller in diameter than a short splice. It is only practicable if the two ropes to be joined are of the same size.

I do not agree with the argument that a long splice weakens the rope by 50% unless the splice is very badly made. Since there are, in every length of a long splice, two untouched strands this leaves 66% of the rope at all times intact, so even if the remaining third has no strength at all the estimate of 50% is still too low.

To make a long splice, marry the rope as in a short splice but make the legs much longer, about fifteen inches for every inch of circumference of the rope. The strands may be arranged as shown in Fig.7 and seized at the point in the centre where the vertical line is drawn.

Proceed with the opposing strands (1 and 1a) at right hand end, laying one out to the right and laying the other one into its score, "one turn out and one turn in" at one time. If a slight clockwise twist is imparted to the strand as it is laid it will seat neatly into the space vacated by the other strand. When the length of one strand is reduced to about eight inches arrange the two ends as shown in the left hand side of Fig.8, pull them snugly together and leave them for a moment.

Proceed to lay out and lay in the two left hand strands (2 and 2a) working away from the centre in the same manner as for 1 and 1a, but having made about two circuits of the rope, stop and examine the centre of the splice very carefully. If the two continuous sections at the centre are not even and smooth the tension must be rearranged with the strand with which you are working. If you fail to do this your splice will be worthless. This is a danger point for a beginner.

When the left strands are correctly laid, half knot, (an ordinary overhand knot) all the ends as shown in the centre of Fig.8 and pull the ends sufficiently tight so that the knot seats neatly. Do not over-tighten; if you do the two remaining strands will not carry any load.

Starting with the centre pair, tuck in the ends as shown in Fig.8 (right hand side), passing over and under twice, at the same time removing enough of the twist in the strand so that the yarns will lie smoothly. Halve each strand by removing the yarns from the underside and tuck once more (Fig.9), finishing off by tucking the ends through the opposing strands (not "under", but "through"), and cut off the ends neatly.

Repeat the last paragraph for the other two pairs.

Place each joint on the floor and roll under the sole of the foot. This helps the strands and yarns to lie snugly.

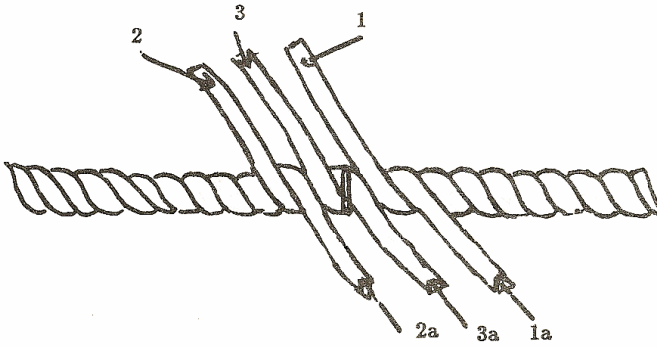


Fig. 7.

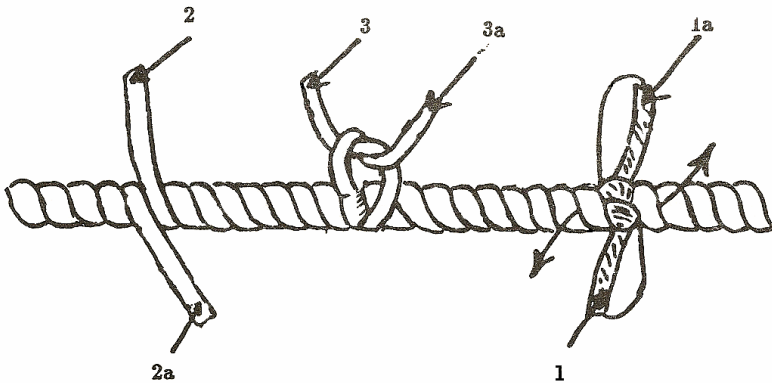


Fig. 8.



Fig. 9.

WHIPPING

In order to keep the ends of the rope tidy and to prevent fraying they should be whipped as shown in Fig.10. Take a length of twine, make a loop and lay it along the rope. Hold this with the thumb and forefinger of the left hand and bind the rope for about half to three quarters of an inch, working from the end inwards.

Keeping the turns tight, tuck end "A" through the loop. Now, by pulling "B", end "A" will be drawn under the whipping. When it is halfway through cut off the ends and your whipping is done.



Fig. 10