

LORD BADEN-POWELL UNIVERSITY OF SCOUTING

SC101B

Pioneering Skills (PART 2 HANDOUT)

- **PART 2 HANDOUT** will show you how to tie all knots required for Tenderfoot and First Class ranks.

- **TERMS**

- **WRAP**

- A **WRAP** is a turn made AROUND the two spars to hold the spars tightly together. Usually three (3) **WRAPS** are made to form a **SQUARE LASHING**. Some **LASHINGS** require more **WRAPS**.

- **FRAP**

- A **FRAP** is a turn made BETWEEN the spars. It goes around the **WRAPS** to pull the **WRAPS** tighter. Usually two (2) **FRAPPINGS** turns are made on a lashing.

- **HOW TO DETERMINE YOUR ROPE LENGTH FOR A LASHING**

1. To determine the length of rope needed for a lashing, add the **DIAMETERS** (in inches) of the two (2) **SPARS** at the point where the lashing is being made. (**EXAMPLE:** *If one SPAR is 2 1/2" in diameter and the other is 3 1/2" in diameter, the total is 6".*)
2. Now multiply by 3' to get the length of the rope needed for the lashing. (**EXAMPLE:** *6 x 3 = 18' piece of rope will be needed.*)

- **HOW TO DETERMINE THE BEST ROPE DIAMETER FOR YOUR LASHING**

1. If you have **SPARS** that have a combined diameter of 6" or less, you should use 1/4" diameter manila rope.
2. When the combined diameter is over 6", use 3/8" diameter rope.

• TYPES OF LASHINGS AND WHERE TO USE THEM

1. SQUARE LASHING

(NOTE: There are three (3) basic types of SQUARE LASHINGS)

- (1) Traditional Square Lashing
- (2) Modified Square Lashing
- (3) Japanese Mark II Square Lashing

- The only difference between these three different SQUARE LASHINGS is the type of knot that is used to start and complete the lashing.
- The SQUARE LASHING is used to join two spars together, usually at a right angle, but not always.

2. DIAGONAL LASHING

- The DIAGONAL LASHING is used when putting crossed braces on a structure to keep it from racking.
- This is an important lashing and is used where spars cross. When cross spars are properly assembled on a trestle, they will be standing apart where they cross. The DIAGONAL LASH pulls these spars together and secures them in place.

3. TWO-SPAR SHEAR LASHING

(NOTE: There are two (2) applications for the TWO-SPAR SHEAR LASHING.

- (1) SHEAR LASHING will allow you to extend the length of a SPAR by lashing an other SPAR to it.
- (2) SHEAR LASHING is also used when SPAR legs are to be spread apart to form an "A FRAME".

- In the first application (extending a SPAR), two (2) SHEAR LASHINGS are made where the SPARS overlap.
- In the second application (A FRAME), SPARS are placed side by side and a SHEAR LASH is tied at one place only.

4. THREE-SPAR SHEAR LASHING (also known as a TRIPOD LASHING)

- This THREE-SPAR SHEAR LASHING is started by laying three (3) SPARS on the ground pointing in alternate directions.
- This lashing will create a three way pivot point for your SPARS that will allow you to form your TRIPOD when finished.

• TRADITIONAL SQUARE LASHING

1. You start this lashing with a CLOVE HITCH tied to the vertical SPAR just below where you want to secure the second SPAR (see FIGURE 1).
2. After the CLOVE HITCH is tied, wrap the excess (short end) around the STANDING part of the rope (see FIGURE 1).
3. Wrap the STANDING end over and under the SPARS as shown in FIGURES 2 & 3. Make sure to pull each WRAP tight.
4. Now make two (2) FRAPPING turns around the WRAPS (between the SPARS), see FIGURE 4. Pull these FRAPPING very tight, then finish off with a CLOVE HITCH on the horizontal SPAR (see FIGURE 5).

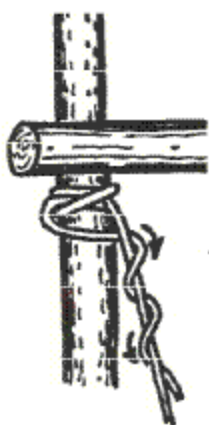


FIGURE 1



FIGURE 2

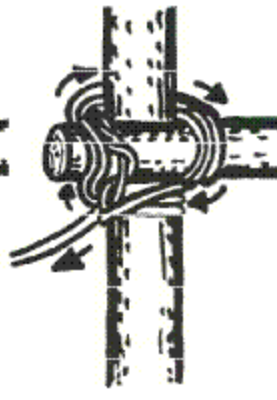


FIGURE 3

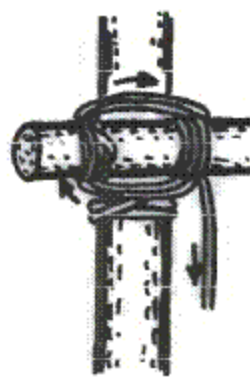


FIGURE 4

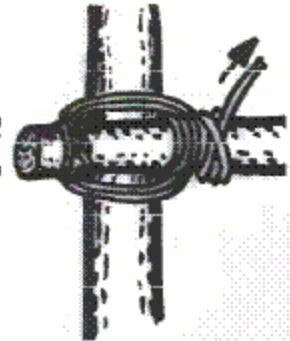


FIGURE 5

• DIAGONAL LASHING

1. This lashing is used when putting CROSSED BRACES on a structure to keep it from racking.
2. Start a TIMBER HITCH vertically as shown in FIGURE 6 and pull tight. Make three (3) WRAPS in each direction across the X (see FIGURES 7 & 8).
3. Now make two (2) FRAPPINGS between the SPARS and finish off with a CLOVE HITCH (see FIGURE 9).



FIGURE 6



FIGURE 7



FIGURE 8



FIGURE 9

• (TWO SPAR) SHEAR LASHING

1. Start this lashing with a CLOVE HITCH (see FIGURE 10), then wrap the excess (short end) around the STANDING part of the rope.
2. You will now need to make 8 to 10 WRAPS around the SPARS (see FIGURE 11).
3. Now make two (2) FRAPPINGS between the SPARS and finish off with a CLOVE HITCH (see FIGURE 12).

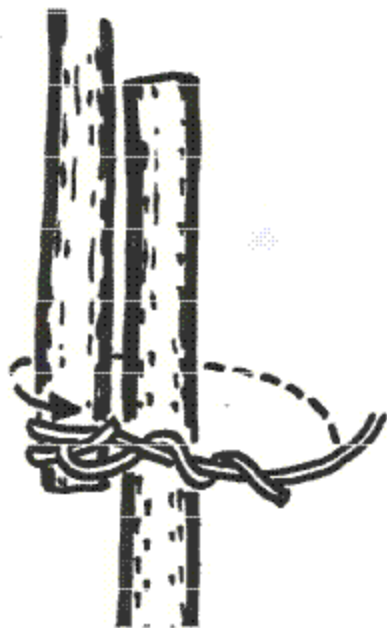


FIGURE 10

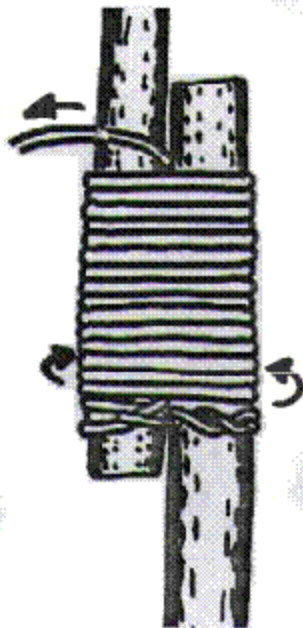


FIGURE 11

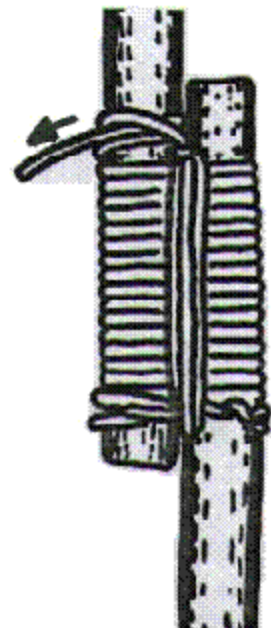


FIGURE 12

• (THREE SPAR) SHEAR LASHING (also known as a TRIPOD LASHING)

1. With the SPARS laid in alternate directions, start with a CLOVE HITCH on one SPAR (see FIGURE 13).
2. You will now need to make 7 to 8 loose WRAPS around the SPARS (see FIGURE 11).
3. Now make two (2) FRAPPINGS between the SPARS and finish off with a CLOVE HITCH on the center SPAR (see FIGURE 14).

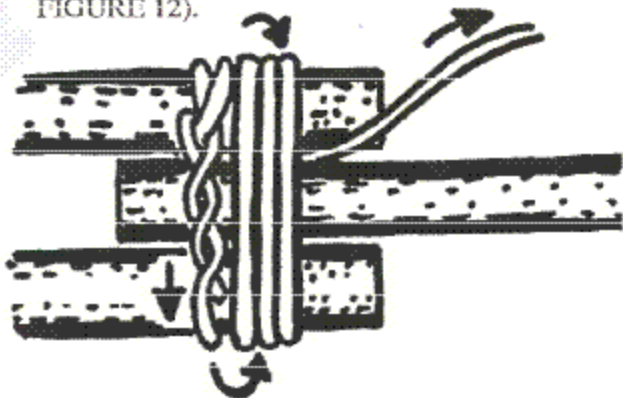


FIGURE 13

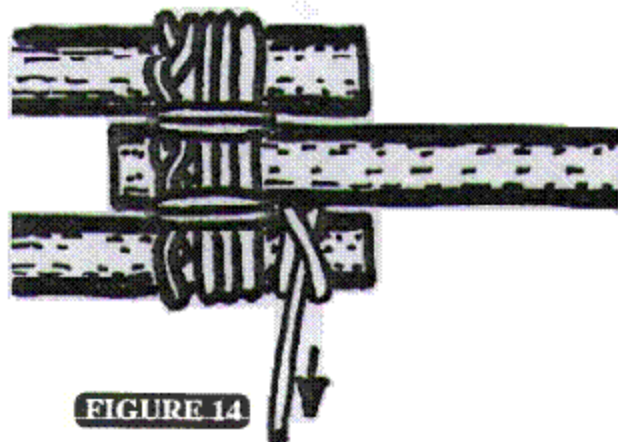


FIGURE 14