

# Tying Knots

The following is a quick overview of typical knots used in rope guys for antennas.

The 4 knots used for this antenna are the “Bowline”, “Overhand”, “Sheet Bend” and “Square Knot”. The Square Knot is also known as the “Reef Knot”.

If you were lucky enough to be a Boy Scout in your youth, you should already be familiar with these knots. Otherwise “Google is your friend”. There are several good sites showing exactly how to tie these knots.

**We suggest you practice these knots before beginning antenna construction.**

## 5.4.1 The Bowline

The Bowline makes a reasonably secure loop in the end of a piece of rope. It does not slip or bind under load.

The Spiderbeam 160m Vertical Antenna uses the bowline to fasten the Kevlar guy ropes to the optional guy belts. (see: 3.1.4.1).

For more information:

<http://www.animatedknots.com/bowline/>



**Bowline**

## 5.4.1 The Overhand Knot

The Overhand Knot is the simplest of all knots. It makes a knot in the end of a rope which can prevent fraying and can act as a simple stopper knot.

In the Spiderbeam 160 Vertical Antenna, it is used to form the knots of the top-hat wires (see 1.8.1) and at the top of the radiator wire (see picture on page 19).

For more information:

<http://www.animatedknots.com/overhand/>



**Overhand Knot**

## 5.4.2 The Sheet Bend

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The Sheet Bend (or Becket Bend) joins two ropes that are of **unequal size**, but also works well if the ropes are the same size. Normally it will not slip, as long as both ropes are kept under tension. Both ropes should be loose before you begin tying the knot, and tensioned after the knot is tied.

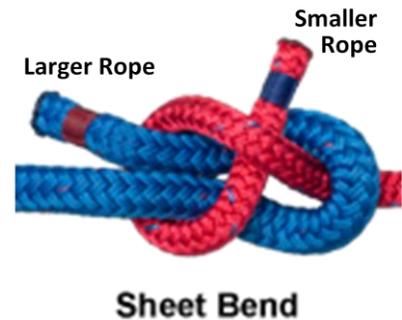
**IMPORTANT:** If the ropes are of different sizes, the larger [blue] rope must be used to form the loop on the left in this picture. The smaller [red] rope must come from the right.

In the Spiderbeam 160m Vertical Antenna, it is used to join the Kevlar guy ropes to the short 6mm Dacron guy rope stubs (see 3.1.4.2). Leave both stubs long enough to attach wire-ties.

**Hint:** after tying the knot, secure the tips of each short end of the rope to itself with a wire-tie. This will prevent the knot from coming undone when it is not under tension.

For more information:

<http://www.animatedknots.com/sheetbend/>



### 5.4.3 The Square Knot (Reef Knot)

The Square Knot (or Reef Knot) joins two ropes of **equal size**. When tied properly, it is relatively secure. If tied sloppy, it sometimes may spill over into two half hitches and then it may slip. It may be used to extend identical ropes, such as guy ropes, or to tie a rope to itself.

In the Spiderbeam 160m Vertical Antenna, it is used for fastening the short 6mm rope stubs to the pole (see 3.1.4.2).

**Hint:** after tying the knot, secure the tips of each short end of the rope to itself with a small wire-tie placed immediately beside each side of the knot. This will prevent the knot from spilling over into two half hitches.

For more information:

<http://www.animatedknots.com/reef/>

