

YALE BRACE

Dynamic Tree Bracing System

INSTALLATION INSTRUCTIONS

Instructions for the Installation of Yale Brace

Step 1: Where to Install

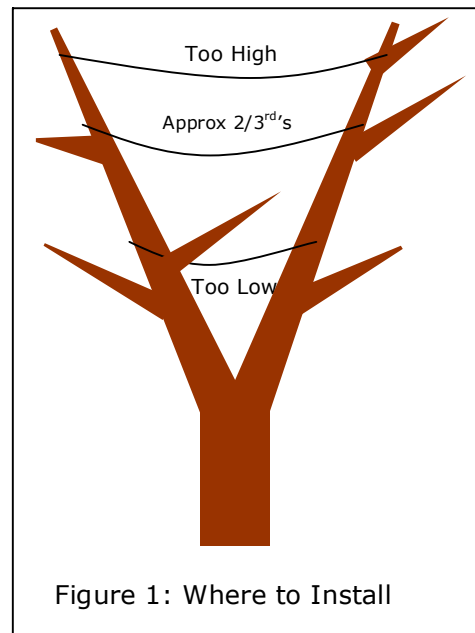
The installation of Yale Brace will vary depending on individual tree requirements, however as a general rule of thumb the Yale Brace system needs to be installed at a branch union approximately $2/3^{\text{rd}}$ s between the branch union being supported and the top of the trees crown or end of branch etc (figure 1).

Where possible it is recommended to install Yale Brace around the trees main stem and not the branch.

Yale brace comes in three sizes: 1 ton, 2 ton, and 4 ton. Use 1 ton Yale Brace to support branches with a diameter at the fork of no greater than 150mm.

Use 2 ton Yale Brace to support branches with a diameter at the fork of no greater than 600mm.

Use 4 ton Yale Brace to support branches with a diameter at the fork of larger than 600mm.



Step 2: Measurements

To measure the amount of Yale Brace required, measure between the inside of the two tree stems at the height of installation, then add the circumference of both stems at the installation point and allow between 1.5m to 2m of extra rope for splicing and adjustment.

Step 3: Installing Fid

Cut a 45° angle on the end of the rope, then compress the wire mesh and insert the tapered end of rope as close to the blue part of the fid (splicing tool) as possible. Hold the rope in place and milk the wire mesh away from the fid down the length of the rope. (figure2)

Tip: it may help to use PVC (electrical) tape. **Tightly** tape a point on the rope and insert into wire section of fid as described above.



Figure 2: Installing Fid

Step 4: Chafe Protection Installation

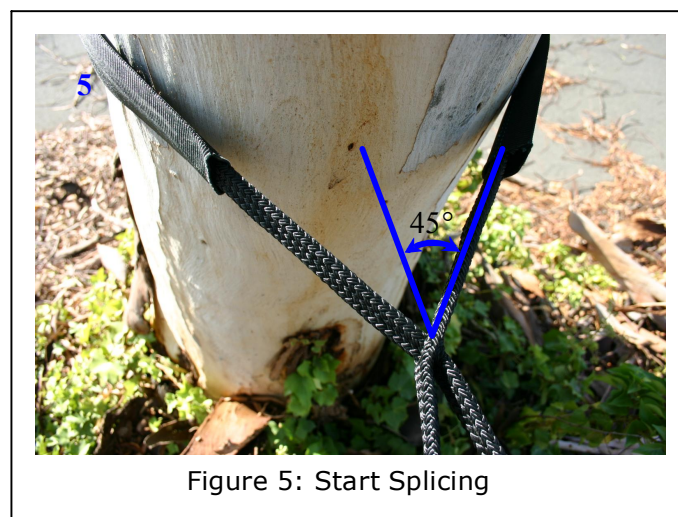
Next cut a length of chafe protection approximately 50mm shorter than the stem circumference and insert the fid with rope through its centre, placing it between 1.5m – 2m (depending on the splice/adjustment length allowed) from the end of the rope (figures 3 & 4).



Step 5: Start Splicing

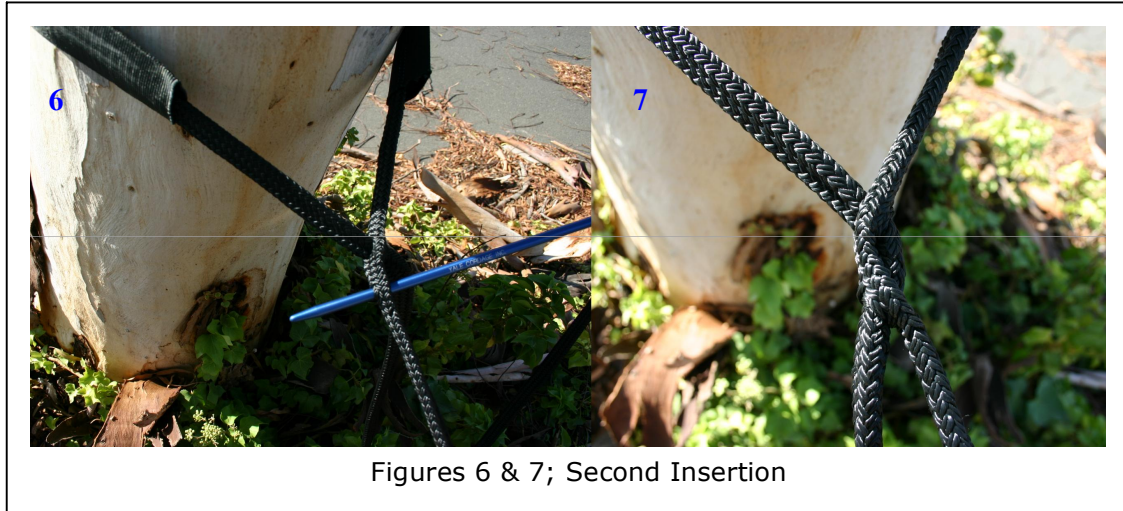
Place the rope with chafe protection around stem and allowing for a 45° angle opening at the stem (Figure 5). Insert the fid right through the center of the rope at this point being careful not to separate individual fibres (the fid should pass next to individual fibre yarns).

At this point take all twisting out of the rope.



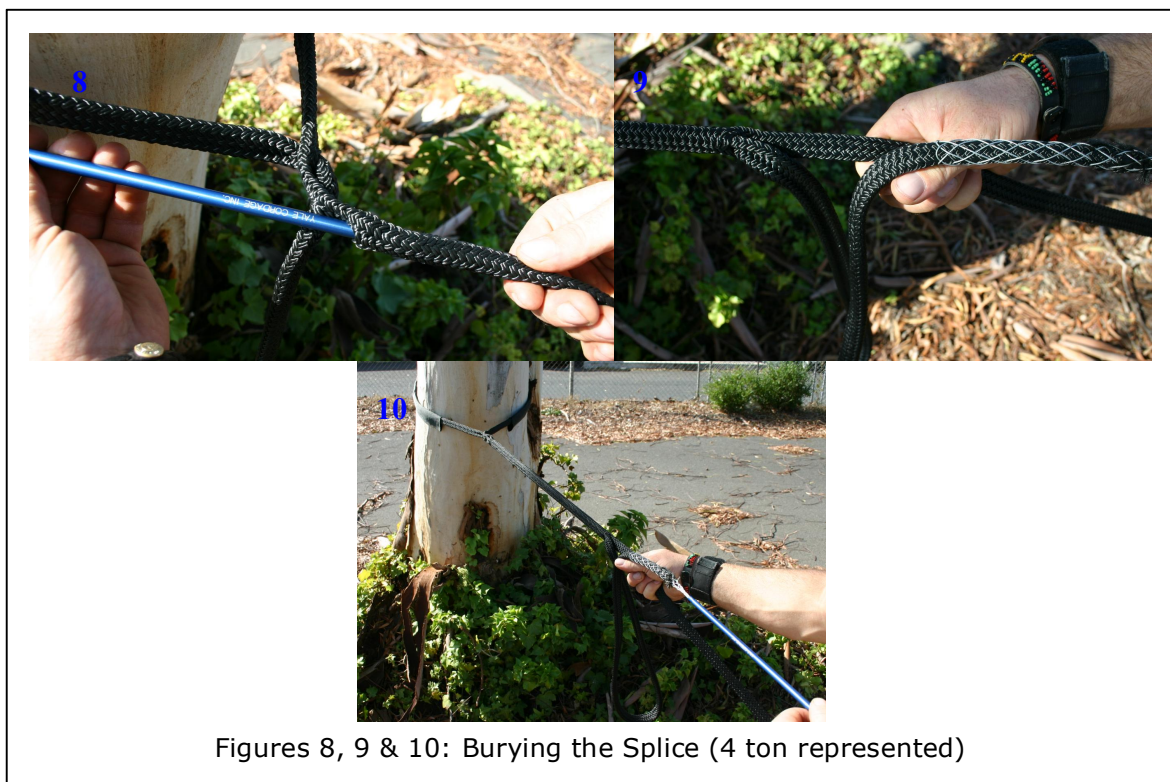
Step 6: Second Insertion

Insert the fid as above (step 5) right through the rope back the other way at least 1 rope diameter away from the first insertion point (figures 6 & 7).



Step 7: Burying the Splice

Next starting at least 1 rope diameter away, now insert the fid up the centre hollow of the rope (figure 8) being very careful not to snag any yarns from the inside of the rope and bring the fid out at a distance of: 1 fid length for 1 ton, 1.5 fid lengths for 2 ton and 2 fid lengths for 4 ton. (A fid length is represented by the blue section of the splicing tool).



Step 8: Finishing Off Splice

Adjust up until the 45° angle is restored at the branch union (figure 11).

Now allow enough rope excess for any future adjustment and insert fid up the centre hollow back toward the union for a ½ fid section (figure 12). Pull it tight until the loop just disappears inside itself (figures 13 & 15). Cut the excess rope off right at the splice and milk the slack out of the splice back toward the cut until the end disappears inside (figures 14 - 15).

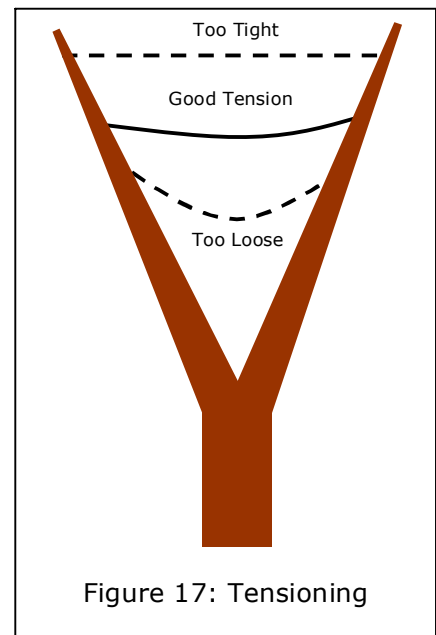
Finally cable tie (zip tie) the loose tail against body of rope to tidy system up, leaving a loop (growth loop) for adjustment (figure 16).



Figures 11 - 16: Finishing Off Splice

Step 9: Tensioning

At this point it is important to get the tension of the system as correct as possible. However there is no hard and fast rule as to correct dynamic cable tension, except to say that it should be installed with moderate but visible slack (refer to figure 17 as a guide).



Step 10: Other Side of System

Repeat steps 3 – 8 for other end of the system.

Tip: for the other end of the system it is easier to loosen the rope right off after the first insertion (figure 5). The slacker the rope is the easier it is to insert the fid up its center, then re-tension it after the splice is complete.

Step 11: Finishing Off

Once the splicing is finished and the tension is correct the system needs to be "set". This means placing load on the system to take any slack out of the splices. The best way to do this is to stand in the center of the system.

WARNING: TREE BRACING SHOULD ONLY BE UNDERTAKEN BY TRAINED COMPETENT TREE SPECIALISTS. BRACING A TREE DOES NOT GIVE ABSOLUTE GUARANTEE AGAINST LIMB FAILURE AND AS SUCH SHOULD NOT BE CONSIDERED A FAILSAFE AGAINST SUCH FAILURE. IT IS RECOMMENDED THAT THE BRACING SYSTEM IS INSPECTED BY A COMPETENT TREE SPECIALIST AT LEAST ONCE EVERY SIX MONTHS AFTER INSTALLATION, TO ASSESS THE INTEGRITY OF THE SYSTEM AND THE TREE.