

Build a Rope Bridge

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A rope bridge is a great way to learn a few knots and have fun while you do it. The project that is described here can be put together in 30-45 minutes.

If you have to learn the knots as you go then allow a bit more time.

Where To Build

The best place to build the bridge is on flat ground between 2 anchors (trees) about 20 metres (60 feet) apart. I have used a telephone pole as an anchor and in a pinch you can create a holdfast (described later).

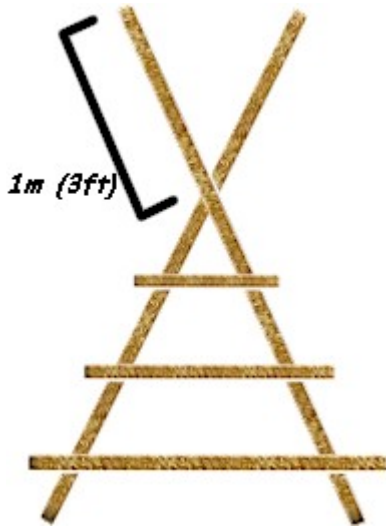
DO NOT succumb to the temptation to build the bridge over a gully or stream. Unless the bridge will be used to actual cross these areas on an ongoing basis there is no point in adding the additional effort.

Equipment List

Quantity	Item	Comments
4	2.4-3m (8-10ft) spars	Ideally the 3m length. All spars must be good quality. DO NOT use dowelling.
2	1m (3ft) spars	
2	1.5m (4.5ft) spars	
2	2m (6ft) spars	
30m (100ft)	3cm (1in) natural fiber rope	This is the footrope and I prefer the natural fiber. It gives a good grip to the soles of the shoes and it is not elastic like nylon.
2 X 45m (150ft)	1.5cm (.5in) rope	These are the handrails
10 X 2m (6ft)	.6cm (1/4in) rope	These are the stringers
14 X 3.5m (12ft)	.6cm (1/4in) rope	These are for lashing. I prefer braided nylon or better still, braided polyester.
1	3 X block and tackle expandable to about 3m (10ft)	A 2X can be used but you will have to tension it more often if natural fiber rope is used.

2 pcs	burlap or heavy cloth	This material will protect the lashing where the footrope crosses the trestle.
1 short	heavy rope	Depending on the type of anchor you use you need a method to attach the block of the block and tackle.

Step 1 - Build the 2 trestles



Lay out 2 sets of spars as shown in the diagram and lash the spars together with a square lashing where they cross. (Note: Ensure the lashing at the crossing point of the longest spars is done well.)

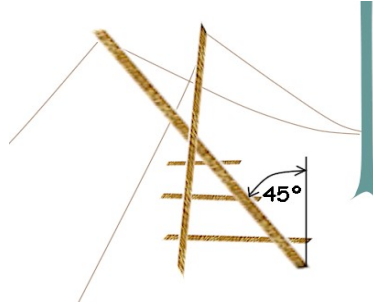
Step 2 - Lay out the long ropes

- Attach the footrope and the 2 handrail ropes to one of the anchors with "round turn two half hitches". (note: If your handrail rope is a single length then loop the rope around the anchor twice to prevent slipping)
- String the ropes out on the ground to the next anchor.
- Attach the block and tackle to the second anchor and stretch it out towards the first anchor.
- At the point that the end of the block and tackle meets the footrope, tie a loop in the footrope using a bowline (if the end is handy) or a figure 8 1/2. *DO NOT use an over hand knot to create a loop. You will have a great deal of trouble releasing the knot afterwards.*
- Attach the block and tackle to the footrope

Step 3 - Attach the first trestles

- Lay 1 trestle under the long ropes so that the top of the trestle is about 3m (10ft) from the 1st anchor and the bottom of the trestle is pointing at the anchor.
- Attach the handrails to the tops of the long spars with clove hitches.

- Lift the top of the trestle and position the bottom such that the trestle is leaning away from the anchor at about 45 degrees.
- If the two handrails are not taking up equal tension adjust the length by slipping the clove hitch.



Step 4 - Attaching the second trestle

- Slip the second trestle under the 3 long ropes so that the top of the trestle is about 10m from the 1st trestle, and the base is pointing at the 1st trestle. (*Note: The top of the second trestle should not be within 1.5m (5ft) of the point the block and tackle and the footrope are attached. Shorten the distance between the two trestles if necessary*)
- Tie the handrails to the top of the 2nd trestle with clove hitches.
- Lift the top of the trestle and swing the bottom in until the trestle leans against the handrails at a 45-degree angle.
- The two handrails should be parallel with the same amount of sag. If not then adjust them by slipping the clove hitch at the second trestle.

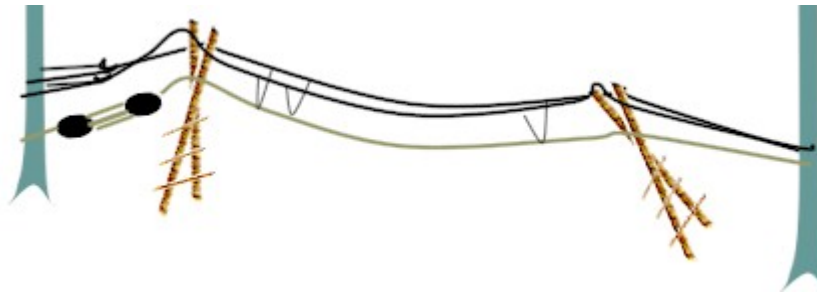


- Take the ends of the handrails and pass them around the anchor and back and tie a "trucker's hitch" (see diagram).
- Tension the handrails enough to take out the slack between the anchor and the 2nd trestle.

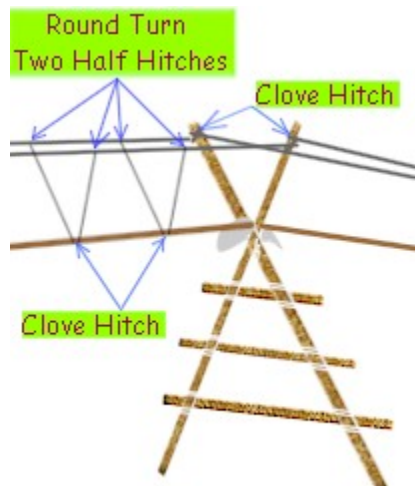


Step 5 - Attach the stringers

- Tilt the 2nd trestle so that it is leaning away from the anchor and towards the other trestle.
- Adjust the tension in the handrails so that they are reachable from the ground the entire length between the trestles but clear the ground by about 1.5m (5ft) half way between.

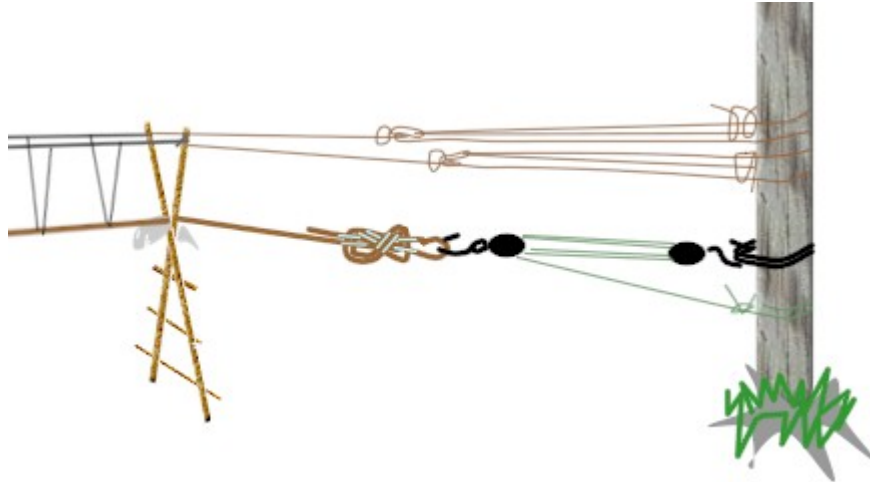


- Tension the footrope with the block and tackle so that it runs parallel to the handrails
- Equally space the stringer ropes (~1 metre - 3ft apart) the entire length between the trestles and attach them by tying a "round turn two half hitches" to the handrail and a "clove hitch" to the footrope. (*Note: Ensure that the "round turn two half hitches" are tied at the very end of the rope and that the "clove hitch" is tied at the centre.*)



Step 6 - Tensioning

- Swing the bottoms of the 2 trestles in so that they are completely upright.
- Apply tension to the handrails with the trucker's hitch.
- Reposition the trestles so that they have a slight tilt (5 degrees) away from their respective anchors (*this makes climbing onto the bridge easier*)
- Insert the burlap between the footrope and the "V" of the trestle
- Tension the footrope.



Step 7 - Safety inspection

- Check all knots (do this on a regular basis)
- Reposition any stringers that do not go vertically from the footrope to the handrail.

Step 8 - Have fun!

- As each person crosses the bridge, 2 spotters should walk along, one on either side.
- The best way to cross is to walk with your toes pointed out and your knees bent slightly.

Special Notes:

1. The "special effort" mentioned in **Step 1** that is required if you put the bridge over a gully or stream is a fourth line strung high over the bridge that can take the weight of anyone that falls off the bridge. Each person crossing the bridge must wear a harness and be fastened from the harness to the safety line by a traveler.

2. The large spars must be strong enough to absorb the severe stress of the heaviest person using the bridge. ALWAYS collect spars green. Deadfall will break! My favourite is maple about 5cm (2in) diameter.
3. When trees or solid poles are not available for anchors use a "holdfast"

