

## Building a Wooden Tripod

**Tripods:** Tripods are the best way to lift stones in historic cemeteries as they can be carried and assembled in tight quarters. In modern lawn cemeteries, the layout of the cemetery is designed for lawnmowers and truck delivery of monuments, but in historic cemeteries, vehicle use is often limited. A second type of lift, the gantry, is very convenient for lifting and moving stones side-to-side; however, it is more time consuming to set up and more conducive to flat cemeteries.

There are basically two types of tripod lifts to use in a cemetery: wood or metal. The tripod chosen is determined by the weight being lifted and the height needed. In general, a metal tripod can lift much more weight safely and lift it higher.

**When to Use a Wooden Tripod:** A wooden tripod is a lightweight, portable, and cost-effective way to lift stones. To prevent damage to the stones and to your body, a lifting device is a must in cemetery repair work. If you are lifting relatively small stones and/or the worksite is a long way from your vehicle, a wooden tripod is ideal.

The two drawbacks to wooden tripods versus metal tripods are their lifting capacity and reach. Personally, I wouldn't lift anything over 500 pounds with a wooden tripod but there are those out there that are comfortable with the capabilities of their wooden tripod and will lift heavier items. And you are probably going to be limited to lifting stone no more than six feet in the air due to the length of the legs.

**Materials Needed:** The wooden tripod pictured is made from three eight-foot-long 2x4s. Be sure to get #1 select grade so that you have the tightest grain with the fewest knots. The legs are the critical elements and the only part made of wood, so shop around. If you don't mind a heavier tripod, use 2x6s, especially if you want legs longer than eight feet, and again, the clearest, tightest grain wood you can find. In Oregon, the only option really is Douglas fir and it is a great wood for strength and weight.



In addition to the wooden legs, you will need:

- One 8"-long, 1/2"-bolt
- Five 1/2" washers
- One 1/2" lock nut with nylon insert
- Two 1/2" quick links

I use a stainless-steel grade 5 bolt versus a grade 8 bolt. Even though it is weaker than a grade 8 bolt, a grade 5 bolt will bend rather than snap under strain like a grade 8 bolt, and I'd much rather inspect my bolt for a bend rather than a break. However, the point is relatively moot, as your wooden elements will reach their safety limit far sooner than your metal elements.

**Assemble:** Once you get all the parts together, the only tool you will need is a drill.

1. Drill a 3/4" diameter hole, centered, 1" from the end of all three boards.
2. Tie the three boards together by slipping one 8"-long 1/2"-bolt through the hole with washers between all of the boards.
3. Between two of the boards, hang two 1/2" quick links for your hoist.
4. Secure the bolt with a 1/2" lock nut (nylon insert).
5. Do not tighten the nut – leave the assemblage somewhat loose so you can form a tripod with the 2x4 legs.



**Use:** Wooden tripods are easy and intuitive to set up. First, you want to center your hoist over your work. You want the stone you are lifting to be close to where you are setting it down – better to move the die (i.e., headstone) closer to the base than to “swing” the die into position over the base.

You want the tripod legs spread over the area in an equilateral triangle. You want the legs at an approximately 65-degree angle to the ground – basically you DO NOT want to spread the legs out too far and splay OR keep the legs in too close and have the tripod be too tall and tippy.

The ends of the 2x4s should stick into the earth – you DO NOT want to set up on a concrete pad as the legs might slide out. If the surface is too hard, you might need to run a cable between each of the legs to keep them from splaying.

When lifting, keep an eye on all the legs, especially the one with the least amount of weight on it. If you are moving a stone sideways, there is a chance the leg with the least weight might lift. It's always good to keep an eye on each of the legs in turn. DO NOT get distracted when lifting.

Always protect the stones from being rubbed. Spare 2x4s or stakes do a good job at keeping pieces of stone separate. See the handout on [Releveling Guidelines](#) for more information on safe lifting.