

Air-Rifle Target Stand Read-Me:

The basic stand (2 cross-bars) is made out of 2"x2" lumber (3 pieces of 8'), 18 of 2½" screws, 4 of 3"x1/4" bolts, 2 of 2"x1/4" bolts and 6 of 1/4" wing nuts. The total cost is \$20 +/-, + 1½ hours labour +/-.

It is height-adjustable in a variety of positions from 13½" (the height of the standard cadet metal stands) to just under 36". The advantage of having them height-adjustable is obvious to those who have set air-rifle targets at a rifle range where there is a drop from the firing line to the floor of the range or anywhere the target has to be set on ground below the firing line.

The feet and the target cross-bars are bolted together with the bolts and wing nuts when in use, but are easily separated to be stored and carried flat. The BT-100 is hung on the smaller bolts on the cross-bars of the frame.

The basic stand holds a BT-100 locked into position with a side area for a paper target. It is very stable - even at the max height, and can be spiked to the ground as required. The feet are 30" long and might act as skis when the BT-100 is reset under some slippery surface conditions - hence the spike holes.

The double stand (3 crossbars) is a little more versatile and solid, and uses only 4' more of 2"x2" and 6 more 2½" screws. It allows for 4 target areas: 2 BT-100s + 2 paper or 1 Bt-100 + 3 paper or 4 paper. The total cost is \$23 +/- and a little more labour than the basic. The diagrams show the double stand. The height adjustments are basically increments of 6-1/2" but can be varied by inverting the frame or using the upper or lower BT-100 positions to achieve a more finely-tuned competition position.

Both the cutting diagram and the build diagrams are shown in solid and wire-frame views to show both a realistic view and an internal view of all holes and joining screws.

Construction Hints:

For cutting, use a mitre box and back saw or a power mitre saw if you have one. For drilling the many holes, a drill press is highly recommended, because of the need for accurate hole positioning and verticality. Otherwise, you could have trouble fitting the bolts through the legs and frame when assembling the stand. The part sizes shown in the cutting and drilling diagrams are exact except for the feet (30" +/- = remainder). The cutting order helps make sure that no parts are undersized.

Your key tools are a carpenter's rule and 45° mitre square to mark and CHECK the many cutting/drilling lines and holes. NOTE: PRE-DRILL BEFORE DRIVING SCREWS – 2"x2"s are very easy to split

It sounds like a silly saying, but ALWAYS measure, mark, CHECK and then cut. Then do it all again. For those who don't do much woodworking, always make sure you know which side of the marked line your kerf is. (That's the part of the wood removed by your saw when you cut.) This is easy with a hand saw, but power saws can surprise you. You could end up with a piece of wood that is 1/8" too small. I have allowed enough room in the design for the kerfs even when the original piece of 2"x2" is not 8' long. Usually they are plus or minus 1/8". They are also quite often warped in a variety of ways. Go through the material at the lumber yard and buy the straightest pieces you can, but if you are buying bundles, you can't tell what will happen when you break open the pack. Slightly bowed pieces can be used everywhere (but for the 36" crosspieces). Twists can only be used for the short parts of the stand.

One last material comment - if you happen to get bundles or pieces of 2"x2" at different suppliers or at different times - watch out for the dimension of the 2"x2". Currently, they are 1-3/8" but can be as small as 1-1/8" or as large as 1-5/8". Mixing different sizes is a royal pain - particularly when you set your drill press jig for one width and find you are drilling something quite a bit thinner. My choice for the 2"x2" material is pressure-treated lumber but if you expect to paint the stands, untreated works as well and is often thicker (1-1/2" or 1-5/8"). (If you want the stand to hold together stronger, you can also use glue.)