

A CONVENIENT SHOP-BUILT MINI-ARBOR

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One of the few challenges in the Yale School of Drama's multiform New Theatre is the tight 9" clearance between the galleries and side walls: it is just too narrow an opening for sand bags. In developing a temporary counterweight system for a new production called *Mirror, Mirror*, I designed and built a wire-guided mini-arbor, which has become a handy addition to the stock rigging gear and has been put to use several times.

This mini-arbor has two advantages: cost and design flexibility. The total cost of construction is about \$30 and most of the parts are common stock items found in a scene shop. In contrast, the smallest commercially available wire-guided arbor is 4' tall and costs about \$200. In addition to the price difference, commercial arbors lack some of the flexibility offered by this design.

CONSTRUCTION

The mini-arbor's main parts are a top and bottom plate made of $\frac{1}{4}$ " x 3" flat bar cut to a length of 1'-3" and 2 pieces of $\frac{1}{2}$ " Grade B16 threaded rod. The other components include:

- two $\frac{5}{16}$ " rated eyebolts
- two $\frac{3}{8}$ " x 1" Grade 5 bolts
- two $\frac{3}{8}$ " rated eye nuts
- six $\frac{1}{2}$ " Grade 5 Nylock nuts
- two $\frac{3}{4}$ " plywood spacers

The plywood plates protect the bolt threads and keep the counterweights level in the arbor.

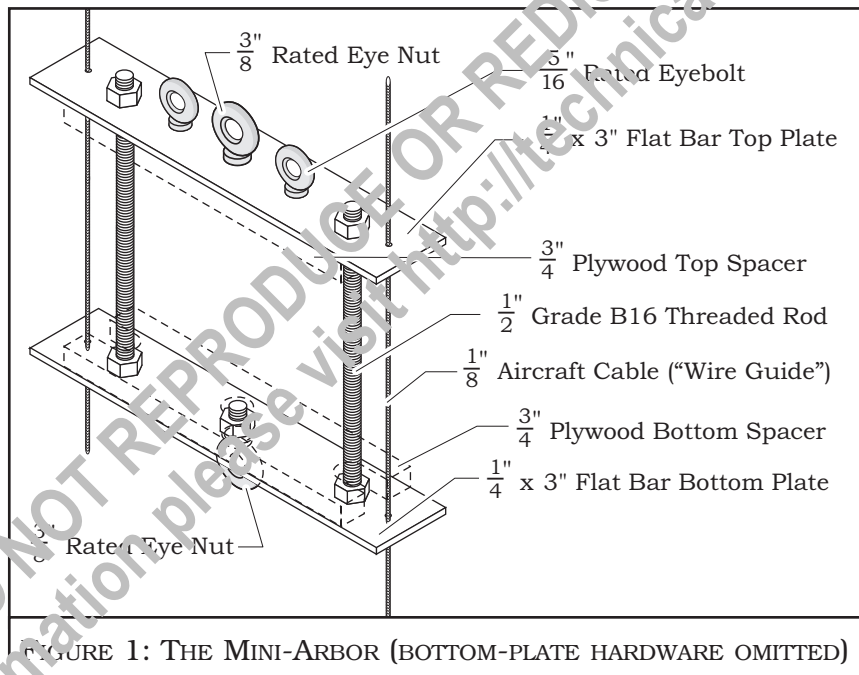


FIGURE 1: THE MINI-ARBOR (BOTTOM-PLATE HARDWARE OMITTED)

ADAPTATION POSSIBILITIES

This arbor can be adapted in any of several ways. First, the top and bottom plates can be snugged down to keep a stack of counterweights quiet and securely in place. The arbor's capacity and height are easily adjusted by varying the length of the threaded rod. The eyebolts and nuts at the top and bottom of the arbor also provide various connection possibilities. For example, scenery with 2 pick points can be attached to the eyebolts on the top plate and a rope hand line can be attached to the centered eye nut in the bottom plate and tied off to a pin rail. A slightly more complicated possibility is to run the hand line like a single purchase fly system. In this scenario the scenery pick points would be attached to the eyebolts in the top plate. A hand line would be attached to the eye nut in the bottom plate, run through a floor block and head block and tied off to the eye nut in the top plate. A rope lock should be added to this version of the system.

INSTALLATION

There are a number of ways to rig the $\frac{1}{8}$ " aircraft cable guide system. In this case, an I-beam provided rigging points for the head block and the aircraft cable guides (Figure 3). I attached the aircraft cable to the I-beam with beam clamps and to the floor with D-rings that were lagged into the floor. Turnbuckles allowed me to add the appropriate amount of tension into the guide cables. The arbor traveled about 20' with minimal sway.

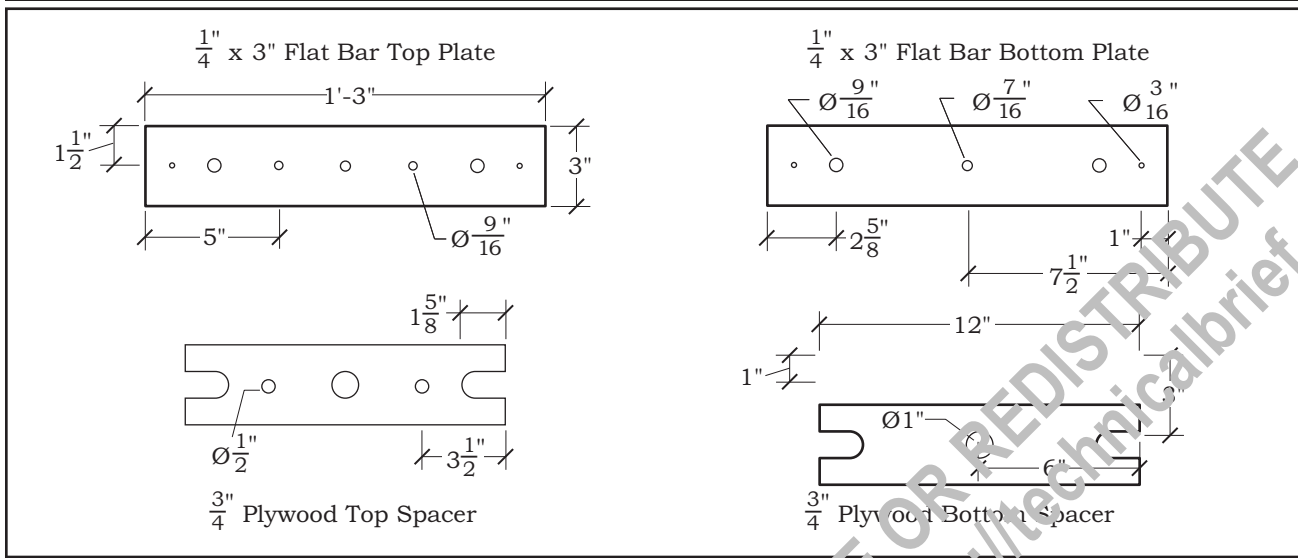


FIGURE 2: PLATES AND SPACERS

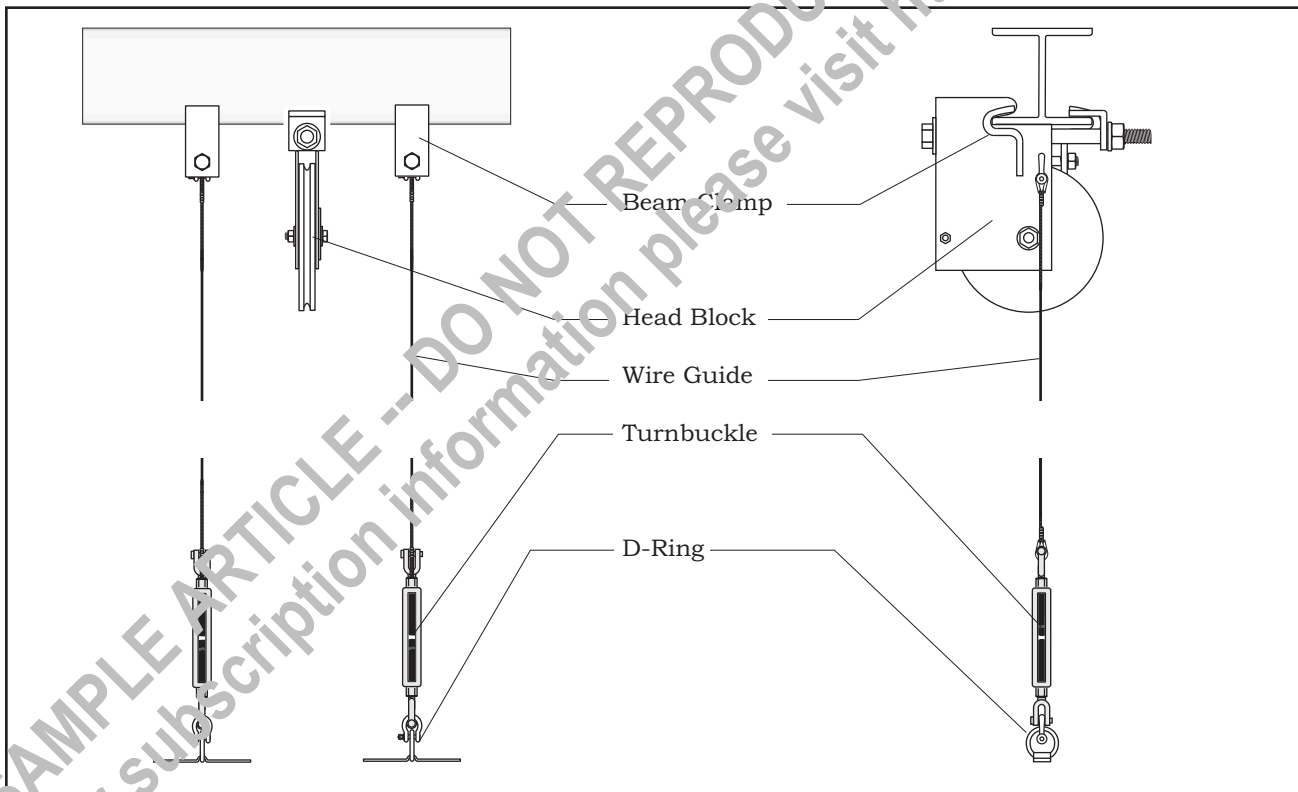


FIGURE 3: AIRCRAFT CABLE GUIDE SYSTEM

