

TECHNICAL SOURCE GUIDE

THE BOYNE 4-WAY GLUE-UP CLAMP

By Elbin Cleveland, The University of South Carolina

When gluing up large surface areas such as table tops or doors, it is sometimes difficult to keep the top surface flat. To solve this problem, Boyne, Inc. has developed a special gluing clamp designed to provide equal pressure on the edges and faces of these large clamped assemblies. In fact, it is often called an equi-pressure clamp by various distributors.

Unlike most "bar" or "pipe" clamps, the Boyne clamp is based on a double-bar system. The two wooden bars are not provided with the clamp, which allows the user to provide the exact size wooden bar required for their particular needs. The wooden bars support the surface of the boards to be glued, as they are squeezed edge to edge by the clamp. In that manner, the assembly of boards is held in a flat plane and prevented from buckling under pressure. This sandwich principle eliminates the need for the traditional second collection of clamps and boards to hold the assembly flat. It also saves a lot of time and frustration, and frees up those extra clamps for other jobs, as one set of Boyne clamps takes the place of three traditional clamps (i.e., one bar clamp and two C-clamps).

For smaller Projects which are less than 3'- 0" wide, bars of 2" x 2" lumber are sufficient. Wider projects requiring longer bars should be done with 2" x 4" lumber. The bars should be made from stock that is straight and free of large knots.

The two wooden bars are joined at each end by two pivoting, spring-loaded steel pieces which engage the grooves in a notched plastic strip or end block. These strips and blocks are attached to the wooden bars by screws which the manufacturer provides. As the clamp is tightened at the end, the scissors action of the end pieces pulls the bars together.

This principle is quite successful for smaller projects, but larger projects require a slight "radiusing" of the bars to insure equal pressure across the broad surface of the gluing assembly. This radiusing, recommended on bars over 2'-0" in length, only amounts to a 1/16" difference between the center and ends of the bars. Consequently, it is possible to achieve the same effect by selecting wooden bars which have equal, but opposing, slightly convex warps.

The manufacturer recommends placing waxed paper or aluminum foil under the wooden bars to prevent any excess glue from seeping out of the glue joints and adhering the bars to the glued surface area. However, an easier and permanent solution is to apply a good coat of penetrating wax to the working face of the bars, or to spray them thoroughly with silicone mould release.

In testing one sample clamp, we found that the parts of the clamp assembled easily and that the clamp worked smoothly. The only problem with this system is that there is a limit to the widths of projects the wooden bars and the notched strips can accommodate.

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If your shop could use this system of clamps, it would be to your advantage to own several sets of the notched strips and end blocks mounted on wooden bars of various lengths. This would eliminate the need to switch the strips and blocks from one set of bars to another for various sized projects.

The Boyne 4-way Glue-up Clamp costs approximately \$30, and is available from:

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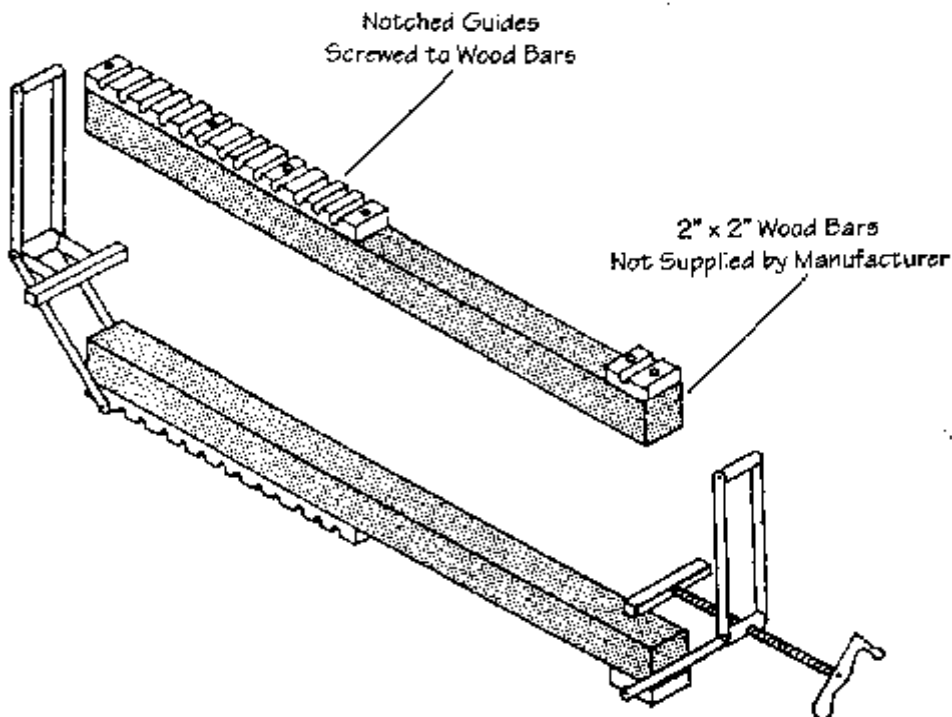
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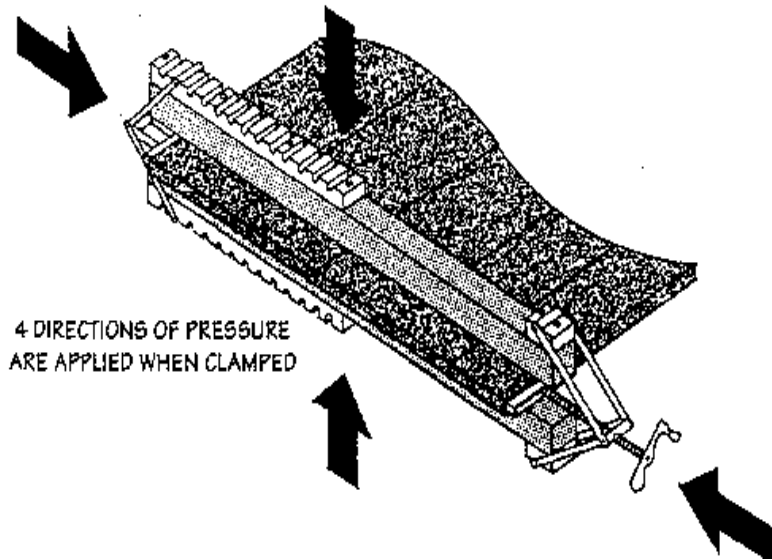
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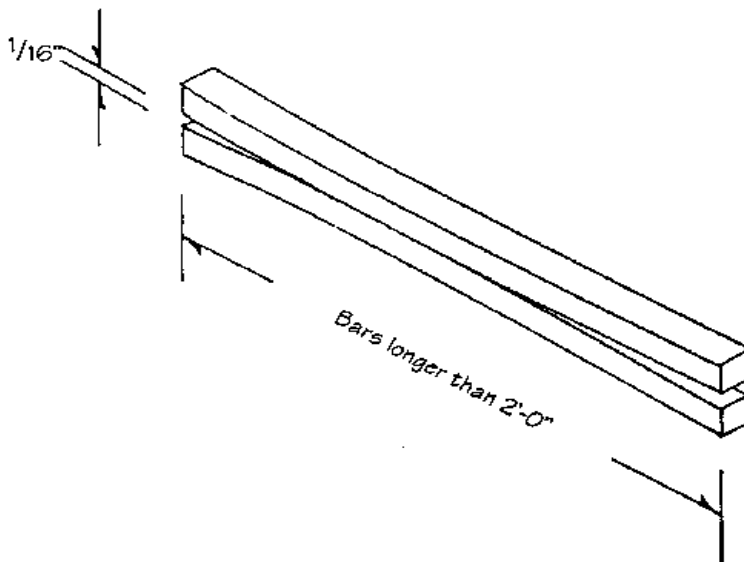


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