



In midwinter, we purchased a portable barbecue and would, by summer, need some kind of table to support it. The table was to be located in an old English garden setting. We wanted a compact, all-weather structure that could be permanently affixed just off the edge of a patio, blend into the surroundings, complement a nearby picnic table, conceal a 20 lb LP gas container, and outlast a long succession of barbecue grills.

Our table design was completed by early spring. Recently retired Gougeon technical advisor, Brian Knight, agreed to build it as an example of high-quality, all weather construction using treated lumber and WEST SYSTEM® epoxy. —Grant Urband

Building a barbecue grill table



By Brian Knight

Selecting wood

The wood selected for this project was pressure treated 4"×4", 2"×4", 5/4"×6", and 1/2" Medium Density Overlay (MDO) plywood. The solid wood was Copper Azol treated lumber—one of the lumber treatments approved as a replacement for CCA which was banned recently. MDO plywood has a phenolic paper applied to both surfaces of fir plywood. It is used for surfaces that will be painted, such as signs. The phenolic covering provides a nice, flat, stable surface for paint. Epoxy adheres very well to the phenolic covering without any surface preparation, so glue joints are easy.

I let the treated wood dry in my heated shop for a week or so before beginning work on the project. Treated wood is usually very wet when purchased, and I wanted to get the moisture content down to a manageable level. The problem with trying to glue-up wet wood is not so much the adhesion of the glue, but the shrinkage that occurs as the wood dries. The 4"×4" lumber was left over from another

project and had been in my shop for a year of so. It was pretty dry, but it had split a little as it dried. I filled the splits with thickened epoxy and sanded each surface and rounded the edges before it was assembled to the box.

Assembling the wood flat panels

The necessary 5/4" wood pieces that would make up the flat panels of the box were cut slightly oversize and trimmed to exact size after gluing them together. I examined growth rings at the ends of each board and organized them so when the panel was glued together, the growth rings alternated—one up and the next one down, etc. This helped to keep the panel flat.

A combination of plate joining biscuits and epoxy was used to assemble the panels. All the 5/4"×6" lumber panels were glued-up using biscuits, which were located about 4" apart. To glue the biscuits in place, I used a slightly thickened mixture of WEST SYSTEM epoxy and 406 Colloidal Silica Filler. The wood biscuits don't swell when using epoxy so the

Figure 1—Alternating bar clamps and clamps at the end of the panel to keep it flat while the epoxy cures.

Figure 2—Assembling the LPG box.





Figure 3—The inside of the LPG box showing the epoxy/Colloidal Silica fillets that add additional surface area to reinforce the joints.

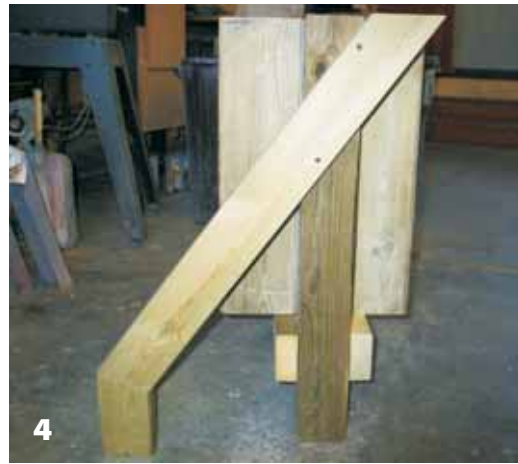


Figure 4—The almost-completed stand showing the MDO apron as well as the supporting 2x4's and 4x4's.

clamps have to remain in place longer than with water-based glue. While this slows the construction process somewhat, the completed product will hold up to exterior use much better.

When clamping these panels, I alternated the bar clamps with one on top of the panel, the next below the panel and so on (Figure 1). Also note the clamps at the end of each panel. These were used to clamp a straight scrap of wood to the bottom of each panel. This scrap held the panel flat while the epoxy cured. The scraps of wood had poly plastic stapled to them so they wouldn't stick to the bottom of the panel.

When all the flat panels were complete, I assemble them to make the box that would hold the LPG tank (Figure 2). Fillets on the inside corners added extra surface area to each joint (Figure 3). The fillet material was WEST SYSTEM 105/205 thickened with 406 Colloidal Silica to peanut butter consistency. This combination produces a high-strength fillet.

The plywood apron

The print showed an apron with sides sloped at 37° (Figure 4). To make this assembly, the wood strips making up the apron had to have a compound miter. The blade tilt was set to 34° and the miter gauge was set to an angle of 31.5°. The corner joints were tacked together using a few brads and each inside corner was filleted. ■

Brian finished the table later this spring. After I added screened vent holes and applied three coats of paint, we placed the table on duty in our garden, confident of many years of service.

The table came out true to its design and was constructed better than one could have hoped. Thanks Brian!



Figure 5—The finished parts of the table after painting, before installation.

Figure 6—The table was secured in the earth with four 30"×4"×4" METPOST™ fence supports. The back-reaching legs, held down by the clamping collars of the fence supports, produced stability for the forward extended table top.

