

# tips & techniques for Carcase Clamping



When it comes time to assemble a large project, I never seem to have enough clamps. But the truth is, you don't always need a lot. With just a few clamps, you can use the tips and techniques that follow any time you need to assemble a large project.

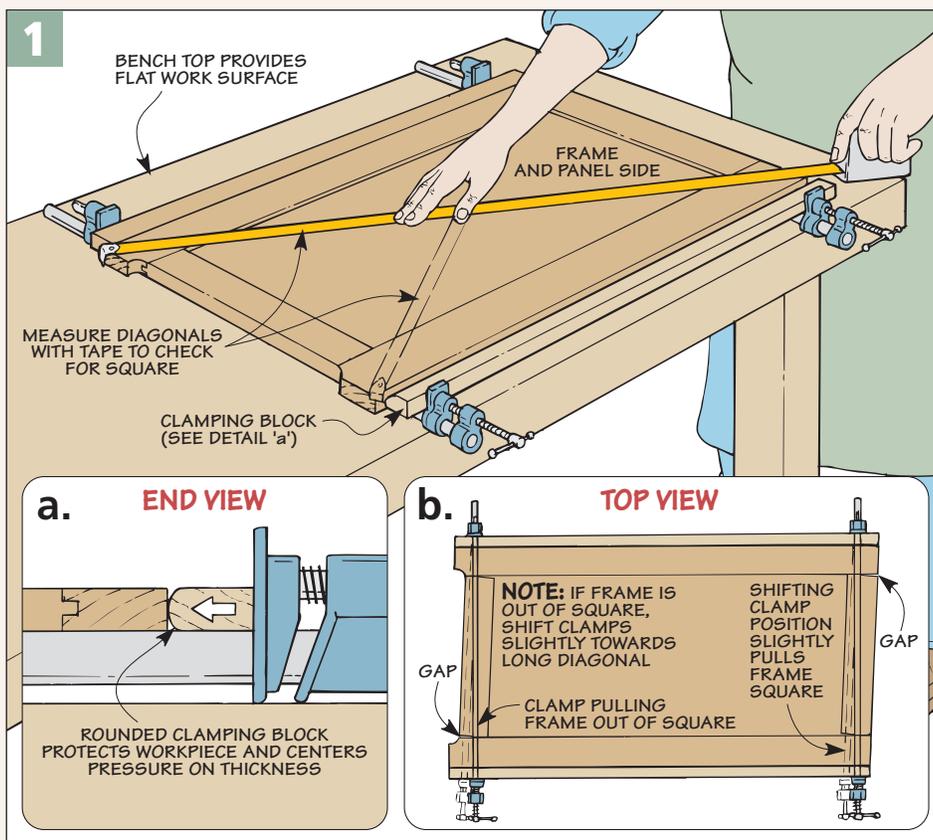
**Preparation.** Before you start rounding up your clamps, one of the first things you'll need is a nice, flat surface to work on. If the surface you start on isn't flat, you'll have to work that much harder to get your assembly flat and square.

I like to use my workbench, as you can see in Figure 1. It's a natural assembly area. But that's not always best for large or tall projects. In that case, I lay down a piece of plywood on my shop floor. (I use shims to even out any low spots in the floor.)

**Frame & Panel Assembly.** When it comes to assembling a frame and panel, you don't need a lot of clamps. As a matter of fact, two will usually do the trick. And even though clamping the frame is a simple task, it's still a good idea to spend a little time dry assembling everything to check for problems.

As you do this, it's not unusual for the stiles and rails to "pop up" a bit as you apply clamping pressure. To avoid this, I make sure the pressure is centered on the *thickness* of the workpiece by using rounded clamping blocks the same thickness as the workpieces (Figures 1 and 1a).

Another area of concern with a frame and panel assembly is ensuring that it ends up square. Checking for this is easy — just compare the two diagonal, corner-to-corner measurements (Figure 1). If these dimensions are the same, the assembly is square. But it's not unusual to be a little off. If that's the



case, don't worry. All it takes to square things up is to shift the clamping pressure (Figure 1b).

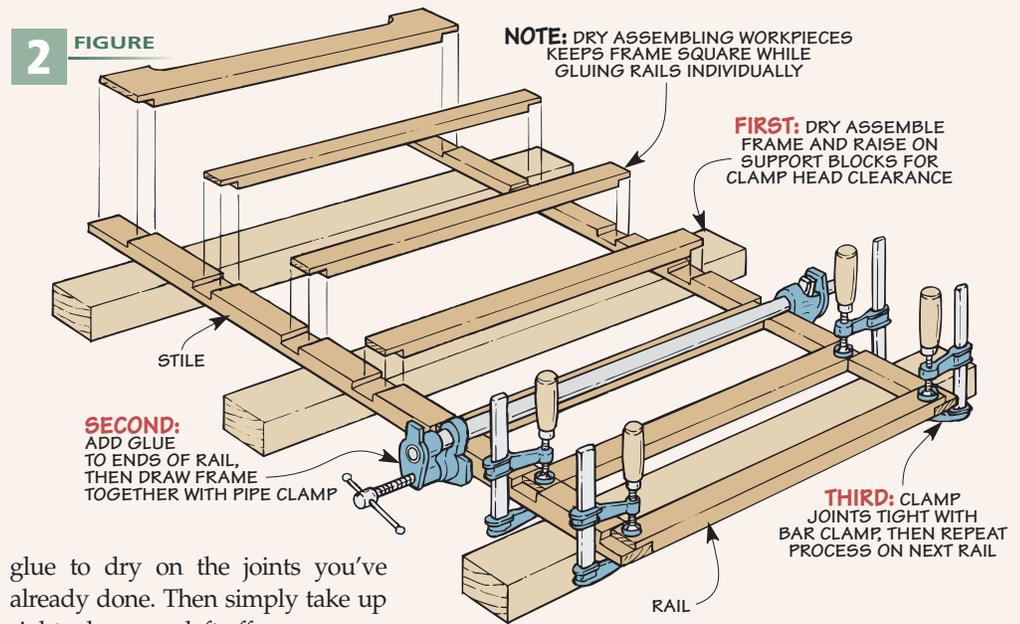
**Face Frames.** Another large assembly that's similar to a frame and panel is a face frame. But instead of a panel, there's usually a few more rails (and therefore joints) making up the assembly.

Trying to glue an entire assembly at once often results in running out of both clamps and time. To take the "pressure" off, I only glue *one* rail at a time.

The key to doing this is to dry assemble the frame first, like you see in Figure 2. Besides keeping everything aligned and square, it allows you to remove one rail at a time.

Removing a single rail makes it easy to apply glue to the ends and then slip the rail back in place. Once you've done that, place a pipe clamp across the rail and pull the joint tight. Finally, add a clamp across each half-lap joint to lock the rail in place.

At this point, it's a simple matter to remove the pipe clamp and repeat this process, "leapfrogging" your way down the frame. And don't worry if you run out of clamps. Just stop and wait for the



glue to dry on the joints you've already done. Then simply take up right where you left off.

**Bringing It All Together.** Up to this point, completing all these smaller assemblies wasn't a problem. Now the challenge is joining all these smaller assemblies together into a single unit.

As I mentioned before, I find it easier to assemble large (or tall) projects on the floor. Besides not having to reach so high above my workbench, I don't have to worry about moving an awkward, heavy assembly off my workbench later on.

One thing I struggle with is trying to hold a number of pieces in position while I work. To give myself a "third hand," I use a handscrew as a wide base to hold the pieces in position (Figure 3).

When you're only assembling a couple parts (like the single side and frame in Figure 3), it's not unusual for the parts to "pinch" together and end up out of square.

To solve this problem, I use a "framing" square made from a scrap of plywood (Figure 3). Once it's clamped in place, it squares up the side and face frame *and* holds them both in position.

At this point, all that's left is to start gluing up the assembly. The idea here is to apply glue to the joint (see margin for a handy tip) and then pull the joint tight with as few clamps as possible (Figure 3).

Here again, I "leapfrog" from the bottom of the assembly to the top. Starting with one pipe clamp, I bring the two parts together. Then I use a bar clamp across the two pieces to pull them together tightly.

To clamp the rest of the assembly, just move the pipe clamp up a bit and repeat the process. (You can do this for the other side once the glue dries.)

As you can see, you don't need a shop filled with clamps to assemble a large project. With the tips and techniques shown here, success is often just a handful of clamps away. 🛠️



▲ **Cleaner Glue-ups.** You'll have less glue squeeze out on the inside of the cabinet if you only spread the glue to the corner of the rabbet.

