fundamentals

Never lose track of parts again

THERE IS NO MARKING SYSTEM MORE EFFICIENT THAN THE TRIANGLE

BY MICHAEL PEKOVICH

hey say that good joinery starts with good layout. I'd add that good joinery and good layout require clear orientation marks. If you've ever spent half a day dovetailing a drawer only to cut the last set of pins in the wrong direction, you know how important it is to mark your parts clearly and refer to the marks often. As your projects become more ambitious, and doors and drawers multiply, so do the opportunities for mix-ups. Without a system for quickly identifying and orienting all those otherwise indistinguishable parts, you're inviting mistakes.

Power of the pyramid

Drawing one triangle across multiple parts tells you how each one should be oriented for joinery and glue-up.

MAKING SENSE OF CASEWORK

CASE PARTS Sides and shelves get marks on the front edges with the triangles pointing up.



BACK PANEL Mark the front face with a triangle pointing up.



Not just for tabletops. You've probably used a carpenter's triangle to keep track of the boards in a tabletop glue-up. But if that's all you're using it for, you're leaving a great tool in your toolbox.



Draw a triangle across the top edges of the sides, and one across the back and front, both pointing forward.



DOOR Draw one triangle across the rails and one across the stiles, both pointing up.



A simple case piece. Even if the piece has just one door and drawer, using consistent, unambiguous orientation marks will help you build

it faster, with fewer mistakes.

Drawings: John Tetreault



To avoid the pain and suffering of miscut joinery, I use the carpenter's triangle, a deceptively simple mark that magically unravels the DNA of every part I'm working with, and heads off mistakes before they happen.

Unlike more complicated marking systems that use matching numbers, letters, or hieroglyphics, the simple triangle gives you all the information you need for every part-which face and edge go out and up, and which joints go where. Whether you're doing a simple tabletop glue-up or making a complicated case piece with lots of parts, using the triangle is the easiest, most intuitive way to keep track of all of them.

How triangles help

Every part gets marked with a partial or complete triangle on its face or top edge, with points facing forward or up. For a frame-and-panel door, for example,

Draw a single triangle before they're ripped.



Right triangles make sense of multiples

For doubled doors and drawers, or table legs, a single triangle isn't enough. If using one triangle would create confusion, a pair of right triangles helps distinguish left- from right-handed parts.



MARK LEGS IN PAIRS

Avoid confusion by marking the left and right legs with one right triangle on each pair.



Using one triangle would leave just a single mark on the two front legs, making it easy to confuse them with each other.

MULTIPLE DOORS, DRAWERS



A more complex case piece. A second door and drawer mean more potential for mix-ups. Right triangles clear up the confusion.

Gang up parts for marking



Points up. For a frame-and-panel door, start by laying out the parts as they will be assembled. Then, gang up the rails and draw a triangle pointing up (1). Next, pair up the stiles and do the same (2). Finally, mark the panel (3). Now each part has a unique mark.





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Construction: Here's where the marks pay off

MACHINE WORK

For frame-and-panel doors like this one, referencing workpieces consistently at every machine means the joints on the door's face will come together flush, regardless of any slight variations in the thickness of the parts.



Cut grooves with marks against the fence. When cutting panel grooves at the tablesaw, the half-triangle on every rail and stile indicates the front face, which goes against the fence, and the inside edge, which gets the groove.





Same for mortises. Place the triangles against the fence and set up the mortiser so the chisel falls in the groove.

you'd start by ganging up the stiles. Mark one triangle, pointing up, across the front face of both pieces. Then gang up the rails and mark them with another triangle that points up. Finally, mark the panel. Each part now has a mark to identify its placement on the door, its front face, and its vertical orientation.

Instead of their faces, drawers get triangles across their top edges, pointing forward. Draw one across the tops of the sides, then another across the tops of the front and back. Treat case assemblies and table aprons the same way, with triangles on the front and top edges.

Table legs get a different approach. If you mark one triangle across the top of all four, the front two legs will get just a slash each, making it easy to confuse them. Instead, mark the tops in pairs, using right triangles to distinguish the left legs from the right. This way, you have enough information to taper the legs and cut the joinery with confidence. Right triangles also come in handy anytime you have two of the same elements in a piece, like drawers or doors. If you have more than two, number them in the most straightforward, systematic way possible.

For quality joinery, eyes on your marks

A few seconds spent marking triangles really pays off when you lay out and cut your joinery.

No matter how patient you are setting up your machines and dimensioning stock, no two pieces of wood will ever be identical. The dimensions of any piece can vary slightly over time. By



For tenons, triangles on the table. When cutting tenons with a dado set, make the critical front cheek cuts first on both rails. With the front face down and the blade height even with the groove, success is guaranteed.



HANDWORK

Keeping track of your parts' orientation is just as critical for handwork, where you can waste a lot of time and effort cutting joints in the wrong place.



Mind your pins and tails. Before you scribe the pins, a quick peek at the marks confirms that both workpieces are oriented correctly—and you can attack the pins fearlessly.



referencing off your triangles you can make sure that at least one face (usually the front) of each assembly ends up flat and flush.

Here's how it works. To get all the joints of a frame-and-panel door flush on the front face, orient the show faces of the rails and stiles against the rip fence when you cut the panel groove, and orient those same faces against the fence of the mortiser when you cut the mortises. This ensures that the distance from the show face to the panel groove and from the show face to the mortise are the same. Any variations in the thickness of the parts will be apparent on the back of the door, not the front. The same goes for cutting tenons. Make the front-facing cheek cuts first, at that same distance from the face of the rail. Then, if you need to make any adjustments for fit, make them on the back-facing cheek.

As you move from machine to machine, it can be easy to flip-flop a piece without realizing it. But keep an eye on the triangles, and they'll let you know if you're about to cut a part the wrong way.

When hand-cutting joinery—for example, dovetailing a drawer—triangles help you keep faces and edges straight. This is especially helpful when you're scribing the pins on the drawer front and back.

It's important to locate and orient your parts correctly during glue-ups, too. So before you plane or sand off the triangles, be sure to re-mark them on the joinery where they'll be out of the way. \Box





Replace before you erase. When you prepare parts for assembly, you'll eventually plane or sand away the triangles. Since you'll want to refer to them during assembly and glue-up, re-mark each part somewhere inconspicuous. On the rails, I put new marks on the tenon cheeks, and on the stiles, in the panel groove.

