

# WOODWORKER'S WJOURNAL

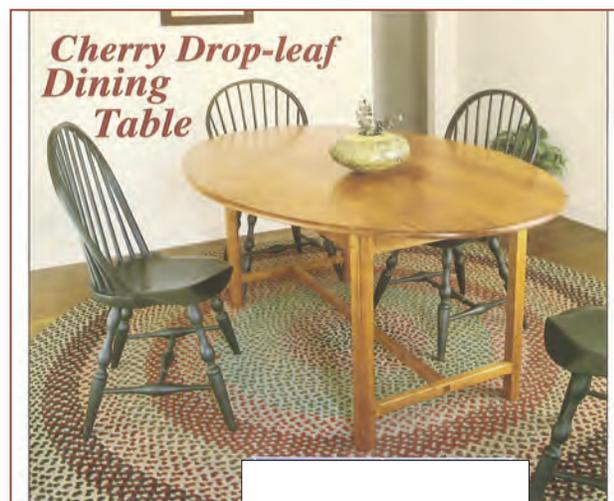
"America's leading woodworking authority"™

## Classic Project

In this plan you'll find:

- Step-by-step construction instruction.
- A complete bill of materials.
- Construction drawings and related photos.
- Tips to help you complete the project and become a better woodworker.

## Cherry Drop-leaf Dining Table



**A**sks woodworkers what their first serious project was, and many will tell you that it was a table. It's not that tables are particularly inspiring. It's just that as projects go, they offer a lot of bang for the buck.

This classic oval double drop-leaf cherry dining table, by Massachusetts furniture maker Gene Cosloy, is an impressive piece. Its size notwithstanding, the table is a fairly easy build. We've included simple how-to instructions for laying out the oval top (see *Making The Oval*, page 47), and a source for a matched pair of router bits for cutting a flawless rule joint (see *Bill of Materials*).

Start by preparing your stock. You'll need 1/2 in. thick material for the top (A), drop leaves (B) and aprons (F, G), 1 1/2 in. square stock for the legs (C), and 1 1/2

in. thick stock for the stretchers (D, E). The leaf supports (H) and cleats (I) can be cut from 3/4 in. thick stock.

You'll need to glue up several pieces of narrower stock to yield the 25 1/4 in. wide top. You may be tempted to use single boards for the two leaves, but they'll be less likely to cup if they are glued up from two narrower pieces. Cut the top and leaves to the sizes listed in the *Bill of Materials*, but don't lay out and cut the oval shape now. That's not done until after the rule joint has been cut. Although you can use anything from the table saw molding head to a pair of old hand planes to make the rule joint, the easiest method is with a matched pair of ball-bearing guided router bits. Note that the cove in the leaves is cut with the bottom side of the leaves facing up. Make your initial cove and roundover

cuts with the bits set a little shy of the final 1/8 in. shoulder depth. Then reset the bit depth to yield the 1/8 in. shoulder and make a final pass. This last light cut will clean up any burn marks or roughness from the first cut.

Round the bottom edge of the roundover slightly, as shown in the *Rule Joint Detail*, then mortise for the solid brass table hinges (J). To properly locate the hinge mortises, the top and leaves should be laid out upside down and bolted up tight on a flat surface. Note how the hinge mortise is positioned so the knuckle pivot point is just a hair to the drop-leaf side of the roundover shoulder. This allowance is critical, since it prevents the rule joint from binding as the leaves are raised or lowered. Mount the hinges and test the leaf action.

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# Cherry Drop-leaf Dining Table



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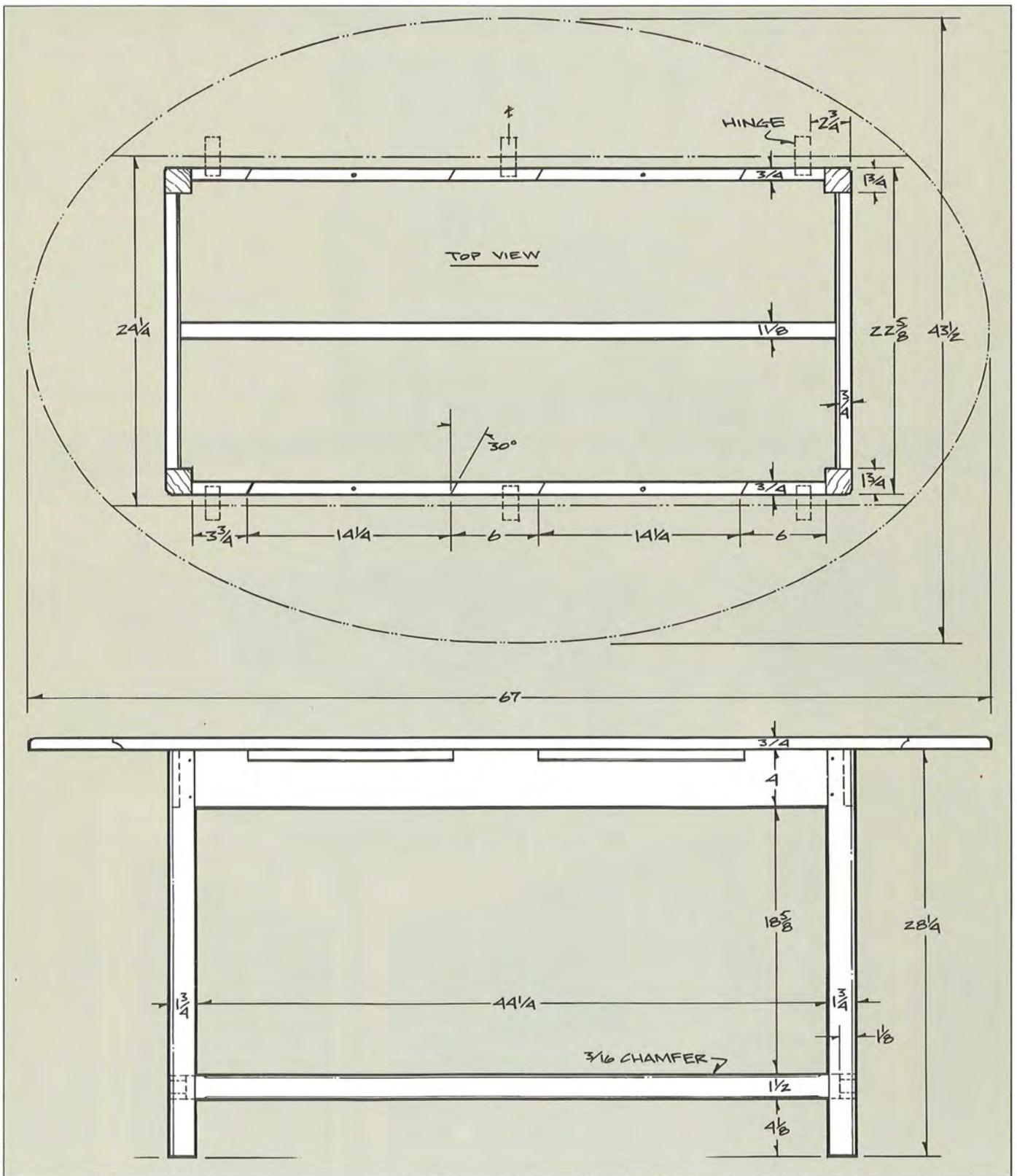
Start by preparing your stock. You'll need  $\frac{3}{4}$  in. thick material for the top (A), drop leaves (B) and aprons (F, G),  $1\frac{3}{4}$  in. square stock for the legs (C), and  $1\frac{1}{8}$

in. thick stock for the stretchers (D, E). The leaf supports (H) and cleats (I) can be cut from  $\frac{3}{4}$  in. thick stock.

You'll need to glue up several pieces of narrower stock to yield the  $25\frac{1}{4}$  in. wide top. You may be tempted to use single boards for the two leaves, but they'll be less likely to cup if they are glued up from two narrower pieces. Cut the top and leaves to the sizes listed in the Bill of Materials, but don't lay out and cut the oval shape now. That's not done until after the rule joint has been cut. Although you can use anything from the table saw molding head to a pair of old hand planes to make the rule joint, the easiest method is with a matched pair of ball-bearing guided router bits. Note that the cove in the leaves is cut with the bottom side of the leaves facing up. Make your initial cove and roundover

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Round the bottom edge of the roundover slightly, as shown in the Rule Joint Detail, then mortise for the solid brass table hinges (J). To properly locate the hinge mortises, the top and leaves should be laid out upside down and butted up tight on a flat surface. Note how the hinge mortise is positioned so the knuckle pivot point is just a hair to the drop leaf side of the roundover shoulder. This allowance is critical, since it prevents the rule joint from binding as the leaves are raised or lowered. Mount the hinges and test the leaf action.



If the action is smooth, now lay out the oval shape (see Making The Oval) and cut the edge. The easiest way to get a good, even edge all around is to use the oval layout instructions to make a hardboard template that's just a little larger than one quarter of the oval. Use the template to scribe the oval profile all around, then use a jigsaw to cut just

outside of the scribed line. Note that you'll need to scribe a pair of perpendicular center lines on the top, and index lines on the template, so the template can be properly located. Next, using the center and index lines, locate the template over one quarter section at a time, and use the router and a pattern cutting bit (see page 5 ) to get a perfectly

smooth oval. The slightly oversize quarter-section template allows for a smooth transition as you go from one quadrant to the next. With the oval complete, mount a ball-bearing guided 3/8 in. radius roundover bit in the router and round the top edge of the oval.

With the top done, now go to work on the table frame. The legs are square, with



**Bill of Materials**  
(all dimensions actual)

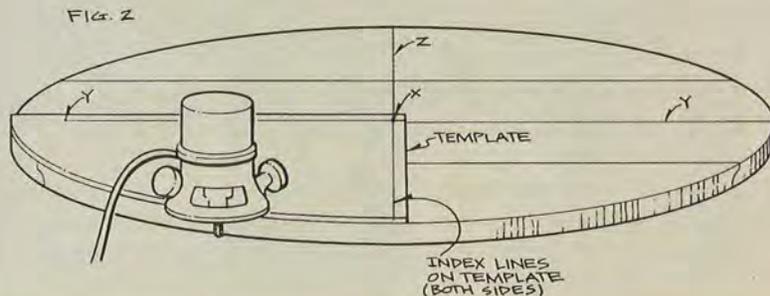
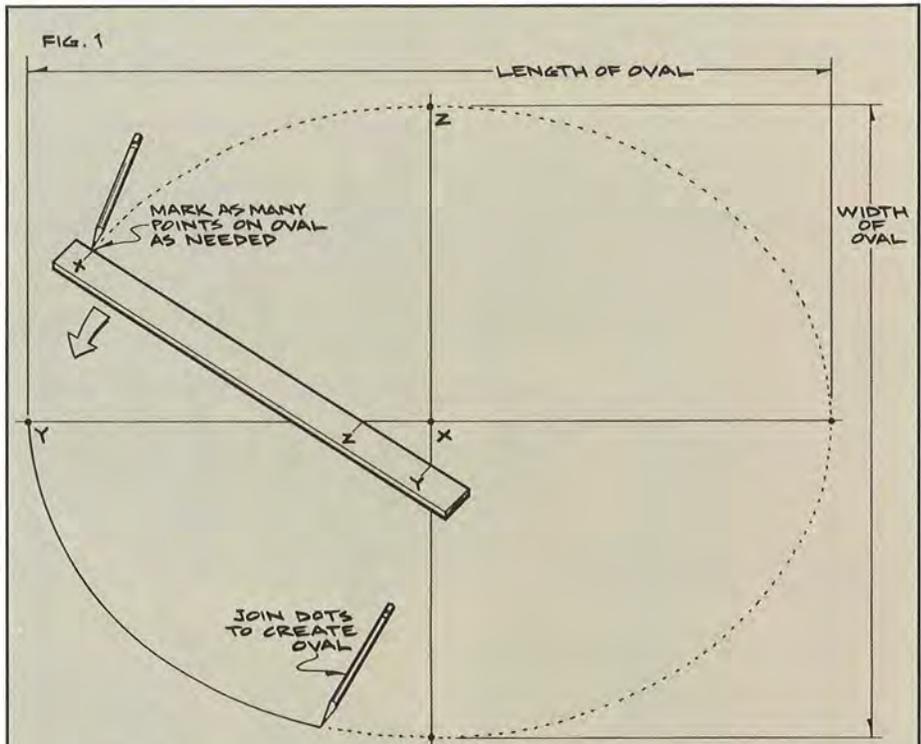
Part	Description	Size	No. Req'd.
A	Top	3/4 x 25 1/4 x 67	1
B	Drop leaf	3/4 x 10 x 57*	2
C	Leg	1 3/4 x 1 3/4 x 28 1/4	4
D	End Stretcher	1 1/8 x 1 1/2 x 20 5/8**	2
E	Center Stretcher	1 1/8 x 1 1/2 x 47 3/4**	1
F	End Apron	3/4 x 4 x 20 5/8**	2
G	Side Apron	3/4 x 4 x 45 3/4**	2
H	Leaf Support	1 1/16 x 3/4 x 14 11/16	4
I	Cleat	1/2 x 1 3/4 x 1 1/2	8
J	Table Hinge	1 1/2 x 2 7/8	3 pair

\* Width and length of drop leaves is before oval top is shaped.  
\*\* Length includes tenons.

a 1/4 in. radius bead on the outside corner, and a 24 in. long tapered chamfer on the inside corner (see detail). Pegged mortises and tenons (see Joinery Details) are used to join the stretchers and aprons to the legs. By slightly offsetting the peg holes through the tenons toward the shoulders, the pegs will help draw the mortise and tenon joints up tight. This technique is especially useful with glue-ups like this, where you may not have clamps long enough to stretch the length of the table. Through-tenons, secured with pegs through the bottom, join the center stretcher to the end stretchers. A 3/16 in. chamfer softens the stretcher corners.

Don't forget to cut a 1/4 in. by 1/4 in. groove on the inside face of the aprons, 1/4 in. from the top edge, to fit the tongue on the cleats that are used to anchor the top. Note that for strength, the cleats are cut so the tongue is established on the end grain. Also cut the leaf supports. The 1 1/16 in. thickness of the leaf supports allows for a washer between the supports and the bottom of the corresponding apron notches.

Final sand and finish the table with several coats of tung oil. A beeswax furniture polish will lend the wood a fine luster, and the top a modicum of protection.



## Making The Oval

Here's a simple way to make any size oval. Draw two perpendicular intersecting lines, the horizontal line representing the length of the oval, the vertical line the width of the oval. Label the intersecting center point X, and the ends of the two lines as Y and Z. Now cut a stick a little longer than one-half the length of the oval. Mark a point X near one end of the stick, a second point Y (the distance XY being one-half the length of the oval) and a third point Z (the distance XZ being one-half the width of the oval).

By rotating the stick, all the while indexing the points Y and Z on the stick with the corresponding horizontal line Y and vertical line Z, you can use point X on the stick to mark a series of dots that when connected will form the oval (Fig. 1). Although the entire oval can be laid out this way, it's much quicker to just lay out one quadrant of the oval on hardboard, make a template, and then use the template to mark and cut the entire oval. Your template should slightly overlap the ends of the quadrant, so there's ample bearing surface for a smooth transition from one quadrant to the other as you move the template. Index lines on the template will help align it properly with the intersecting perpendicular lines on the table top (Fig. 2). Use doublestick tape to hold the template in position on the top as you flush-trim the edge with the router and a pattern cutting bit.