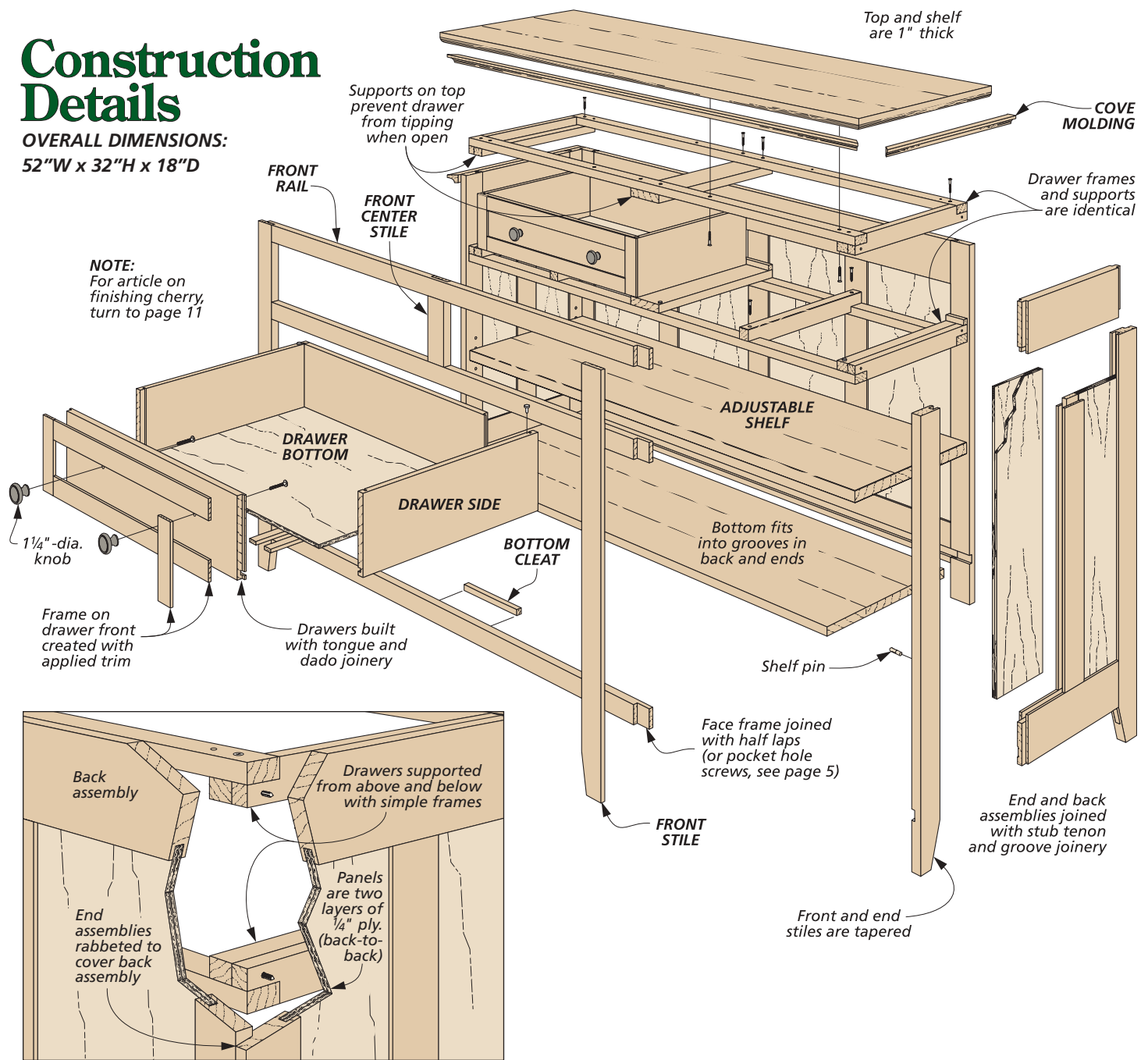# CHERRY CONSOLE

*Basic frame and panel assemblies, a fast face frame,
and easy-to-build drawers — a perfect opportunity
to try a variety of woodworking techniques.*
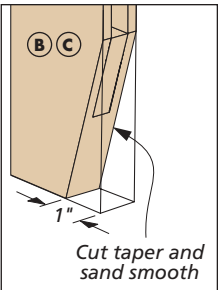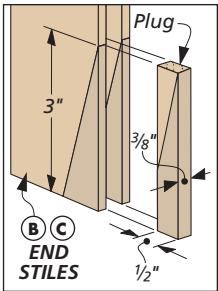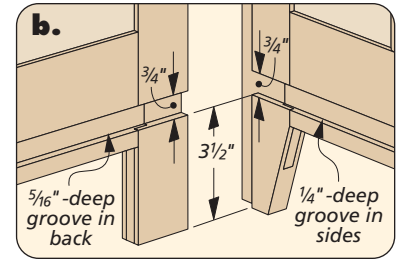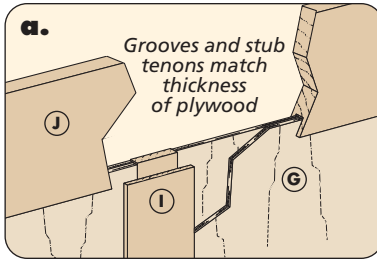
Construction Details

OVERALL DIMENSIONS:
52"W x 32"H x 18"D

Top and shelf are 1" thick

COVE MOLDING

Supports on top prevent drawer from tipping when open

FRONT RAIL

FRONT CENTER STILE

Drawer frames and supports are identical

NOTE:
For article on finishing cherry, turn to page 11

ADJUSTABLE SHELF

DRAWER BOTTOM

DRAWER SIDE

BOTTOM CLEAT

Bottom fits into grooves in back and ends

1¼"-dia. knob

Frame on drawer front created with applied trim

Drawers built with tongue and dado joinery

Shelf pin

Face frame joined with half laps (or pocket hole screws, see page 5)

FRONT STILE

End and back assemblies joined with stub tenon and groove joinery

Front and end stiles are tapered

Back assembly

Drawers supported from above and below with simple frames

End assemblies rabbeted to cover back assembly

Panels are two layers of ¼" ply. (back-to-back)

MATERIALS & SUPPLIES

A End Panels (8)	¼ ply. - 5⁹⁄₁₆ x 21¹¹⁄₁₆	
B Front End Stiles (2)	¾ x 2⅛ - 31	
C Back End Stiles (2)	¾ x 2½ - 31	
D Center End Stiles (2)	¾ x 2½ - 21¾	
E Upper End Rails (2)	¾ x 3¾ - 12¾	
F Lower End Rails (2)	¾ x 3½ - 12¾	
G Back Panels (8)	¼ ply. - 10³⁄₁₆ x 21¹¹⁄₁₆	
H Back Stiles (2)	¾ x 2 - 31	
I Back Center Stiles (3)	¾ x 2½ - 21¾	
J Upper Back Rail (1)	¾ x 3¾ - 45½	
K Lower Back Rail (1)	¾ x 3½ - 45½	
L Front Stiles (2)	¾ x 2 - 31	
M Front Rails (3)	¾ x 1½ - 48	

N Front Center Stile (1)	¾ x 2 - 8⅜
O Bottom (1)	¾ x 15⁷⁄₁₆ - 48½
P Bottom Cleat (1)	½ x ½ - 6
Q Frame Cleats (4)	¾ x 1½ - 15¼
R Frame Stretchers (4)	¾ x 1½ - 48
S Outer Dwr. Sprts. (4)	¾ x 1⅛ - 15¼
T Inner Dwr. Sprts. (2)	¾ x 3½ - 15¼
U Dwr. Fronts/Backs (4)	½ x 5¼ - 21⅛
V Dwr. Sides (4)	½ x 5¼ - 15
W Dwr. Bottoms (2)	¼ ply. - 14½ x 21⅛
X Dwr. Trim	³⁄₁₆ x 1½ - 100 rgh.
Y Dwr. Guides (4)	¼ x ¾ - 14
Z Dwr. Runners (2)	1 x 1½ - 15¼

AA Dwr. Stops (4)	½ x ¹¹⁄₁₆ - 8 rgh.
BB Adjustable Shelf (1)	1 x 15⅛ - 47⅞
CC Top (1)	1 x 18 - 52
DD Cove Molding	¾ x ¾ - 90 rgh.

- (24) #8 x 1¼" Fh Woodscrews
- (8) #8 x 1½" Fh Woodscrews
- (3) #8 x 2" Fh Woodscrews
- (8) Plastic Stem Bumpers
- (4) #8 x 1½" Rh Woodscrews
- (4) #8 Washers
- (4) ¼" Spoon-style Shelf Supports
- (4) 1¼" x 1" "Ring" Knobs (Bronze)

1

UPPER BACK RAIL (J)
45½"
3¾"
2"
2½"
12¾"
(E)
3¾"
2½"

BACK STILE (H)
BACK CENTER STILES (I)
2½"
2⅛"

(E)
UPPER END RAIL
21¾"
21¹¹⁄₁₆"
31"
(A)
21¾"
(G)
21¹¹⁄₁₆"
(B)
FRONT END STILE

(C)
BACK END STILE

(A) (A)

31"

(D)
CENTER END STILE
(D)
3½"
10³⁄₁₆"
(H)
BACK STILE
(C)
BACK END STILE
(F)
LOWER END RAIL
(A)
5⁹⁄₁₆"
END PANELS
(Two layers of ¼" plywood)

LOWER END RAIL
(F)

(K)
LOWER BACK RAIL
Groove for bottom cut after assembly
3½"
(G) BACK PANELS

(B)
FRONT END STILE

NOTE: All frame pieces are ¾" thick

a.
Grooves and stub tenons match thickness of plywood
(J)
(I)
(G)

b.
¾"
¾"
3½"
⁵⁄₁₆"-deep groove in back
¼"-deep groove in sides

Plug
3"
³⁄₈"
(B) (C)
END STILES
½"

(B) (C)
1"
Cut taper and sand smooth

▲ *To hide the groove at the bottom of the end stiles, it's best to add a short plug before you cut the taper.*

End & Back Assemblies

Before getting started, it's always a good idea to familiarize yourself with how a project goes together. This console isn't complicated at all. It starts out with three frame and panel assemblies that join to form the ends and back of the case. Later, you'll add a face frame and a bottom panel, but there's nothing tricky about this.

As I mentioned, the back and end assemblies are built first. This is mostly just cutting stub tenons and grooves, but instead of cutting the frame pieces to size first, it's best to start with the panels.

PANELS. As you can see in Fig. 1, the *panels (A, G)* are ¼" plywood so they won't expand and contract (and so you won't have to edge glue a lot of panels). The problem is most ¼" plywood only has one good side, and with the open design, I wanted the panels to look good outside and in. So for each panel, I glued *two* pieces of ¼" plywood back-to-back. The box on the opposite page will walk you through how you can do this quickly and efficiently.

STILES & RAILS. The *stiles (B, C, H)*, *center stiles (D, I)*, and *upper (E, J)* and *lower rails (F, K)* are all cut to finished size from ¾"-thick stock, as you can see in Fig. 1.
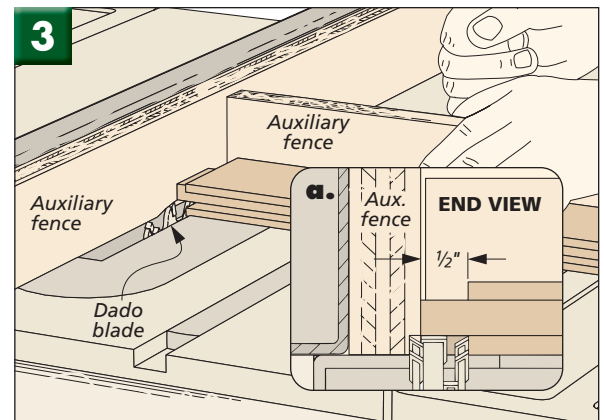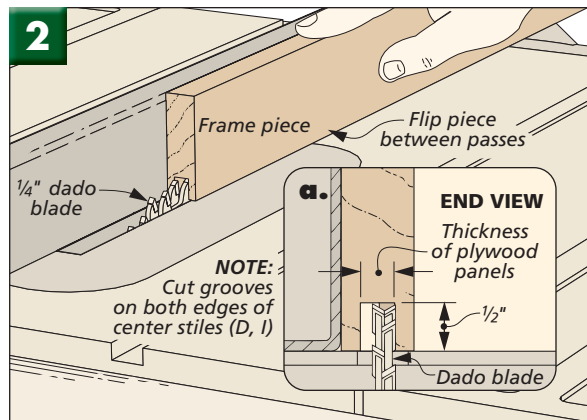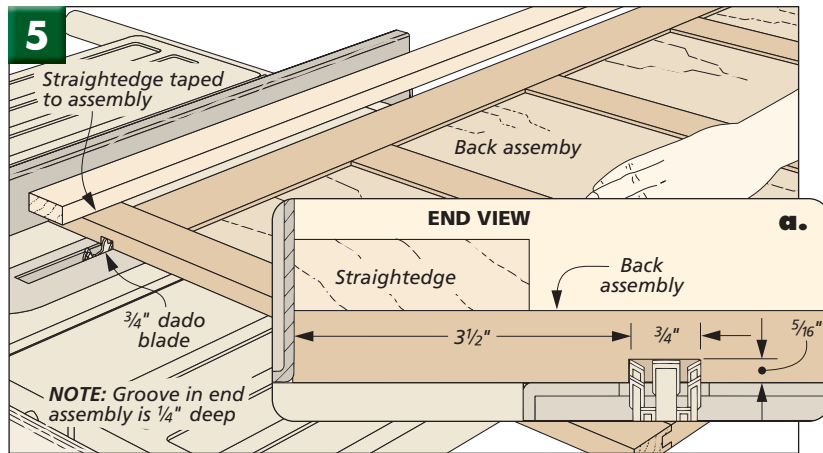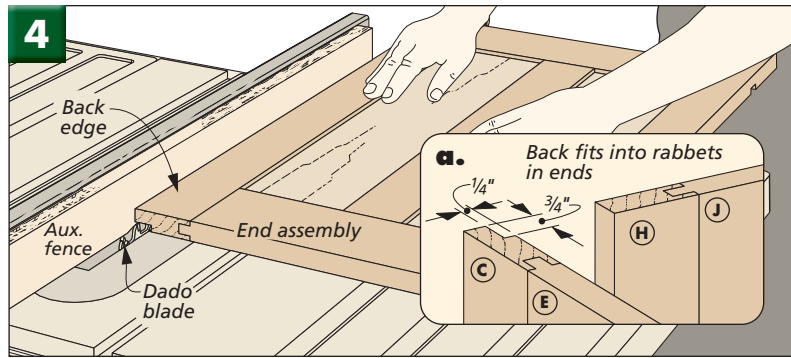
The first thing to do is cut the grooves on all the pieces, as shown in Fig. 2. They're sized to hold the doubled-layered panels, so I used a ¼"-wide dado blade setup and cen-tered the grooves by flipping the pieces end-for-end between passes. You'll want to sneak up on the position of the fence so the plywood just fits the grooves. And keep in mind that the grooves are cut on *both* edges of the center stiles. Note: For more on stub tenon and groove joinery, see the box in the left margin.

Next, the stub tenons can be cut on the ends of the rails and center stiles, as in Fig. 3. Like the grooves, it's quicker to use a dado blade (this time with an auxiliary fence). And again, you want to sneak up on the cut so the tenons fit the grooves.

Before these pieces can be assembled, there's a little work to do on the bottom of the end stiles.

2
Frame piece
Flip piece between passes
¼" dado blade

a.
END VIEW
Thickness of plywood panels
NOTE: Cut grooves on both edges of center stiles (D, I)
½"
Dado blade

3
Auxiliary fence
Auxiliary fence
Dado blade

a.
Aux. fence
END VIEW
½"

First, I cut some plugs to glue into the *grooves*, as shown in the upper margin drawing on the opposite page. Then the end of the stile can be tapered, as in the lower margin drawing. (I did this with a band saw, but you can also use a hand saw.)

Once the tapers have been cut and sanded smooth, the ends can be assembled. This is pretty straightforward. Just make sure the frame stays flat and the pieces are flush across the top. When both ends are assembled, you can go ahead and put the back together.

There are still a couple of steps to complete before you can move on to the face frame in front. As you can see in Fig. 4, the first thing I did was cut a simple rabbet on the *back* stile of the end assemblies. This $\frac{1}{4}$"-deep rabbet is sized to wrap around and cover the edge of the back assembly, as shown in Fig. 4a.

At this point, the next thing to do is to cut a groove near the bottom of each assembly. These will hold the bottom panel later, so it's important they all line up (Fig. 1b). But note that the grooves aren't the same depth. The ones on the ends are $\frac{1}{4}$" deep, but the groove on the back is a little deeper ($\frac{5}{16}$") so the bottom panel can expand into the groove.

4
Back edge
Aux. fence
End assembly
Dado blade
a. Back fits into rabbets in ends
$\frac{1}{4}$" $\frac{3}{4}$"
C E H J

5
Straightedge taped to assembly
Back assemby
$\frac{3}{4}$" dado blade
NOTE: Groove in end assembly is $\frac{1}{4}$" deep
a. END VIEW
Straightedge
Back assembly
$3\frac{1}{2}$" $\frac{3}{4}$" $\frac{5}{16}$"

I figured the table saw is the best way to keep the grooves aligned, but with the "feet" on the bottom of the assemblies, you can't run the bottom edge against the rip fence.
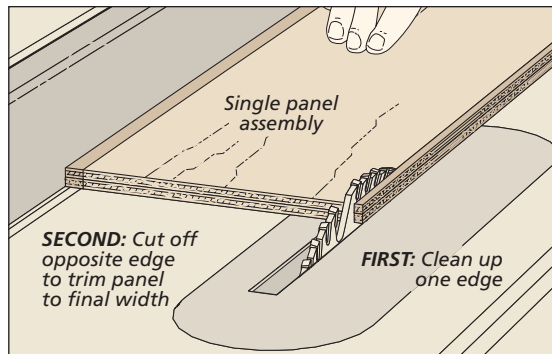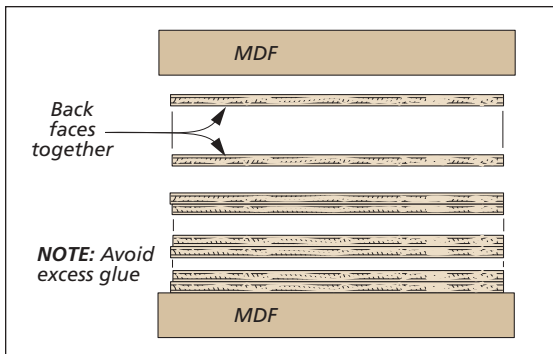
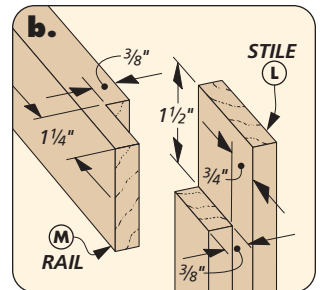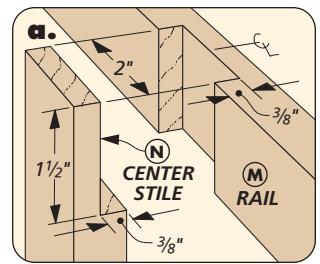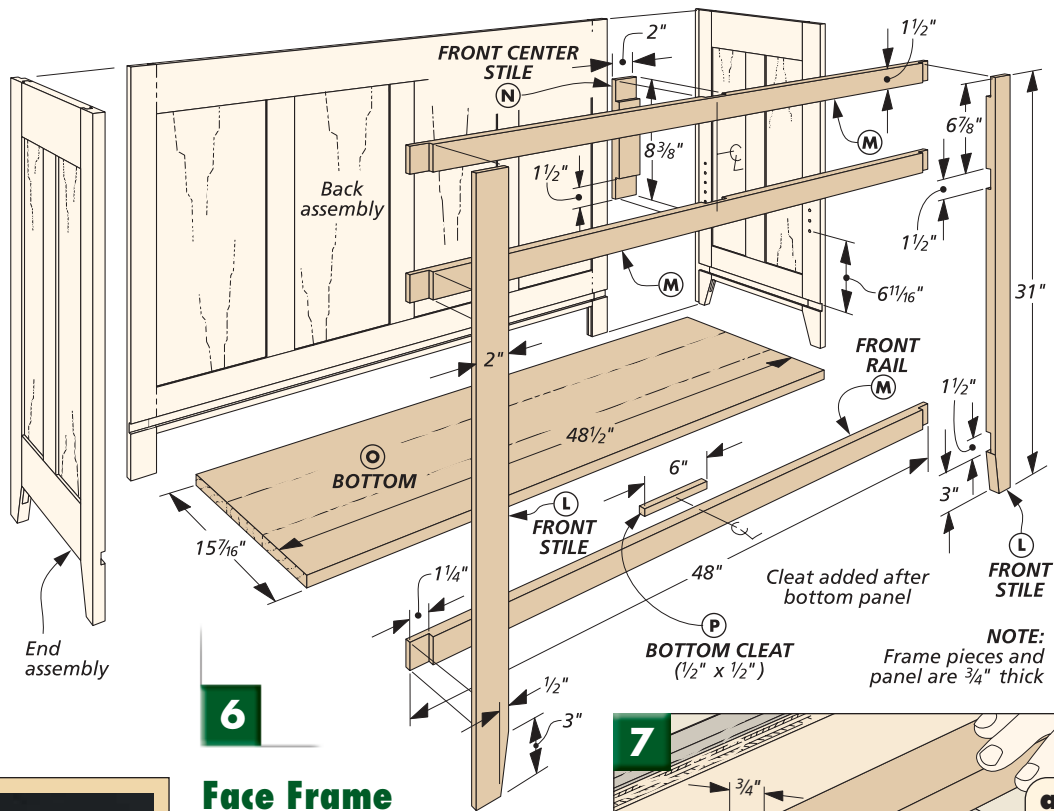Fortunately, there's an easy way to get around this. Simply attach a scrap straightedge to the bottom of each assembly, using carpet tape to hold it in place, as you can see in Fig. 5. The thing you'll want to concentrate on is keeping pressure down on the assembly so the groove is a consistent depth.

QUICK PANEL GLUE-UPS

This console requires a lot of $\frac{1}{4}$" plywood panels that are glued up back-to-back. Rather than glue each pair separately, I glued up each set of panels at the same time, as you can see in the left drawing below. And to help distribute the clamping pressure evenly, I sandwiched the panels between pieces of $\frac{3}{4}$" MDF.

When gluing the pairs together, you'll want to avoid using too much glue. (You don't want a lot of squeezeout.) And try to keep the edges of the panels lined up as much as possible. It'll make it easier when you trim them to final size, as in the right drawing. (I trimmed each panel separately.)

MDF
Back faces together
NOTE: Avoid excess glue
MDF

Single panel assembly
SECOND: Cut off opposite edge to trim panel to final width
FIRST: Clean up one edge

6

Back
assembly

End
assembly

FRONT CENTER
STILE
Ⓝ

2"

1½"

1½"

8⅜"

Ⓜ

6⅞"

6¹¹⁄₁₆"

Ⓜ

31"

Ⓜ

2"

FRONT
RAIL
Ⓜ

1½"

3"

FRONT
STILE

Ⓛ

NOTE:
Frame pieces and
panel are ¾" thick

BOTTOM
Ⓞ

48½"

6"

FRONT
STILE
Ⓛ

15⁷⁄₁₆"

48"

Cleat added after
bottom panel

BOTTOM CLEAT
(½" x ½")
Ⓟ

1¼"

½"

3"

a.

2"

CENTER
STILE
Ⓝ

RAIL
Ⓜ

1½"

⅜"

⅜"

b.

1¼"

⅜"

1½"

STILE
Ⓛ

¾"

¾"

RAIL
Ⓜ

⅜"

⅜"

7

Aux.
fence

¾"

Dado
blade

⅜"

FRONT
STILE
Ⓛ

NOTE: Width of
rabbet should match
thickness of ends

a.

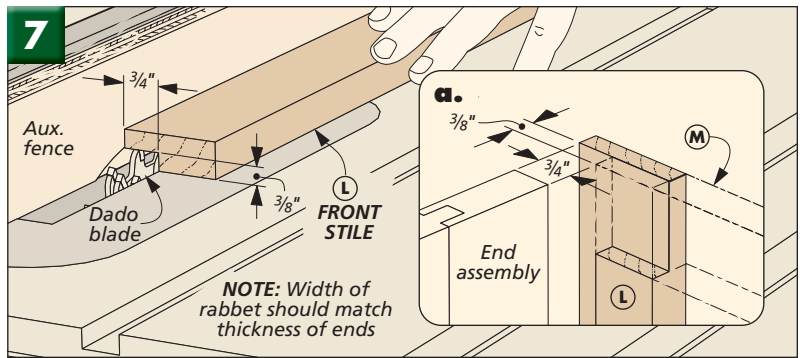⅜"

¾"

Ⓜ

End
assembly

Ⓛ

Face Frame

With the end and back assemblies complete, the next section to build is the front face frame. As you can see in Fig. 6 above, this frame creates the openings for the two drawers and the adjustable shelf.

You've probably noticed by now that the face frame is joined with half laps. Unlike a mortise and tenon joint, both pieces are cut with basically the same setup, and you will be able to find a step-by-step article for this on our web site, see the margin note at left. But there is an even quicker way to build this frame — with pocket hole screws, as described in the box below. Just

keep in mind that this will change some of the dimensions.

STILES. To make the face frame, I started by cutting just the *front stiles (L)* to size, as indicated in Fig. 6. Then on the outside edge I cut a rabbet that will wrap around the end panels, as shown in Figs. 7 and 7a.
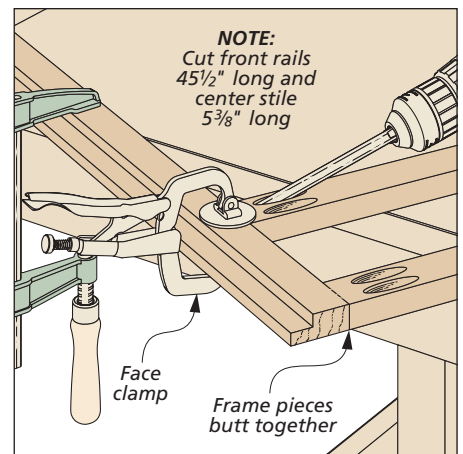
RAILS. Now you're ready to cut the *front rails (M)* to finished size. Usually with half-lap joints, the rails would extend the full length of the case. But instead of reaching to the outside edges of the stiles, these rails stop at the rabbets, as you can see in Fig. 7a. So the rails end up

FAST FACE FRAMES WITH POCKET HOLE JOINERY

Pocket screw joinery is quick — it's designed specifically for building face frames (like the one for this project). And the procedure could not be any simpler. The frame pieces are cut to length so they butt together. Then you drill some angled holes, as in the photo at left. Finally, the pieces are clamped together and secured with screws, as shown in the drawing.

To build this face frame with pocket screws, you're going to need a drilling jig, some self-tapping screws, and a special stepped drill bit. (A face clamp is also handy for holding the faces of the pieces flush.) For some mail order sources, turn to page 35.

NOTE:
Cut front rails
45½" long and
center stile
5⅜" long

Face
clamp

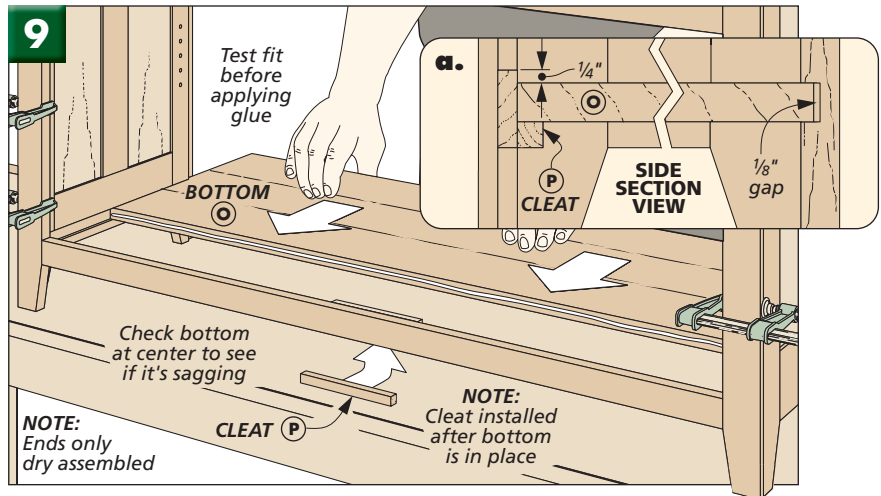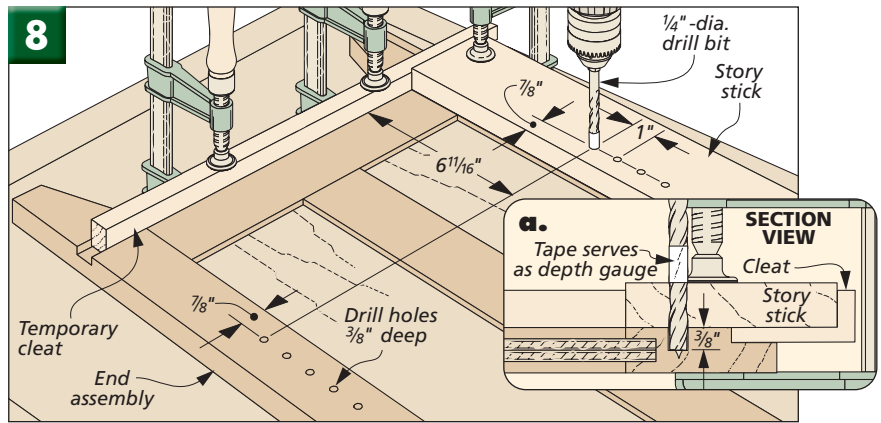Frame pieces
butt together

page 5 of 12

1½" shorter than the length of the case. (My front rails were 48" long.)

The other piece to cut at this point is the *center stile (N)*. Then you can begin the process of cutting the half laps that join the face frame, as in Figs. 6a and 6b. Just keep in mind that the half laps on the ends of the two upper front rails are cut on the *opposite* face as the one in the center. (I learned this the hard way.)

BOTTOM. After the half laps are cut and the front face frame is glued up, there are still a couple things to do before the case can be assembled. First, I glued up a ¾"-thick *bottom (O)*, as in Fig. 6. The panel is designed to be glued to the front rail and extend ³⁄₁₆" into the groove in the back assembly, as in Fig. 9a. (This will leave a ⅛" gap for the bottom to expand into.) As for its length, I didn't worry about leaving any gaps in the grooves in the end assemblies because the wood really won't expand along its length.

With the panel glued up and sized, the last thing to do is drill four sets of ³⁄₈"-deep holes to hold some shelf pins. To make sure all the pins ended up level with each other, I used a simple "story stick." And as you can see in Fig. 8, I put a temporary cleat in the groove for the bottom to set the story stick against.

CASE ASSEMBLY. At this point, you're ready to assemble the case, as shown in Figs. 9 and 10. Normally, a case assembly like this can get a lit-

8
¼"-dia. drill bit
Story stick
⅞"
1"
6¹¹⁄₁₆"
a.
Tape serves as depth gauge
SECTION VIEW
Cleat
Story stick
³⁄₈"
Temporary cleat
⅞"
Drill holes ³⁄₈" deep
End assembly

9
Test fit before applying glue
a.
¼"
BOTTOM
P
CLEAT
SIDE SECTION VIEW
⅛" gap
Check bottom at center to see if it's sagging
NOTE: Ends only dry assembled
CLEAT P
NOTE: Cleat installed after bottom is in place

10
Remove each end assembly and glue back in place
Don't apply glue to groove
a.
TOP VIEW
Apply glue to rabbet only
End assembly
Front frame
NOTE: Add back assembly after ends are glued on

tle frantic. Not this one. It's glued up one section at a time, so you won't even need an extra pair of hands.
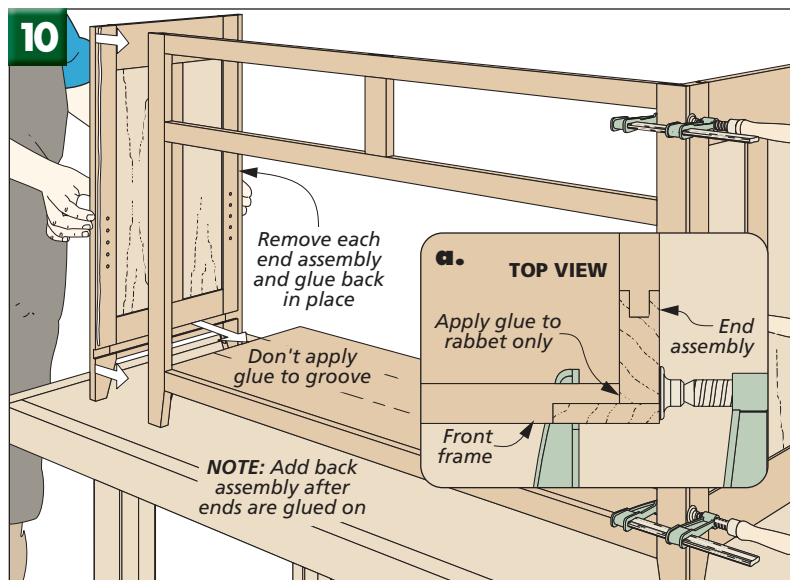
The first thing I did was to *dry* assemble the front face frame with the end assemblies, as in Fig. 9. Then I slid the bottom panel in from the back to see how it fit. The thing to watch here is the center. A panel this long can sag noticeably. So when you apply glue, you may need to force the panel up with hand pressure so it's level across its entire length. When I was satisfied with the fit, I pulled the bottom away from the front rail and applied a thin bead of glue. Then I slid it back in place and applied the clamps.
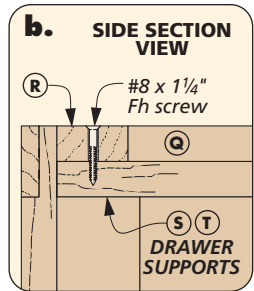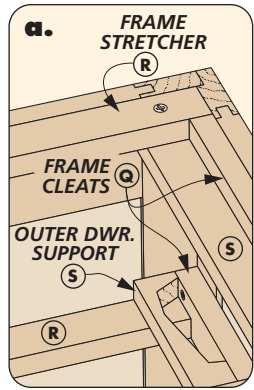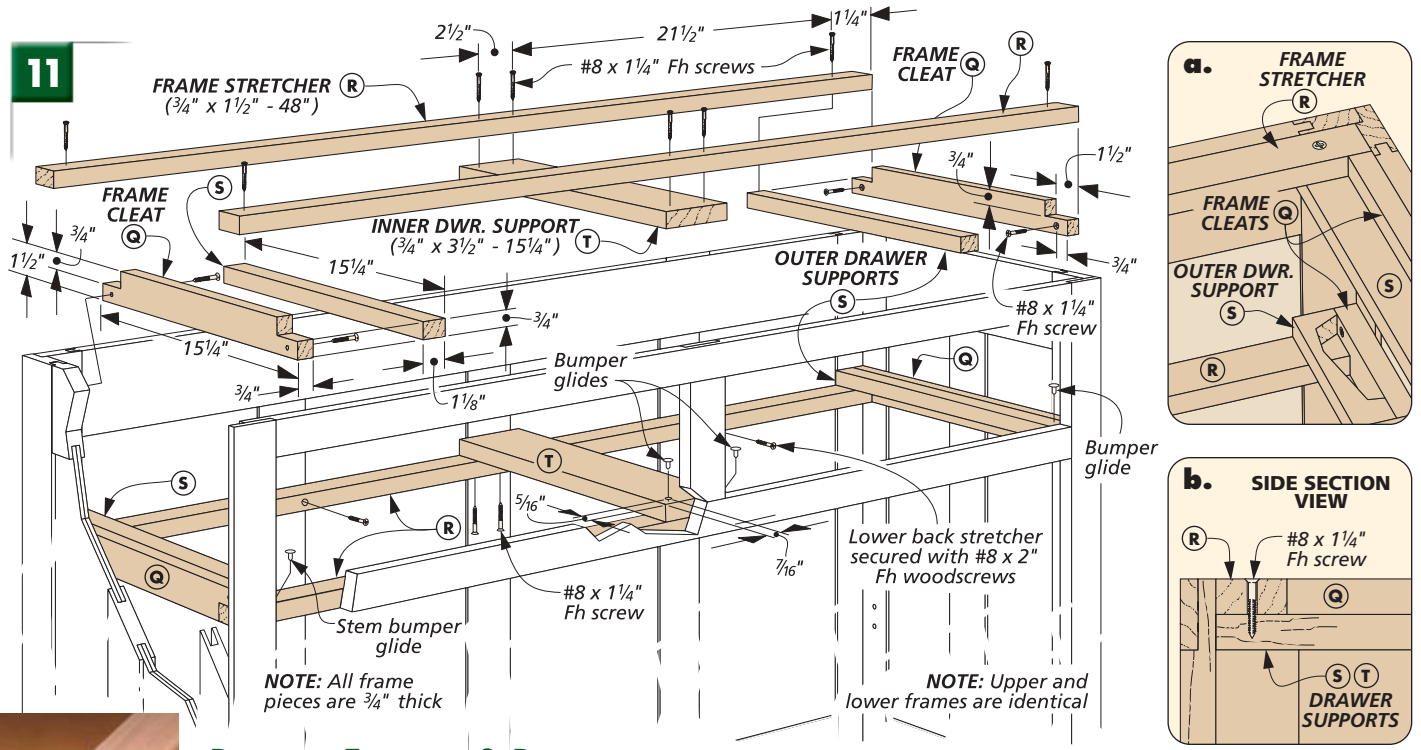
As the glue is drying, you can cut a small *bottom cleat (P)* and glue it under the bottom to provide additional support, as shown in Fig. 9.

When the glue is dry, you can glue the end panels in place — one at a time, as in Fig. 10. Simply remove the clamps, apply some glue to the front edge, and clamp the assembly back in place. Just be sure you don't add glue to the groove for the bottom. The solid wood panel should be free to expand and contract.

The last section to add is the back. Again, the glue is applied to the ends, not the groove for the panel. In fact, there should be a little gap in back for the panel to expand into, as you can see in Fig. 9a.

11

FRAME STRETCHER ®
(¾" x 1½" - 48")

2½"   21½"   1¼"

#8 x 1¼" Fh screws

FRAME CLEAT ⓆⒼ

FRAME CLEAT ⓆⒼ

¾"   1½"

¾"

INNER DWR. SUPPORT
(¾" x 3½" - 15¼") Ⓣ

15¼"

¾"
1½"

OUTER DRAWER SUPPORTS

#8 x 1¼" Fh screw

¾"

15¼"

¾"

Ⓢ

1⅛"

¾"

Bumper glides

Ⓣ

Ⓢ

Ⓠ

Bumper glide

Ⓢ

Ⓡ

5/16"

7/16"

Lower back stretcher secured with #8 x 2" Fh woodscrews

Ⓠ

#8 x 1¼" Fh screw

Stem bumper glide

NOTE: All frame pieces are ¾" thick

NOTE: Upper and lower frames are identical

a. FRAME STRETCHER Ⓡ

FRAME CLEATS Ⓠ

OUTER DWR. SUPPORT Ⓢ

Ⓡ   Ⓢ

b. SIDE SECTION VIEW

Ⓡ   #8 x 1¼" Fh screw

Ⓠ

ⓈⓉ DRAWER SUPPORTS

▲ *Plastic "stem bumper glides" are added to the front of all the lower drawer supports (and top, back corners of the drawers) so they slide in and out of the case smoothly.*

Drawer Frames & Drawers

At this point, the case is assembled, but it's not ready for the two drawers quite yet. There isn't any way to support them inside the case. That's the job of the drawer frames that are added next, as shown in Fig. 11.

These frames couldn't be any simpler to build. For one thing they're identical. And each frame starts out as two cleats and two stretchers that are added to the case one piece at a time. Then three drawer supports are screwed to each frame.

Why two sets of frames? The answer is that the drawer will ride on the bottom one. And the top frame keeps the drawer from tipping out as it's pulled open.

FRAME CLEATS. The pieces to start with are the four ¾"-thick *frame cleats (Q)*. These will be screwed to the ends of the case to support the stretchers, as shown in Fig. 12.

The only thing to do to the cleats is to cut a notch on each end to hold the stretchers. And these notches are easy to create at the table saw. I set the cleats on edge (supported by an auxiliary miter gauge fence) and used a dado blade raised ¾" high (the thickness of the stretchers). Then I simply cut the 1½"-wide notches in multiple passes.
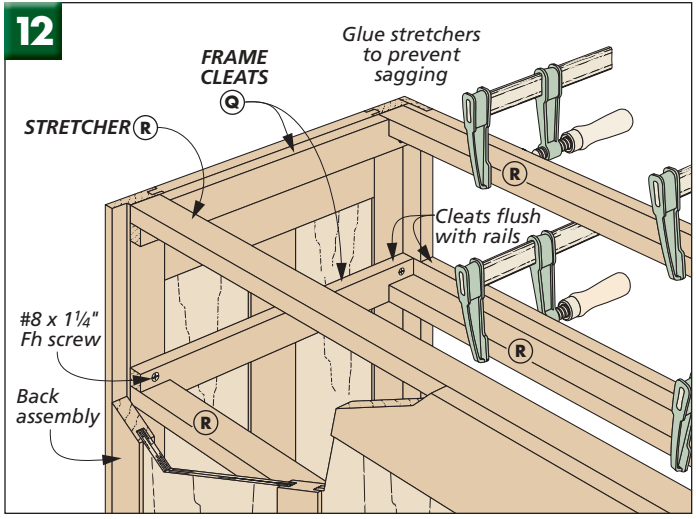
Installing the frame cleats inside the case is no big deal either. As you can see in Fig. 12, the lower cleats

should be positioned so they are flush with the bottom of the drawer opening. And the upper cleats should be flush with the top of the drawer opening. You'll just want to make sure that the notches are oriented up on the upper cleats and down on the lower cleats.
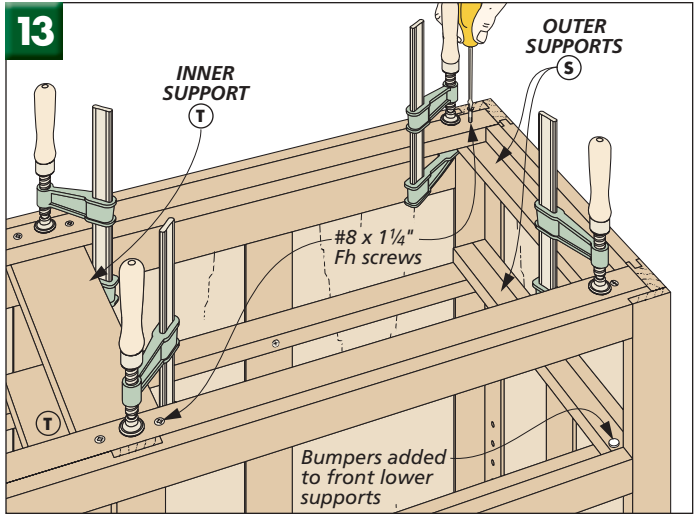
FRAME STRETCHERS. With the cleats in place, the *frame stretchers (R)* can be cut to size. These span the length of the case and are sized to fit into the notches cut in the cleats.

Because these stretchers are so long, I wanted to make sure they weren't going to sag in the center. So in addition to gluing them into the cleats, I also attached them to

12

FRAME CLEATS Ⓠ

Glue stretchers to prevent sagging

STRETCHER Ⓡ

Ⓡ

Cleats flush with rails

Ⓡ

#8 x 1¼" Fh screw

Back assembly

Ⓡ

13

INNER SUPPORT Ⓣ

OUTER SUPPORTS Ⓢ

#8 x 1¼" Fh screws

Ⓣ

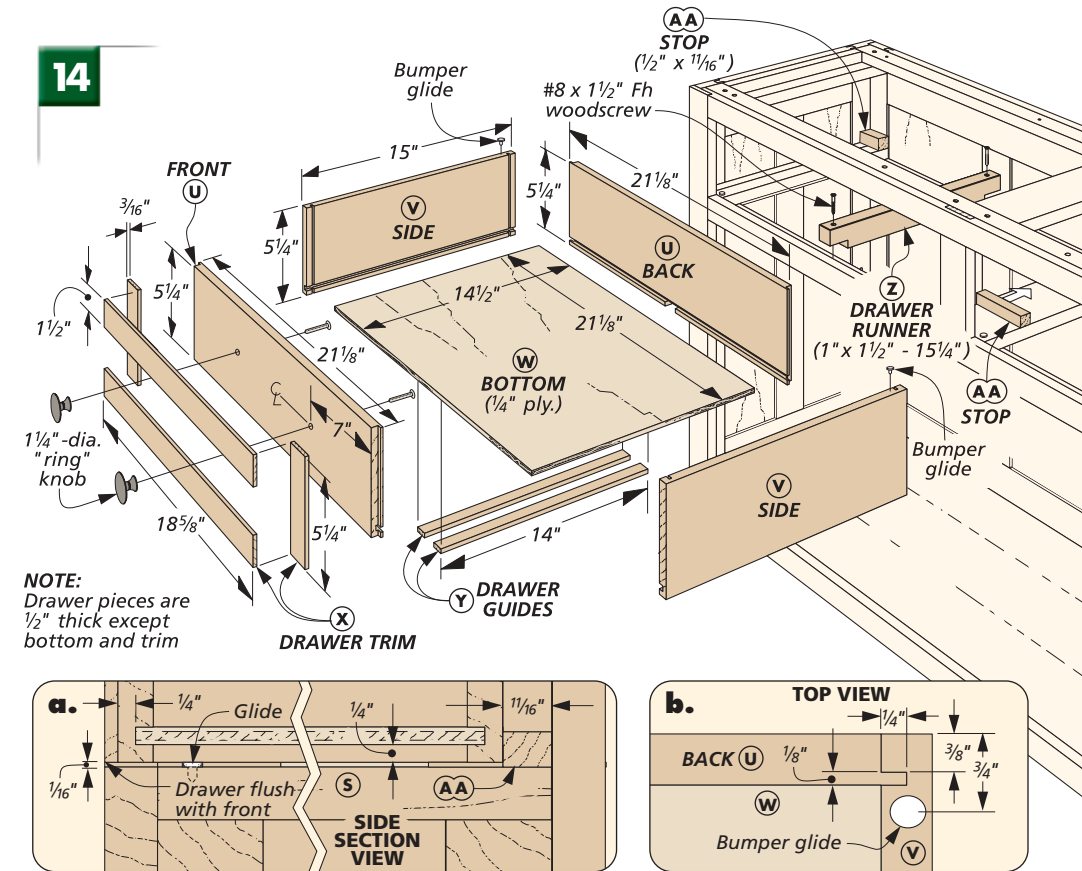Bumpers added to front lower supports

the case. The lower back stretcher is glued and screwed into the center stiles, as noted in Fig. 11. The other stretchers are simply glued and clamped to the rails, as in Fig. 12.

SUPPORTS. Now you can cut the four *outer (S)* and two *inner drawer supports (T)* to size, as in Fig. 11. Before screwing the lower supports in place (Fig. 13), I drilled some holes near the front and pressed in plastic stem bumper glides so the drawers will slide smoothly, as shown in the margin photo at left.

DRAWERS. Like the rest of this project, I kept the drawers as simple as possible. As you can see in Fig. 14, the $1/2$"-thick *fronts (U)*, *backs (U)*, and *sides (V)* are cut to size so there's a $1/16$" gap on each side of the drawer. And the pieces are joined with a tongue and dado joint. Dadoes are cut across the sides first. Then a matching tongue is cut on the ends of the front and back pieces. Finally a groove for a $1/4$" plywood *bottom (W)* is cut in all four pieces (Fig. 14a), and the drawer can be glued together.

The drawer looks like there's a frame and panel on the front, but as you can see in Fig. 14, these are just $3/16$"-thick pieces of applied *trim (X)* that are cut to size and glued to the front of the drawer. Then you can add the two knobs to each.

GUIDES & RUNNERS. To guide the drawers in and out of the case, there are some guides and runners to add. The two *guides (Y)* are sized to fit under each drawer bottom, as in Fig. 15. (My guides ended up $1/4$" thick.) When gluing these strips to the bottom of the drawer, I used a 1"-thick spacer (the same thickness as
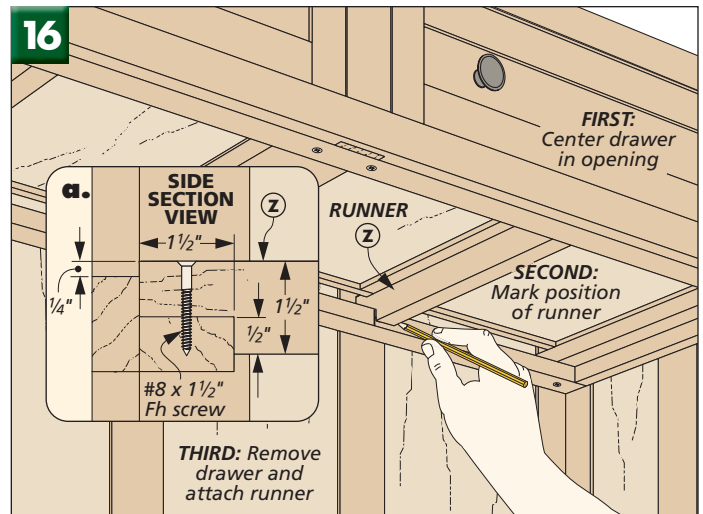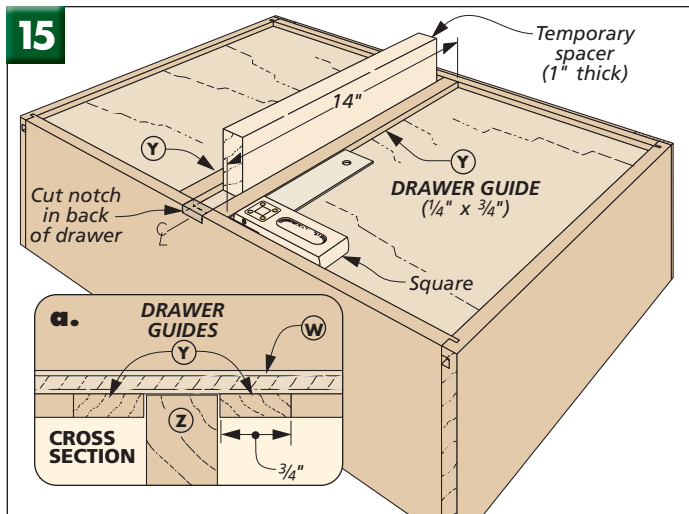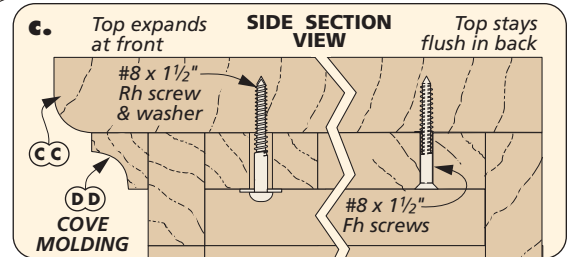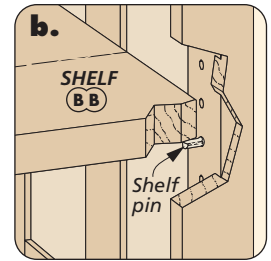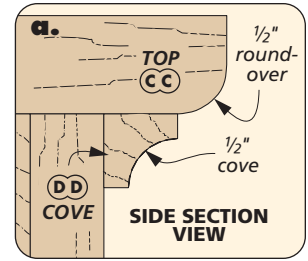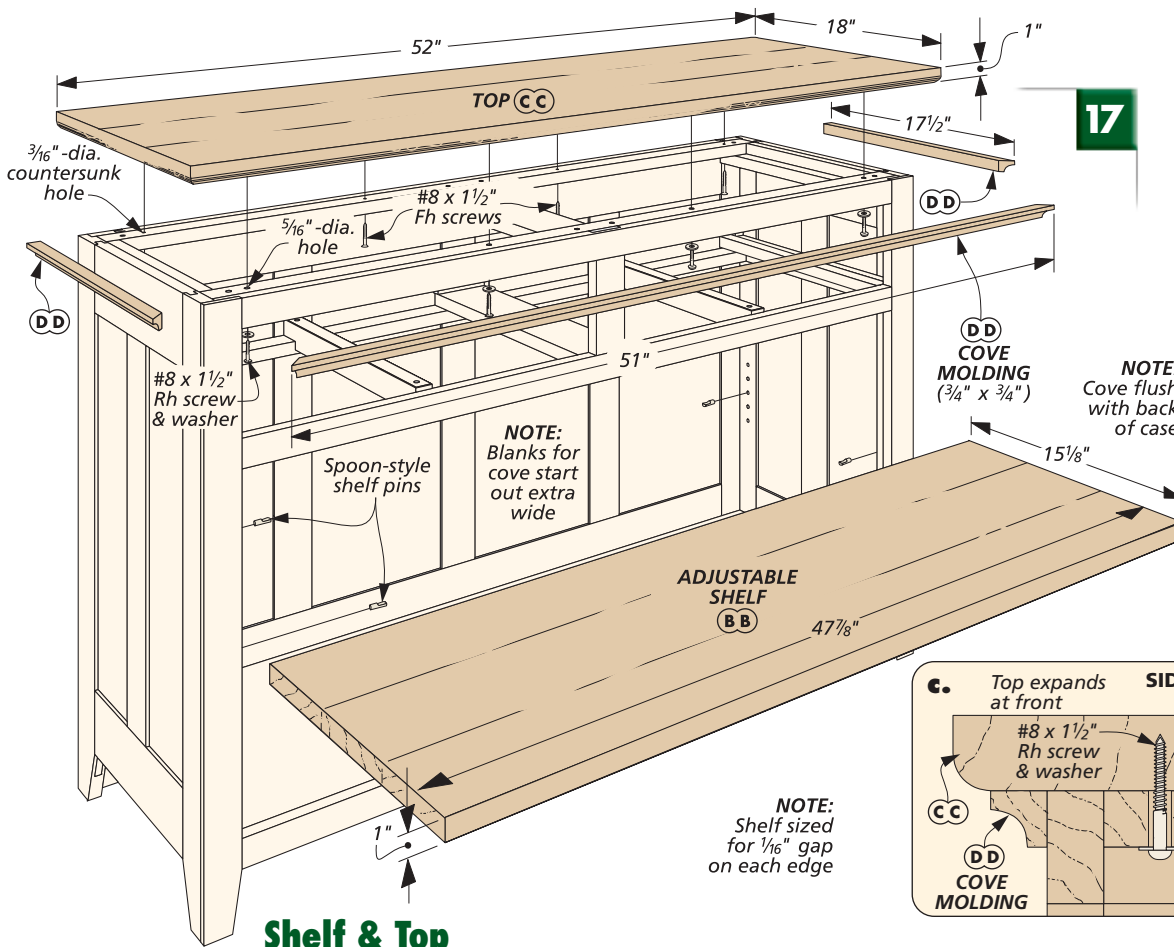
the runner) and a square to position them. Then I cut a notch in the bottom edge of the drawer back and added a couple bumper glides to the upper back corners (Fig. 14b).

With the guides in place, you can make the *runners (Z)* that go in the case. These are 1"-thick pieces that are cut to length to fit in the case front to back. And they have notches cut in them just like the frame cleats earlier. But this time, you want the top of the cleat to stick up $1/4$" above the front rail (Fig. 16a).

Installing each runner in the case is easier than you might think. I set it in place and slid the drawer over the top of it. Then when the drawer was centered in the opening, I reached under and marked the position of the runner, as shown in Fig. 16. Then it can be attached with screws and a stubby screwdriver.

The last thing to do is add *stops (AA)* to the back of the case. The goal here is simply to make sure the front of the drawer ends up flush with the front of the case (Fig. 14a).

14

Bumper glide

AA STOP ($1/2$" x $11/16$")

#8 x $1\frac{1}{2}$" Fh woodscrew

FRONT U

15"

$5\frac{1}{4}$"

$5\frac{1}{4}$"

V SIDE

$21\frac{1}{8}$"

U BACK

$14\frac{1}{2}$"

$21\frac{1}{8}$"

Z DRAWER RUNNER (1" x $1\frac{1}{2}$" - $15\frac{1}{4}$")

$3/16$"

$5\frac{1}{4}$"

$1\frac{1}{2}$"

$21\frac{1}{8}$"

W BOTTOM ($1/4$" ply.)

AA STOP

$1\frac{1}{4}$"-dia. "ring" knob

7"

V SIDE

Bumper glide

$18\frac{5}{8}$"

$5\frac{1}{4}$"

14"

Y DRAWER GUIDES

NOTE: Drawer pieces are $1/2$" thick except bottom and trim

X DRAWER TRIM

a. $1/4$" Glide $1/4$" $11/16$"

$1/16$"

Drawer flush with front

S   AA

SIDE SECTION VIEW

b. **TOP VIEW** $1/4$"

BACK U $1/8$" $3/8$" $3/4$"

W

Bumper glide V

15

Temporary spacer (1" thick)

14"

Y   Y

DRAWER GUIDE ($1/4$" x $3/4$")

Cut notch in back of drawer

Square

a. DRAWER GUIDES

Y   W

Z

CROSS SECTION

$3/4$"

16

FIRST: Center drawer in opening

a. SIDE SECTION VIEW

Z   RUNNER Z

$1\frac{1}{2}$"

$1/4$"

$1\frac{1}{2}$"

$1/2$"

SECOND: Mark position of runner

#8 x $1\frac{1}{2}$" Fh screw

THIRD: Remove drawer and attach runner

Figure 17 (exploded view)

52"

18"

1"

TOP (CC)

17½"

(DD)

¾"-dia.
countersunk
hole

5/16"-dia.
hole

#8 x 1½"
Fh screws

(DD)

#8 x 1½"
Rh screw
& washer

51"

(DD)
COVE MOLDING
(¾" x ¾")

NOTE:
Cove flush
with back
of case

Spoon-style
shelf pins

NOTE:
Blanks for
cove start
out extra
wide

15⅛"

**ADJUSTABLE
SHELF**
(BB)

47⅞"

1"

NOTE:
Shelf sized
for 1/16" gap
on each edge

(DD)

17

a.
TOP (CC)

½"
round-
over

½"
cove

(DD)
COVE

**SIDE SECTION
VIEW**

b.
SHELF (BB)

Shelf
pin

c.
**SIDE SECTION
VIEW**

Top expands
at front

Top stays
flush in back

#8 x 1½"
Rh screw
& washer

(CC)

(DD)
**COVE
MOLDING**

#8 x 1½"
Fh screws

Shelf & Top

The console is pretty close to being complete. All that's left is to add the shelf, top, and some cove molding.

GLUE UP PANELS. The first thing I did was to glue up panels for the *shelf (BB)* and *top (CC)*, as shown in Fig. 17. I decided to use 1"-thick stock here. The top looks better with a thicker edge. And the shelf has less of a tendency to sag in the center.

SHELF. The shelf is going to expand just like the bottom, so when sizing it, I allowed for a 1/16" gap at both the front and back. (There also has to be a 1/16" gap at each end so it will fit over the spoon-style shelf pins that are shown in Fig. 17b.)
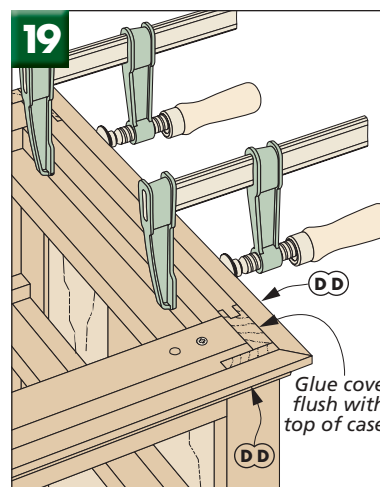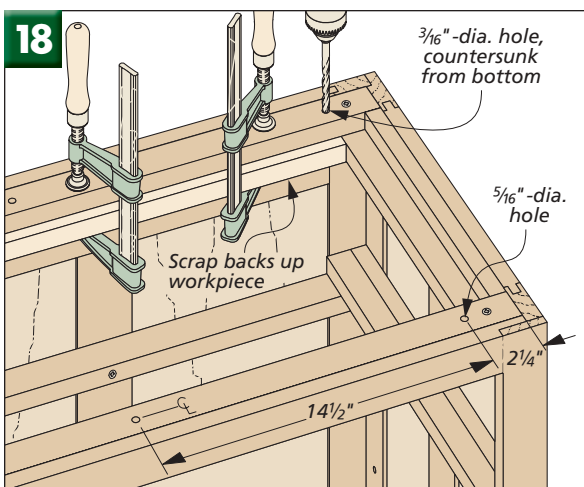
TOP. The top is sized to overhang the case 1¼" at the front and each end. (It's flush with the back, as in Fig. 17c.) And the lower, front edge and ends have a ½" roundover.

Before you can mount the top, there are two things to do. First, shank holes will need to be drilled in the frame stretchers, as in Fig. 18. But note that I used different screws at the front and back. A flathead screw is used in the back to hold the panel flush with the case (Fig. 17c).

In the front, I drilled an oversized hole and used a roundhead screw (and washer). This way, the panel can expand and contract at the front.

The second thing to do is add *cove molding (DD)* to the front and sides. (By doing this now, you don't have to put nails through the molding.) The molding has a ½" cove and is mitered to wrap around the case, flush with the top, as in Fig. 19.

When you've sanded the molding flush with the case, you can apply the finish and then screw the top down, as in the photo below. **W**

Figure 18

3/16"-dia. hole,
countersunk
from bottom

5/16"-dia.
hole

Scrap backs up
workpiece

2¼"

14½"

18

Figure 19

(DD)

Glue cove
flush with
top of case

(DD)

19

▲ *To prevent the wide top panel from cupping, I applied several coats of finish to both faces before screwing it to the case.*

SHOP NOTES

Cutting Tall Shoulders

Both the Craftsman wall shelf and storage bench have pieces with four shouldered tenons. Normally, cutting the top and bottom shoulders is just another table saw task.

But the arms and top rail of the storage bench and the top rail of the wall shelf have profiles that create really tall shoulders. And this was a little different challenge. I had to decide whether to cut the tall shoulders before or after the pieces were cut to shape. And then how to do it.

I've never had much luck cutting a really clean, tall shoulder on the table saw. If the blade is just a bit out of square, has a little runout, or you push too hard against the fence, the cut can be too deep. At best you might have a bad fit, at worst the piece might be ruined.

But trying to run these pieces through the saw after they were cut to shape didn't seem like a good idea. So I used a couple different methods to solve this problem.

TABLE SAW & CHISEL

On the top rail of the Craftsman wall shelf I rough cut the top shoulders on the table saw before I cut the piece to final shape. And then I finished them up with some hand work.

As you can see in Fig. 1, I used the same setup (after raising the blade) that was used to cut the cheeks and bottom shoulder.

The only difference is that you don't want to cut clear up to the shoulder. Using an auxiliary fence on the miter gauge to steady the piece, start at the outside of the tenon and nibble toward the shoulder, leaving a short step (Fig. 1a).

Now after the top bevel is cut, you can finish up with a sharp chisel. This is pretty straightforward. Just take light cuts and work down to the shoulder. As you can see in the photo at right, I came in from an angle using a slicing motion. If the chisel is sharp, the tough end grain will "curl" away easily.

BACK SAW & CHISEL

On the arms and back rail of the storage bench the deep curves of the profiles would have created really long shoulders. So it made more sense to cut the pieces to shape and then cut the shoulder completely by hand.
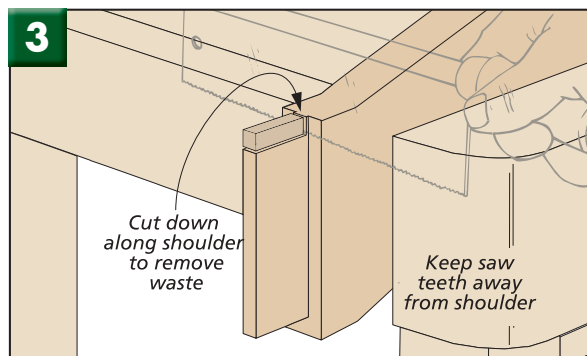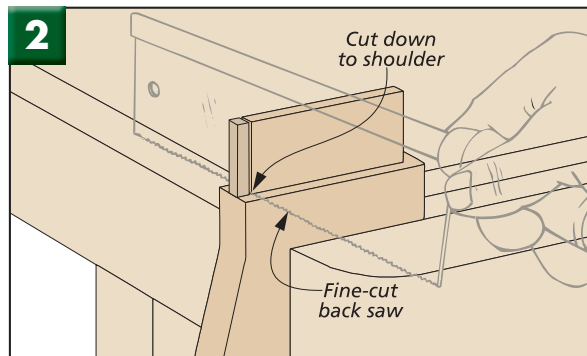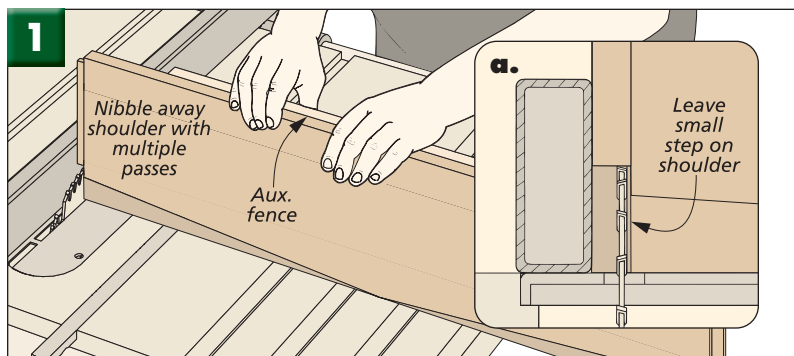
After the pieces were shaped, I used a small back saw to rough cut the shoulder. As you can see in Fig. 2, the first cut is down from the end of the tenon to the shoulder line. Stay back from your layout line and don't cut too deep.

Now cut down along the shoulder line to remove the waste (Fig. 3). Be sure to stay away from the shoulder so the saw teeth don't chew up the clean shoulder line.

▲ *A sharp chisel makes paring away the step easy. Just take a shallow cut and the wood will "curl" away.*

The final cleanup goes just like that described for the top shelf rail. But after you clean up the shoulder, you'll also want to use the chisel to clean the top side of the tenon and to form a nice, square edge.

2 Cut down to shoulder / Fine-cut back saw

1 Nibble away shoulder with multiple passes / Aux. fence / **a.** Leave small step on shoulder

3 Cut down along shoulder to remove waste / Keep saw teeth away from shoulder

WHEN TO
STAIN CHERRY
…& WHEN NOT TO

▲ *After years of exposure to natural light, this cherry table has "aged" to a beautiful rich reddish-brown color.*

▲ *The drawer trim on the cherry console was all cut from the same board. The light plays differently on the vertical and horizontal pieces.*

Get a room full of woodworkers together and ask them whether they like to stain cherry or let it age naturally, and you're likely to start an argument that will last most of the day.

Not only will they argue about stain vs. no stain, but they'll also argue about what type of stain to use, what brand, and what color. It can be a pretty touchy subject.

CHERRY. The thing that can make deciding whether or not to stain cherry, such a head-scratcher is that with cherry what you see isn't always what you get. I can remember the first time I planed a piece of cherry. I looked at it and thought to myself, "How in the world will this light, pinkish-tan piece of wood ever have that rich, reddish-brown 'cherry' color I'm looking for? Well

eventually it did, but it took quite a few years and a really large dose of patience on my part.

If you want to see what I'm talking about, take a look at the two photos of the Shaker table. The table in the photo above is fresh from the finishing room after just a few coats of rubbed-on oil varnish. The color is a little uneven (notice the darker legs) and just barely hints at that beautiful aged cherry color. But after several years, my patience finally paid off. The same table (photo at left) now has an even, dark, reddish-brown color that you'll usually only see on a true, classic, cherry antique.

What's the secret here? This gradual darkening in color is actually caused by exposure to the sun's ultra-violet (UV) light rays. You'll see it in other woods as well, but in cherry it can be really noticeable and it can start pretty fast. In fact, I'll often see a slight change in the color of cherry even before I'm finished building the project.

So the decision you have to make with cherry is — Do I want to use a natural finish and let time and light do the work, or do I want to speed things along and go with a stain? And it's best to ask yourself this question before you even begin building the your project.

NATURAL FINISH. The reason for this is that if you're leaning toward a natural finish, you want to be pretty

picky about choosing and laying out the lumber. I go for the best color match I can get and try to hide or avoid any sapwood. And then I save those really nice boards for the parts that will show the most.

Take the cherry console in this issue, for example. From the beginning, I thought it was a perfect candidate for a natural finish. With its simple lines and minimal detail, a rubbed-on finish really complements the look of this project. I just took a little extra time picking out some really nice pieces of wood. And after rubbing on a few coats of varnish, nature will do the rest.

THE SHORT TERM. If you decide to go with a natural finish, there are a few things you should be prepared for. First, you've got to be willing to take the wood as it is. No matter how careful you are selecting your lumber, there are bound to be some inconsistencies in the color and appearance of the wood.

Take a look at the photo of the console drawers at left for example. You'd probably think I did a pretty poor job of choosing wood for the trim. Well, believe it or not, all the pieces came from the same board. It's just the play of the light that

causes the color of the horizontal and vertical pieces to look different. After a time all the pieces will blend together, and in the short run it's something I can easily live with.

PATIENCE. Another thing to consider if you plan on using a natural finish is how long you're willing to wait to get that warm, dark cherry color. There are several factors that affect how fast your cherry ages — light exposure, the finish you use, and the wood itself. But you need to be prepared to wait at least a few years to get that "antique" look.

If you want to speed up the process, I've learned that a rubbed-on oil finish that soaks into the wood will darken faster and even a little deeper than a built-up finish like varnish or lacquer. But then if you want to use a heavier finish, just put on a coat of linseed oil or tung oil first to get a little head start.

RESULTS. There's one other thing to consider when using a natural finish and that is the fact that it can be hard to predict how the project will look after it has aged. Although the wood will eventually darken, there's really no way to control how *much* it darkens. So with a natural finish, you are really at the mercy of the wood itself.

STAIN. As nice as a natural finish can look on some projects, there are times when I think it makes more sense to use a stain on

cherry. And there are a couple of reasons that might make me decide to take this route.

THE WOOD. Sometimes the wood you are working with will dictate the type of finish you use. Now and then I'll find some cherry that looks so nice it would break my heart to cover it with stain. So I don't. But I'm not always this lucky.

When you shop for cherry, you'll find that much of the lumber that's available today has some color variation and little "defects." Small pin knots, dark sap streaks, and boards with a good amount of light-colored sapwood are common. On a naturally finished piece, the sapwood won't darken and will stick out like a sore thumb. So I'll use a stain as a way to even out the variations in color and hide any defects, as you see in the upper photo at right.

I also like to use a stain whenever I'm building a project that mixes solid cherry with cherry veneer plywood. The plywood is often just enough darker than the freshly planed solid wood to make me reach for the stain can.

DETAIL. Using a stain on cherry has another nice benefit. On a project like the blanket chest shown at right, the stain "tones down" the wood a little bit and allows the beautiful detail of the moldings and the bracket feet to take center stage. On most of my more "formal" pieces, I'll

▲ *The light sapwood in this board won't darken with age. But a single coat of cherry stain can hide it.*

▲ *I put a coat of Woodsmith's cherry stain on this blanket chest to even out the color and highlight the details.*

go this route and I'm usually pleased with the result. Plus, you get the bonus of having that classic cherry look without the wait.

Finally, keep in mind that when it comes to finishing cherry, you can't really lose. Whether you decide to use a stain or a natural finish, it's hard to beat the beauty of cherry. W

WOODSMITH'S CHERRY STAIN

In the past when I applied thin oil stains to cherry, I had problems with blotching. Thick, gelled oil stains work really well to control this. But since they don't flow like a thin stain, they can be a pain to apply, especially to a large project. So I decided to mix a gelled stain with a thinner oil stain to get a nice color that wouldn't blotch and was easy to apply. After a little experimenting, I cooked up just the right "recipe." Now I use this mixture exclusively on cherry with great results.

Woodsmith Cherry

Ingredients
3 parts Zar Cherry Stain
1 part Jel'd Cherry Stain

- Combine ingredients in a suitable container. Shake or stir until mixture is creamy and lump free.
- Apply with a brush or soft cloth. Let stand 5 minutes. Wipe off excess working with the grain.
- Let dry overnight.