

Easy-to-Build Queen-size Deluxe Murphy Bed Plan

 **ROCKLER**
WOODWORKING AND HARDWARE

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Build a queen-size Deluxe Murphy Bed complete with decorative molding and matching side cabinets!



What you'll find inside:

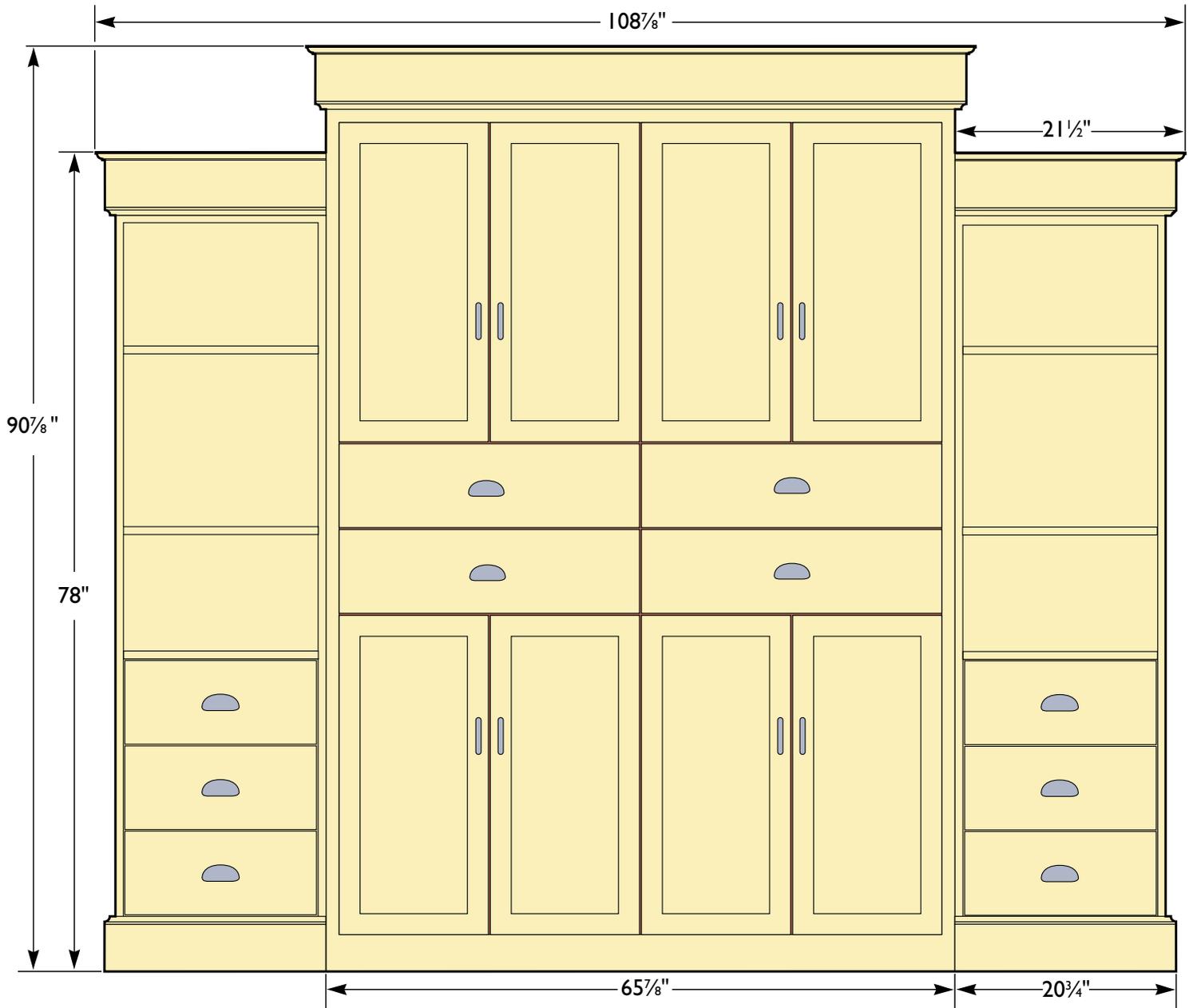
- Elevation drawings
- Complete materials list
- Step-by-step plans

 **ROCKLER**
WOODWORKING AND HARDWARE **Plans**

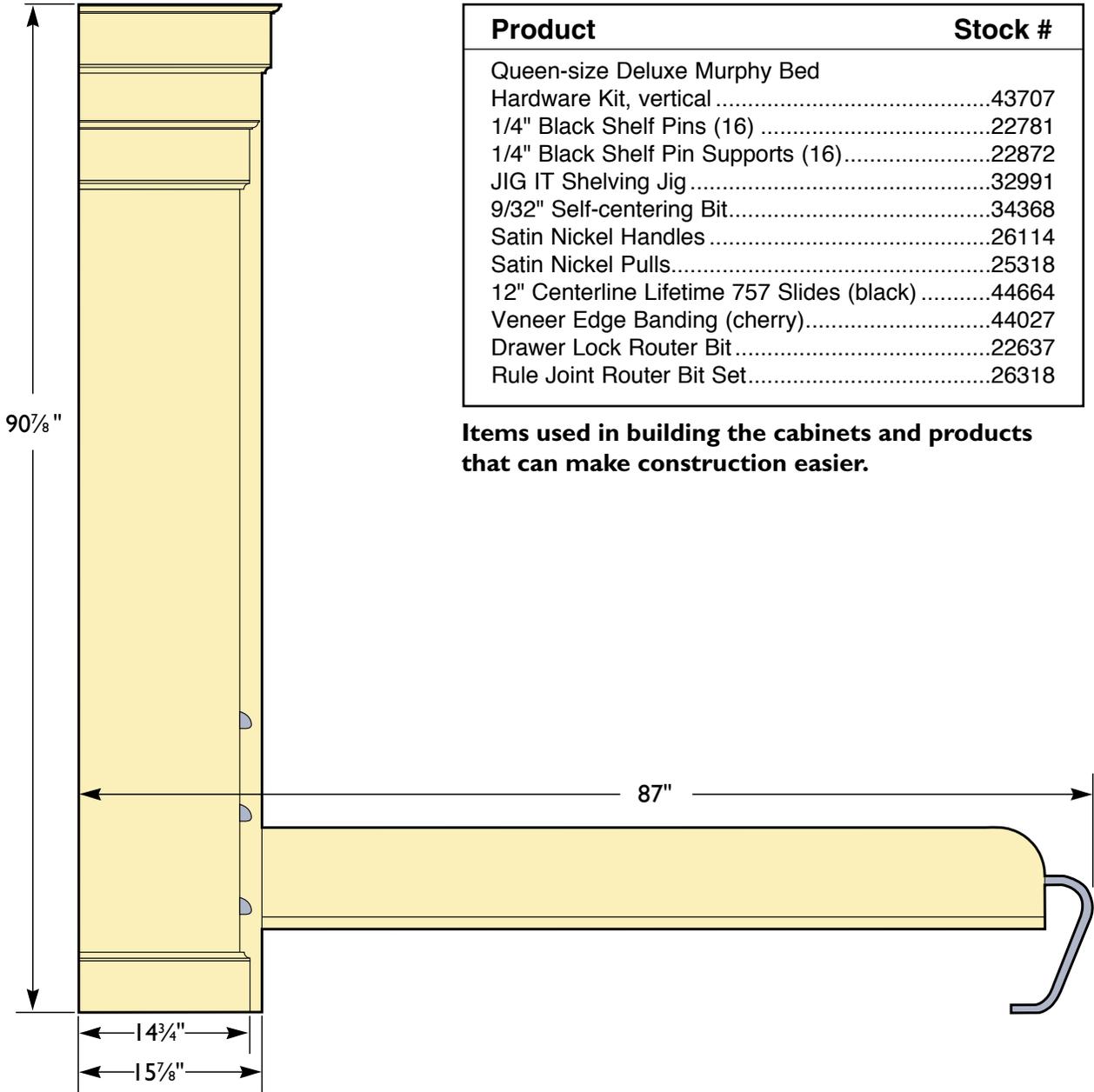
For more plans, tools and hardware visit rockler.com

For use with vertical queen-size
Deluxe Murphy Bed Hardware Kit (43707)

Front View



Side View



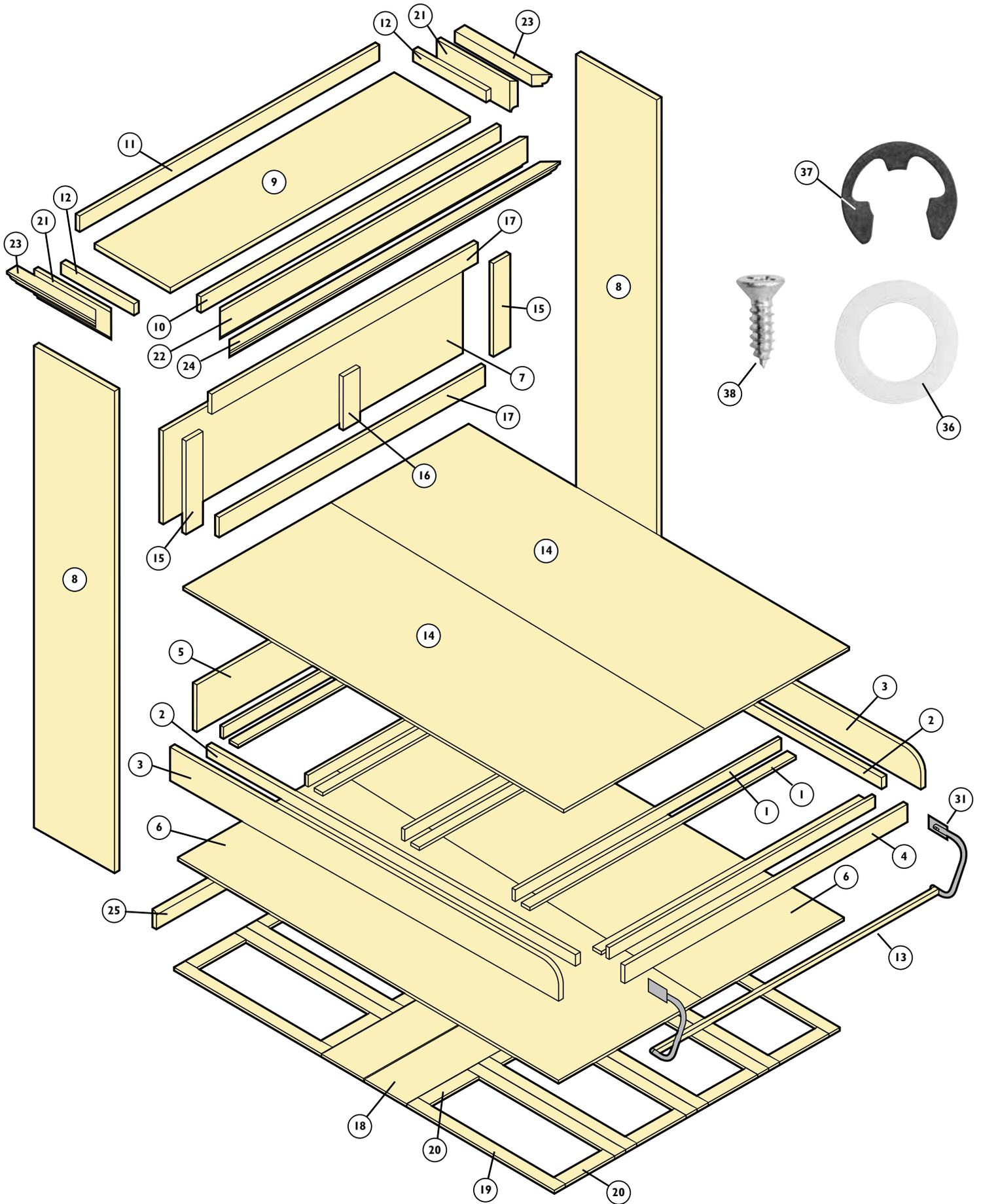
Product	Stock #
Queen-size Deluxe Murphy Bed	
Hardware Kit, vertical	43707
1/4" Black Shelf Pins (16)	22781
1/4" Black Shelf Pin Supports (16).....	22872
JIG IT Shelving Jig	32991
9/32" Self-centering Bit.....	34368
Satin Nickel Handles	26114
Satin Nickel Pulls.....	25318
12" Centerline Lifetime 757 Slides (black)	44664
Veneer Edge Banding (cherry).....	44027
Drawer Lock Router Bit	22637
Rule Joint Router Bit Set.....	26318

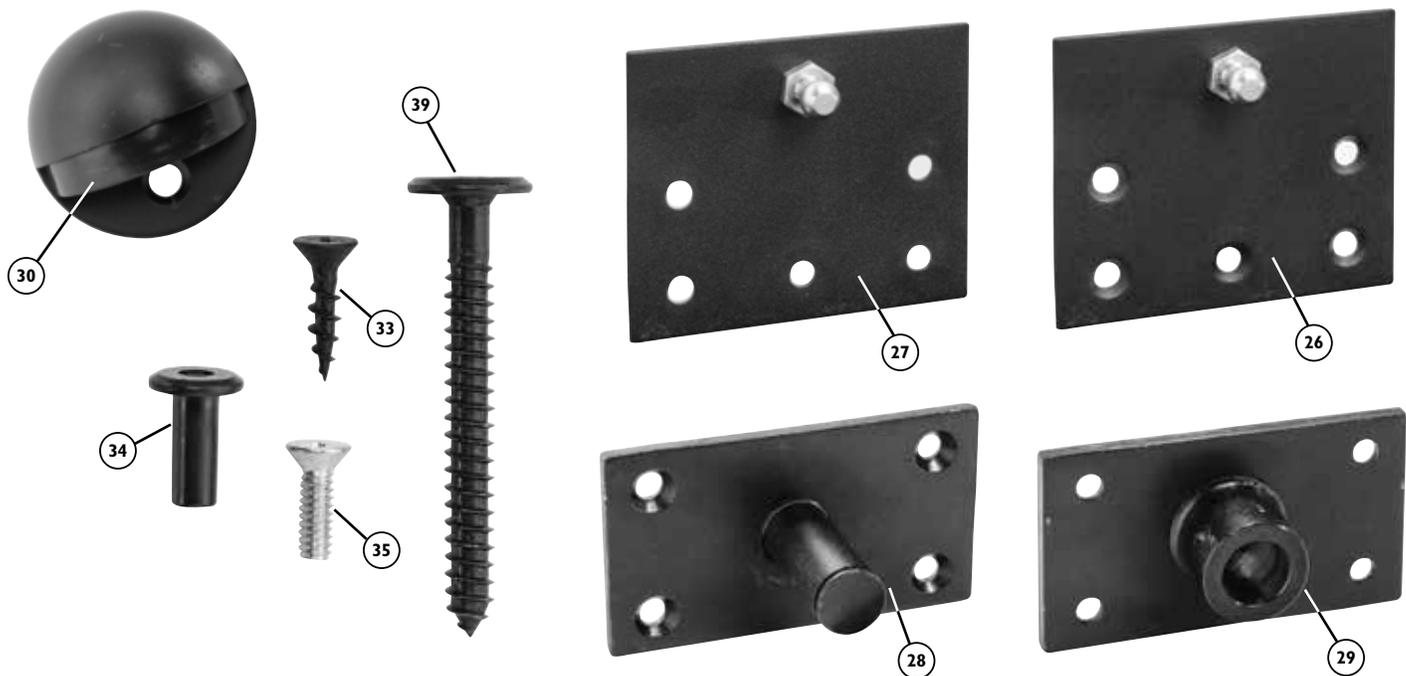
Items used in building the cabinets and products that can make construction easier.

Installation Space Requirements

Be sure you have sufficient space for installation. A queen-size bed will extend about 7'3" into the room when open, and the width of the bed cabinet plus the side cabinets will be just more than 9'.

The unit must sit flush against the wall. If the room has base molding, you will need to make relief cuts on the back edges of the Bed Cabinet Verticals and Cabinet Sides or remove and cut the room molding to fit.





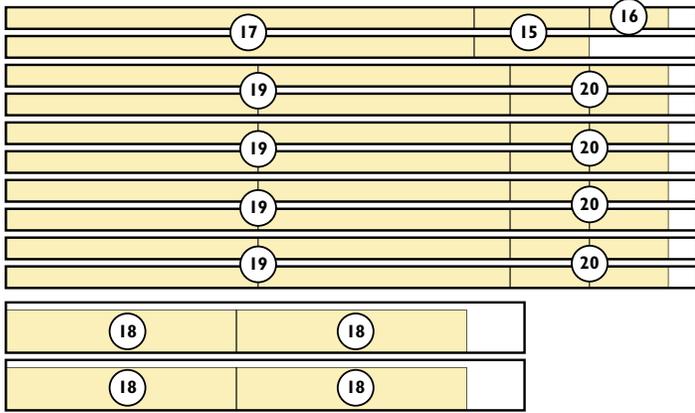
Bill of Materials - Deluxe Murphy Bed

Pieces	Qty.	T x W x L
1. Inner Frame Strut Piece	(10)	3/4" x 1 1/2" x 60 1/2"
2. Inner Frame Side	(2)	3/4" x 1 1/2" x 80"
3. Side Rail (must be plywood)	(2)	3/4" x 5 7/8" x 81 1/2"
4. Foot rail	(1)	3/4" x 3" x 62"
5. Head Rail	(1)	3/4" x 7 7/8" x 62"
6. Bed Face Panel	(2)	3/4" x 32" x 81 3/4"
7. Bed Headboard	(1)	3/4" x 15 7/8" x 64 3/8"
8. Bed Cabinet Vertical	(2)	3/4" x 15 7/8" x 90 1/8"
9. Header Board	(1)	3/4" x 14 3/8" x 64 3/8"
10. Front Header Rail	(1)	3/4" x 5 3/4" x 64 3/8"
11. Rear Header Rail	(1)	3/4" x 5 3/4" x 64 3/8"
12. Header Mounting Cleat	(2)	3/4" x 4 1/2" x 14 3/8"
13. Leg Support Rail	(1)	3/4" x 3/4" x 60 1/4"
14. Mattress Support (plywood)	(2)	1/4" x 31" x 80"
15. Faux Headboard End Stile	(2)	1/4" x 2 1/2" x 15 7/8"
16. Faux Headboard Center Stile*	(1)	1/4" x 2 1/2" x 11"
17. Faux Headboard Rail	(2)	1/4" x 2 1/2" x 59 3/8"
18. Faux Drawer Front	(4)	1/4" x 6 3/16" x 31 15/16"
19. Faux Face Panel Stile	(16)	1/4" x 2 1/2" x 34 1/2"
20. Faux Face Panel Rail*	(16)	1/4" x 2 1/2" x 10 7/8"
21. Bed Top Side Molding*	(2)	3/4" x 5 1/4" x 16 3/4"
22. Bed Top Front Molding*	(1)	3/4" x 5 1/4" x 67 1/2"
23. Bed Side Crown*	(2)	3/4" x 1 1/2" x 17 1/2"
24. Bed Front Crown*	(1)	3/4" x 1 1/2" x 69 1/16"

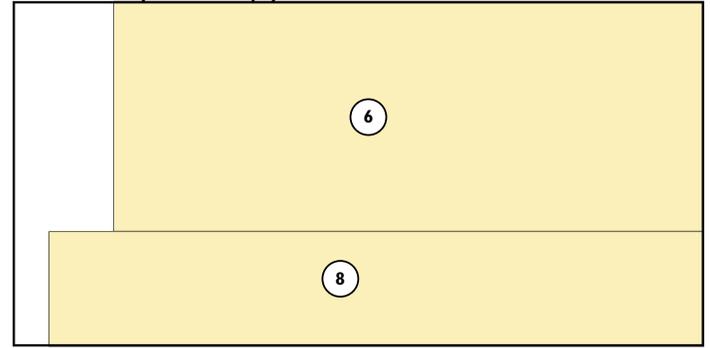
Pieces	Qty.	T x W x L
25. Bed Toe Kick Molding	(1)	3/4" x 1 3/4" x 64 3/8"
26. Vertical Ball Stud Plate	(2)	
27. Bed Ball Stud Plate	(2)	
28. Male Metal Pivot	(2)	
29. Female Metal Pivot	(2)	
30. Bed Stop	(2)	
31. Metal Pivoting Leg	(2)	
32. Gas Spring (not shown)	(2)	
33. Black Screws	(18)	#10 x 3/4"
34. T-Nuts	(16)	
35. Machine Screws	(16)	
36. Plastic Spacer	(2)	
37. "E" Clip	(2)	
38. Silver Screws	(12)	#12 x 3/4"
39. Leg Support Rail Screws	(2)	1/4" x 2 1/2"
40. 3/4" Finish Nails or Brads	(1 box)	
41. 1/4" Finish Nails	(1 box)	
42. 1/2" Finish Nails	(1 box)	
43. 2" Finish Nails	(1 box)	
44. 1/4" Coarse Thread Screws	(1 box)	#8 x 1 1/4"
45. 1 5/8" Coarse Thread Screws	(1 box)	#8 x 1 5/8"
46. 2" Coarse Thread Screws	(1 box)	#8 x 2"
47. Retaining Strap (not shown)	(2)	
48. Veneer Edge Banding	(2)	13/16" x 50'

* Lengths are approximate. Rough cut pieces slightly longer and trim or miter to fit on final assembly.

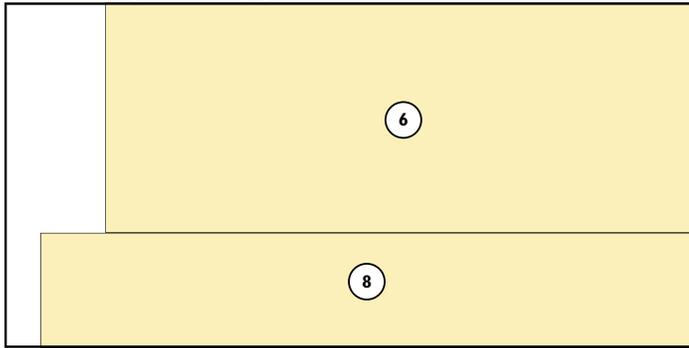
1/4" Solid cherry



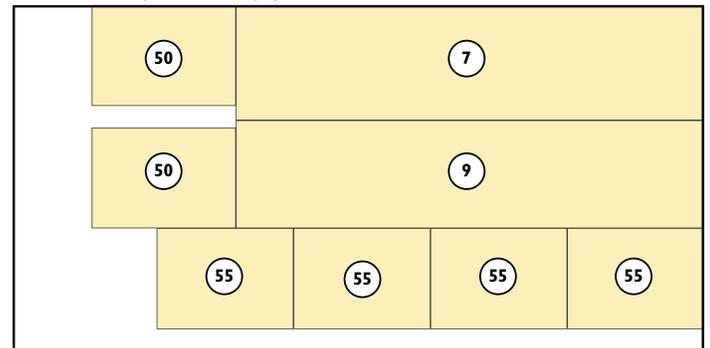
3/4" Cherry veneer plywood



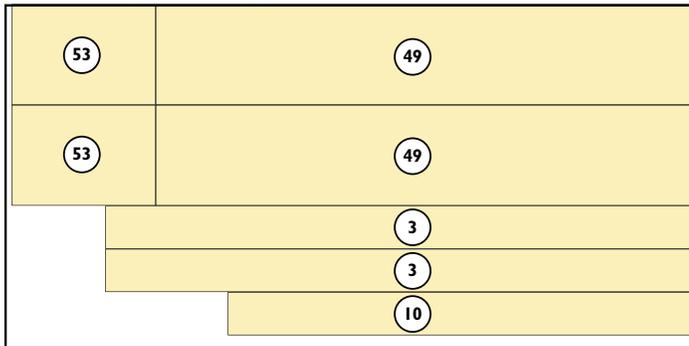
3/4" Cherry veneer plywood



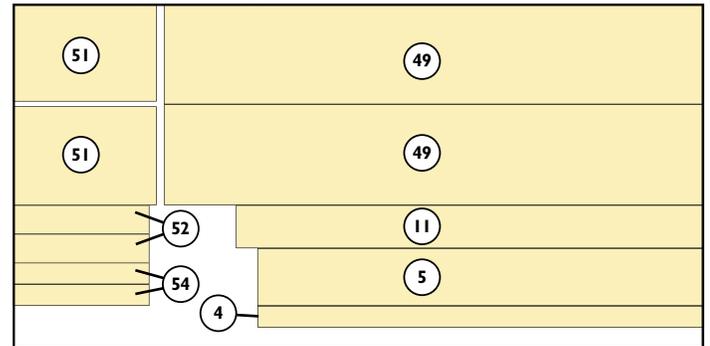
3/4" Cherry veneer plywood



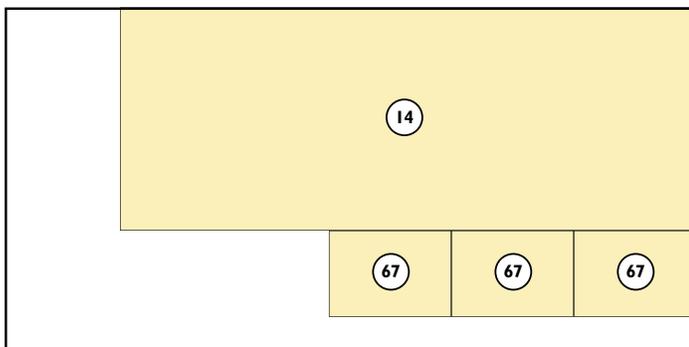
3/4" Cherry veneer plywood



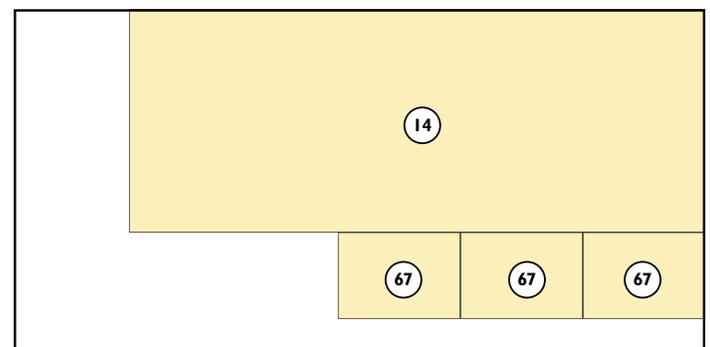
3/4" Cherry veneer plywood



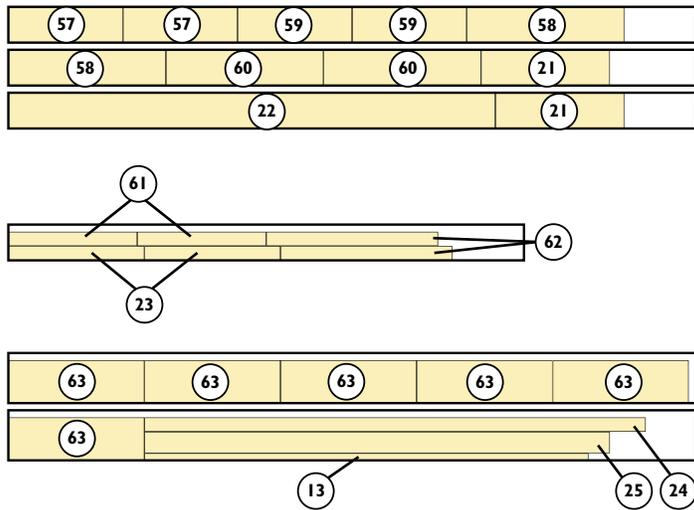
1/4" Cherry veneer plywood



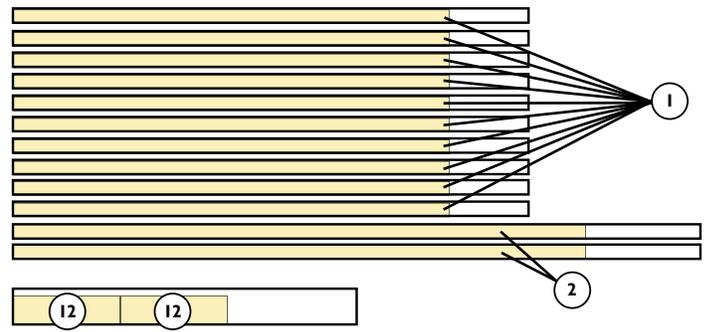
1/4" Cherry veneer plywood



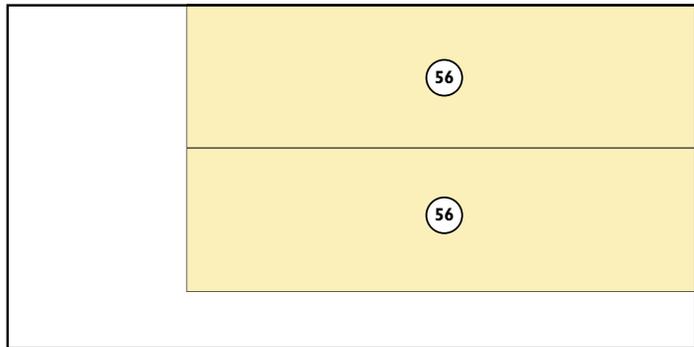
3/4" Solid cherry



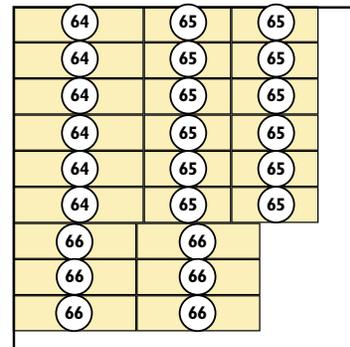
3/4" Solid poplar



1/4" Cherry veneer plywood



1/2" Baltic birch plywood



Cut List - Deluxe Murphy Bed

Pieces	Qty.	T x W x L
1 x 2 x 6 Solid Poplar	(10)	3/4" x 1 1/2" x 72"
1 x 2 x 8 Solid Poplar	(2)	3/4" x 1 1/2" x 96"
1 x 6 x 4 Solid Poplar	(1)	3/4" x 5 1/2" x 48"
1 x 4 x 6 Solid Cherry	(1)	3/4" x 3 1/2" x 72"
1 x 6 x 8 Solid Cherry	(3)	3/4" x 5 1/2" x 96"
1 x 8 x 8 Solid Cherry	(2)	3/4" x 7 1/4" x 96"
1/4" x 3 x 8 Solid Cherry	(10)	1/4" x 2 1/2" x 96"
1/4" x 8 x 8 Solid Cherry	(2)	1/4" x 7 1/4" x 96"
3/4" plywood (Cherry veneer)	(5)	3/4" x 48" x 96"
1/4" plywood (Cherry veneer)	(3)	1/4" x 48" x 96"
1/2" plywood (Baltic birch)	(1)	1/2" x 48" x 48"

Board Layout

The cut list and diagrams on these pages are for both the Murphy bed cabinet and the side cabinets. They include items listed in both materials lists.

We used cherry hardwood and cherry veneer plywood, but you can substitute the species of your choice.

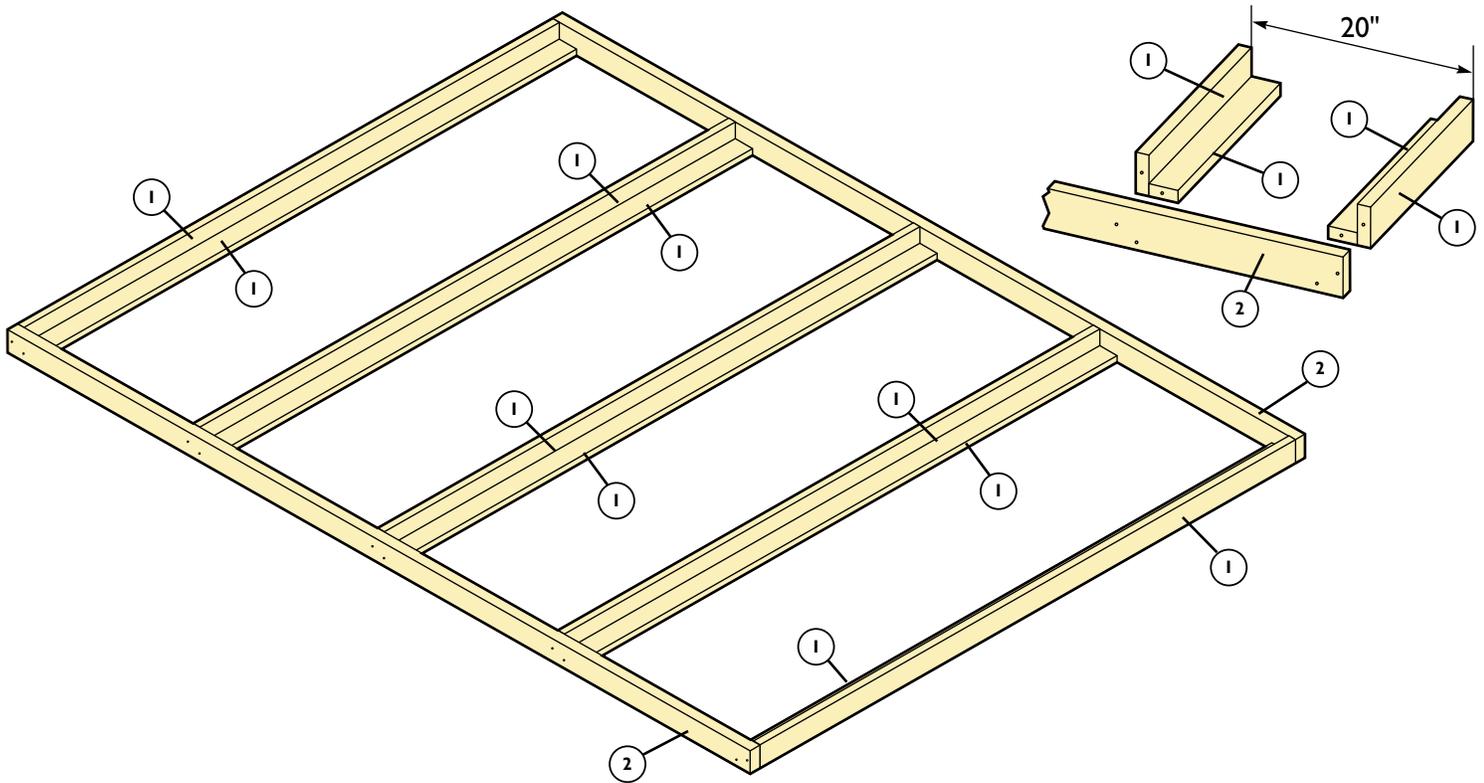


Fig. 1 - Inner Bed Frame

Congratulations on the purchase of your Deluxe Murphy Bed hardware! There are a few important things to keep in mind as you prepare to build your new Murphy bed.

- **This plan is for a queen-size bed with vertical Murphy Bed hardware.** The mattress can be no larger than 60" x 80" x 12" and 65-80 pounds.
- **Be sure you have sufficient space** where you plan to install your Murphy bed unit. A queen-size bed will extend about 7'3" into the room when open, and the width of the bed cabinet plus the side cabinets will be just more than 9'.
- **The Murphy bed unit must sit flush against the wall.** If the room has base molding, you will need to make relief cuts on the back edges of the Bed Cabinet Verticals and Cabinet Sides or remove and cut the room molding to fit.
- Cut all pieces to size before beginning assembly. **Note that lengths cited for pieces marked with an asterisk (*) are approximate;** you should cut them slightly longer and then trim or miter them to fit on final assembly.

Read these instructions completely and watch the video included with your Murphy bed hardware before beginning assembly. Note that, because of

the addition of the side cabinets, the steps in these instructions might be in a different order from those depicted in the video. We recommend following the order outlined here. Follow all steps carefully.

Build the Inner Bed Frame

1. Arrange two Inner Bed Frame Strut Pieces (1) into an "L" shape to make the Frame Struts. Make sure the ends are flush, then drill 1/8" pilot holes about 8" apart and join the pieces with 1 5/8" Coarse Thread Screws (45). Repeat to make four other Frame Struts.
2. Position the Frame Struts between the Inner Frame Sides (2) 20" apart. **Fig. 1.** Drill pilot holes through the Inner Frame Sides (2) into each end of the Frame Struts and attach with 2" Coarse Thread Screws (46).

Install the Pivoting Leg Hardware

1. Mark the radius on the top front edges of both Side Rails (3) and the locations of the 5/8" and 1/4" holes on the Side Rails' (3) inside faces. **Shop Drawing.**
2. Cut the rounded corners with a jigsaw and sand smooth. Apply Veneer Edge Banding (48) along the top edges and radiused ends. Trim excess.

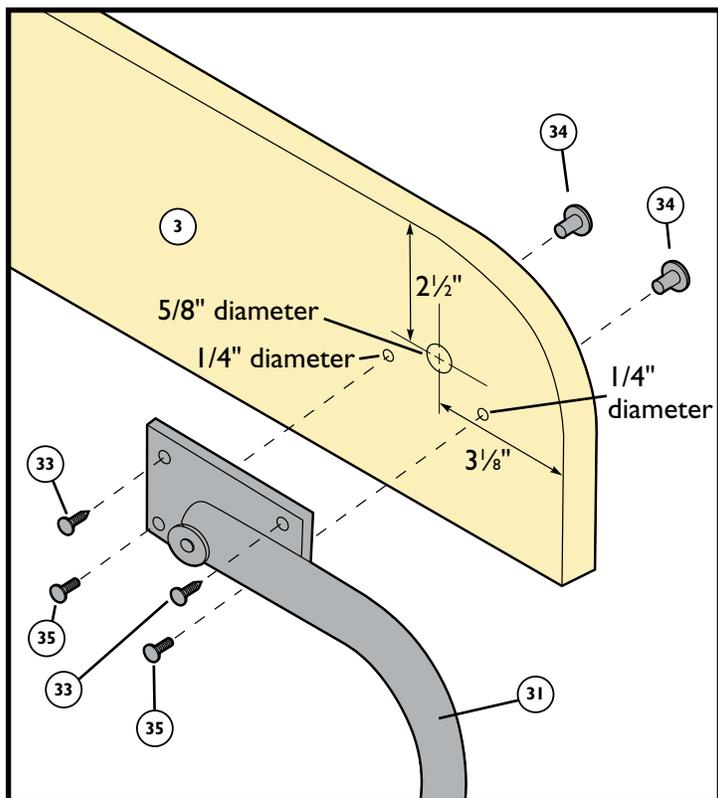


Fig. 2

3. Drill the 5/8" diameter holes 1/2" deep on the inside faces of the Side Rails (3). **Fig. 2.**
4. Position the correct Metal Pivoting Leg (31) for each Side Rail (3) in place, inserting the pivot in the hole you just drilled. Make sure the pivot plate is square to the edges of the Side Rail (3), then mark the locations of the bottom two screw holes.
5. Remove the Metal Pivoting Leg (31) and drill 1/4" through holes in the locations you just marked, using a backer board to avoid tear-out.
6. From the outside face of each Side Rail (3), insert a T-nut (34) in each 1/4" hole. Align the Metal Pivoting Leg's (31) plate with the holes and secure with machine screws (35) threaded into the T-nuts (34). Drive Black Screws (33) in the remaining holes in each plate. **Fig. 2.**
7. Remove the Metal Pivoting Leg (31) hardware from each Side Rail (3).
8. Locate the center on each end of the solid-wood Leg Support Rail (13) by drawing diagonal lines from corner to corner. Drill a 7/32" hole 1 1/2" deep centered on the mark at each end. Don't attach the rail to the Metal Pivoting Legs (31) at this time; wait until the piece has been finished.

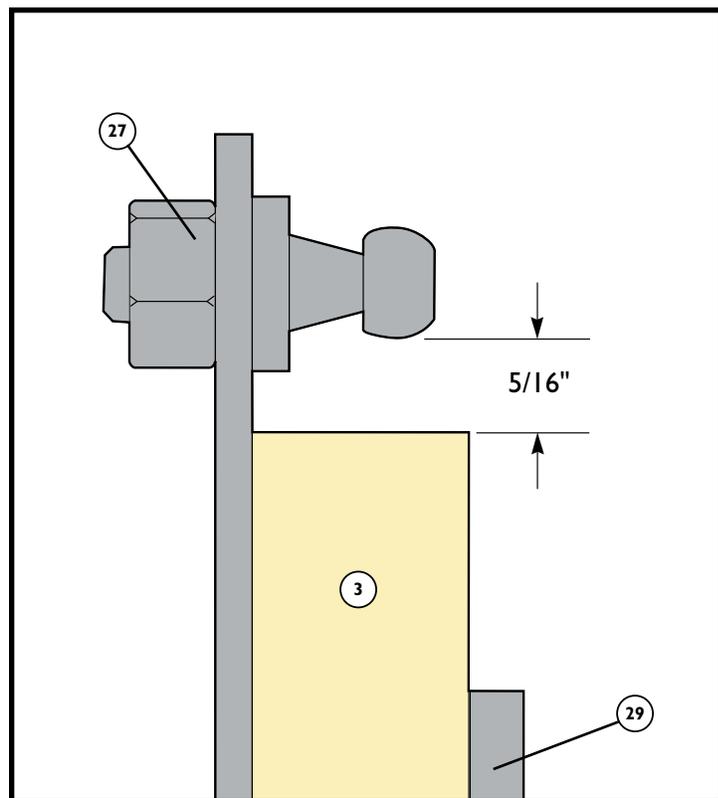


Fig. 3

Install the Ball Stud Plates and Metal Pivots

1. Mark and drill 1" diameter through holes for the Female Metal Pivots (29) toward the back of the Side Rails (3) as specified on the **Shop Drawing**. Use a backer board to avoid tear-out.
2. On the inside of each Side Rail (3), position a Female Metal Pivot (29) with the pivot in the 1" through hole. Use a square to align the plate, then attach with Silver Screws (38).
3. Mark and drill 1/4" through holes for the Bed Ball Stud Plates (27) as specified on the **Shop Drawing**. Use a backer board to avoid tear-out.
4. For each Side Rail (3), position a Bed Ball Stud Plate (27) on the outside face, aligning its holes with the 1/4" holes in the Side Rail (3). Make sure there's 5/16" clearance between the bottom of the ball and the top of the Side Rail (3). **Fig. 3.**
5. From the inside face of each Side Rail (3), insert a T-nut (34) in each hole. Secure the Bed Ball Stud Plate (27) with Machine Screws (35) threaded into the T-nuts (34). Drive Black Screws (33) in the Bed Ball Stud Plate's (27) remaining two holes.

Attach Head, Foot and Side Rails to frame

1. Apply Veneer Edge Banding (48) to the top edges of the Head Rail (5) and Foot Rail (4). Trim excess.
2. Position the Foot Rail (4) against the foot end of the inner frame, making sure that the bottom edges are aligned and the ends of the Foot Rail (4) are flush with the Inner Frame Sides (2). **Fig. 4.**
3. Drill five evenly spaced 1/8" pilot holes through the Inner Frame Struts (1) and into the inside face of the Foot Rail (4), being careful not to drill all the way through. Attach with 1 1/4" Coarse Thread Screws (44).
4. Repeat Steps 2 and 3 for the Head Rail (5).
5. Position the left and right Side Rails (3) against the Inner Frame Sides (2) so that the Female Metal Pivots (29) are on the inside and the Bed Ball Stud Plates (27) are on the outside. Make sure that the front, back and bottom edges of the Side Rails (3) are flush with the frame. From the inside, drill eight 1/8" pilot holes (two between each Frame Strut) through the frame and into each Side Rail (3). Attach with 1 1/4" Coarse Thread Screws (44). **Fig. 4.**
6. Drill two 1/8" pilot holes through the outside face of each Side Rail (3) into both the Head Rail (5) and the Foot Rail (4). Attach with 2" Coarse Thread Screws (46).

Attach the Face Panels

1. Choose the best face for each Bed Face Panel (6) and position those faces down. Apply Veneer Edge Banding (48) to the outside edges and to the edges that will show at the foot of the bed. Trim excess.
2. Measure 1/4" in from the long edges and draw a line the full length of the back on each side.
3. Lay the bed frame assembly on the Bed Face Panels (6) so that the front of the Foot Rail (4) is flush with the veneered ends of the Bed Face Panels (6) and the Side Rails (3) are aligned with the lines you drew in Step 2. **Fig. 4.**
4. To show where to apply glue, trace pencil lines along the inside of the Inner Frame Struts (1) and Sides (2).
5. Remove the bed frame assembly and apply glue to the Bed Face Panels (6) inside the trace lines you drew in Step 4.
6. Reposition the bed frame assembly on the Bed Face Panels (6), again making sure that the front of the Foot Rail (4) is flush with the veneered ends of the Bed Face Panels (6) and the Side Rails (3) are aligned with the lines you drew in Step 2. **Fig. 4.**
7. Maintaining alignment, drill a 1/8" pilot hole through the Inner Frame Strut (1) and into the

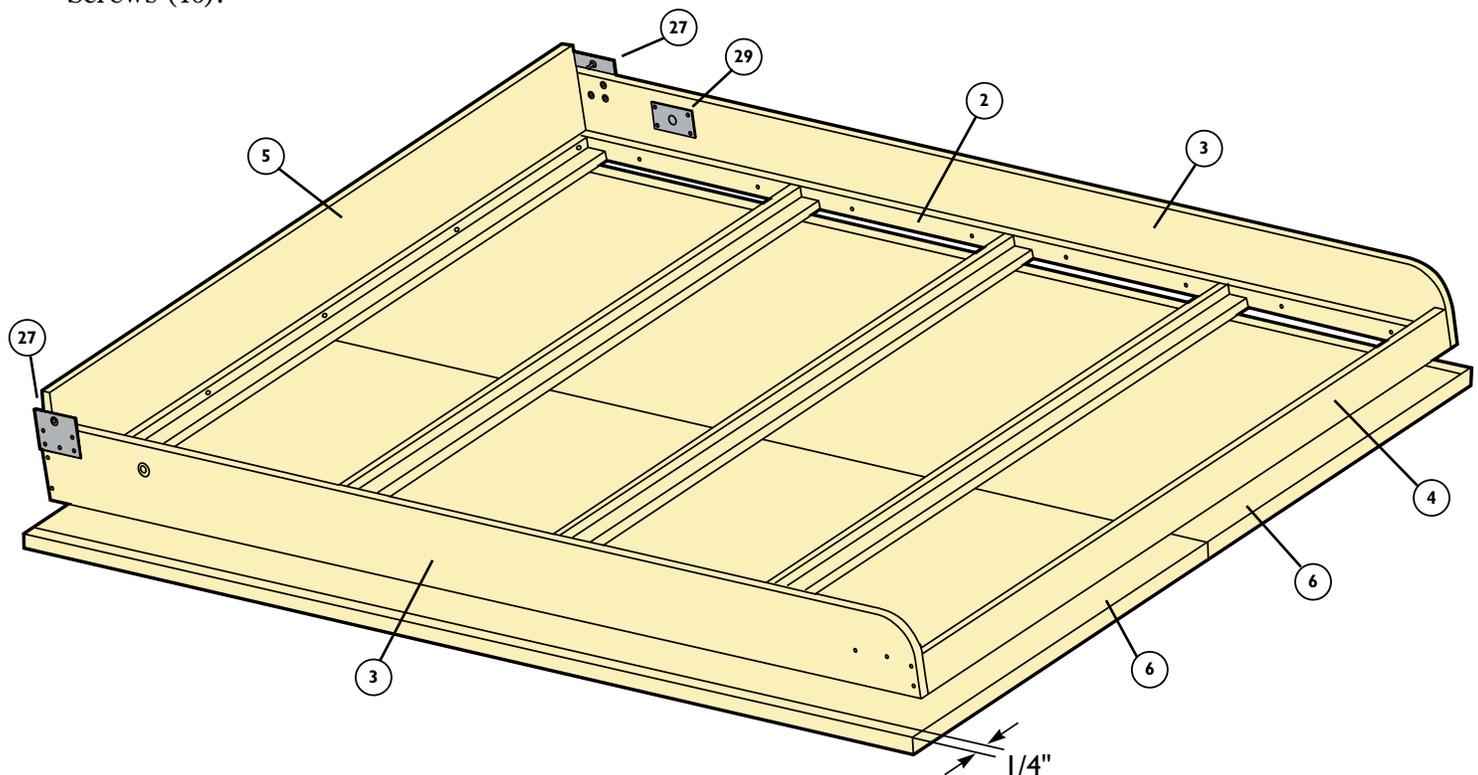


Fig. 4 - Attaching the Head, Foot and Side Rails and the Face Panels

left Bed Face Panel (6) at location “X,” taking care not to drill all the way through. Secure with a 1/4" Coarse Thread Screw (44). **Fig. 5.**

8. Maintaining flush edges, drill another 1/8" pilot hole through the Inner Frame Strut (1) and into the left Bed Face Panel at location “Y.” Secure with a 1/4" Coarse Thread Screw (44). **Fig. 5.**
9. Make sure the Side Rail (3) is aligned with the line 1/4" in from the outside edges of the Bed Face Panel (6). If it isn't, hold it in line, then drill a 1/8" pilot hole at location “Z” and secure with a 1/4" Coarse Thread Screw (44). Check for squareness again. An out-of-square assembly will cause major problems in future steps. **Fig. 5.**
10. Once the assembly is squared, drill 1/8" pilot holes every 6" through the remaining Inner Frame Struts (1) and into the Bed Face Panel (6) and secure with 1/4" Coarse Thread Screws (44).
11. Repeat Steps 7-10 for the right Bed Face Panel (6).

Attach the Faux Fronts

1. Carefully flip the bed assembly so that the attached Bed Face Panels (6) are facing up. Start at a top corner of the Bed Face Panels (6).
2. Position one Faux Face Panel Stile (19) in the corner so its top and outside edges are flush with the edges of the Bed Face Panel (6). Glue and secure with 3/4" Finish Nails or Brads (40). **Fig. 6.**
3. Position two Faux Face Panel Rails (20) at the top and bottom of the Faux Face Panel Stile (19) so they are tight against the Faux Face Panel Stile (19). Make sure they are at right angles, then secure with glue and 3/4" Finish Nails or Brads (40). **Fig. 6.**
4. Position and secure another Faux Face Panel Stile (19) tight against the ends of the Faux Face Panel Rails (20), creating the appearance of a frame-and-panel door. **Fig. 6.**
5. Working from the outside corners in, repeat Steps 2-4 to install the remaining faux door fronts across the top and bottom of the Face Panels, with an even gap between each. The outside pieces should be flush with the edges of the Bed Face Panels (6).
6. Position and secure the Faux Drawer Fronts (18), maintaining uniform 1/8" spacing and alignment. **Fig. 7.**

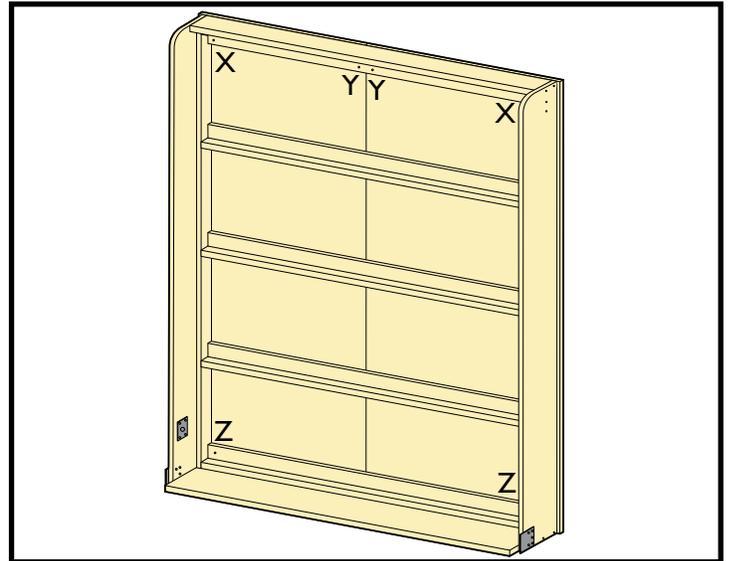


Fig. 5

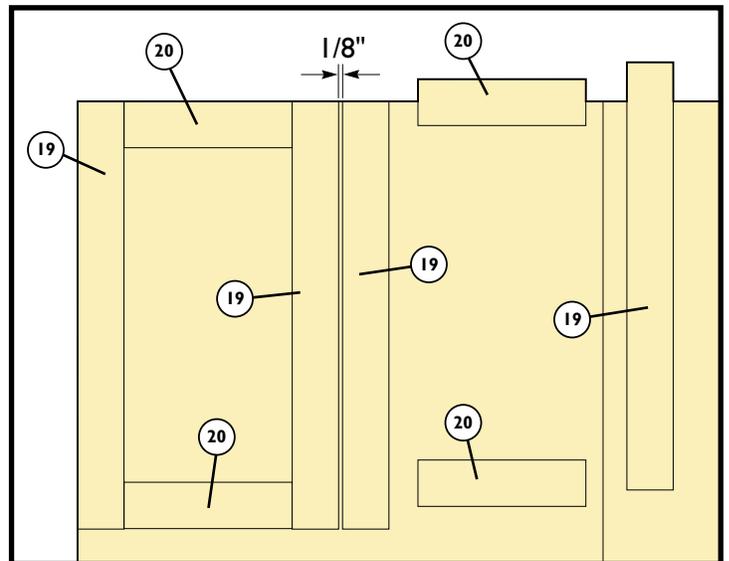


Fig. 6

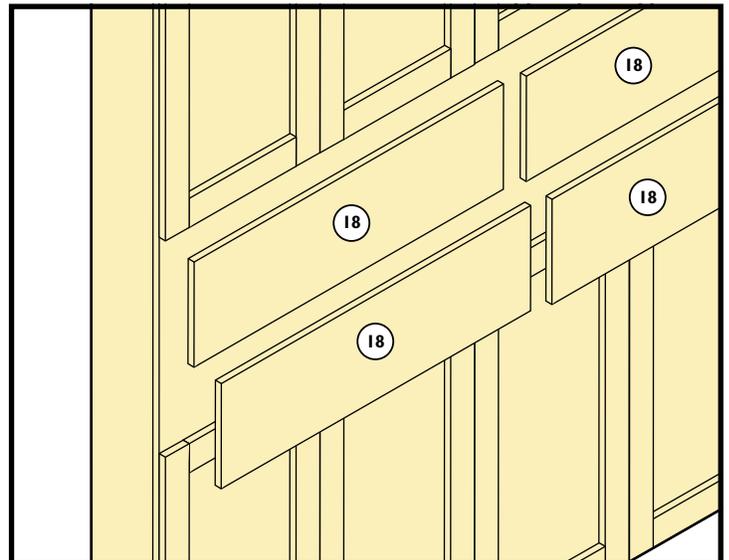


Fig. 7

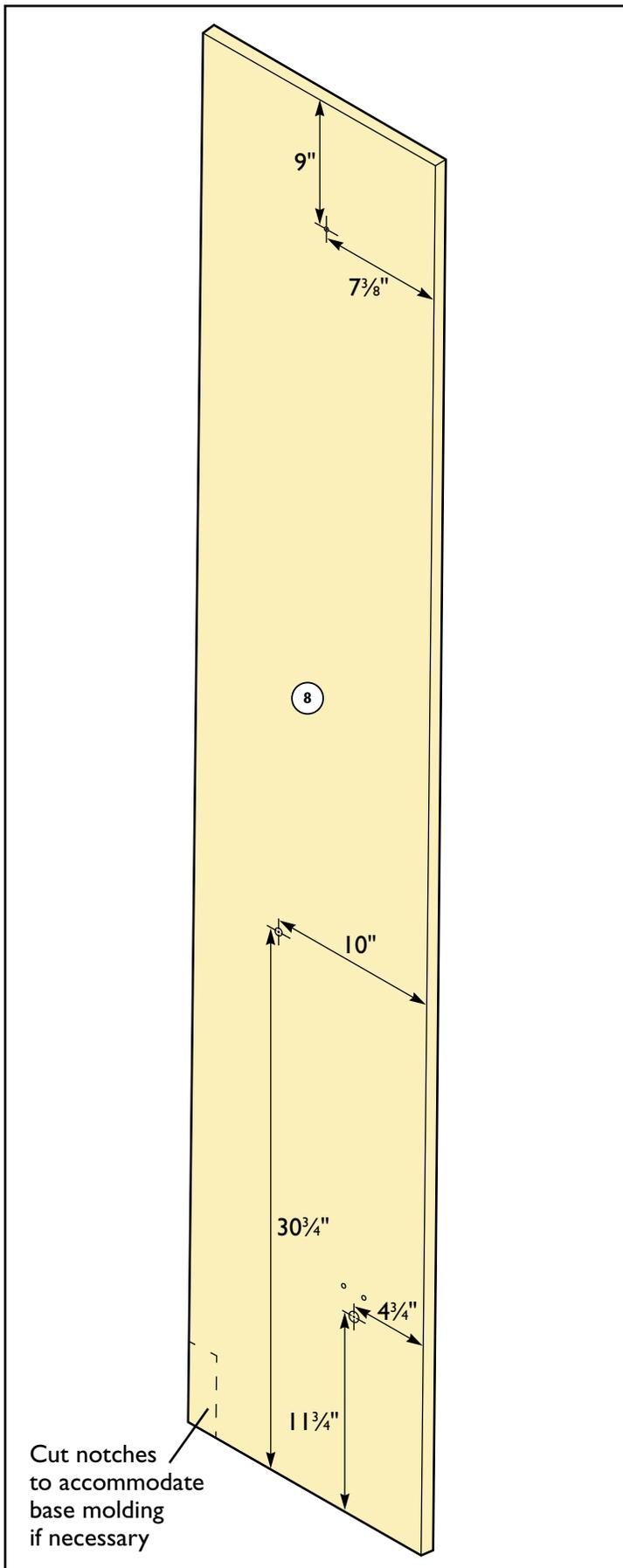


Fig. 9

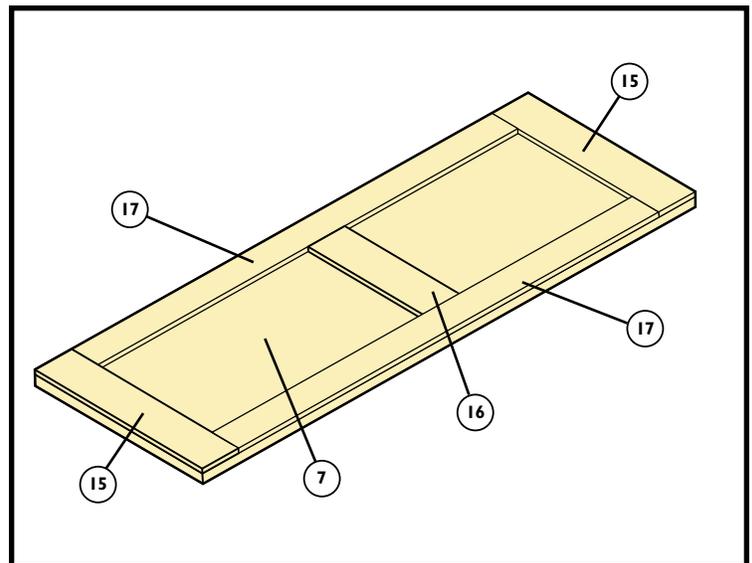


Fig. 8

Build the Bed Headboard

1. Apply Veneer Edge Banding (48) to the top and bottom edges of the Bed Headboard (7). Trim excess.
2. Attach the Faux Headboard End Stiles (15), and Faux Headboard Rails (17) to the face of the Bed Headboard (7) with glue and 3/4" Finish Nails or Brads (40). Trim Faux Headboard Center Stile (16) to fit and secure with glue and 3/4" Finish Nails or Brads (40). **Fig 8.**

Prep the Bed Cabinet Verticals

1. Apply Veneer Edge Banding (48) to the front edges of both Bed Cabinet Verticals (8). Trim excess.
2. If you are cutting notches in the back edges of the Bed Cabinet Verticals (8) to accommodate base molding at the installation site, mark and cut those notches.

Install the Bed Stops on the Bed Cabinet Verticals

1. Make a mark 7 3/8" in from the front edge and 9" down from the top edge on the inside face of each Bed Cabinet Verticals (8). **Fig. 9.**
2. Drill a 5/16" diameter hole 1/2" deep centered on these marks.
3. On each side, insert the pin on the Bed Stop (30) into that hole, line up the Bed Stop (30) so that the flat is parallel to the edge of the Bed Cabinet Vertical (8) and attach the Bed Stop (30) with a Black Screw (33).

Install the Ball Stud Plates on the Bed Cabinet Verticals

1. Make a mark 10" in from the front edge and $30\frac{3}{4}$ " up from the bottom edge on the inside face of each Bed Cabinet Vertical (8). **Fig. 9.**
2. Drill a $\frac{5}{8}$ " diameter hole $\frac{1}{2}$ " deep centered on these marks.
3. For each of the Vertical Ball Stud Plates (26), insert the nut on the back side of the plate into the hole and use a square to align the plate.
4. Mark the location of the center screw hole; remove the Vertical Ball Stud Plate (26) and drill a $\frac{1}{4}$ " through hole at this location, using a backer board to avoid tear-out.
5. From the outside face, insert a T-nut (34) in the hole.
6. Realign each Vertical Ball Stud Plate (26) with the hole and secure with a Machine Screw (35) threaded into the T-nut (34). Drive Black Screws (33) into the plate's remaining four holes.

Install the Male Metal Pivots on the Bed Cabinet Verticals

1. Make a mark $4\frac{3}{4}$ " in from the front edge and $11\frac{3}{4}$ " up from the bottom edge on the inside face of each Bed Cabinet Vertical (8). **Fig. 9.**
2. Drill a $\frac{5}{8}$ " diameter hole $\frac{1}{2}$ " deep centered on these marks.
3. For each Male Metal Pivot (28), insert the short (back) end of the pivot rod into the hole and use a square to align the plate. Mark the locations of the upper two screw holes and remove the Male Metal Pivot (28).
4. Drill $\frac{1}{4}$ " through holes at these locations, using a backer board to avoid tear-out.
5. From the outside face, insert T-nuts (34) in the holes.
6. Realign the Male Metal Pivot (28) with the holes and secure with Machine Screws (35) threaded into the T-nuts (34). Drive Black Screws (33) into the plate's remaining two holes.

Build the Bed Header

1. Apply Veneer Edge Banding (48) to the bottom edges of the Front Header Rail (10) and Rear Header Rail (11). Trim excess.

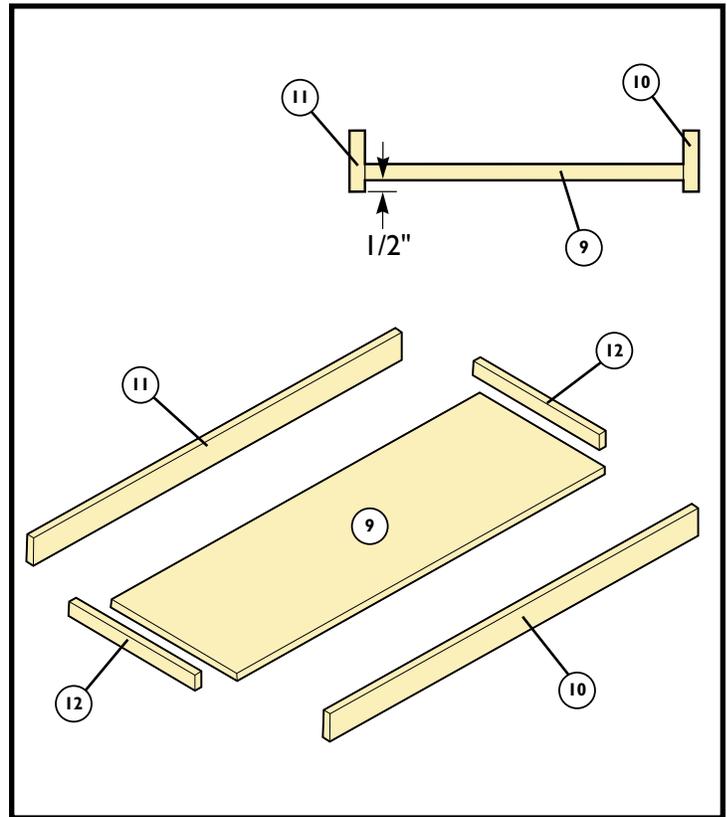
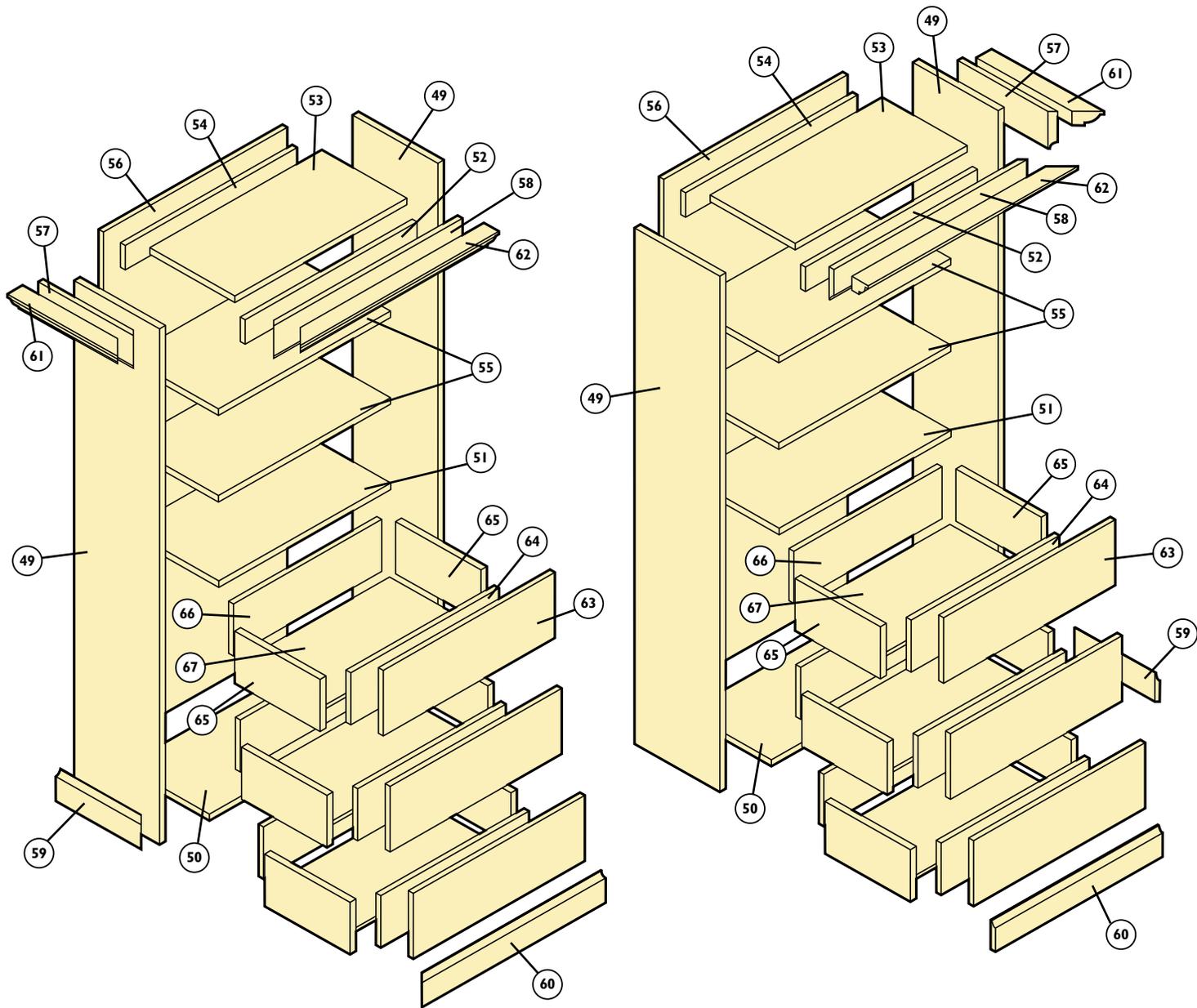


Fig. 10 - Bed Header

2. Use $\frac{1}{2}$ " deep spacer blocks to raise the Header Board (9) off the work surface. This will provide the proper positioning for attaching the Front and Rear Header Rails (10 and 11). **Fig. 10.**
3. Run a bead of glue along the front edge of the Header Board (9). Position the Front Header Rail (10) so that its ends are flush with the ends of the Header Board (9).
4. Drill pilot holes through the Front Header Rail (10) into the Header Board (9). Attach the Front Header Rail (10) with 2" Finish Nails (43). **Fig. 10.**
5. Run a bead of glue along the back edge of the Header Board (9). Position the Rear Header Rail (11) so that its ends are flush with the ends of the Header Board (9).
6. Drill pilot holes through the Rear Header Rail (11) into the Header Board (9). Attach with 2" Coarse Thread Screws (46). **Fig. 10.**
7. On the top edges of both solid-wood Header Mounting Cleats (12), drill four evenly spaced $\frac{3}{8}$ " diameter holes 3" deep. Switch to a smaller bit and extend pilot holes through the Header Mounting Cleats (12) into the Header Board (9), taking care not to drill all the way through.



Bill of Materials - Side Cabinets

Pieces	Qty.	T x W x L
49. Cabinet Side	(4)	3/4" x 14" x 75"
50. Cabinet Bottom	(2)	3/4" x 14" x 19 1/4"
51. Fixed Shelf	(2)	3/4" x 13 3/4" x 19 1/4"
52. Front Rail	(2)	3/4" x 4" x 18 1/2"
53. Cabinet Top	(2)	3/4" x 13 3/8" x 19 1/4"
54. Rear Rail	(2)	3/4" x 2 3/4" x 18 1/2"
55. Adjustable Shelf	(4)	3/4" x 13 3/4" x 18 1/4"
56. Cabinet Back	(2)	1/4" x 19 1/4" x 70 1/8"
57. Top Side Molding*	(2)	3/4" x 5 1/4" x 14 13/16"
58. Top Front Molding*	(2)	3/4" x 5 1/4" x 20 3/4"

Pieces	Qty.	T x W x L
59. Bottom Side Molding*	(2)	3/4" x 5 1/4" x 14 13/16"
60. Bottom Front Molding*	(2)	3/4" x 5 1/4" x 20 3/4"
61. Side Crown*	(2)	3/4" x 1 1/2" x 15 11/16"
62. Front Crown*	(2)	3/4" x 1 1/2" x 21 1/16"
63. Drawer Face	(6)	3/4" x 6" x 18 1/4"
64. Drawer Front	(6)	1/2" x 5" x 17 1/2"
65. Drawer Side	(12)	1/2" x 5" x 11 7/8"
66. Drawer Back	(6)	1/2" x 5" x 17"
67. Drawer Bottom	(6)	1/4" x 11 1/4" x 17"
68. Finish Washers	(8)	

* Lengths are approximate. Rough cut pieces slightly longer and trim or miter to fit on final assembly.

8. Apply glue to the bottom edges of the Header Mounting Cleats (12), then position them on top of the Header Board (9) between the Front and Rear Header Rails (10 and 11) and secure with 2" Coarse Thread Screws (46).

Note: Remove all hardware from the wooden components to make finishing easier. You might want to delay finishing until you have built the side cabinets so you can do all finishing at the same time.

Build the Side Cabinets

1. Using a dado blade in a table saw or a rabbeting bit in a router, cut 3/8"W x 1/4"D rabbets on the rear inside edges of all Cabinet Sides (49) and the top rear edges of the Cabinet Bottoms (50) to accept the Cabinet Backs (56).
2. Using a dado blade in a table saw or a straight bit in a router with a straight-edge guide, cut a dado to accept the Cabinet Top (53) across the inside face of the Cabinet Sides (49). The top of the dado should be 2 3/4" down from the top of the Cabinet Sides (49). Be sure to match the dado blade set-up or the bit width to the thickness of the plywood to avoid unsightly gaps.
3. Cut a dado to accept the Fixed Shelf (51), with the top of the dado 24 1/2" up from the bottom of the Cabinet Sides (49).
4. Cut a dado to accept the Cabinet Bottom (50), with the top of the dado 5 1/4" up from the bottom of the Cabinet Sides (49).
5. If you are cutting notches in the back edges of the Cabinet Sides (49) to accommodate base molding at the installation site, mark and cut those notches.
6. Drill shelf-pin holes on the inside faces of all Cabinet Sides (49) between the Fixed Shelf (51) and the Cabinet Top (53) for the Adjustable Shelves (55). Perfectly aligned sets of holes are needed an equal distance in from the front and rear inside edges of both Cabinet Sides. This plan specifies 1/4" shelf pins with pin sleeves, requiring holes that are 9/32" in diameter and 3/8" deep.
7. With one Cabinet Side (49) on the work surface, inside face up, apply glue in the dado for the Cabinet Top (53). Install the Cabinet Top in the dado, making sure that it is square to the Cabinet Side (49) and that its back edge is flush with the rabbet at the back edge of the Cabinet Side. Slide the top end of the Cabinet Side (49) off the work surface and, from underneath, drill and countersink two pilot holes through the Cabinet Side and into edge of the Cabinet Top (53). Attach with 1 5/8" Coarse Thread Screws (45). These screws will be hidden by moldings.
8. Apply glue in the dado and install the Cabinet Bottom (50), making sure that it is square to the Cabinet Side (49) and that its front edge is flush with the front edge of the Cabinet Side (49). Slide the bottom end of the Cabinet Side off the work surface and, from underneath, drill and countersink two pilot holes through the Cabinet Side (49) and into the edge of the Cabinet Bottom (50). Attach with 1 5/8" Coarse Thread Screws (45). These screws will be hidden by moldings.
9. Apply glue in the dado and install the Fixed Shelf (51), making sure that it is square to the Cabinet Side (49) and that its front edge is flush with the front edge of the Cabinet Side (49). If the Cabinet Side will face the Murphy bed cabinet, drill and countersink pilot holes from underneath and attach with 1 5/8" Coarse Thread Screws (45), as the screws will be hidden. If the Cabinet Side will face the outside, use glue only so no screws will show.
10. Apply glue in the dados of the other Cabinet Side (49) and position it on the assembly so that the Cabinet Top (53), Fixed Shelf (51) and Cabinet Bottom (50) fit in the dados. Make sure each piece is fully seated in its dado and square to the Cabinet Side (49), then drill and countersink pilot holes for the Cabinet Top (53) and Cabinet Bottom (50) and attach with 1 5/8" Coarse Thread Screws (45). If this Cabinet Side will face the Murphy bed cabinet, drill and countersink pilot holes for the Fixed Shelf (51) also and attach with 1 5/8" Coarse Thread Screws (45). Otherwise, use glue only.
11. Turn the cabinet onto its front edges. Apply glue in the rabbets in the Cabinet Sides (49) and Cabinet Bottom (50) and across the back edges of the Cabinet Top (53) and Fixed Shelf (51). Place the Cabinet Back (56) in the opening, making sure the correct face will be visible from the front. Secure one corner with a 3/4" Finish Nail or Brad (40). Measure the diagonals to ensure the case is square; make any necessary adjustments and secure the Cabinet Back (56) in place with 3/4" Finish Nails or Brads (40) every 6".
12. Using a dado blade in a table saw or a straight bit in a table-mounted router, cut a groove 1" from the bottom edge on the inside face of the Front Rail (52). The groove should be 3/8" deep, and its width should match the thickness of the Cabinet Top (53).

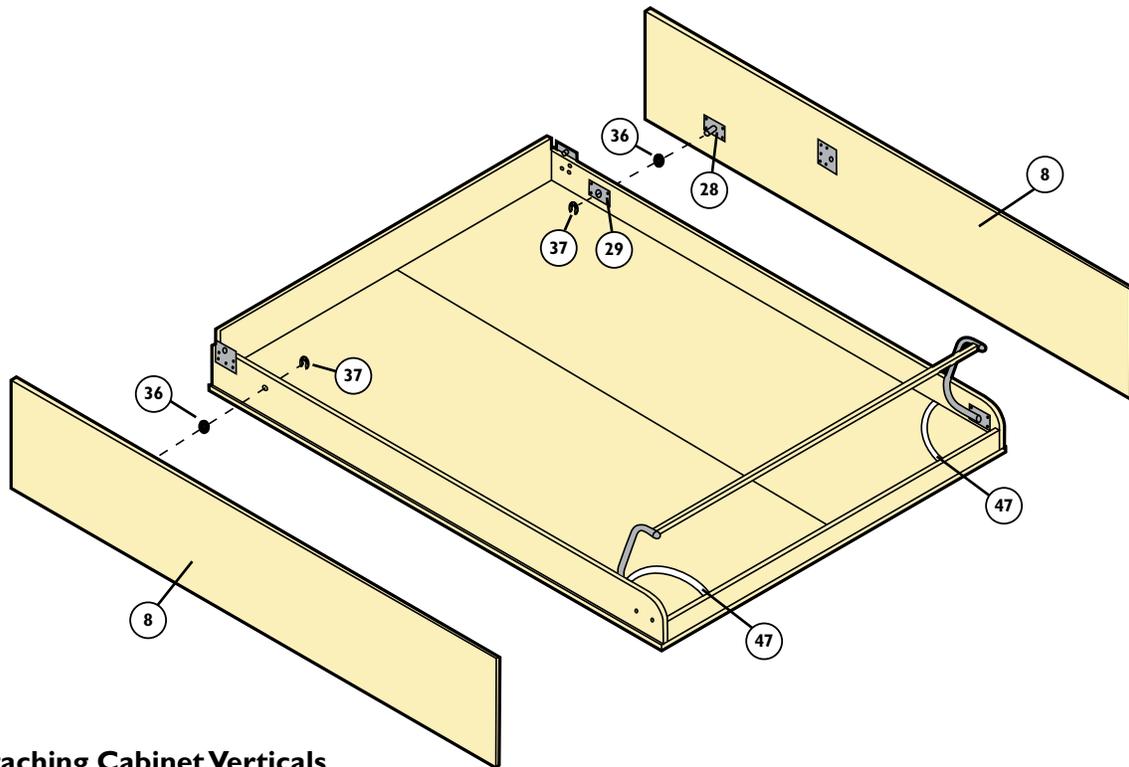


Fig. 11 - Attaching Cabinet Verticals

13. Apply glue in the groove and position the Front Rail (52) so that the front edge of the Cabinet Top (53) is fully seated in the groove and the rail is flush with the Cabinet Sides (49). Secure the Front Rail (52) with 1½" Finish Nails (42) or brads driven through the Cabinet Sides (49).

14. Apply glue to the rear face and bottom edge of the Rear Rail (54) and position it against the Cabinet Back (56) at the top of the cabinet. Secure the Rear Rail (54) with 2" Finish Nails (43) or brads driven through the Cabinet Sides (49).

15. Repeat Steps 7-14 for the other Cabinet Side (49).

16. Apply Veneer Edge Banding (48) to exposed plywood edges, including front edges of Adjustable Shelves (55). Trim excess.

Build the Drawers

1. Using a dado blade in a table saw or a straight bit in a table-mounted router, cut a 1/4" wide x 1/4" deep groove 1/2" up from the bottom edge in all of the Drawer Fronts (64), Drawer Sides (65) and Drawer Backs (66).

2. After adjusting the dado setup or switching bits, cut a 1/2" wide x 1/4" deep dado in each Drawer Side (65) 1/4" in from the back edge. Make sure that the dados are cut on the same face as the grooves you cut in Step 1 and that you make mirror-image pairs of Drawer Sides (65).

3. Using a drawer lock router bit (22637, sold separately), rout the interlocking profiles at the front of the Drawer Sides (65) and in the Drawer Fronts (64). Make sure that the cuts are made on the same face as the grooves you cut in Step 1 and that you make mirror-image pairs of Drawer Sides (65).

4. For each drawer, apply glue to the dados and the interlocking joints, but not to the grooves for the Drawer Bottom (67).

5. Insert the Drawer Back (66) in the dados in the Drawer Sides (65); slide the Drawer Bottom (67) in the dry grooves; and position the Drawer Front (64) so that the joints interlock and the groove fits over the Drawer Bottom (67). Clamp the assembly.

6. Make sure each drawer is square by measuring diagonally. Adjust as necessary.

7. Secure the Drawer Back (66) with 3/4" Finish Nails or Brads (40) through the Drawer Sides (65). Let glue cure overnight.

Finish All Pieces

1. Make sure all hardware has been removed from the wooden components.

2. Fill all nails holes and sand all components.

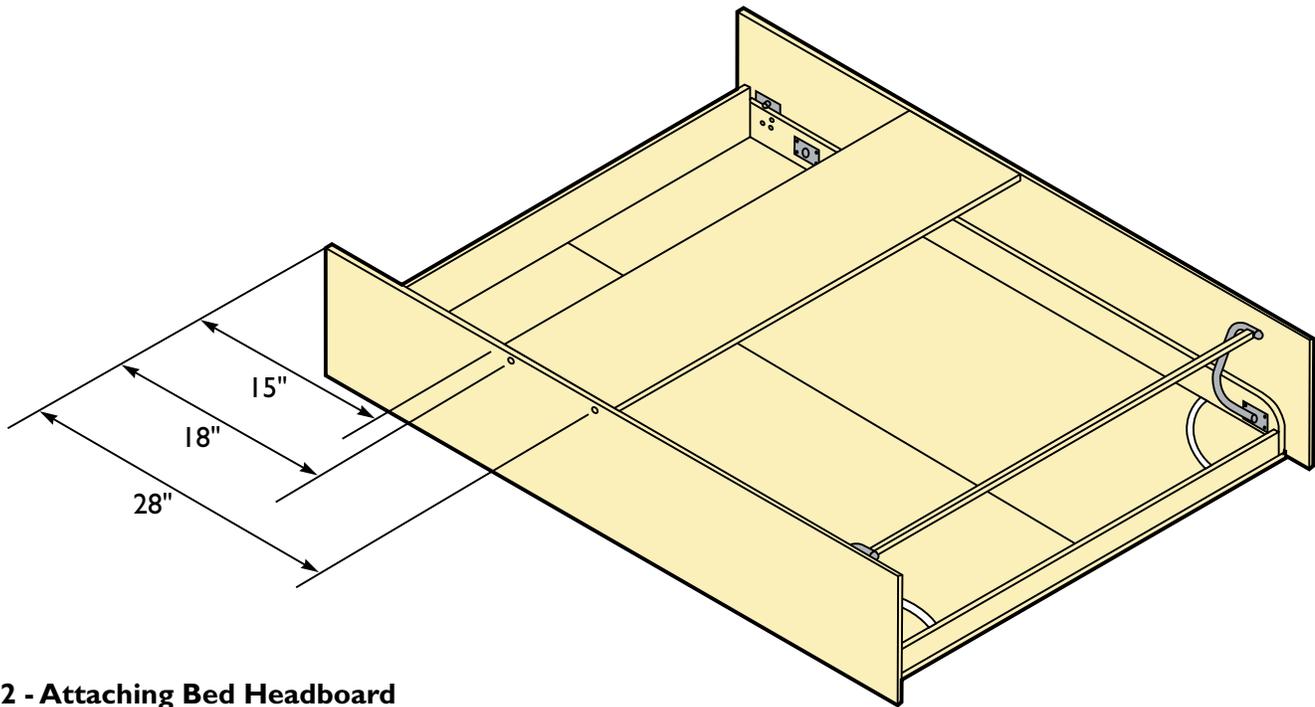


Fig. 12 - Attaching Bed Headboard

3. Apply finish of choice to visible areas of all pieces, including moldings.

Assemble the Bed

1. After the wooden bed parts have been finished, reinstall all hardware except for the Bed Stops (30) and the Metal Pivoting Legs (31).
2. Position the assembly on the floor where you plan to install the bed, first placing a blanket, rug or other padding under the Bed Face Panel surface to protect it from scratching.

Install Mattress Supports and Retaining Straps

1. Position the Mattress Supports (14) side by side on the slats of the inner bed frame.
2. Drill pilot holes and attach with 1¼" Coarse Thread Screws (44). Do not use glue.
3. From each of the front corners, measure out 16" in both directions and make marks.
4. At each mark, attach one end of a Mattress Retaining Strap (47) with a 1¼" Coarse Thread Screw (44).
5. Reinstall the Metal Pivoting Legs (31) and Leg Support Rail (13).

Attach the Cabinet Verticals and the Bed Headboard

1. Position the Cabinet Verticals (8) on their front edges with their hardware facing inward.
2. Slide a Plastic Spacer (36) on the pivot bar of the Male Metal Pivot (28) on each Cabinet Vertical (8). **Fig. 11.**
3. Position the Cabinet Verticals (8) so that the pivot bars go in the pivot holes in the assembled bed frame. The ends of the pivot bars should protrude through the pivot holes on the inside of the bed frame.
4. Snap the provided "E" Clips (37) in the grooves of both pivot bars. **Fig. 11.**
5. From the back bottom edge of each Cabinet Vertical (8), measure up 15" and make a mark. Do the same at 18" and 28". **Fig. 12.**
6. Position the Bed Headboard (7) between the Cabinet Verticals (8) with its bottom edge at the 15" marks and hold or clamp in place.
7. Drill pilot holes through each Cabinet Vertical (8) into the Bed Headboard (7) at the 18" and 28" marks.
8. Secure the Bed Headboard (7) to the Cabinet Verticals (8) with 2" Coarse Thread Screws (46).

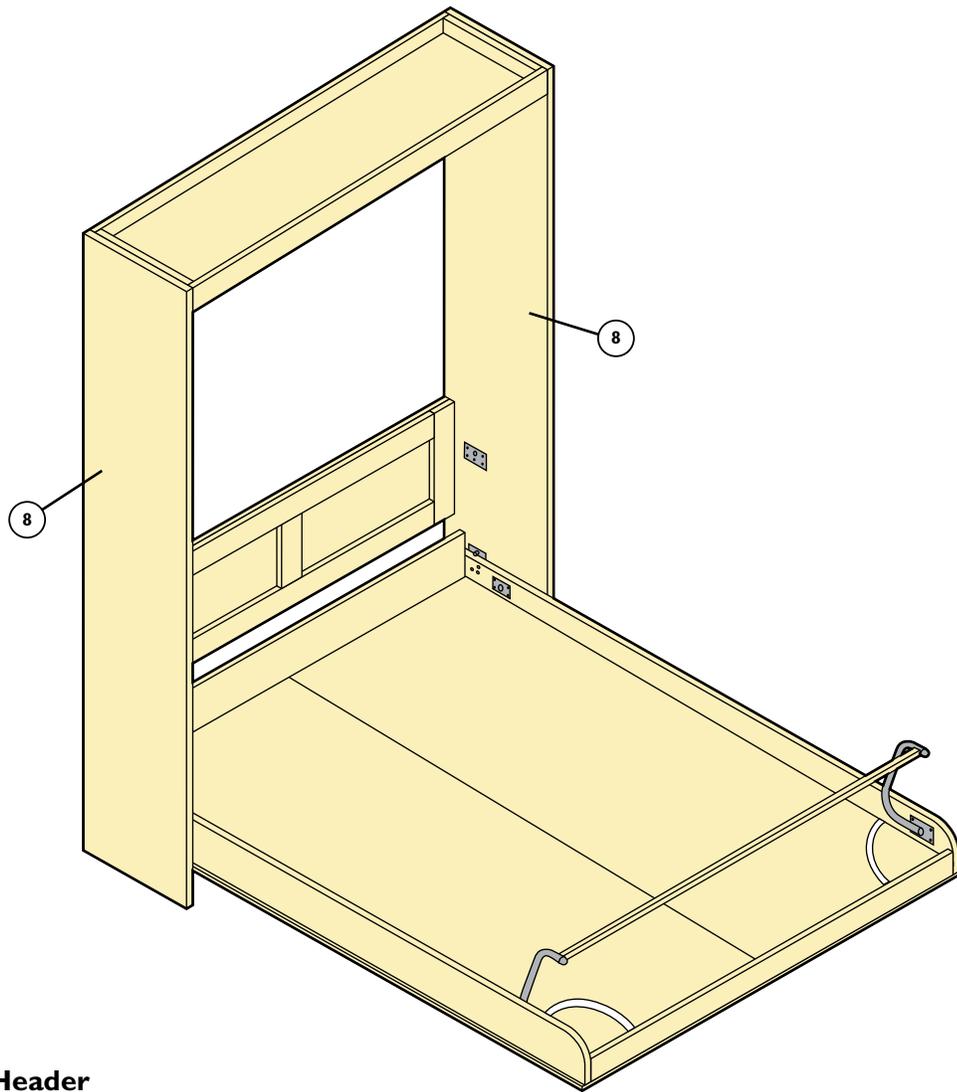


Fig. 13 - Attaching Header

Attach the Header to the Cabinet Verticals

1. Carefully lift the assembled Cabinet Verticals (8) and Bed Headboard (7) to upright.
2. Position the Header Board (9) between the Cabinet Verticals (8), making sure that the Rear Header Rail (11) faces the back. Align so that the top edges are flush and hold or clamp in place. **Fig. 13.**
3. Working from above the cabinet, drill pilot holes for four 1¼" Coarse Thread Screws (44) through the Header Mounting Cleats (12) into the Cabinet Verticals (8) at each end of the Header Board (9), taking care not to drill all the way through.
4. Attach the Header Board (9) with 1¼" Coarse Thread Screws (44).

Install the Gas Springs

The bed mechanism uses stored mechanical energy and can cause serious injury if improperly handled. You will need a helper to complete this step.

1. Position the bed cabinet 2-3' from the wall to give you enough room to work behind it.
2. With your helper holding the bed cabinet, lift the front of the bed frame so it pivots up into the cabinet. Go about 3" beyond flush at the top. **Fig. 14.**
3. On each side, install a Gas Spring (32) by snapping the ends onto the Bed Ball Stud Plate (27) on the Bed Side Rail (3) and on the Vertical Ball Stud Plate (26) on the Bed Cabinet Vertical (8). Be sure to properly orient the Gas Springs by noting the location of the labels reading, "Mount this end up." **Fig. 14.**
4. With your helper holding the bed cabinet and you working from behind the cabinet, push the top of the bed out 4" or 5" and reattach the Bed Stops (30).

- Carefully let the bed frame return to the vertical position. Once the Gas Springs (32) are installed, the bed frame will not stay down without the weight of the mattress.

Install Handles and Pulls

It will be easiest to install the handles and pulls before you attach the bed cabinet to the wall.

- Working from behind the cabinet with the bed in the closed position, remove the Retaining Straps (47) and Mattress Supports (14).
- Working from the front, determine and mark the locations for holes for the bolts that will secure the decorative hardware.
- Drill the holes for and install the hardware.
- Reinstall the Mattress Supports (14) and Retaining Straps (47).

Mount the Bed Cabinet to the wall

The bed **MUST** be securely anchored to the wall to operate properly.

- Make sure the cabinet will be able to sit flush against the wall.
- Position the cabinet against the wall. Center the bed frame in the cabinet opening by placing a folded piece of cardboard between the bed frame and the Cabinet Vertical (8) on each side near the top.
- Securely attach the bed cabinet to the wall using one of the following methods. You will need to use at least three screws to secure the cabinet.

For walls with wood studs:

- Use a stud finder to locate and mark the centers of at least three studs.
- Drill pilot holes through the Rear Header Rail (11) at these locations for 3" screws or lag screws.
- Attach securely with screws.

For walls with metal studs:

- Use a stud finder to locate and mark the centers of at least three studs.
- Drill 1/4" holes through the Rear Header Rail (11) and into the wall at these locations.
- Move the bed cabinet away from the wall.

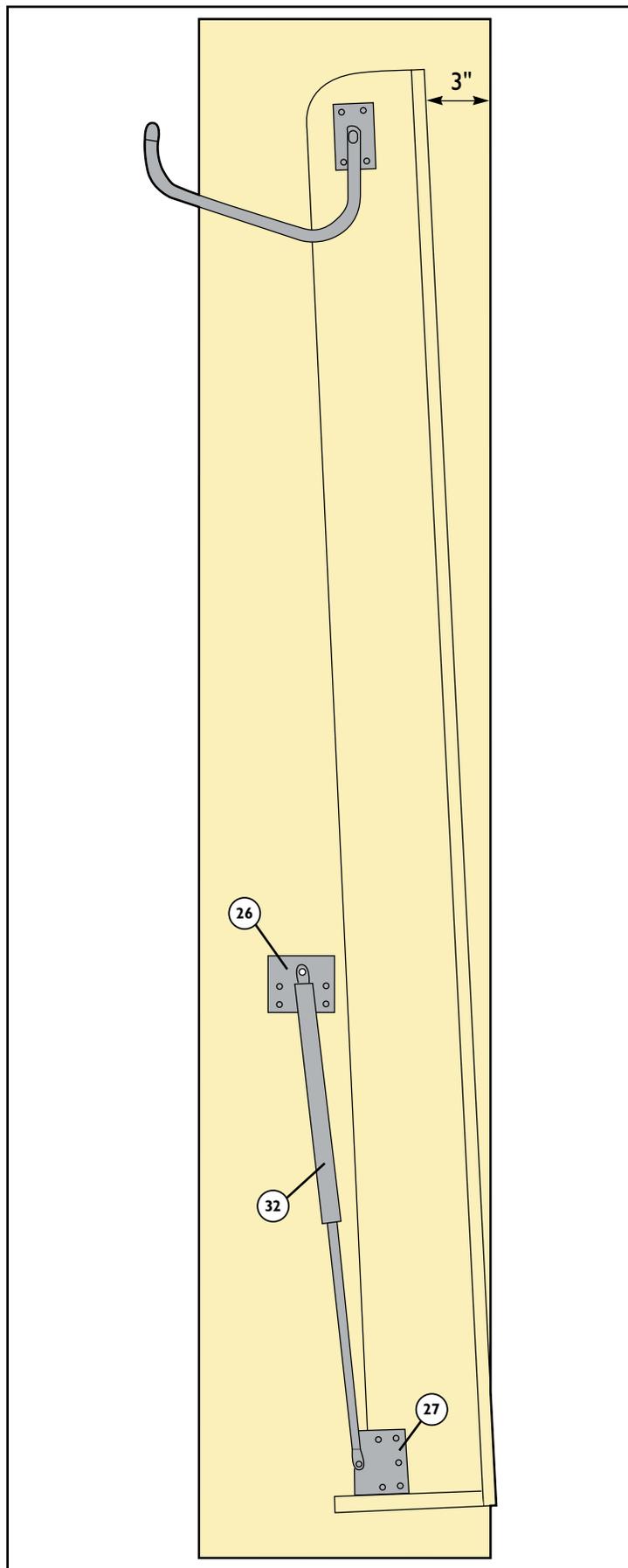


Fig. 14 - Installing Gas Springs

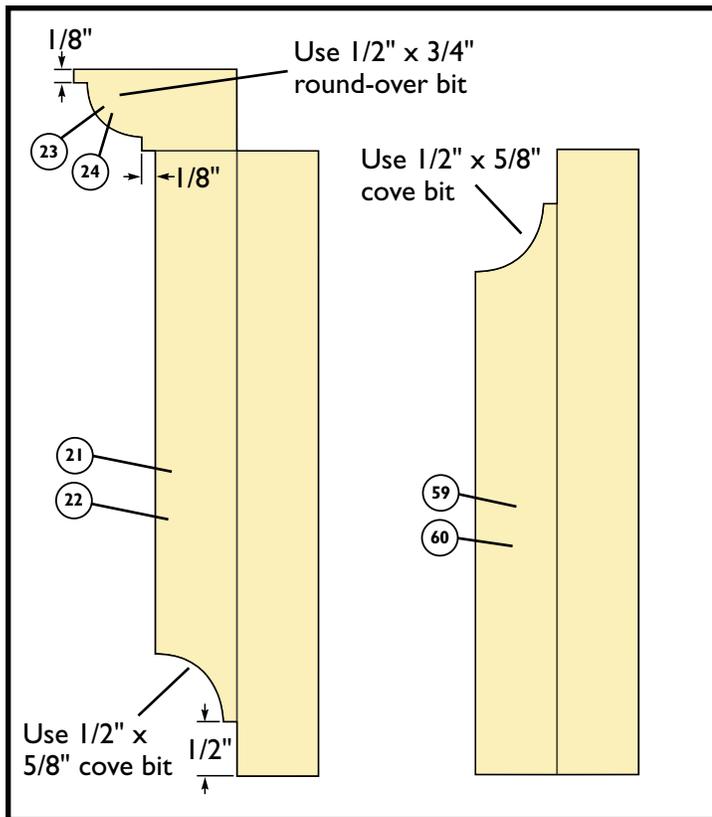


Fig. 15 - Molding and Crown Profile

Attach Side Cabinets

1. Move the Side Cabinets into place on either side of the bed cabinet, making sure they're tight against the wall.
2. Drill two sets of two pilot holes for 1/4" Coarse Thread Screws (44) from each side cabinet into the bed cabinet, one set toward the top and one inside the cavity where the drawers will be installed.
3. Attach each side cabinet to the bed cabinet with screws. (Use black finish washers for a more polished look.)

Install the Moldings and Crowns

The profiles for the moldings and crowns were routed with a 1/2" radius x 3/4" high round-over bit and a 1/2" radius x 5/8" high cove bit available as a set (26318, sold separately). The crown profile was achieved by switching out the guide bushing on the round-over bit with the smaller guide bushing from the cove bit. **Fig. 15.**

1. Obtain final measurements of the Bed Top Side (21), Bed Top Front (22), Top Side (57), Top Front (58), Bottom Side (59) and Bottom Front (60) moldings by fitting the pieces to the cabinets and marking locations for miter cuts. Remember that the side cabinets will be mirror images of each other, so be sure to cut the miters at the correct ends of your stock.
2. Position the Bed Top Front Molding (22) so that there's a uniform 1/2" reveal of the Front Header Rail (10) at the bottom. Clamp in place. Working from above the case, drill pilot holes through the Front Header Rail (10) into the Bed Top Front Molding (22) and secure with 1/4" Coarse Thread Screws (44).
3. Position the Bed Top Side Moldings (21) so that they are level and their miters fit snugly with those of the Bed Top Front Molding (22). Do not glue the miters (to allow for moving the unit).
4. Working from above the case, drill pilot holes through the Header Mounting Cleats (12) and Bed Cabinet Verticals (8) into the Bed Top Side Moldings (21) and secure with 2" Coarse Thread Screws (46).
5. Obtain final measurements for the Bed Side and Bed Front Crowns (23 and 24), marking locations for miter cuts. There should be a uniform 1/8" reveal of the bottom shoulder along the length of the Crown pieces. Cut pieces to final size.

- D. Use a 9/16" drill bit to widen and extend the pilot holes, being sure to drill through the metal studs.
- E. Insert toggle bolt screws in the holes in the Rear Header Rail (11) and thread on the toggle wings.
- F. Reposition the bed cabinet against the wall, carefully inserting the toggle bolts into the pilot holes and pushing the bolts in.
- G. Tighten the toggle bolts until the cabinet is secure to the wall.

For concrete, mortar or brick walls:

- A. Drill three evenly spaced 3/16" through holes in the Rear Header Rail (11).
 - B. With a 4"-long 5/32" diameter concrete drill bit, use the through holes in the Rear Header Rail (11) to drill pilot holes 2" into the wall.
 - C. Attach securely with 3/16" x 2 1/4" masonry screws.
4. If the gap between the bed frame and the Cabinet Verticals is uneven, push or gently kick the Cabinet Vertical at the bottom on the side with the largest gap.

6. Position the Bed Front Crown (24) on top of the Bed Top Front Molding (22), ensuring the uniform reveal. Secure by driving 1½" Finish Nails (42) or brads through the Bed Front Crown (24) into the Bed Top Front Molding (22) from above.
7. Position the Bed Side Crowns (23) so that their miters fit snugly with those of the Bed Front Crown (24) and the reveals are correct. Do not glue the miters.
8. Secure from above with 1½" Finish Nails (42) or brads.
9. Moving on to one of the side cabinets, position the Top Front Molding (57) so that there's a uniform 1/2" reveal of the Front Rail (52) at the bottom. Clamp in place. Working from above the case, drill pilot holes through the Front Rail (52) and into the Top Front Molding (58) and secure with 1¼" Coarse Thread Screws (44).
10. Apply glue to the miter joint. Position the Top Side Molding (57) so that it is level and the miters fit snugly. Wipe off any excess glue.
11. Working from above the case, drill pilot holes through the Cabinet Side (49) and into the Top Side Molding (57) and secure with 1¼" Coarse Thread Screws (44).
12. Position the Bottom Front Molding (60). Secure to the front edges of the Cabinet Sides (49) with 1½" Finish Nails (42).
13. Apply glue to the miter joint. Position the Bottom Side Molding (59) so that its miter fits snugly with that of the Bottom Front Molding (60). Wipe off any excess glue.
14. Secure the Bottom Side Molding (59) to the Cabinet Side (49) with 1¼" Finish Nails (41).
15. Obtain final measurements for the Crown pieces (61, 62). As with the bed cabinet, there should be a uniform 1/8" reveal of the bottom shoulder along the length of the Crown pieces. Cut pieces to final size. Remember that the side cabinets will be mirror images of each other, so be sure to cut the miters at the correct ends of your stock.
16. Position the Front Crown (62) on top of the Top Front Molding (58), ensuring the uniform reveal.

Secure by driving 1½" Finish Nails (42) or brads through the Front Crown (62) into the Top Front Molding (58) from above.

17. Apply glue to the miter joints. Position the Side Crown (61) so that its miter fits snugly with that of the Front Crown (62) and the reveals are correct. Wipe off any excess glue.
18. Secure by driving 1½" Finish Nails (42) or brads through the Front Crown (62) into the Top Front Molding (58) from above.
19. Repeat Steps 9-18 for other side cabinet.

Install the Bed Toe Kick Molding

1. With the bed in the closed position, place the Bed Toe Kick Molding (25) between the bed Cabinet Verticals (8).
2. Align the Bed Toe Kick Molding (25) with the front edges of the Cabinet Verticals (8).

Install the Slides and Drawers

1. Select 12" drawer slides of your choice. The drawers in this plan were sized for Rockler Centerline Lifetime Series 757 side-mount slides.
2. Install slides according to the manufacturer's instructions.

Attention Rockler Plan User

Before starting, please read the plan completely. Check Rockler.com for updates that may not be included on this copy. If you have further questions, please contact our Technical Support Department, 1-800-260-9663 or support@rockler.com

Notes:

