

VERTICAL DIY INSTRUCTIONS



\$15.00

MURPHY®

WALL-BEDS HARDWARE INC.



DIY Do-It-Yourself Mechanism Kit

Fits all

Single/Twin

Double/Full

Queen

Lift Mechanism, and Folding Leg System.
Designed to International ISO 9002 standards to
exceed residential specifications.

15 Year Warranty.

Established 1975

Trading as

Tilt-Away Beds of America®

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Thank you for purchasing our DIY Wall Bed Mechanism System. The Mechanism is made to International ISO 9002 specifications from a company in business since 1975. We trust you will find our instructions very explicit and you will enjoy your project.

BEFORE YOU START

- Before beginning to construct your Wall Bed, we suggest you unpack your DO-IT YOURSELF (DIY) Bed System so that, as you continue to read through this manual, you will familiarize yourself with the system's components.
- Read through this manual thoroughly, studying the illustrations as you go.
- If you are building a single/twin bed you do not need a Stiffener. Disregard all further references to that item as well as any to multiple BED PANELS.
- Because the kind of handles used to pull the bed open is a matter of personal taste, they are not included in the System component. You need not immediately purchase this item but should have it on hand before beginning section 7 of the STEP-BY-STEP INSTRUCTIONS.
- Panels must be 3/4" plycore (particle board is not suitable). If you wish to paint cabinetry use 3/4" Birch plycore. Light weight decorative face moulding or crown moulding may be added to the bed cabinet after assembly is completed.
- Once you begin the construction, assembly and installation process, follow the instructions carefully. Pay particular attention to the items marked with italics.
- Hardware is patented. **Duplication is illegal.**

CONTENTS OF DO-IT-YOURSELF (DIY) SYSTEM

Qty.	Item	✓
2	Lift mechanisms, left & right	<input type="checkbox"/>
2	Tilt-Away™ legs, left & right, with the following attached to each leg:	<input type="checkbox"/>
	1 - 3/4" x 1 1/4"(OD) "Lexan" black plastic washer	<input type="checkbox"/>
	1 - 5/16" x 3/4"(OD) flat washer	<input type="checkbox"/>
	1 - 5/16" Nylock hex nut	<input type="checkbox"/>
18	Mechanism springs	<input type="checkbox"/>
2	Mechanism spring safety cover plates	<input type="checkbox"/>
1	13" plastic pipe	<input type="checkbox"/>
1 pr.	Velcro straps	<input type="checkbox"/>

Bag #10...

3	2" x 2" L brackets (secure Cabinet to wall)	<input type="checkbox"/>
6	#8 x 2" flathead wood screws (as above)	<input type="checkbox"/>
6	#8 x 3/4" flathead wood screws (as above)	<input type="checkbox"/>
3	1/4" rounded Bumper Buttons (for Top Stretcher)	<input type="checkbox"/>
2	3/8" flat Bumper Buttons (for Leg bumpers)	<input type="checkbox"/>
1	Warning label	<input type="checkbox"/>
8	5/16" x 1 1/4" flathead slot machine screws ... (mount mechanism to Side Panel)	<input type="checkbox"/>
2	Hexagon cam washers (as above)	<input type="checkbox"/>
2	5/16" x 7/8" (OD) flat washers (as above)	<input type="checkbox"/>
8	5/16" plain hex nuts (as above)	<input type="checkbox"/>
4	4 mm x 1/4" flathead slot screws (attach mechanism cover)	<input type="checkbox"/>

Bag #11...

4	5/16" x 1 1/4" hexhead machine bolts (attach Bed Unit to mechanism)	<input type="checkbox"/>
2	Allen key sockethead bolts (as above)	<input type="checkbox"/>
6	5/16" x 7/8" flat washers (as above)	<input type="checkbox"/>
6	5/16" Nylock hex nuts (as above)	<input type="checkbox"/>
2	3/16" x 3/4" (OD) flat washers (attach Velcro straps)	<input type="checkbox"/>
2	2" lag screws (attach leg crossbar)	<input type="checkbox"/>
2	1/4" star washers (as above)	<input type="checkbox"/>

Bag #12...

10	1" x 1" x 1 3/4" assembly brackets (attach Kick, Headboard, Bottom Stretcher)	<input type="checkbox"/>
46	#8 x 3/4" panhead screws (40 for above, 6 for panel guards)	<input type="checkbox"/>
2	Panel guards, left & right	<input type="checkbox"/>

Bag #13...

18	Confirmat screws (6 for Cabinet, 12 for Rails)	<input type="checkbox"/>
12	Confirmat screw caps (6 for Cabinet, 6 for Foot Rail)	<input type="checkbox"/>

MATERIALS REQUIRED



Wood panelling (plycore) 3/4" x 48" x 96":

- 3 sheets Single/Twin
- or -
- 3-4 sheets Double/Full/Queen (use 4 sheets if grain-matching Bed Panels)
- 1 15/16" x 84" strip of 1/8" ply
- 200 #8 x 1 1/4" countersink wood screws
- 1 pint Carpenter's glue
- 6 sheets 120 grit sandpaper
- 6 sheets 180 grit sandpaper
- 20-24 linear feet 3/4" x 3/4" Spruce, Birch or Fir (see Cut List for exact lengths)
- 1 piece 1" diameter hardwood dowel (see Cut List for length)
- 1 piece 1" diameter shower rod plastic wrap cover (cut to dowel length)
- 110 linear feet 13/16" iron-on preglued wood-grain edge tape
- 1 Coil spring mattress (maximum 11" thick). We recommend a quality
gently firm inner coil **Platform Mattress**. These mattresses ventilate right
through the mattress as you move in bed.....

Optional:

- 26 linear feet 3/4" half round moulding (two lengths of 6' & two lengths of 7')

TOOLS REQUIRED

- 1 1/16", 1/8" and 5/16" drill bits
- 1 3/16" or 5 mm drill bit
- 1 9/32" or 7 mm " "
- 1 3/4" spade bit
- 1 1/4" or 6 mm Allen key
- 2 72" Bar clamps
- 1 Awl
- 1 Countersink bit (3/16" - 3/4")
- 6 G-clamps (6" minimum capacity)
- 1 Hammer
- 1 Old household iron
- 1 Pencil
- 1 Phillips screwdriver (head width 1/4")
- 1 Power drill
- 2 Slot screwdrivers (large and small).....
- 1 Table saw (or have material cut accurately for you)
- 1 Tape measure (10' minimum)
- 1 Wide wood file
- 2 Wrenches (one 1/2", one 8" adjustable)

STEP-BY-STEP INSTRUCTIONS

1. Prepare & Assemble Bed Cabinet Components

1) Be sure to use the section of the *DO-IT-YOURSELF (DIY) CUT LIST* that corresponds to the size of bed you are constructing.

2) Do not glue the Bed Cabinet components together.

- Cut panels and cleats exactly as specified in the Cut List. As each piece is cut, identify it with a pencil as indicated in **Figure 1**, following page. Label the bed panels (not shown in **Figure 1**) BED PANEL. These names will be used throughout the instructions to reference the particular items.
- Clean and/or sand pieces. Tape the following edges that will be exposed after construction.
 - 1) TOP STRETCHER & SIDE PANELS - front edges
 - 2) HEADBOARD - both long edges
 - 3) BOTTOM STRETCHER - top edge
 - 4) KICK - both long edges (to prevent bowing)

The simplest method is to use pre-glued, iron-on tape appropriate for the construction material you are using.

- Make a small mark on the inside of each SIDE PANEL, 3" from the back and 18" from the bottom. From this mark measure up and back 14 7/8" to the back edge of the SIDE PANELS. Make another mark and pencil a line to indicate the back of the HEADBOARD position. See **Figure 1**.

- Attach 1" x 1" x 1 3/4" assembly brackets to the HEADBOARD, BOTTOM STRETCHER and KICK as per **Figure 1**. Note that the top brackets of the HEADBOARD must be set low enough so as not to protrude beyond the back of the cabinet. If you will be notching out SIDE PANELS to accommodate baseboard, attach BOTTOM STRETCHER brackets to front side.

- Accurately mark the Lift Mechanism mounting holes on the inside of each SIDE PANEL. See **Figure 2**, for the layout of these holes. When drilling the holes, first drill a small pilot hole, being careful to keep the bit perpendicular to the panel, then drill the final hole with a 5/16" bit. Countersink (5/8" diameter) each hole on the outside of the panels, just deep enough for the head of a 5/16" x 1 1/4" flathead slot machine screw to sit flush with the surface. These screws may be sanded and painted before insertion.

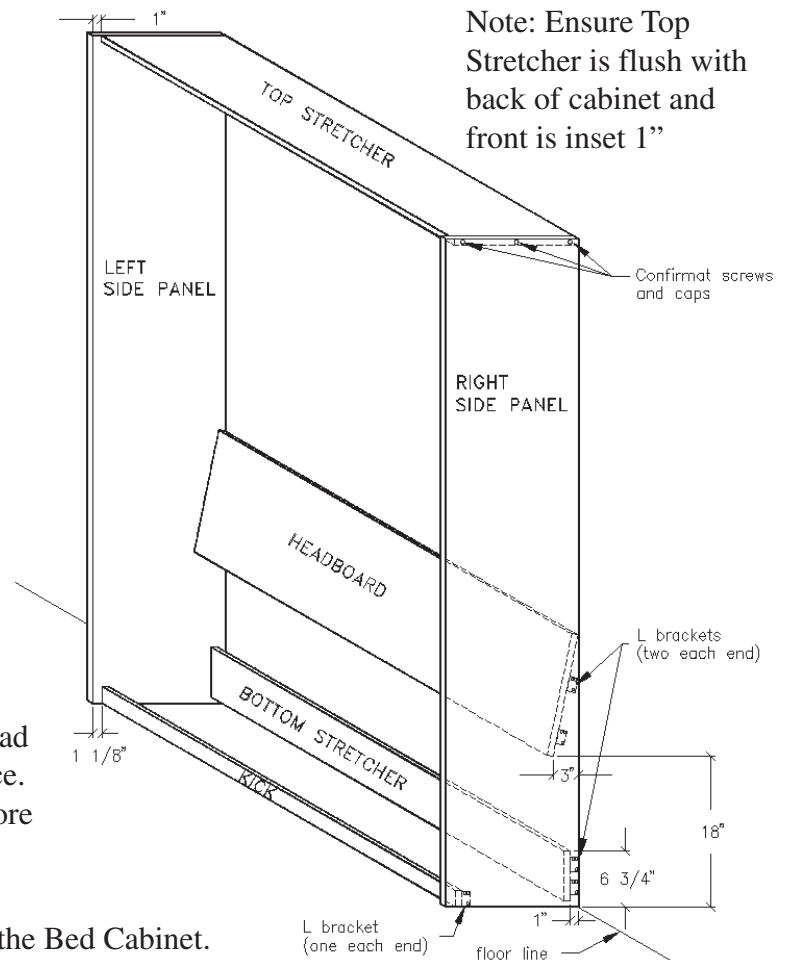


Figure 1. The parts of the Bed Cabinet.

- Align the back edges of the TOP STRETCHER and the SIDE PANELS, and clamp with 72" bar clamps. Using a 3/16" (5 mm) bit, drill three Confirmat screw holes per side to a depth of 2". Keep the two outer holes 1" away from the front and back edges

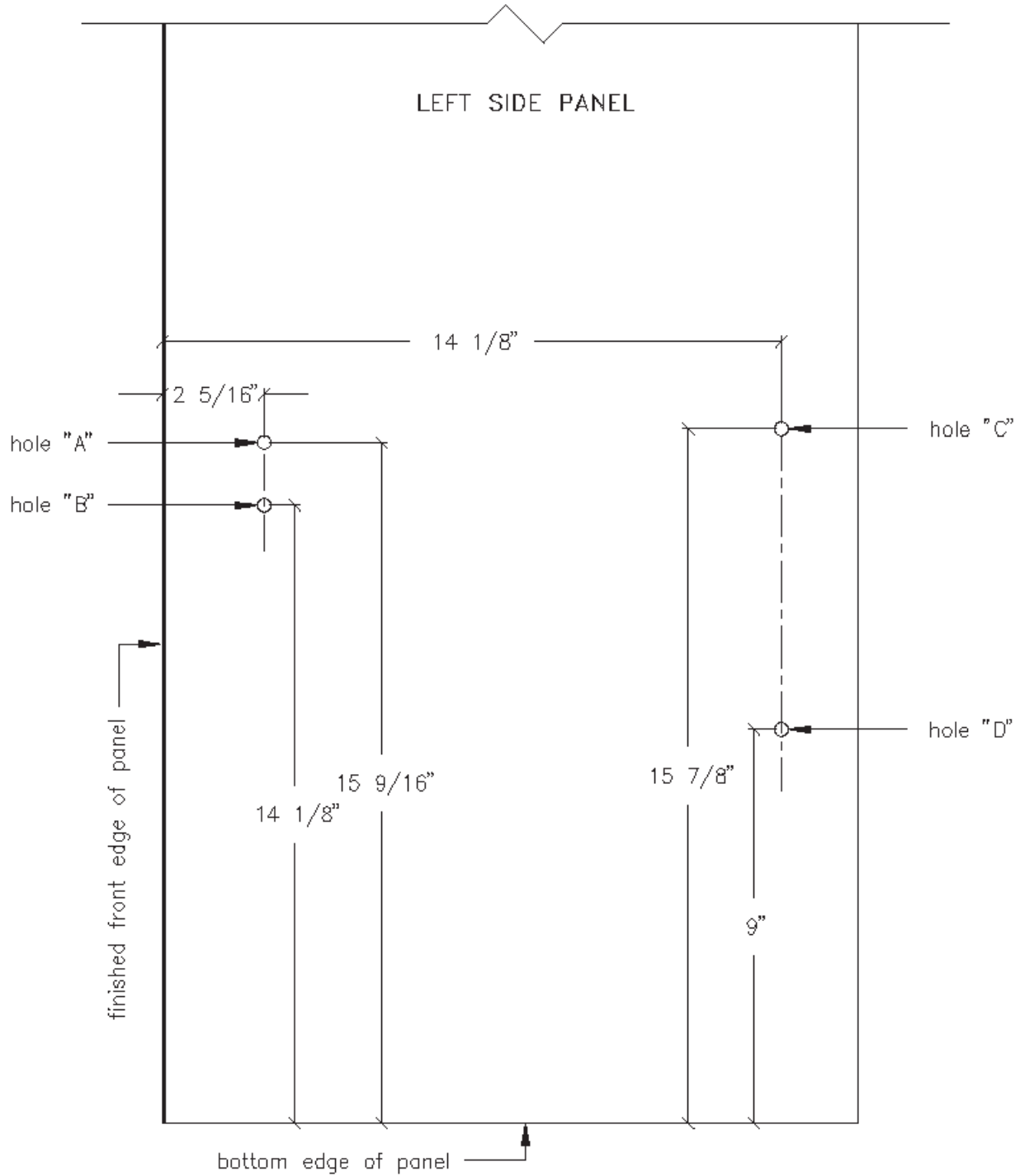


Figure 2. Laying out the Lift Mechanism mounting holes. Note that horizontal measurements are taken from the finished front edge.

of the TOP STRETCHER. Center the third hole between them. Unclamp and redrill the SIDE PANEL (shank) holes using a 9/32" (7 mm) bit. Do not countersink these holes. See **Figure 3**.

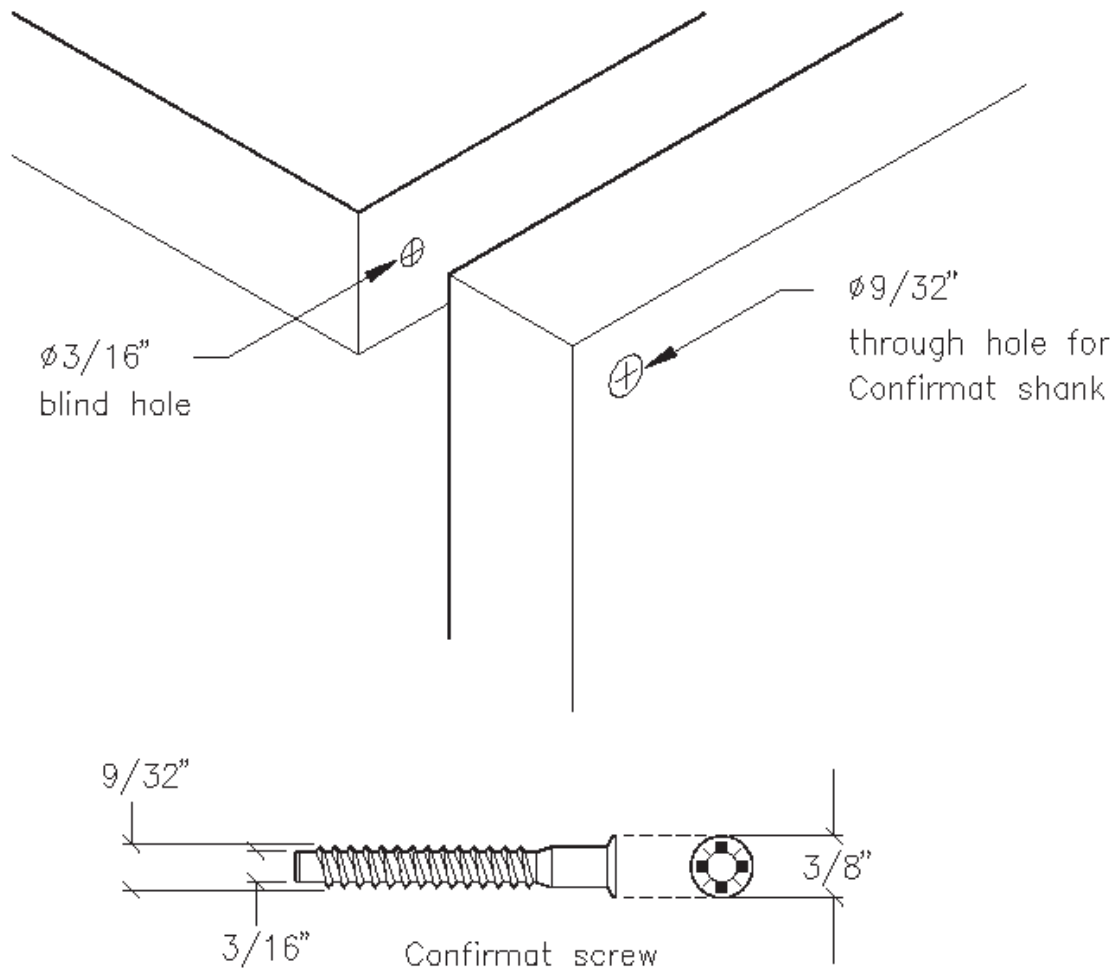


Figure 3.Drilling for Confirmat screws.

- Prior to assembling the Bed Cabinet, you may wish to apply your choice of finish to the individual pieces. Once this is done, you can begin assembling the Bed Cabinet - this should be done in the room where you will install it. Refer to **Figure 1** for positioning and dimensions. Prop up one SIDE PANEL and the TOP STRETCHER on their back edges and attach with Confirmat screws. Attach other SIDE PANEL. Press fit the Confirmat caps.
- Attach BOTTOM STRETCHER, KICK and HEADBOARD using #8 x 3/4" panhead screws. If installing the Cabinet in a carpeted room, raise the KICK so that it sits lightly on top of the carpet. However, under no circumstances raise the KICK more than 1/4", or it will interfere with the operation of the bed.

2. Secure Bed Cabinet

- Remove the strip of baseboard where you wish to locate Cabinet (or notch out SIDE PANELS) so that back of Cabinet is flush against wall. (Later you can trim and replace the baseboard.) Place Cabinet against wall. If the floor is off-level or not square with wall, shim or pack the Cabinet with thin strips of wood. Do a preliminary check for squareness by measuring diagonally from corner to corner across the face of the Cabinet. It is more important that the Cabinet be square rather than exactly level or plumb.
- Use a step ladder to access the wall above the TOP STRETCHER and locate three studs or some other solid structural members to which you can fasten the 2" x 2" L brackets, see **Figure 4**.

ATTENTION! *You must secure the Cabinet to solid structural members and not merely to the wall finish. If you are not attaching your bed to a wood stud wall, see your local hardware store for metal stud screws or concrete 1 3/4" x 1/4" expansion bolts and a concrete drill bit. In either case, be careful not to hit electrical wiring or plumbing behind drywall.*

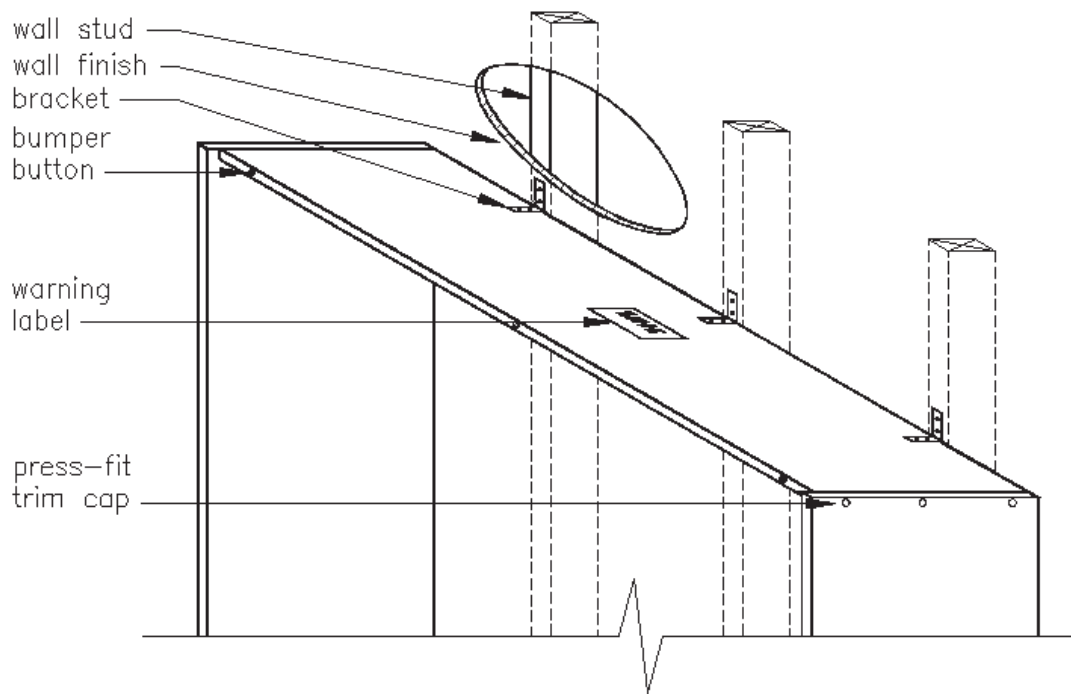


Figure 4. Securing the Cabinet.

- Drive two #8 x 2" flathead wood screws through each bracket and into each solid framing member. Drive a single #8 x 3/4" flathead screw through the middle bracket and into the TOP STRETCHER then recheck the Cabinet for square as in Step 1. Adjust as is necessary and drive five more #8 x 3/4" flathead screws through the brackets and into the TOP STRETCHER.
- Peel off the backing and attach the Warning Label and the three 1/4" rounded Bumper Buttons, see **Figure 4**.

With the Cabinet constructed and secured, the next two sections explain how to install the springs in the Lift Mechanisms, and mount the Mechanisms on the SIDE PANELS.

3. Install Springs in Lift Mechanisms

- The number of springs the Lift Mechanisms requires varies with the different weights of mattresses and construction materials. Select the appropriate number from the chart.

Bed Size	Springs per side
Single/Twin	4 - 5 springs per side
Double/Full	6 - 7 springs per side
Queen	7 - 9 springs per side

NOTE: After you have completed installing and checking the operation of your bed, you may find it necessary to add or remove springs to achieve an easy lift effort.

As **Figures 5 and 6** on the following pages show the Right Lift Mechanism, you should start with that one.

- Notice that the hook ends of the springs have slightly different sized openings. Hook the end of the spring that has the smallest opening under the upturned edge of the Mounting Plate. Lay the spring down and slide it under the matching hole in the Tension Arm. Be sure to install the springs so that the hook openings face you, see **Figure 5**.

You may find it easier to fit the hooks under the Tension Arm if you pry up the Arm Bracket with a wooden wedge or similar device.

- Continue by working out from the centre, alternating top and bottom, until you have installed the required number of springs. Be sure that holes correspond plate-to-plate.

*Ideally, you should install an equal number of springs on each side of the centerline. However, an imbalance by one spring is all right, preferably with the extra spring on the topside. The last spring installed should be #9, if required. See **Figure 5**.*

Note: If you are assembling a Single/Twin Bed System, do not install springs in holes #1 and #9.

- Repeat Steps 2 and 3 to install the springs in the Left Lift Mechanism.

Use the same number of springs and the same configuration on both Lift Mechanisms.

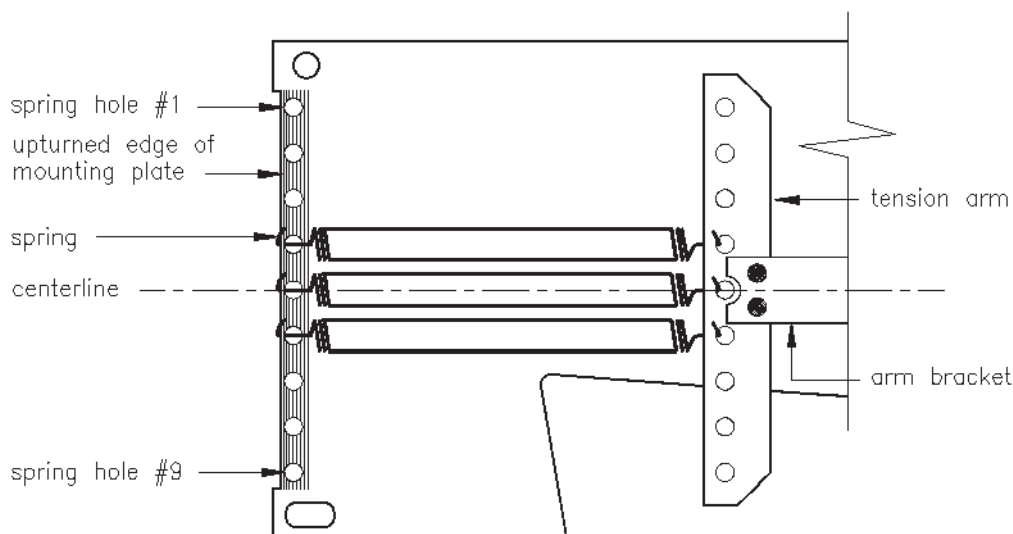


Figure 5. Installing the Springs. Viewed is the Right Lift Mechanism.

4. Mount Lift Mechanisms

- Insert a 5/16" x 1 1/4" flathead slot machine screw through hole "C" from the outside (countersunk) of the Right SIDE PANEL and position the corresponding Right Lift Mechanism hole, see **Figure 6**, over the screw. Loosely thread on a 5/16" plain hex nut.

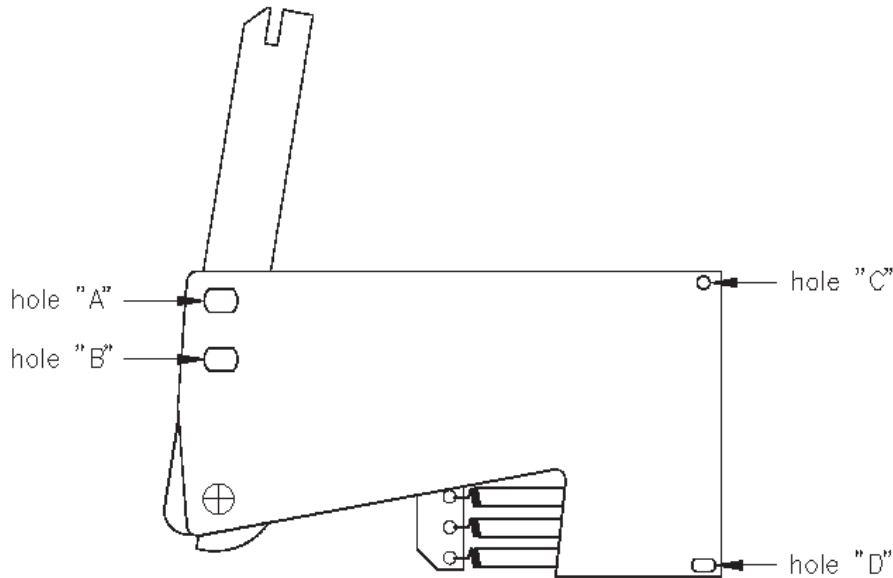
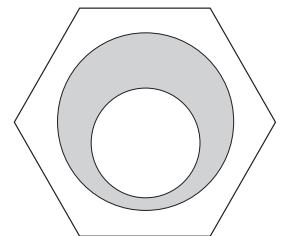


Figure 6. Back view of the Right Lift Mechanism.

- Insert a similar screw through each of holes "A", "B" and "D". At hole "B" use a 5/16" x 7/8" (OD) flat washer and a 5/16" plain hex nut. At hole "D" thread only a nut on the screw.
- At hole "A", use one of the hexagon cam washers (illustrated at the right) and a 5/16" plain hex nut. Locate the cam washer in the slot of the mounting plate so that the larger part of the cam is upward, as in the illustration.
- At hole "B" install the 5/16" x 7/8" washer with the 5/16" nut.



HEX CAM WASHER

Note: If you are adding a crown moulding, turn the hexagon cam washer 180° so that the larger part is downward. This will insure the correct top clearance.

- Tighten the four nuts evenly, making sure that the hexagon cam washer does not rotate.
- Repeat steps 1 through 4 to attach the Left Lift Mechanism to the Left SIDE PANEL.

5. Assemble Bed Panel Unit

- The BED PANEL joints are permanent and must be both glued and screwed. Please follow instructions carefully. Sand and clean the BED PANELS, Stiffener and Rails but, in order to achieve maximum strength from the glued joints, do not finish these components until you have attached the rails and stiffener to the Panels.

Note: If you are power driving the stiffener and cleat screws, be careful not to strip the screw holes.

- Skip this step if you are constructing a single/twin bed.
Refer to **Figures 7 and 8**. Join the BED PANELS with a plywood spline 15/16" wide and the same length as the panels. Using a table saw or router, cut a groove 1/8" wide and 1/2" deep on the inside edge of both BED PANELS. Test the fit. Position the panels on a flat surface, spread glue on spline and both panel edges and clamp splined panels with bar clamps.

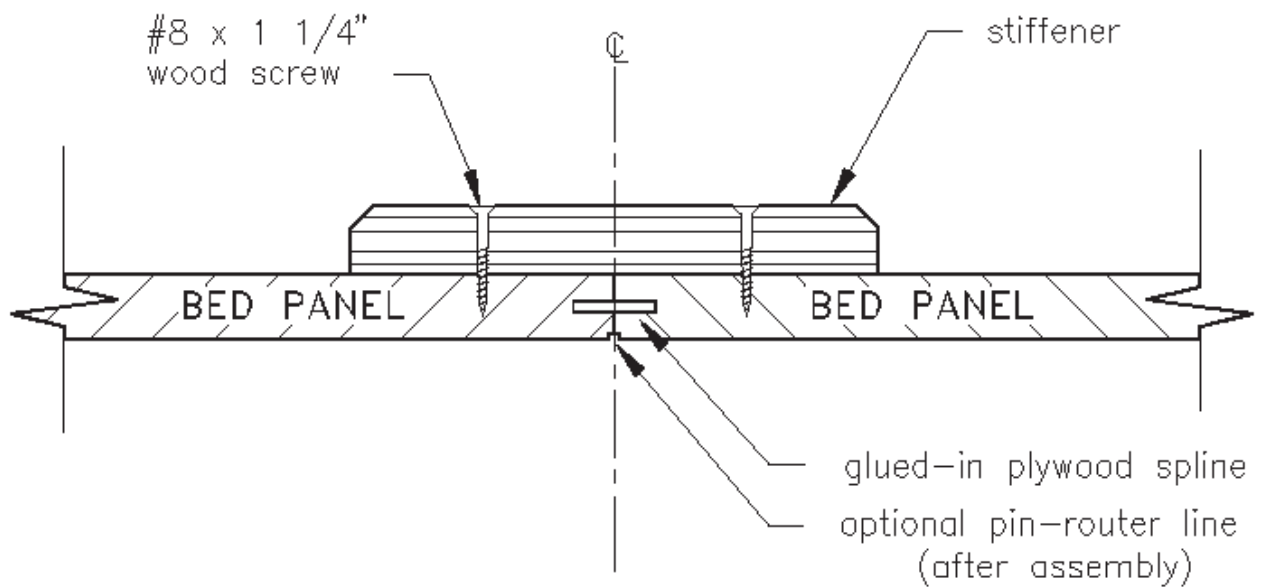


Figure 7. Cross section of Bed Panel Joinery.

- Drill 3/16" pilot holes in the stiffener (to accept #8 x 1 1/4" wood screws). Holes should be approximately 4" apart, in two rows, and set 1 1/2" from each side. Spread glue on down side of stiffener and center stiffener along panels' seam starting 1 1/2" back from the head end of the panels (3/4" for rail and 3/4" for cleat). Drive in screws and leave clamped for 12 hours before attempting to attach rails.

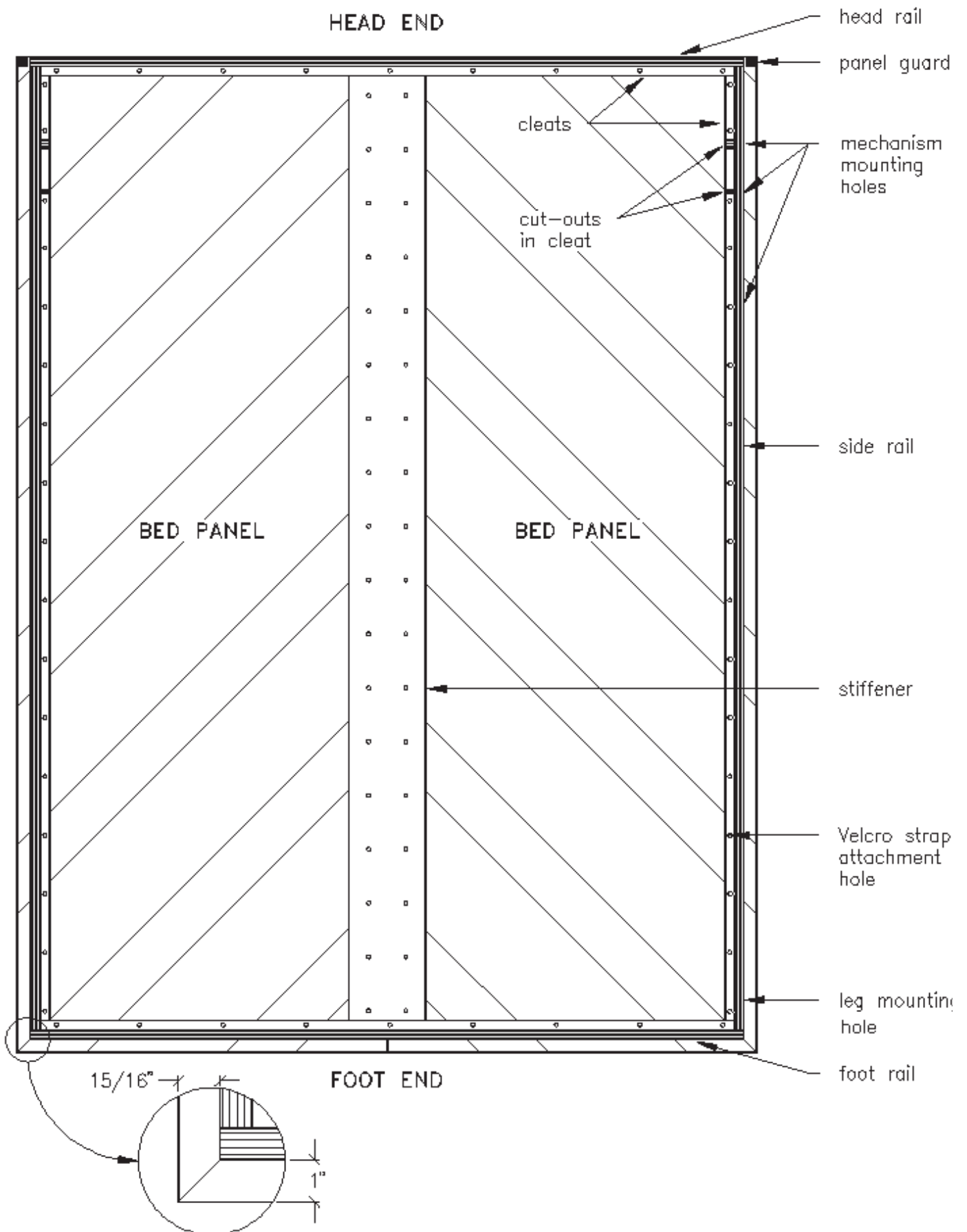


Figure 8. The Bed Panel Unit. Enlarged detail shows offsets for Side & Foot Rails.

- After 12 hours, remove clamps and draw a pencil line on the stiffener side of the joined BED PANELS 15/16" in from each side edge and 1" in from the foot end, see enlarged detail in **Figure 8**. These lines mark the locations of the side and foot rails. The head rail will be flush with the head end.
- Using a 1/16" bit, very accurately drill four pilot holes in each of the side rails. Three at the head end for the Lift Mechanism and one at the foot end for the leg attachment, see **Figure 9** for locations.

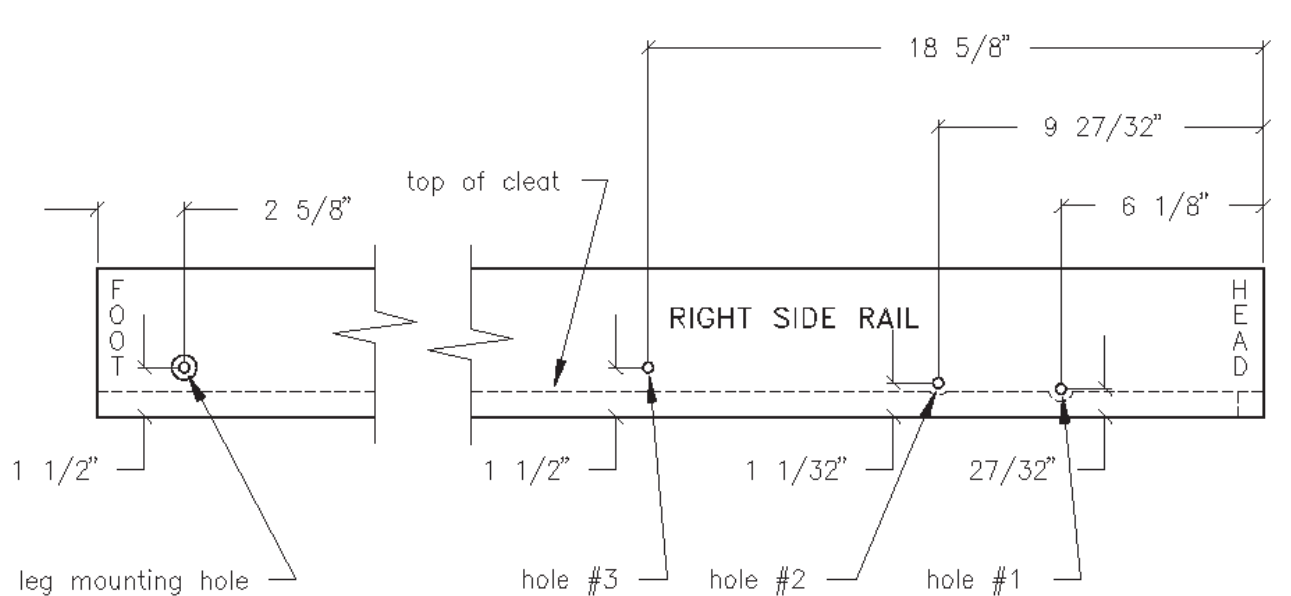


Figure 9. Locating the Lift Mechanism & Leg holes.

- Lay out rails on joined BED PANELS. Mark top corner joints A-A, B-B, etc., so that you don't mix them up. Keep in mind that you will be hand drilling for Conformat screws and that joints will not be interchangeable.
- Drill three holes at each end of foot and head rails for Conformat screws. The holes should be 1" away from the top and bottom edges and 3/8" in from the ends. Center the middle hole between the other two. Separate rails and redrill shank holes in foot and head rails.
- Drill the cleats at 4" intervals both horizontally and vertically with a 3/16" countersink bit. Avoid drilling holes at the #1 & #2 Lift Mechanism hole sites.
- Center the cleats 3/4" in from each end of their respective rails and set them flush with the bottom of the rails. Glue and attach the four cleats with #8 x 1 1/4" flathead screws.
- Position all four rail/cleat sections along the pencil line you drew to mark the outside of the rails and check fit. Glue and assemble the rail corners with Conformat screws. Ensure screw heads are flush with rail surfaces.
- Glue and screw rail sections to Bed Panel using #8 x 1 1/4" flathead screws. When attaching the side cleats, leave open the fourth hole from the foot end for later attachment of the Velcro straps. Let glue set six hours before continuing.
- Clamp a piece of 3/4" scrap ply to the inside of each side rail and on top of the cleat at the Lift Mechanism mounting holes #1 and #2. From the outside of rails, use the #1 and #2 pilot holes as guides and drill a 1/16" hole through the clamped 3/4" scrap. Using a 3/4" spade bit, drill into the pilot holes from the scrap side until you come to the inside rail surface. This will notch the cleats to give clearance for washers and nuts.

- Using the 3/4" spade bit, ream out the leg mounting pilot holes from the outside of the rail to a depth of 3/16".
- Using a 5/16" bit, redrill the three Lift Mechanism mounting holes and the leg attachment hole in each side rail (using the previously drilled pilot holes as guides).
- Tape all exposed edges of the Bed Panel Unit. To prevent mattress damage, sand or bevel edges of stiffener and cleats. You may wish to add a 3/4" half round moulding to the top of the bed rails instead of taping them.
- Attach the Velcro straps to the side cleats (four holes up from the foot end) using 3/16" x 3/4" (OD) flat washers and #8 x 1 1/4" wood screws screwed through the folded-over Velcro ends. Make sure that the Velcro "hooks" and "loops" face each other.
- Press in the Confirmat screw caps at the six visible positions in the foot end rail. Sand and color as desired.
- Position the left and right Panel Guards against the outer ends of the Head Rail so that the bent tab sits on the inner surface of the corner of the BED PANEL, see **Figure 10**. Attach using #8 x 3/4" panhead screws.

Do not add anything other than lightweight decorative trim molding to the face of the Bed Panels because the Panel Unit may become too heavy to lift easily.

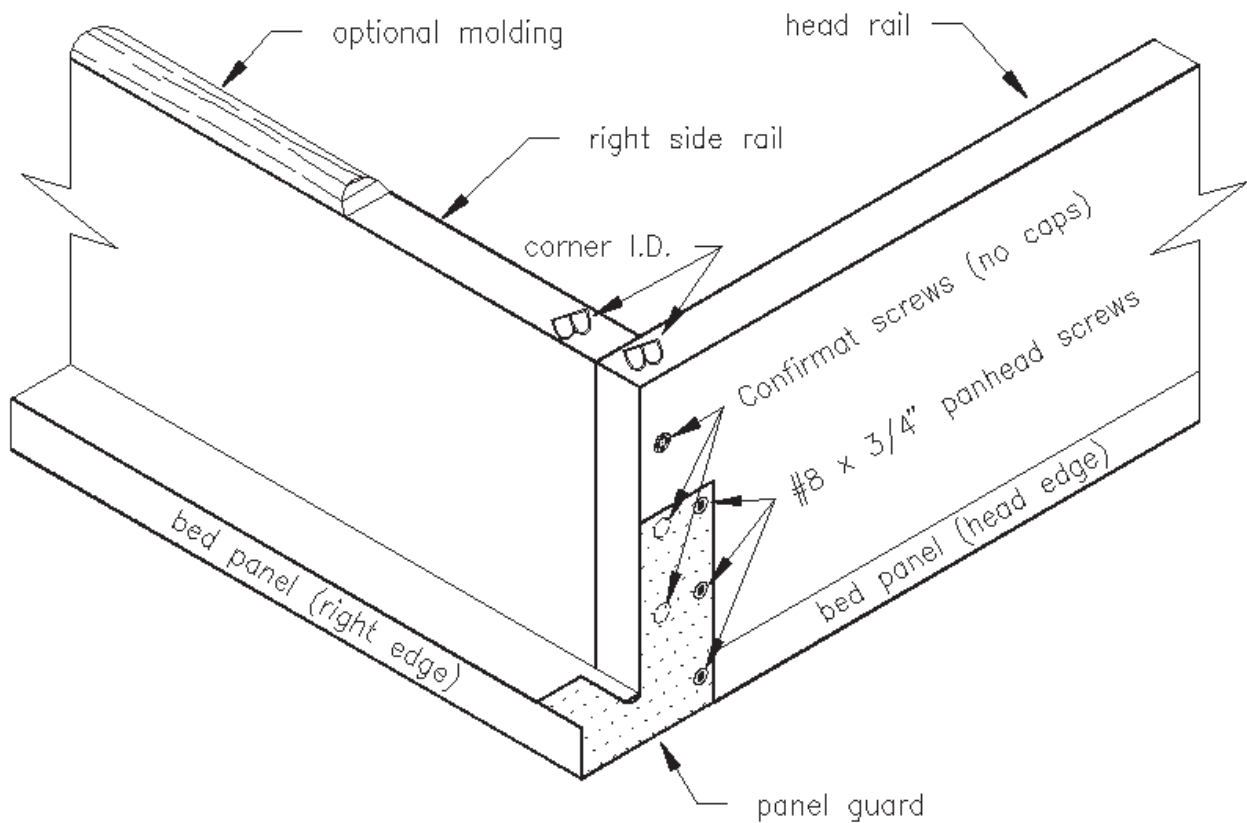


Figure 10. The Right Panel Guard.

6. Install Bed Panel Unit in Cabinet

The Bed Panel Unit connects to the Cabinet via the Lift Mechanism Tension Arms. You will need someone to help you both set the Arms and lift the Panel Unit into place.

- Insert the two 5/16" x 1 1/4" Allen sockethead bolts from the outside of the side rails through the #1 holes at the head end of the Bed Panel Unit. Place a 5/16" x 7/8" flat washer and 5/16" Nylock nut on each screw end and tighten securely. Now insert two 5/16" x 1 1/4" hexhead bolts from the outside of the Side Rails through the #3 holes. Place a 5/16" x 7/8" flat washer and 5/16" Nylock nut on each bolt end, threading the nut only until it is flush with the bolt end. Pull the two #3 bolt heads outward so that you have at least a 1/4" space between them and the outside face of the rails.
- Put a 5/16" x 1 1/4" hexhead bolt, a 5/16" x 7/8" flat washer and a 5/16" Nylock nut by the base of each SIDE PANEL.

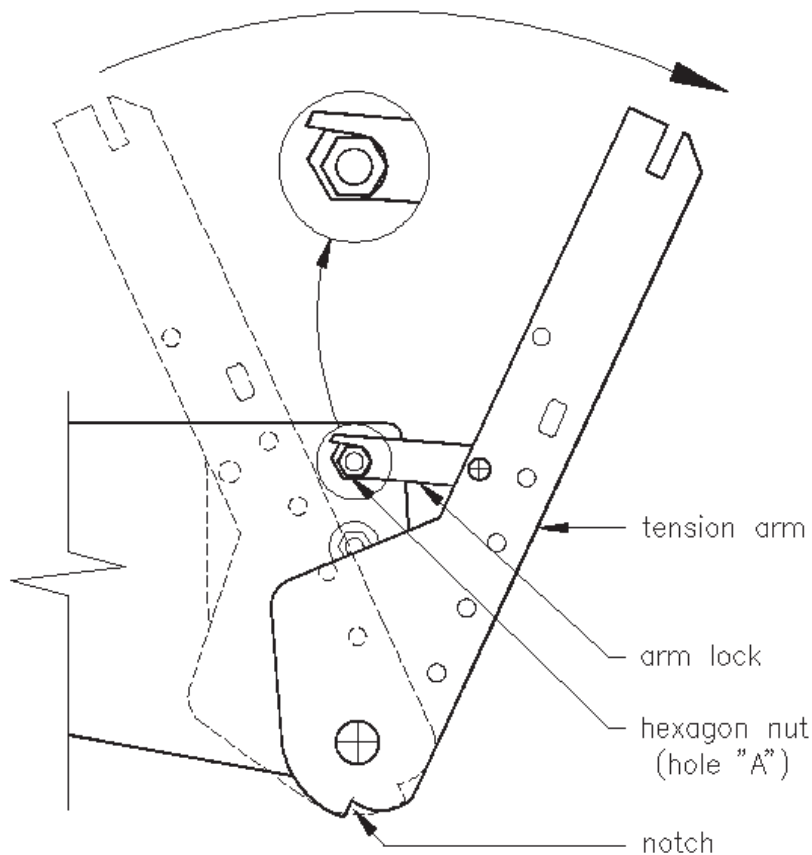


Figure 11. Setting the Tension Arm. Enlarged detail shows the Arm set securely against the hexagon nut.

IMPORTANT: Before arming mechanism make sure KICK is SECURELY attached

- Brace one foot against the front edge of the SIDE PANEL and, using the 13" length of PVC tubing provided, lever the Lift Mechanism Tension Arm out and down until you can secure the Arm Lock to the hexagon nut you installed at Hole "A". See **Figure 11** (previous page). Be sure that the Arm Lock is secured against the hexagon nut before releasing the tension on the pipe lever. Repeat the operation on the other side.

CAUTION! *There will be a lot of tension on the Tension Arm.* We recommend that two people handle this procedure - one pulling and holding the Tension Arm with both hands while the other sets the Arm Lock. When setting the Arm Lock, avoid reaching behind the Tension Arm.

- Slip both wrenches into your back pocket then, with you and your assistant on either side of the Bed Panel Unit, lift the foot end so that the unit rests vertically on its head end. Align it between, and just in front of, the Tension Arms. *Do not bump the Tension Arms lest the Lock Arms slip off their nuts.*

Now lift the unit vertically to a height where the bolts in holes #3 are a couple of inches above the top of the Tension Arms. Gently fit the unit between the Arms, tilt it back approximately 10° so that the head end of the unit clears the KICK, then lower it so that the #3 bolts slide into the slots at the ends of the Arms. Be sure the bolts seat at the bottom of the slots. Slowly tilt the panel unit back just enough to allow the #1 Allen bolts to be fully seated in the notches at the bottom of the mechanism, see **Figure 12**.

- Continue to tilt the panel unit outward to an angle of about 45°, during which action you will hear a click as the Arm Locks disengage. Hold the bed at roughly this angle and install the #2 bolts, flat washers and Nylock nuts. Still holding the panel unit at this angle, tighten securely the #2 and #3 nuts.
- Holding the upper edge of the panel unit, gently let the bed close. If all is well, you should have even clearance between the side edges of the panel unit and the insides of the SIDE PANELS. If the Cabinet is not square and the Bed Panel Unit binds, try one or both of the following adjustments:
 - 1) nudge the Cabinet along the floor, pushing from the base of the Side Panel;
 - 2) shim (or reshim) the base of the SIDE PANELS.

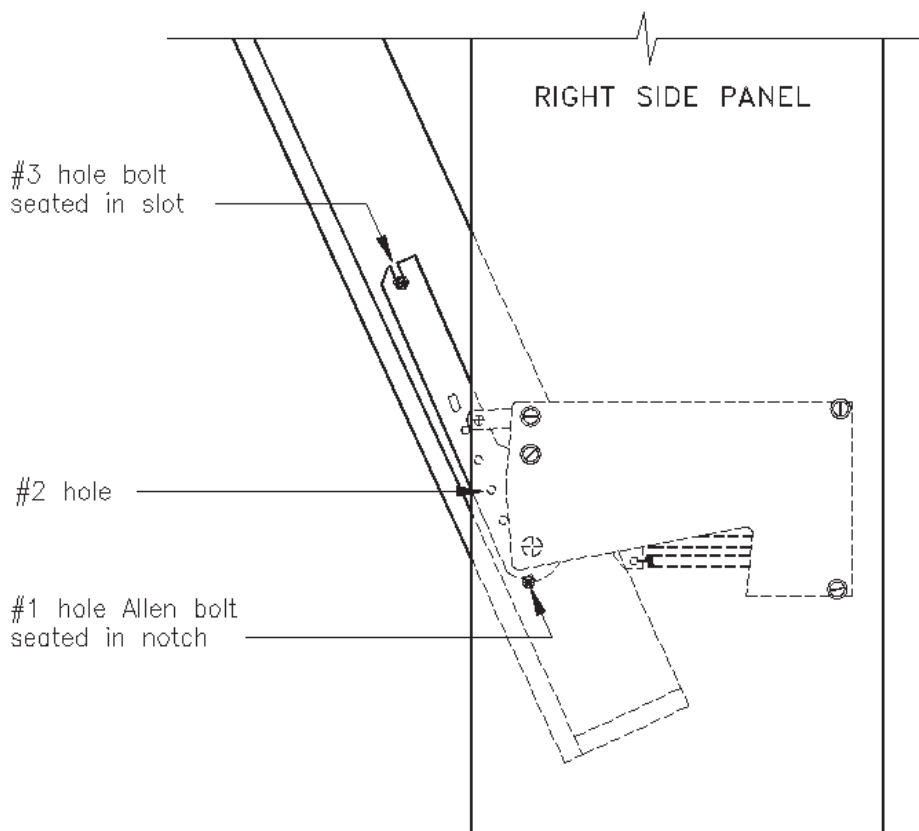


Figure 12. Installing the Bed Panel Unit.

And now, all that's left is to attach the handles & legs, put the mattress in place and install the Mechanism Covers. These last few steps will be much easier if your assistant is on hand simply to hold the Bed Panel Unit open.

7. Attach Handles & Legs, Install Mattress & Mechanism Covers

- Attach your personal choice of handle(s) to the face of the Bed Panel Unit. Keep in mind that Double/ Full and Queen size beds have a 6" Stiffener joining the BED PANELS, so don't drill holes within 3 1/2" of the panel unit's center seam. To minimize the pull required to open the bed, locate the lowest part of the handle(s) not more than 36" from the top of the panel unit.
- Pull the panel unit open to a convenient working height. Prior to installing the legs, lubricate the leg attachment hole with a little candle wax. Remove the 5/16" Nylock hexagon nuts and the 5/16" x 3/4"(OD) flat washers from the legs, leaving the "Lexan" black plastic washers in place. Insert the leg-screws through the rails, replace the washers and nuts and tighten the nuts so that both legs pivot with an equal, and just a slight amount of, friction.
- Glue and clamp the legs stops, positioning them so that they align with the outside face of the foot rail, are snug against the side rails and are 1 1/8" high, see **Figure 13**.

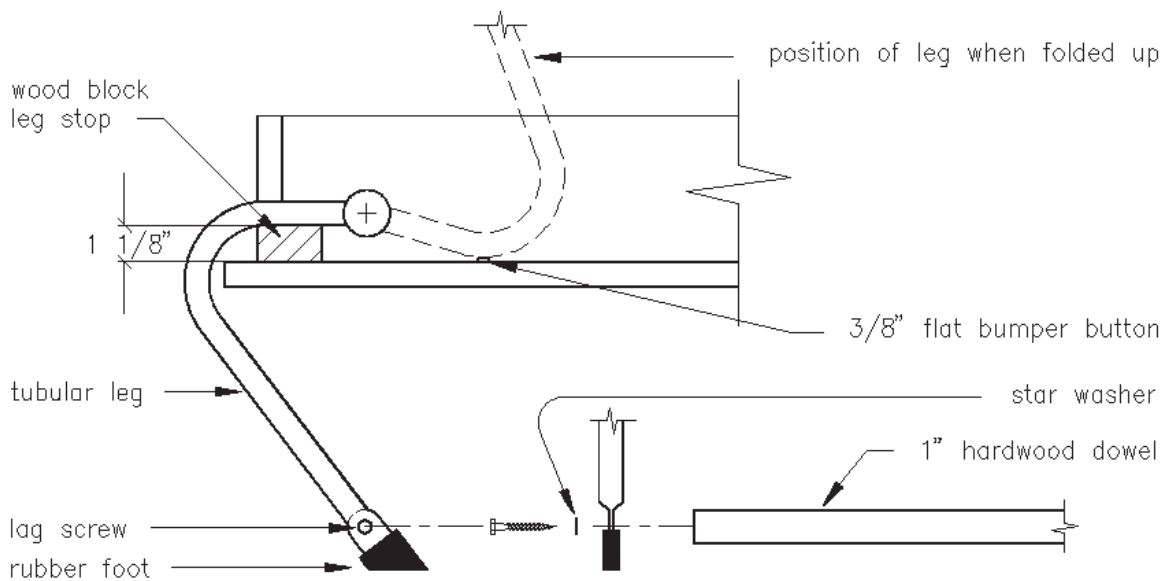


Figure 13. Installing the Legs.

- Pivot both legs upward. Drill a 3/16" pilot hole 2" deep in the center of each end of the dowel. Slip a 1/4" star washer on one of the 2" lag screws, thread the screw through the leg, put a drop of carpenter's glue into the dowel hole and screw into the dowel. Repeat for other end. Cut the plastic shower wrap to fit the dowel and wrap it around the dowel.
- Attach the two 3/8" flat Bumper Buttons to the surface of the Bed Panels where the legs, when folded up, would contact the Panels, see **Figure 13**. Gently close the bed.

Wait about six hours for the glue holding the leg stops to set, remove the clamps and gently close the bed.

To avoid denting the front edge of the TOP STRETCHER, be sure the legs are folded up before closing the bed.

- Have the mattress on hand. Open the bed, fold down the legs and hold the bed fully open by placing one foot on the Crossbar. Put the mattress in place. Be sure it lies completely within the Rails. The added weight of the mattress should now hold the bed down.

Note: Using a thin coil or light-density foam mattress less than 9" thick may require a reduction in the number of springs required to balance the bed. You also may feel the Stiffener through the mattress. Should this be the case, the remedy is a simple one! Fill the spaces between the Stiffener and the Frames with 3/4" to 1" Styrofoam or Foamboard, both of which are very light and will not affect the balance of the bed.

- Clip the black plastic Mechanism Covers on each Lift Mechanism so that the tabs hook into the indents on the back plates. Secure with the four 4 mm x 1/4" flathead slot machine screws.
- Trim the Velcro straps so that they overlap about 12" and lightly singe the loose ends with a match to seal the nylon. The bed will close fully made up with the Velcro straps holding the pillows in place. If you installed the correct number of springs in the Lift Mechanisms, the bed should float at an angle of approximately 45°.
- Stand back and admire your new Murphy Bed.

DO-IT-YOURSELF (DIY) CUT LIST

Single Twin Bed (Mattress size 39" x 75" x 10" maximum thickness)

Overall Cabinet Dimensions: 44 7/8"W x 81" H x 15 7/8"D Protrusion from wall to foot bed: 85 1/2"				
Quantity	Description	Width	Length	Material
2	SIDE PANELS	15 7/8"	81"	3/4" ply
1	HEADBOARD	14 7/8"	43 3/8"	"
1	TOP STRETCHER	14 7/8"	43 3/8"	"
1	BOTTOM STRETCHER	6"	43 3/8"	"
1	KICK	1 7/8"	43 3/8"	"
1	BED PANEL	43"	78 1/4"	"
2	SIDE RAILS	4 1/2"	75 3/4"	"
2	END RAILS	4 1/2"	41 1/8"	"
2	SIDE CLEATS	3/4"	74 1/4"	3/4"x3/4" solid
2	END CLEATS	3/4"	39 5/8"	"
2	LEG STOPS	1 1/8"	2"	3/4" ply or solid
1	LEG CROSSBAR	1" dia.	41 13/16"	hardwood dowel

Double/Full Bed (Mattress size 54" x 75" x 10" maximum thickness)

Overall Cabinet Dimensions: 59 7/8"W x 81" H x 15 7/8"D Protrusion from wall to foot bed: 85 1/2"				
Quantity	Description	Width	Length	Material
2	SIDE PANELS	15 7/8"	81"	3/4" ply
1	HEADBOARD	14 7/8"	58 3/8"	"
1	TOP STRETCHER	14 7/8"	58 3/8"	"
1	BOTTOM STRETCHER	6"	58 3/8"	"
1	KICK	1 7/8"	58 3/8"	"
2	BED PANELS	29"	78 1/4"	"
1	STIFFENER	6"	74 1/4"	"
2	SIDE RAILS	4 1/2"	75 3/4"	"
2	END RAILS	4 1/2"	56 1/8"	"
2	SIDE CLEATS	3/4"	74 1/4"	3/4"x3/4" solid
2	END CLEATS	3/4"	54 5/8"	"
2	LEG STOPS	1 1/8"	2"	3/4" ply or solid
1	LEG CROSSBAR	1" dia.	56 3/4"	hardwood dowel

Queen Bed (Mattress size 60" x 80" x 10" maximum thickness)

Overall Cabinet Dimensions: 65 7/8"W x 86" H x 15 7/8"D Protrusion from wall to foot bed: 90 1/2"				
Quantity	Description	Width	Length	Material
2	SIDE PANELS	15 7/8"	86"	3/4" ply
1	HEADBOARD	14 7/8"	64 3/8"	"
1	TOP STRETCHER	14 7/8"	64 3/8"	"
1	BOTTOM STRETCHER	6"	64 3/8"	"
1	KICK	1 7/8"	64 3/8"	"
2	BED PANELS	32"	83 1/4"	"
1	STIFFENER	6"	79 1/4"	"
2	SIDE RAILS	4 1/2"	80 3/4"	"
2	END RAILS	4 1/2"	62 1/8"	"
2	SIDE CLEATS	3/4"	79 1/4"	3/4"x3/4" solid
2	END CLEATS	3/4"	60 5/8"	"
2	LEG STOPS	1 1/8"	2"	3/4" ply or solid
1	LEG CROSSBAR	1" dia.	62 3/4"	hardwood dowel

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- Elite Aluminum Bed Frame / Mechanism Systems.
- Supreme Steel Bed Frame / Mechanism Systems.
- Side-Tilt Elite Aluminum & Supreme Steel Bed Frame / Mechanism System.
 - Easy to Assemble Bed Cabinets and Side Cabinets compatible to our Elite & Supreme Bed Frame / Mechanism Systems.
- Extended legs to increase bed height by 2 $\frac{3}{8}$ " and to allow for a thicker mattress.
- Super Springs - Support 20% more weight.
- Murphy Hidden Bed.
- Murphy Bed Closet Hardware.

GUARANTEES

RETAIL RESIDENTIAL TERM

15 Year Guarantee on Hardware • 5 Year Structural Guarantee on Cabinetry

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15 Year Guarantee on Hardware • 2 Year Structural Guarantee on Cabinetry