Wilding Wallbeds

P-100 **Murphy Bed Mechanism** Twin Size Cut List & Plans

Do Not Deviate From These Plans

For Technical Question Call Customer Service at 866-725-6401

Style: P-100 (Wood Rails) Murphy Bed Orientation: Vertical Size: Twin

WARNING! ALL MURPHY/WALL BED SYSTEMS CONTAIN STORED ENERGY. FAILURE TO USE AND FOLLOW THESE INSTRUCTIONS DURING THE INSTALLATION PROCESS COULD RESULT IN SEVERE PERSONAL INJURY TO THE USER OR DAMAGE TO PRODUCT. PLEASE CONTACT CUSTOMER SER-VICE AT 866-725-6401 FOR ANY QUESTIONS.

Recommendations to Start Project

Cabinet Material:

IT IS STRONGLY RECOMMENDED TO CONSTRUCT WALL BED CABINET USING 4 X 8 PLY CORE (FURNITURE GRADE) PANELS. MDF MAY BE USED BUT BED MAY BE HEAVY TO OPERATE. <u>PARTICLE BOARD CANNOT BE USED FOR THIS PROJECT</u>. See Cut lists on th following pages.

Project Steps:

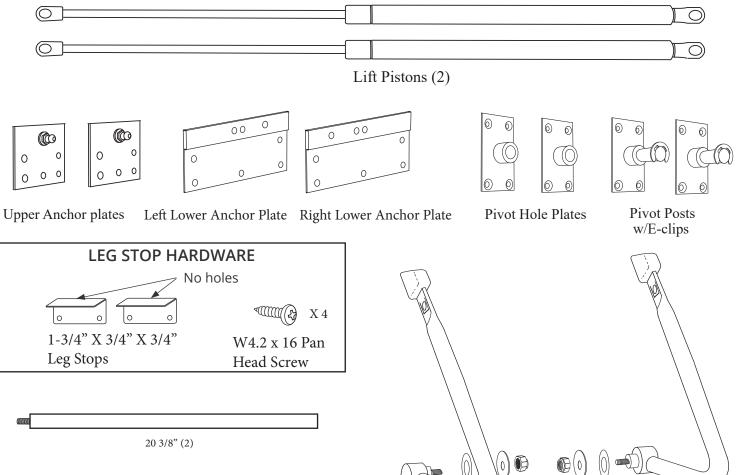
- 1. Cut, Mill and Edge band all bed cabinetry parts as detailed in these instructions.
- 2. Apply finish as desired to all cabinet parts as indicated in these instructions.
- 3. Final Assemble the Murphy bed in the room it is to be used.
- 4. Anchor cabinetry (bed cabinet) to structural members (i.e. wood studs) in your wall.
- 5. Familiarize yourself with all of the mechanism components.
- 6. Install lift mechanism to the bed rails and cabinetry parts as illustrated in these instructions.

Recommended Wood Working Tools for this project:

- -Cordless Drill and Driver with Phillips and Square tip bits.
- -Table Saw or Skill saw with a guide for cutting Ply Wood Panels and Hardwood pieces.
- -Chop saw or Hand miter saw.
- -18 ga. Brad nail finish gun and 1.25" nails are recommended for positioning parts.
- -Assorted Drill bits including 1/16", 1/8", 5/16", 3/16", 9/32",
- -Forstner type Drill Bits in sizes 9/16" 5/8", 3/4" and 1". (Spade bits are not recommended).
- -72" Bar Clamp, C-Clamps (6" minimum capacity)
- -Iron for edge banding (household Iron is fine)
- -Power Drill and Power Screw driver with Phillips and Square bit
- -Power sander (orbital) 150 or 180 grit as desired.

Mechanism Box Contents

Quantity	Item (images below)
2	Lift Pistons
2	Folding Leg assemblies - Left and Right with Black Nylon washer, Metal washer and 5/16" Nylock Nut
2	Upper Plates with Ball Stud and Black spacer assembled
2	Lower Plates (left and right)
2	Pivot Post with E clips
2	Pivot Hole Plate
1	Segmented Leg connector bar (3 pieces)



Segmented Leg connector bar (2 pieces needed for Twin)

Right Leg w/Hardware

Left Leg w/Hardware

Quantity	Hardware Card #1		Image
6	M5 x 35 Machine Screw	Attaching Mechanism to Bed Parts	
6	M5 x 16 Machine Screw	Attaching Mechanism to Bed Parts	
12	M5 Barrel Nut	Attaching Mechanism to Bed Parts	
4	W4.2 x 37 Wood Screw	Attaching Mechanism to Bed Parts	
12	W4.8 x 19 Wood Screw	Attaching Mechanism to Bed Parts	
8	W4.2 x 18 Wood Screw	Attaching Mechanism to Bed Parts	

Mechanism Box Contents cont.

Quantity	Hardware Card #2	Description		
2	Ball Stud	Attach to Lower Anchor Plates		
2	1/4" Star Washers	Attaching Leg Rod to Legs		
2	M6 x 35 Machine Screww	Attaching Leg Rod to Legs		
3	2" X 2" "L" Brackets	Attaching Bed Cabinet to Studs in Wall		
6	W4.5 X 64 Wood Screw	Attaching Bed Cabinet to Studs in Wall		
6	W4.2 x 16 Pan Head Screw	Attaching Bed Cabinet to Studs in Wall		
1	Warning Label Sticker	Adhere to the top of the Bridge Board		

Quantity	Other Hardware	Description	
56	W4.2 x 16 Pan Head Screw	Assembling Bed Cabinet	
14	1-3/4" X 1" X 1" Corner Bracket	Assembling Bed Cabinet	0 0

Mechanism Box Contents Cont.

Items to Source Locally

Quantity	Item			
3 Sheets	4' X 8' Furniture Grade Plywood Panels MDF may be used but not recommended due to weight and strength. <u>Particle board cannot be used</u> in the construction of this project.			
4 pcs. Hardwood	4" W X 37.5" L - Mattress Supports			
21 linear feet	Hardwood for 3/4" X 3/4" Wood Cleats (for assembling the mattress box)			
Solid Wood	As desired to add trim work to bed face for style and decoration. Sourced to match plywood panels			
150 feet	13/16" Pre glued - Iron on Edge Tape sourced to match wood type			
300	1 - 1/4 Countersink Wood Screws			
15	2-1/2" Wood Screws			
Assorted	Sandpaper as desired			
Bottle	Wood Glue			
Finishing Supplies	Stain, Lacquer, or polyurethane as desired			
Bed Handles	As desired			

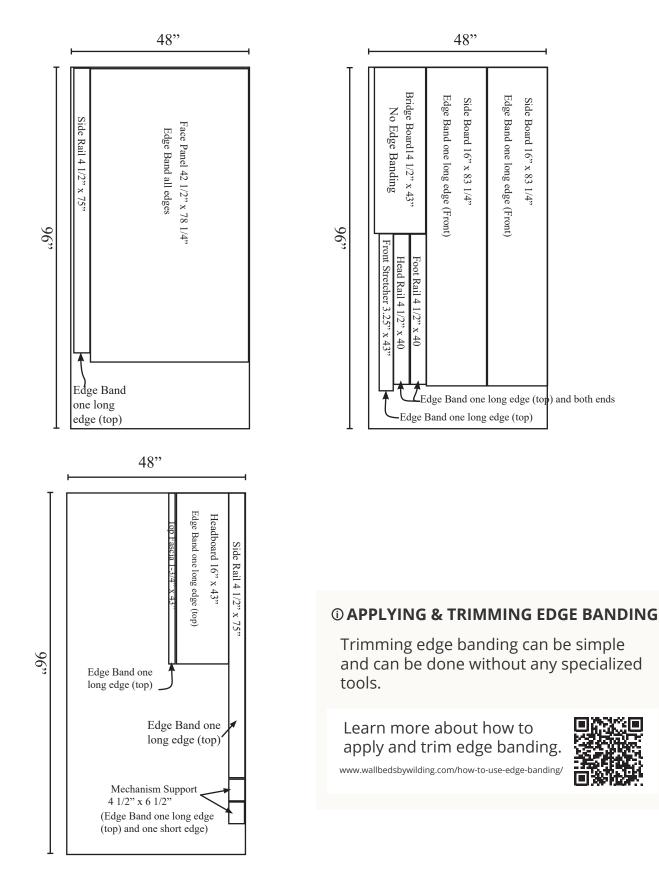
Twin Size Vertical Bed Cabinet Cut Lists

FOR BEST RESULTS IT IS STRONGLY RECOMMENDED TO CONSTRUCT MURPHY BED CABINET USING 4 X 8 PLY CORE (FURNITURE GRADE) PANELS. MDF MAY BE USED. PARTICLE BOARD CANNOT BE USED FOR THIS PROJECT.

Twin Size Bed Mattress Size: 39" x 75"Overall Cabinet Dimensions12" Max thicknessPlywood/MDF Panel Cut list44 1/2" w x 83 1/4" h 16" Protrusion from wall: 83 1/4" Cabinet Material: 3/4" Ply core or MDF				
Quantity	Description	Width	Length	Edge Banding
1	Bed Face Panels	42 1/2"	78 1/4"	All Edges
2	Side Boards	16"	83 1/4"	One long Edge (front)
1	Headboard	16"	43"	One Long Edge (top)
1	Bridge Board	14 1/2"	43"	No Edge banding
1	Top Fascia	1 3/4"	43"	One Long Edge (bottom)
1	Front Stretcher	3 1/4"	43"	One Long Edge (top)
2	Side Rails	4 1/2"	75"	One Long Edge (top)
1	Head Rail	4 1/2"	40 1/2"	One Long Edge (top) & Both Ends (Sides)
1	Foot Rail	4 1/2"	40 1/2"	One Long Edge (top) & Both Ends (Sides)
2	Mechanism Support	6 1/2"	4 1/2"	One Long Edge (top) & One Short edge

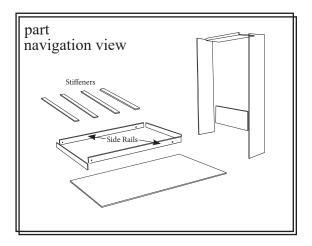
Twin Size Bed Solid wood Cut List			
Quantity	Item	Dimensions	Description
4	Stiffeners	4" W x 3/4" thick x 37 1/2" L	Solid Wood - Used to mend face panels and support mattress
2	Side Rail Cleats	3/4" x 3/4" x 75" long	Solid Wood - Used to attach Side Rails to Face Panels.
1	Head Rail Cleat	3/4" x 3/4" x 37 1/2" long	Solid Wood - Used to attach Head Rail to Face Panels.
1	Foot Rail Cleat	3/4" x 3/4" x 37 1/2" long	Solid Wood - Used to attach Foot Rail to Face Panels.
As desired	Trim Pieces		Trim Pieces to add style and decorations to face panels
As desired	Crown Mold	Crown Mold 8' Long	
As desired	Base Mold	Base Mold 8' Long- 4" Max height	

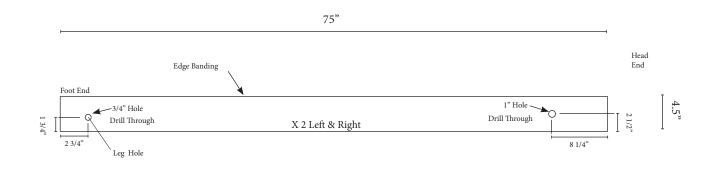
Twin Size Bed Suggested panel layout using 4' x 8' panels

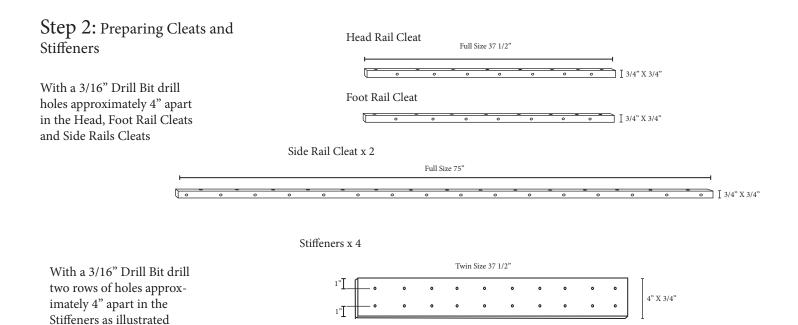


Step 1: Preparing Side Rails

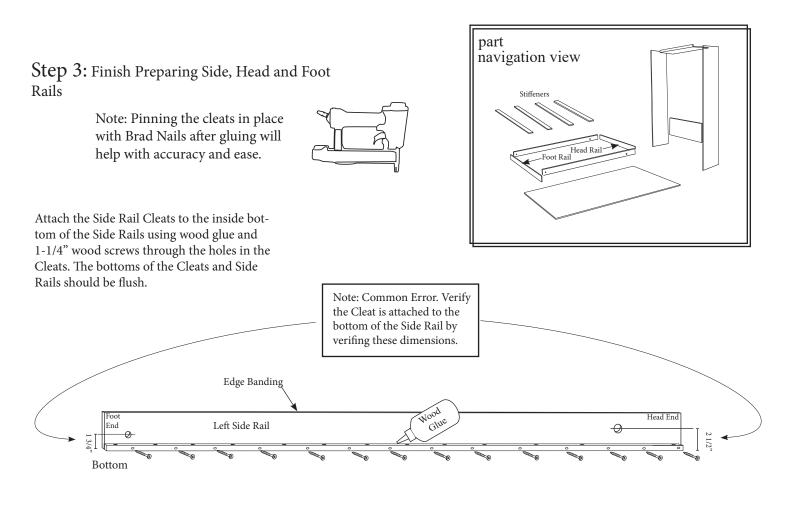
As illustrated, Drill holes through the two Side Rails providing for the Lift Mechanism and Legs. Note the Side Rails mirror each other and it is recommended to drill from the outside of the Side Rails to achieve the most accurate hole pattern.



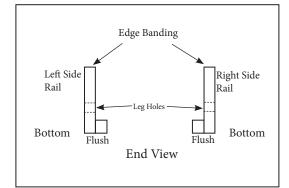




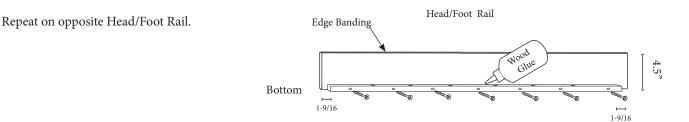
7



Repeat on Right Side Rail



<u>Center</u> the Head and Foot Rail Cleats on the Rails - inside bottom - now attach using wood glue and 1-1/4" wood screws through the holes in the Cleats. The bottom of the Cleats and Head/ Foot Rails should be flush.

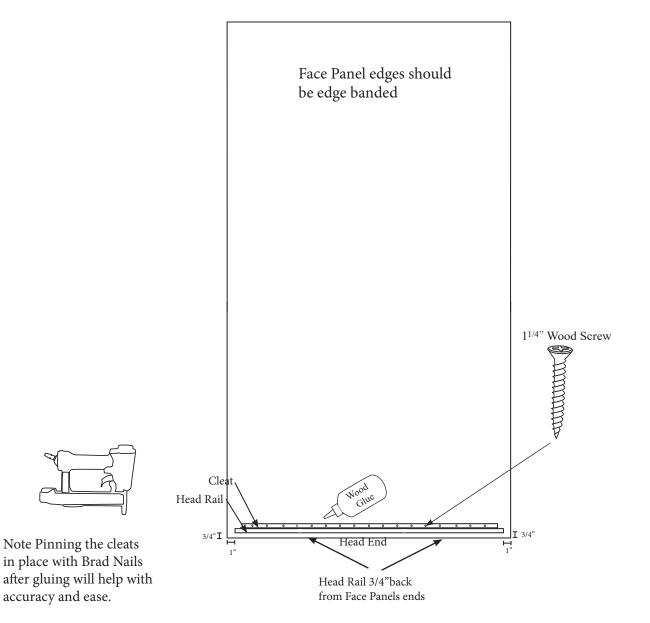


Step 4: Assembling Face Panels and Side Rails

Lay out Face Panel good side down on a flat surface. The Face Panel will be the front of the Wall Bed when the bed is closed. Best grain, and overall appearance will be important so chose the side, grain pattern etc that suits you best.

Now position the Head Rail (Head Rail and Foot Rail are identical) at the head end ((head end) refers to the end the sleeper's head will rest while bed is in use) of the Face Panel. The Head Rail should be 3/4" back from the end of the Face Panel and centered evenly. The Head Rail should be short of each side of the Face Panel by 1".

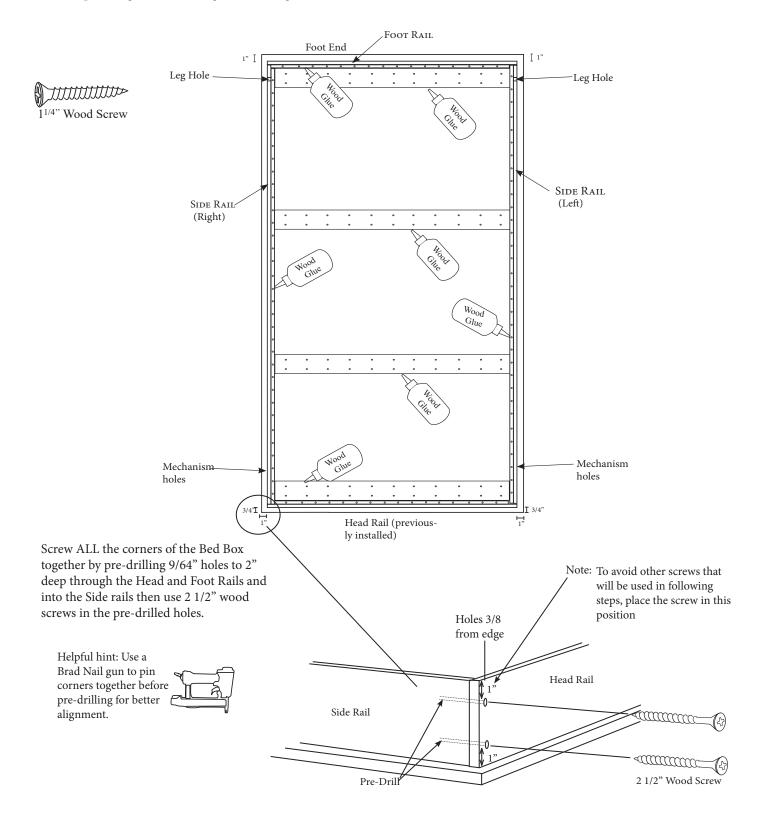
Once the Head Rail is positioned, use wood glue between the Cleat and Face Panel tack it in place with 1 -1/4" Brad nails to hold its position, then use 1-1/4" wood screws to secure it to the Face Panel.

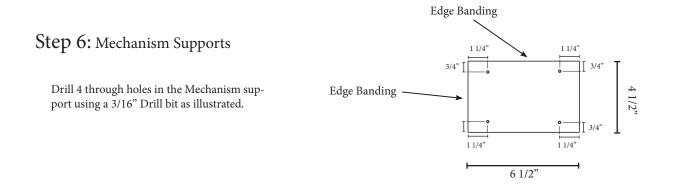


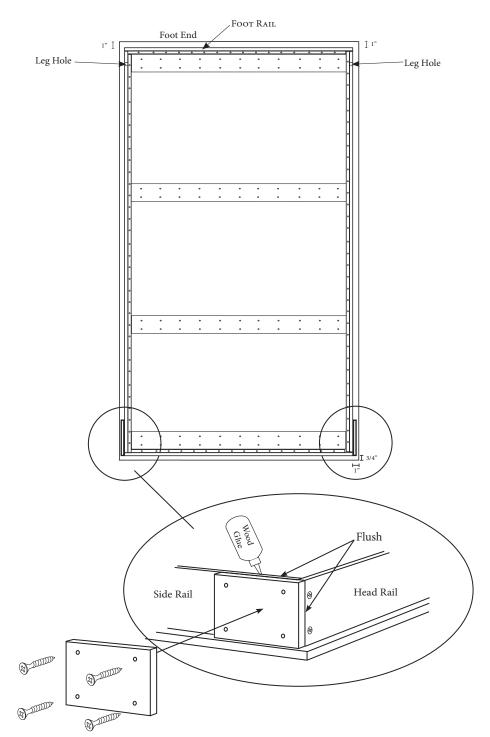


Step 5: Assembling Face Panels and Side Rails cont.

Using wood glue and 1-1/4" wood screws attach the left and right Side Rails, Foot Rail, and Stiffeners as illustrated below. Dry fit the Rails to verify fit then start by attaching the left and right Side Rails and insure there remains 1" spacing Head to Foot. Then install the Foot rail between the Side Rails. There should be a 1" reveal of the Face Panels. Lastly install the Stiffeners to the face Panels with the first Stiffener near the Foot Rail and the remaining Stiffeners spaced evenly. Its best to apply wood glue to the Cleats to prevent glue from oozing on to the edge of the Face Panels.







Position Mechanism Supports on the outside of the Side Rails at the Head End of the Bed Box on both sides. It is important that the Mechanism Supports are flush with the Head Rail and Side Rail tops as illustrated. Glue them in position and use four 1 1/4" wood screws to anchor them in place. The head of the wood screws should be counter sunk just enough so they are flush with the surface of the Mechanism Supports.



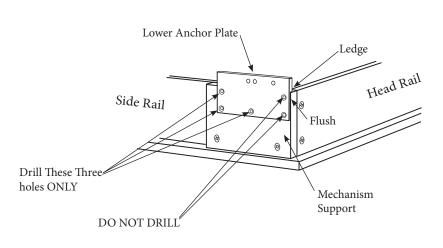
Step 7: Mechanism Supports cont.

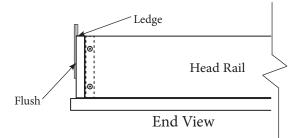
Lower Anchor Plate



Place the Lower Anchor Plate with it's ledge resting on the Mechanism Support and FLUSH to the end of the Bed Box. Using the three interior holes of the Anchor Plate as a template first drill through the Mechanism support and Side Rail with a 13/64" drill bit. Then remove the Anchor Plate and final drill with a 1/4" drill bit for proper hole size.

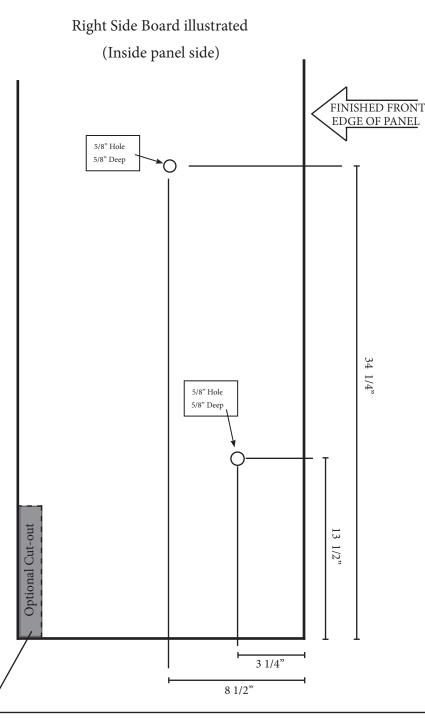
> Repeat on the opposite side of the Bed Box. Then place Lower Anchor Plate back in the box to be installed later

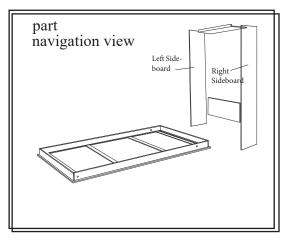




Step 8: Milling Side Boards for Lift Mechanisms

-Drill holes for Lift Mechanisms in the Side Boards (<u>mirror holes for</u> <u>left and right Side Boards</u>) by marking exact hole location on the <u>inside</u> <u>side</u> of each Side Board using illustration below. Then use a 5/8" Forstner drill bit for the two holes below as illustrated. NOTE HOLES ARE ONLY 5/8" DEEP



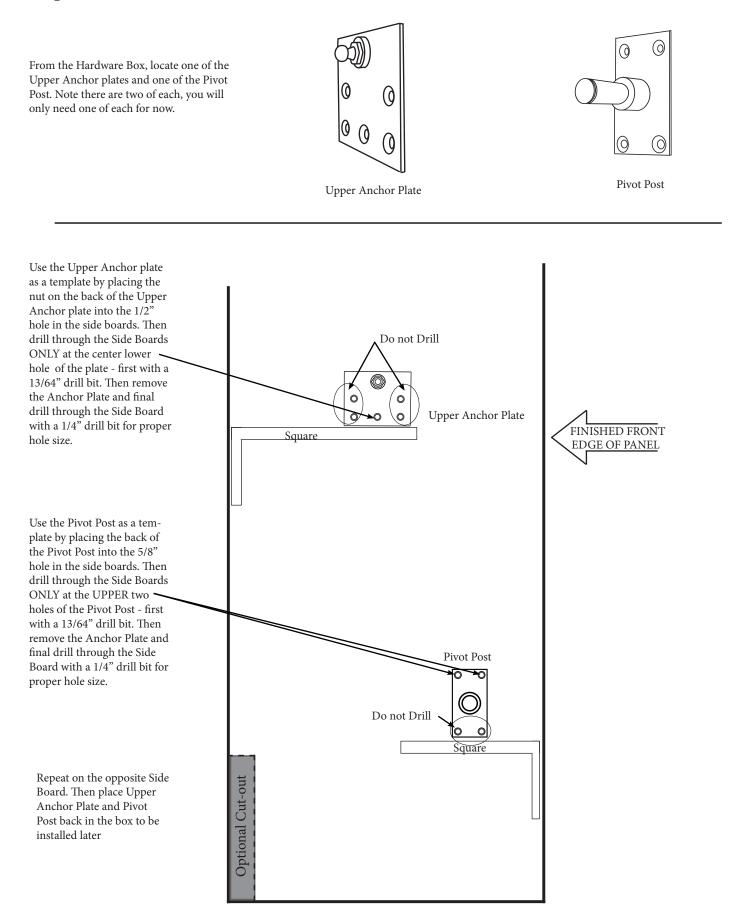


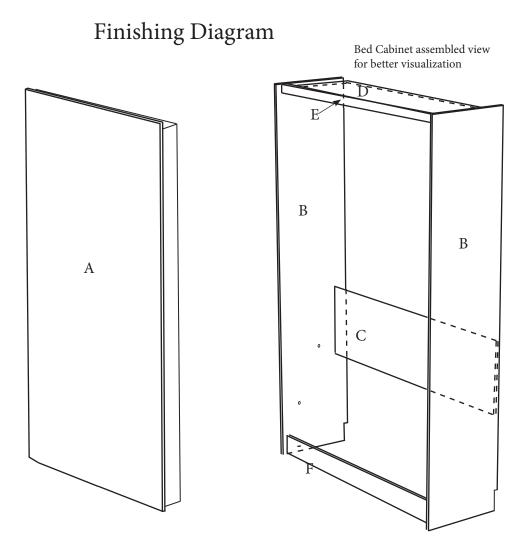
Optional Cut Out for Base Mold in Home

If there is a baseboard on the intended installation wall, there is a option to cut out the back bottom of the Side Board for easy installation. (Recommended)

Maximum cut out not to exceed 1" wide or 9" high. If baseboard exceeds these dimensions baseboard, or baseboard shoe molding will need to be removed during installation process.

Step 9: Milling Side Boards for Lift Mechanisms cont.

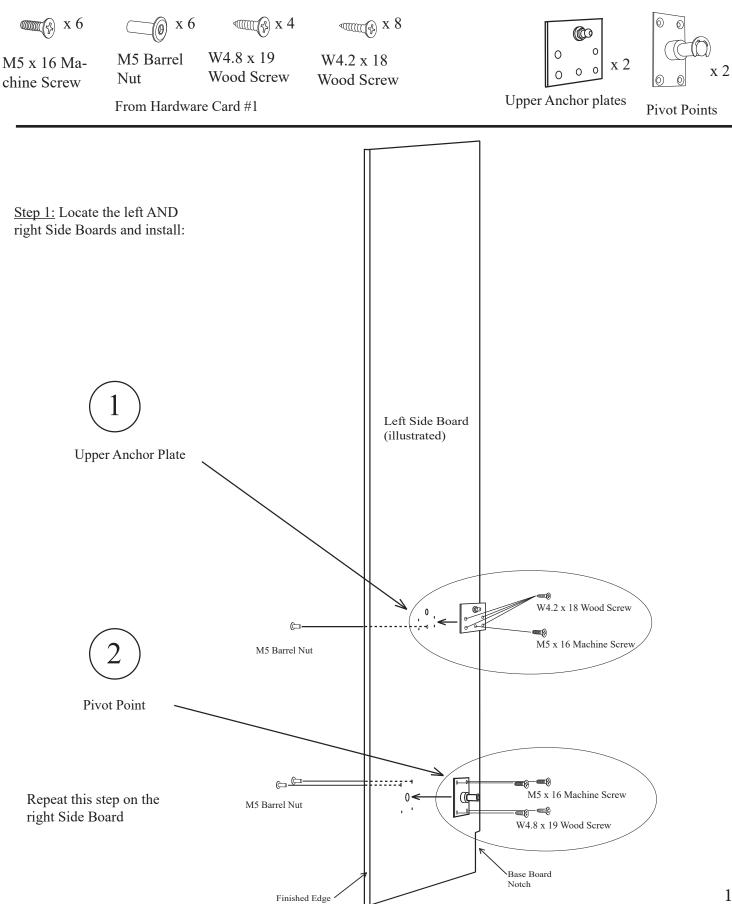




	Description	Finishing Notes
A	Face Panel	Face Panel is the front of the bed when it is closed. Apply finish to the face panel front, all edges (should be edge banded) and around the parameter of the back panel as well as the rails. Between the rails is where the mattress sits, finish if desired.
В	Side Board	Side Boards should have finish applied to both sides and the front edge. (Should be edge banded).
С	Headboard	Headboard should have finish applied to one side, top edge (should be edge band- ed). Finish back if desired but won't be visible.
D	Bridge Board	Bridge Board should have finish applied to one side. Finish opposite side if de- sired, but is not typically seen.
Е	Top Fascia	Top Fascia should have finish applied to one side and edge banded edge. (should be edge banded on bottom edge).
F	Front Stretcher	Front Stretcher should have finish applied to one side and one edge. (should be edge banded).

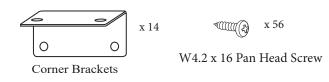
Step 10: Installing Mechanism Components

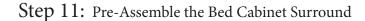
Hardware and parts needed for next step:



NOTE: It is recommended that you dry fit (put together) the Cabinet Surround as illustrated in the next step. This will allow you to carefully place all of the cabinet surround parts prior to the final assembly. You then will need to disassemble the surround however the final assembly will go smoother if all the parts have been pre-installed.

Hardware needed for next step.



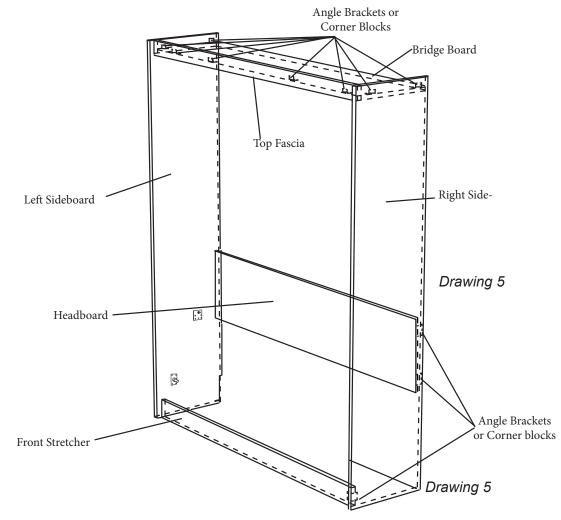


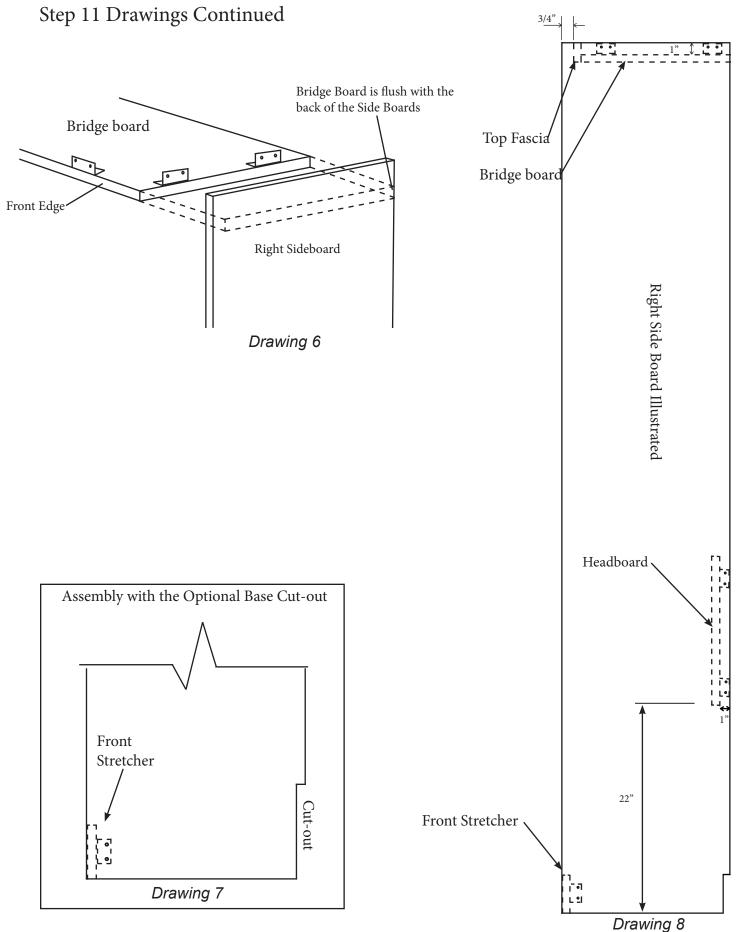
1. Locate the mounting position of the Headboard marking the left and right Side Boards 22" from the floor and 1" in from the back edge of the Side Boards See Drawing 5 below. Use Corner Brackets to attach Headboard to Sideboards note that the Angle Bracket cannot protrude beyond the back of the Side Boards.

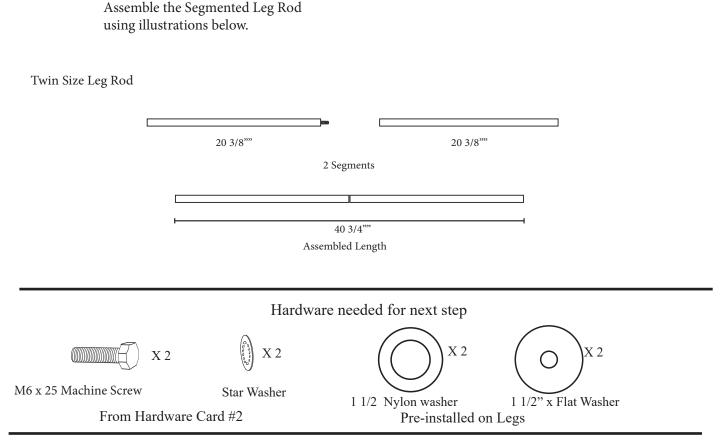
2. Use Angle Brackets to assemble Front Stretchers in positions shown in Drawings 7, & 8 (next page) Use one Bracket on either end of the Front Stretcher.

3. Attach Bridge Board as shown in Drawings 5, 6 & 8. Be sure back edge of the Bridge Board is flush with back of Side Boards and 1" down from the top of the Side Boards so it is flush with the bottom edge of the Top Fascia. The Top Fascia will cover the front edge of the Bridge Board.

4. Attach the Top Fascia to the front edge of the Bridge Board using Angle Brackets as shown in Drawing 5 & 8. Note the Top Fascia covers the front edge of the Bridge Board and is flush with the bottom. The Top Fascia should be 3/4" back from the front of the Side Boards.



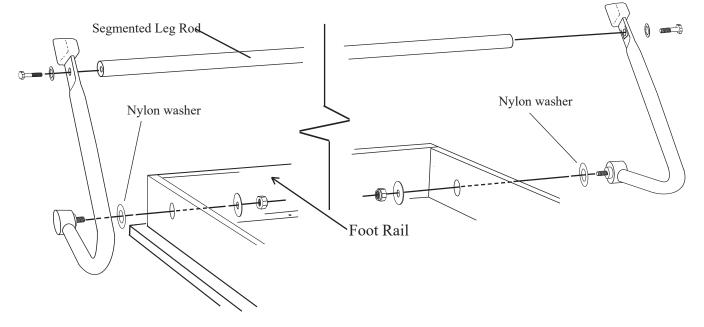


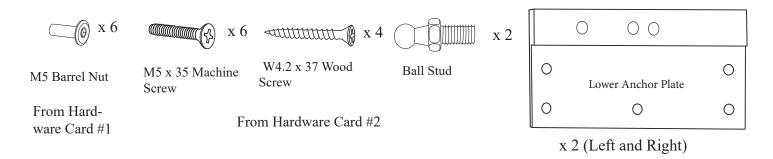


Step 13: Installing the Legs and Leg Rod

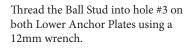
Attach the Leg to the Side Rails as illustrated below. Use 1 Nylon Washers on the out side of the Side Rail then a Flat Washer and Nut (pre installed on leg).

Position the segmented Leg Rod between the Legs. Place the Star washer on the M6 x 25 Machine Screw and tighten the rod in place.

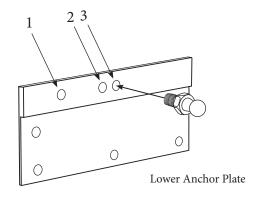


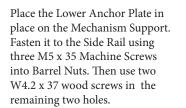


Step 14: Installing Mechanism Hardware



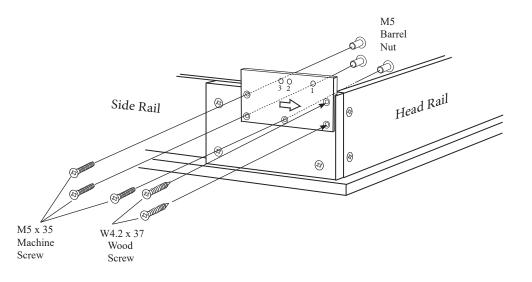
IMPORTANT: Ball Stud must be in hole #3 for Twin size bed or mechanism will not work properly and may damage the Piston.



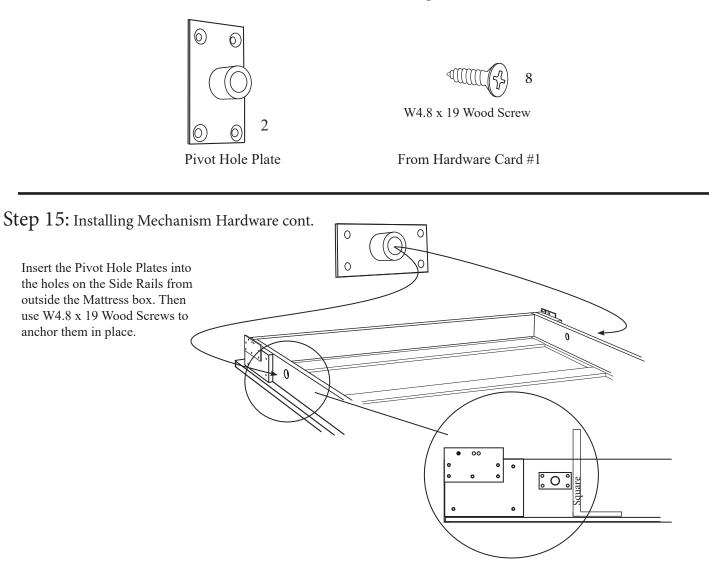


IMPORTANT NOTE: THE LOWER ANCHOR PLATE ARROW MUST BE POINTING TO THE HEAD END OF THE BED AS ILLUSTRATED

Repeat on left Side Rail

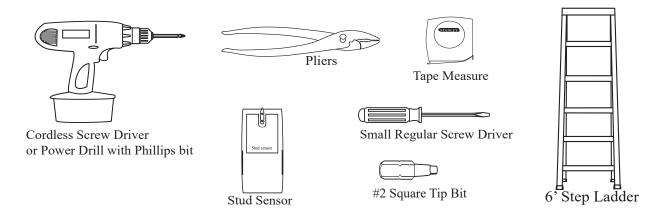


Hardware needed for next step



Final Assembly and Installation on the following Pages should be done in the room bed will be used.

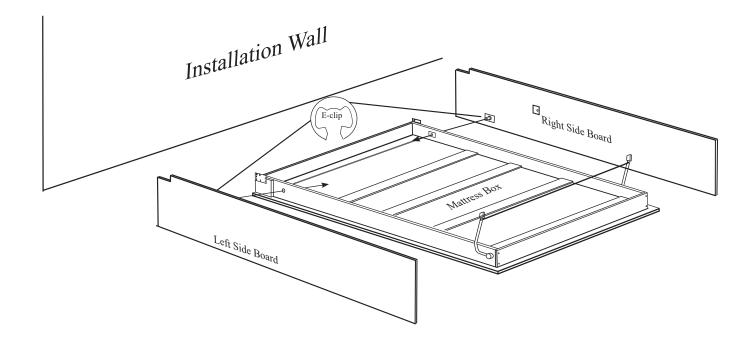
Tools Needed

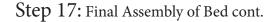


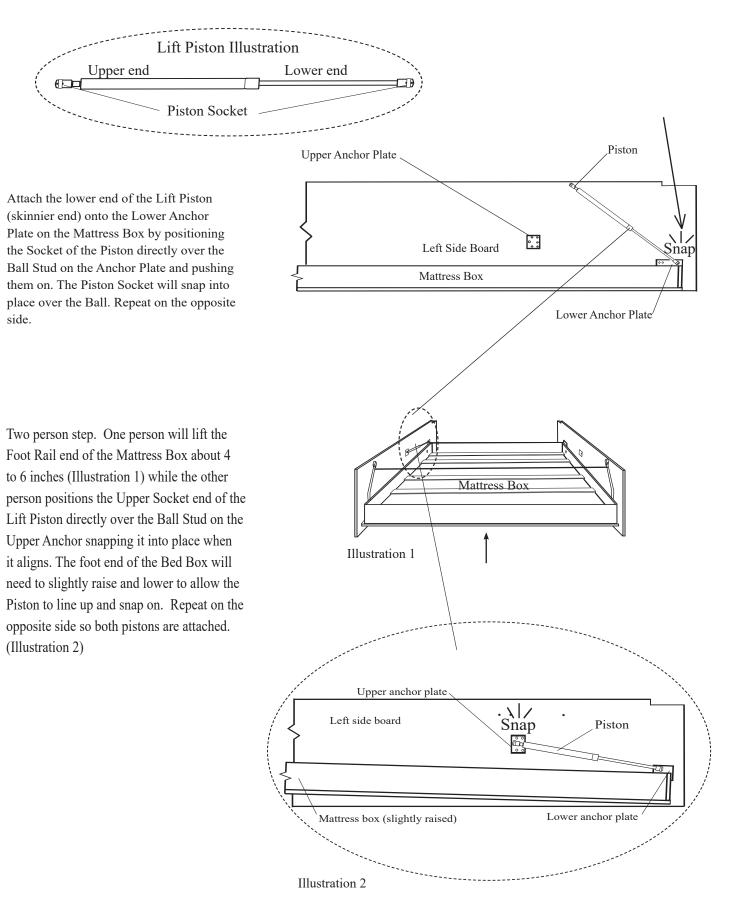
Position the Mattress Box and the right and left Side Boards face down on the floor with the bottom of the Mattress Box approximately 2.5 feet from the wall where the bed will be installed.

With a pair of pliers, remove the E-clips from the Pivot Posts on the Side Boards.

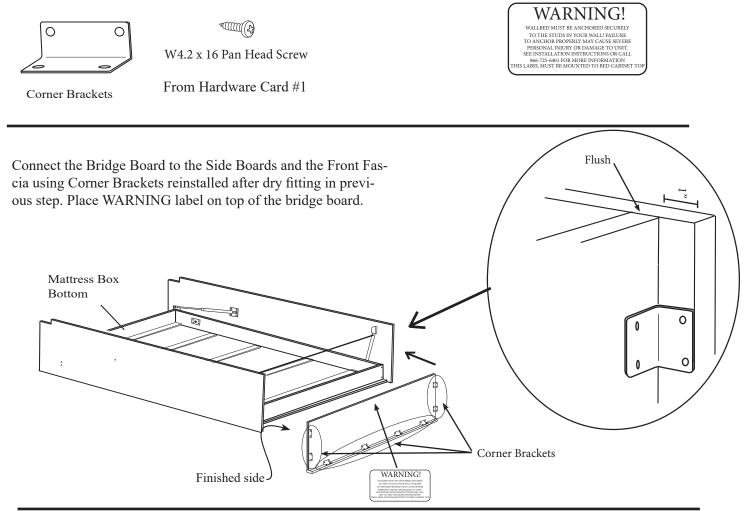
Slide the Side Board Pivot Posts through the Pivot Hole Plates in the Mattress Box as illustrated then replace the E-clips onto the Pivot Posts.



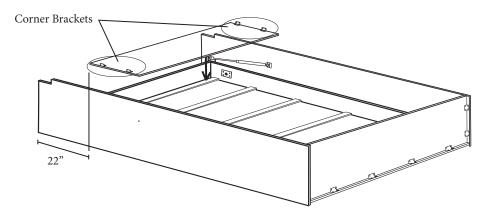




Hardware needed for next step

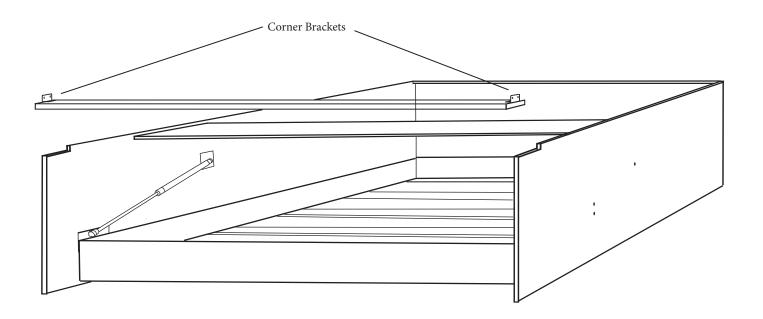


With the bed unit still lying face down on the floor the Headboard can be installed. HAVE SOME-ONE HELP WITH THIS STEP. Slide the Headboard between the Side Boards and reinstall after Dry Fit. Head board bottom should be 22" from the bottom of the side boards and 1" inside Side Board back (just enough so Corner Brackets do not protrude beyond Side Board back).



Step 19: Final Assembly of Bed cont.

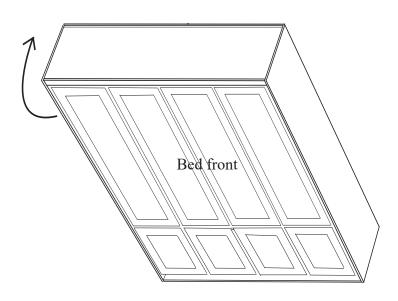
Slide the Stretcher Board between the Side Boards at the bottom front of the Wallbed unit attach using Corner Brackets in the holes from dry fitting.



HEAVY TWO PEOPLE REQUIRED!

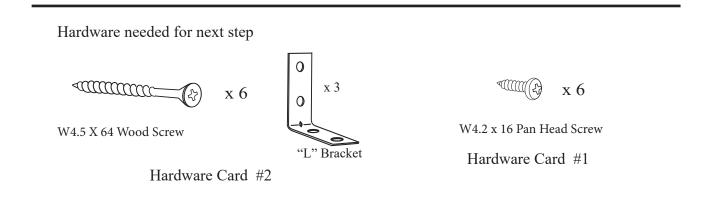
This step will require 2 people. From the top of the Wall Bed unit lift it up to the standing position in front of the wall where it will be installed

Important: Support the bed face as you lift so it does not open as it is being lifted.



WARNING! FAILURE TO PROPERLY ANCHOR THE BED CABINET COULD CAUSE SEVERE PERSONAL INJURY OR DEATH. CALL TECHNICAL SUPPORT AT 866-725-6401 IF YOU HAVE ANY QUESTIONS.

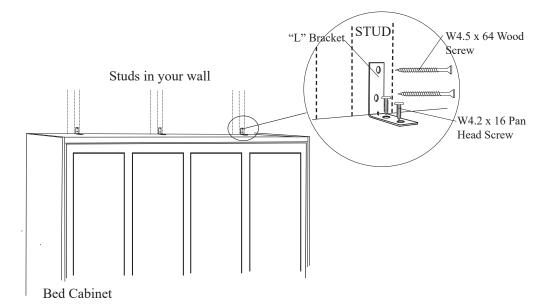
Step 20: Anchoring Bed To The Wall



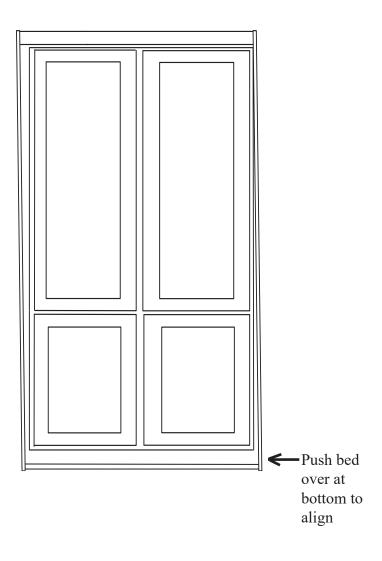
Using a Stud Finder locate and mark the studs in your wall behind the Bed Cabinet. Attach "L" brackets to the top, back of the Bed Cabinet using W4.2 x 16 Pan Head screws corresponding to where the studs are located in your wall. Now attach the "L" brackets to the studs in the wall using six W4.5 x 64 Wood Screws.

IMPORTANT! Queen

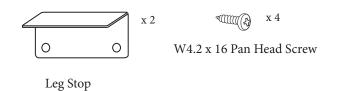
and Full size beds require 3 studs, Twin size beds require 2 studs. It is <u>VERY</u> important that the bed cabinet be anchored securely to the wall. For technical support call 866-725-6401 toll free.



Check the gap alignment between Side Boards and the Bed Face. If it looks correct skip this step. If the gap is not correct, meaning that the Bed Front is too close to the Side Board or even touching it at the top on one side. It can be adjusted after the Bed unit is attached to the wall but it will require two people. The procedure will require the bottom of the bed to be moved slightly to the left or right depending on which top corner is too close. If the bed is too close on the top right side for instance the right side (bottom) will need to be slid to the left slightly. Have one person push the bed at the bottom while the second person pulls on the opposite bottom side.

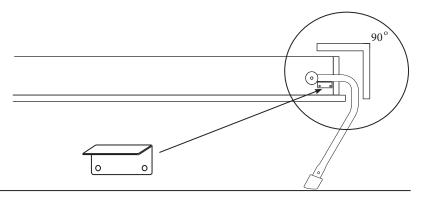


Hardware for Next Step



Step 22: Installing Leg Stops

Open the bed and extend the Legs to a 90 degree angle. Once the legs are positioned correctly, attach the Leg Stop bracket to the Side Rail.



Step 23: Installing Handles (supplied locally)

Measure and drill holes in the bed face where Handles are desired. Note Handles should be positioned more toward the top of the Bed Face for easier opening (Queen and King approx. 5 ft., Full and Twin 4' 6" from floor).