



S-100

Murphy Bed Mechanism

Cut List & Plans

Style: S-100 (Wood Rails) Murphy Bed Mechanism

Orientation: Vertical

Size: King, Queen, Full, 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 SERVICE AT 866-725-6401 FOR ANY QUESTIONS.

Recommendations to Start Project

Cabinet Material:

IT IS STRONGLY RECOMMENDED TO CONSTRUCT MURPHY BED CABINET USING 4 X 8 PLY CORE (FURNITURE GRADE) PANELS. MDF MAY BE USED BUT BED MAY BE HEAVY TO OPERATE. PARTICLE BOARD CANNOT BE USED FOR THIS PROJECT. See Cut lists on the 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:

- 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
- Assorted Drill bits including 1/16", 1/8", 5/16", 3/16", 9/32" and 3/4" Forstner bit (recommended) or Spade bit .
- 72" Bar Clamp, C-Clamps (6" minimum capacity)
- Iron for edge banding (household Iron is fine)
- Power Drill and Power Screw driver with Phillips bit
- Power sander (orbital) 150 or 180 grit as desired.

Mechanism Box Contents

Quantity	Item
2	Lift Mechanisms - Left and Right
2	Folding Leg assemblies - Left and Right with Black Nylon washer, Metal washer and 5/16" Nylock
18	Springs
2	Metal spring covers
1	Black metal tube with tapered end (for setting spring unit during installation)
1	Velcro Strap (Hardware card #5)
1	Leg connector bar (six pieces to achieve proper length for all size beds)

Quantity	Hardware Card #20	Description
3	2" X 2" "L" Brackets	Attaching Bed Cabinet to Studs in Wall
6	#8 X 2" Phillips Wood Screws	Attaching Bed Cabinet to Studs in Wall
6	#8 X 3/4" Pan head Screws	Attaching Bed Cabinet to Studs in Wall
3	3/8" Rounded Bumpers	For cushioning Bed face when closing Wall
2	3/8" Flat Bumpers	Leg Bumpers
1	Warning Label Sticker	Attach to top of Bed Cabinet
10	5/16" X 1 -1/4" Flat Allen Head Bolts	Attaching Mechanism to Side Boards
10	5/16" X 1 -1/4" Nylock Hex	Attaching Mechanism to Side Boards
2	#8 X 1-1/2" Phillips Pan Head Wood	Attaching Metal Spring Covers to Side

Quantity	Hardware Card #21	Description
4	5/16" X 1-1/4" Hex Head Bolts	Attaching Bed Box to Mechanism
2	5/16" X 1-1/4" Allen Head Bolts	Attaching Bed Box to Mechanism
6	5/16" X 7/8" Flat Washers	Attaching Bed Box to Mechanism
6	5/16" Nylock Nuts	Attaching Bed Box to Mechanism
2	1/4" Star Wash-	Attaching Leg Rod to Legs
2	1/4" X 20 X 1-1/4" Hex Head	Attaching Leg Rod to Legs

Mechanism Box Contents Cont.

Quantity	Hardware Card #22	Description
30	1" X 1" X 3/4" "L" Brackets	Assembling Cabinet
96	#8 X 5/8" Pan Head Screws	For "L" Brackets above
2	Panel Guards	Protecting Face Panel from Springs

Quantity	Hardware Card #23	Description
12	Confirmat Screws	Assembling Bed Box (MDF material)
12	Confirmat Screw Caps	For item above

Items to Source Locally

Quantity	Item
3-4 Sheets	4' X 8' Furniture Grade Plywood Panels (4 for Full, Queen or King beds - 3 for Twin Size beds) MDF may be used but not recommended due to weight and strength. Particle board should not be used in the construction of this project.
3 pcs Hardwood	4" W X 40" L (Twin) , 4" X 55"(Full) 4" X 61" (Queen) 4" X 77" (King) - Mattress Supports
24 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
200 feet	13/16" Pre glued - Iron on Edge Tape sourced to match wood type
300	1 - 1/4 Countersink Wood Screws
25	2-1/2" Wood
Assorted	Sandpaper as desired
Bottle	Wood Glue
Finishing Supplies	Stain, Lacquer, or polyurethane as desired
Bed Handles	As desired

King Size 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 BUT KING SIZE BEDS WILL BE HEAVY TO OPERATE. PARTICLE BOARD CANNOT BE USED FOR THIS PROJECT.

<u>King Size Bed</u>			<u>Overall Cabinet Dimensions</u>	
Mattress Size: 76" x 80" 12" Max thickness			80 1/2" w x 88 1/4" h 16" d	
			Protrusion from wall: 90	
			Cabinet Material: 3/4" Plywood core or MDF	
			Note: MDF will make bed hard to operate. Consider using Ply core for front Panels.	
Plywood Panel Cut List				
Quantity	Description	Width	Length	Edge Banding
4 or 2	Bed Face Panels Bed Face Panels	19 5/8" 39 1/4"	82 1/4"	All 4 Edges
2	Side Boards	16"	88 1/4"	One long Edge (front)
1	Headboard	16"	79"	One Long Edge (top)
1	Bridge Board	14 1/2"	79"	No Edge banding
1	Top Fascia	2"	79"	One Long Edge (bottom)
1	Rear Stretcher	6"	79"	One Long Edge (top)
1	Front Stretcher	3 1/4"	79"	One Long Edge (top)
2	Side Rails	4 1/2"	79 3/4"	One Long Edge (top)
1	Head Rail	4 1/2"	76 3/4"	One Long Edge (top) & Both Ends (sides)
1	Foot Rail	4 1/2"	76 3/4"	One Long Edge (top) & Both Ends (sides)

<u>King Size Bed</u> Solid wood Cut List			
Quantity	Item	Dimensions	Description
4	Stiffeners	4" W x 3/4" thick x 73 3/4" L	Solid Wood - Used to mend face panels and support mattress
2	Side Rail Cleats	3/4" x 3/4" x 79 3/4" long	Solid Wood - Used to attach Side Rails to Face Panels.
1	Head Rail Cleat	3/4" x 3/4" x 73 5/8" long	Solid Wood - Used to attach Head Rail to Face Panels.
1	Foot Rail Cleat	3/4" x 3/4" x 73 5/8" 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 10' Long	
As desired	Base Mold	Base Mold 10' Long- 4" Max height	

Queen Size Bed Cabinet Cut Lists

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<u>Queen Size Bed</u>			<u>Overall Cabinet Dimensions</u>	
Mattress Size: 60" x 80" 12" Max thickness Plywood/MDF Panel Cut list			65 1/2" w x 88 1/4" h 16" d Protrusion from wall: 90 Cabinet Material: 3/4" Ply core or MDF	
Quantity	Description	Width	Length	Edge Banding
4 or 2	Bed Face Panels	15 7/8"	82 1/4"	All 4 Edges
	Bed Face Panels	31 3/4"		
2	Side Boards	16"	88 1/4"	One long Edge (front)
1	Headboard	16"	64"	One Long Edge (top)
1	Bridge Board	14 1/2"	64"	No Edge banding
1	Top Fascia	2"	64"	One Long Edge (bottom)
1	Rear Stretcher	6"	64"	One Long Edge (top)
1	Front Stretcher	3 1/4"	64"	One Long Edge (top)
2	Side Rails	4 1/2"	79 3/4"	One Long Edge (top)
1	Head Rail	4 1/2"	61 3/4"	One Long Edge (top) & Both Ends (Sides)
1	Foot Rail	4 1/2"	61 3/4"	One Long Edge (top) & Both Ends (Sides)

<u>Queen Size Bed</u>		Solid wood Cut List	
Quantity	Item	Dimensions	Description
4	Stiffeners	4" W x 3/4" thick x 58 3/4" L	Solid Wood - Used to mend face panels and support mattress
2	Side Rail Cleats	3/4" x 3/4" x 79 3/4" long	Solid Wood - Used to attach Side Rails to Face Panels.
1	Head Rail Cleat	3/4" x 3/4" x 58 5/8" long	Solid Wood - Used to attach Head Rail to Face Panels.
1	Foot Rail Cleat	3/4" x 3/4" x 58 5/8" 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 10' Long	
As desired	Base Mold	Base Mold 10' Long- 4" Max height	

Full Size (Double) Bed Cabinet Cut Lists

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<u>Full Size (Double) Bed</u>			<u>Overall Cabinet Dimensions</u>	
Mattress Size: 54" x 75" 12" Max thickness Plywood/MDF Panel Cut List			59 1/2" w x 83 1/2" h 16" d Protrusion from wall: 85 Cabinet Material: 3/4" Ply core or MDF	
Quantity	Description	Width	Length	Edge Banding
4 or 2	Bed Face Panels Bed Face Panels	14 3/8" 28 7/5"	77 1/2"	All 4 Edges
2	Side Boards	16"	83 1/2"	One long Edge (front)
1	Headboard	16"	58"	One Long Edge (top)
1	Bridge Board	14 1/2"	58"	No Edge banding
1	Top Fascia	2"	58"	One Long Edge (bottom)
1	Rear Stretcher	6"	58"	One Long Edge (top)
1	Front Stretcher	3 1/4"	58"	One Long Edge (top)
2	Side Rails	4 1/2"	75"	One Long Edge (top)
1	Head Rail	4 1/2"	55 3/4"	One Long Edge (top) & Both Ends (Sides)
1	Foot Rail	4 1/2"	55 3/4"	One Long Edge (top) & Both Ends (Sides)

<u>Full Size (Double) Bed</u>		Solid wood Cut List	
Quantity	Item	Dimensions	Description
4	Stiffeners	4" W x 3/4" thick x 52 3/4" 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 52 5/8" long	Solid Wood - Used to attach Head Rail to Face Panels.
1	Foot Rail Cleat	3/4" x 3/4" x 52 5/8" 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 (Single) Bed Cabinet Cut Lists

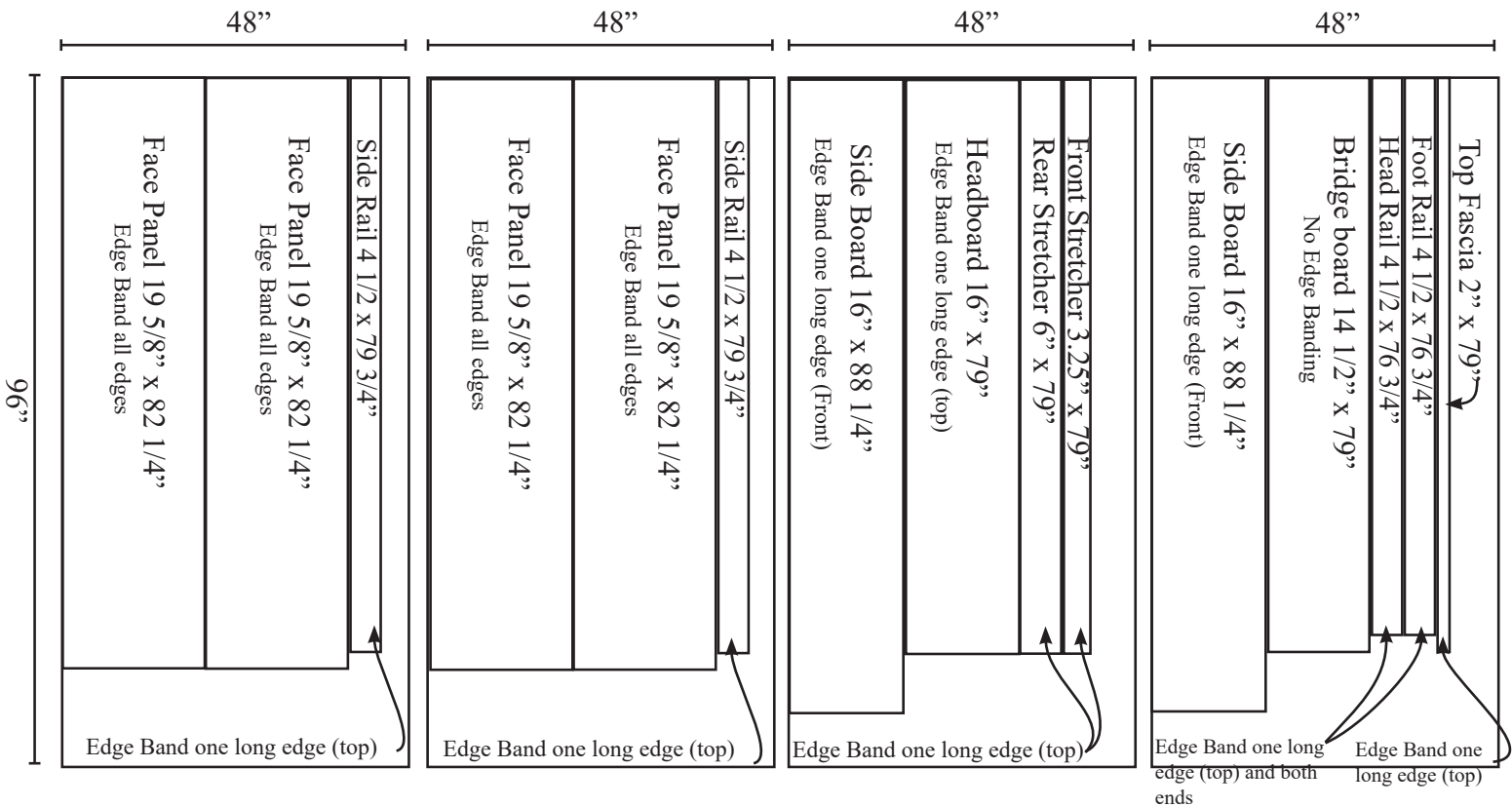
FOR BEST RESULTS IT IS STRONGLY RECOMMENDED TO CONSTRUCT MURPHY BED CABINET USING 4 X 8 PLY CORE (FURNITURE GRADE) PANELS. MDF MAY BE USED. PARTICLE BOARD CANNOT BE USED FOR THIS PROJECT.

<u>Twin Size (Single) Bed</u>			<u>Overall Cabinet Dimensions</u>	
Mattress Size: 39" x 75" 12" Max thickness Plywood/MDF Panel Cut List			44 1/2" w x 83 1/2" h 16" d Protrusion from wall: 85 Cabinet Material: 3/4" Ply core or MDF	
Quantity	Description	Width	Length	Edge Banding
1 or 2	Bed Face Panels Bed Face Panels	42 1/2" 21 1/4"	77 1/2"	All 4 Edges
2	Side Boards	16"	83 1/2"	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	2"	43"	One Long Edge (bottom)
1	Rear Stretcher	6"	43"	One Long Edge (top)
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 3/4"	One Long Edge (top) & Both Ends (Sides)
1	Foot Rail	4 1/2"	40 3/4"	One Long Edge (top) & Both Ends (Sides)

<u>Twin Size (Single) Bed</u>		Solid wood Cut List	
Quantity	Item	Dimensions	Description
4	Stiffeners	4" W x 3/4" thick x 37 3/4" 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 5/8" long	Solid Wood - Used to attach Head Rail to Face Panels.
1	Foot Rail Cleat	3/4" x 3/4" x 37 5/8" 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	

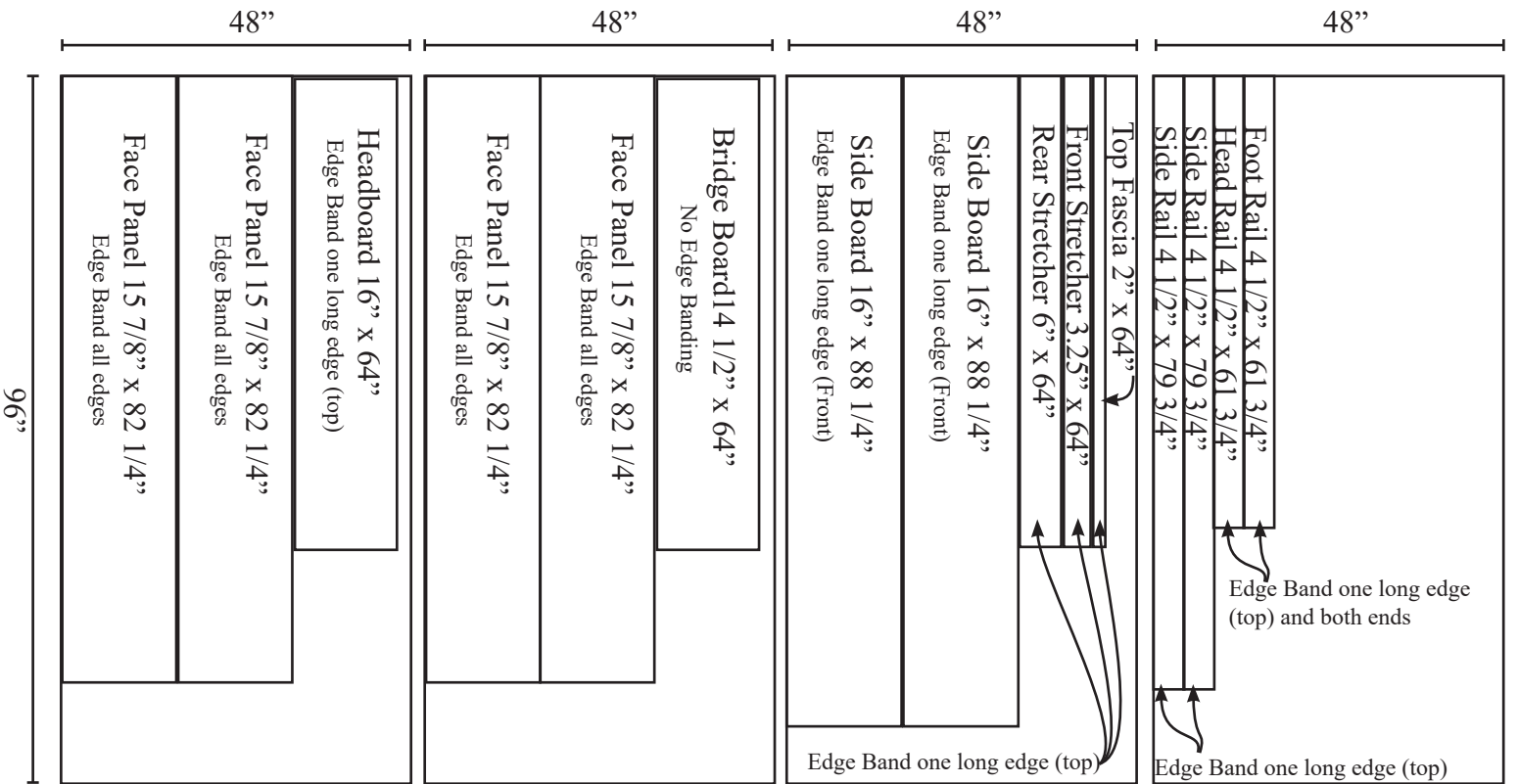
King Size Bed

Suggested panel layout using 4' x 8' panels

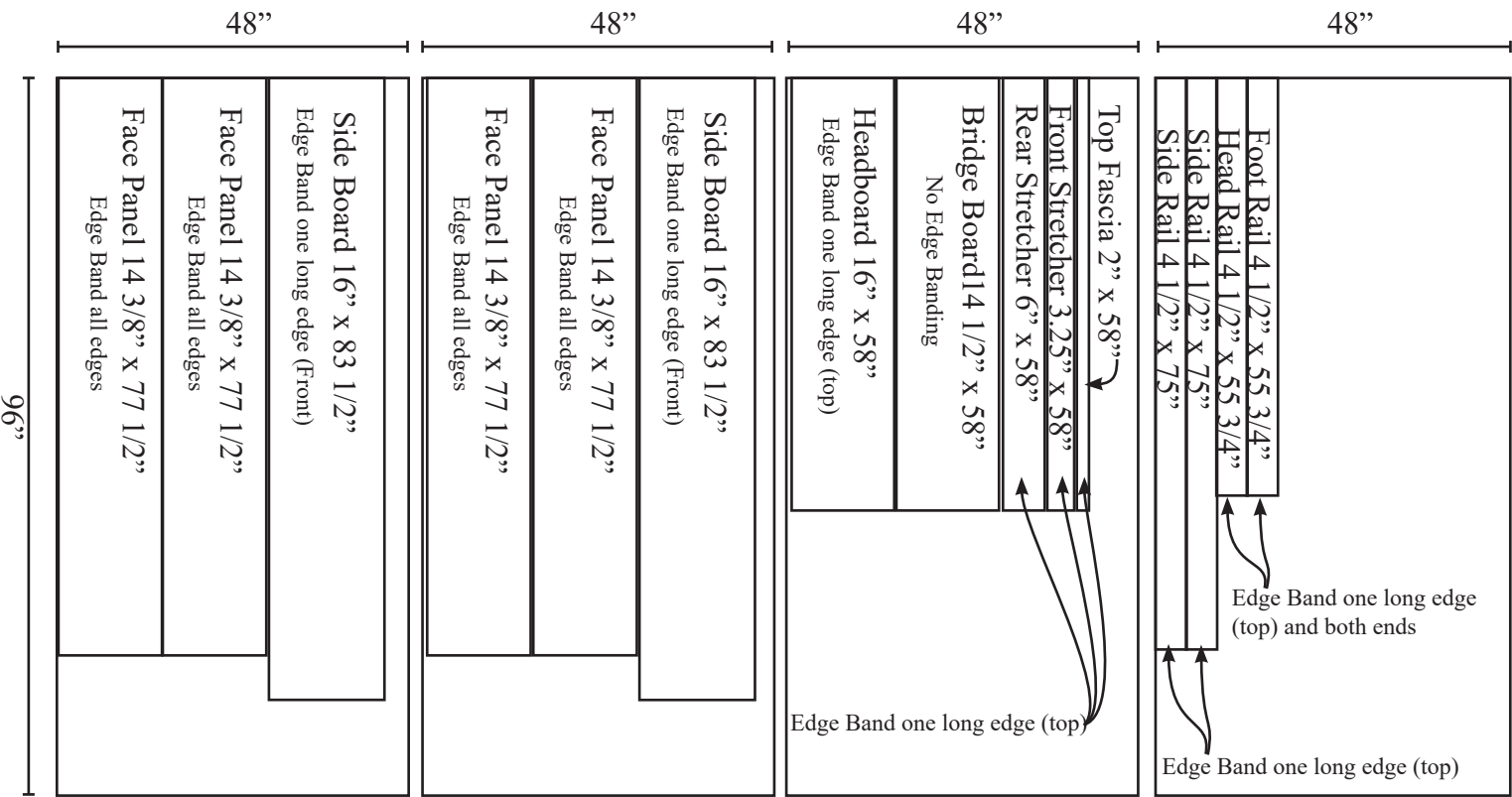


Queen Size Bed

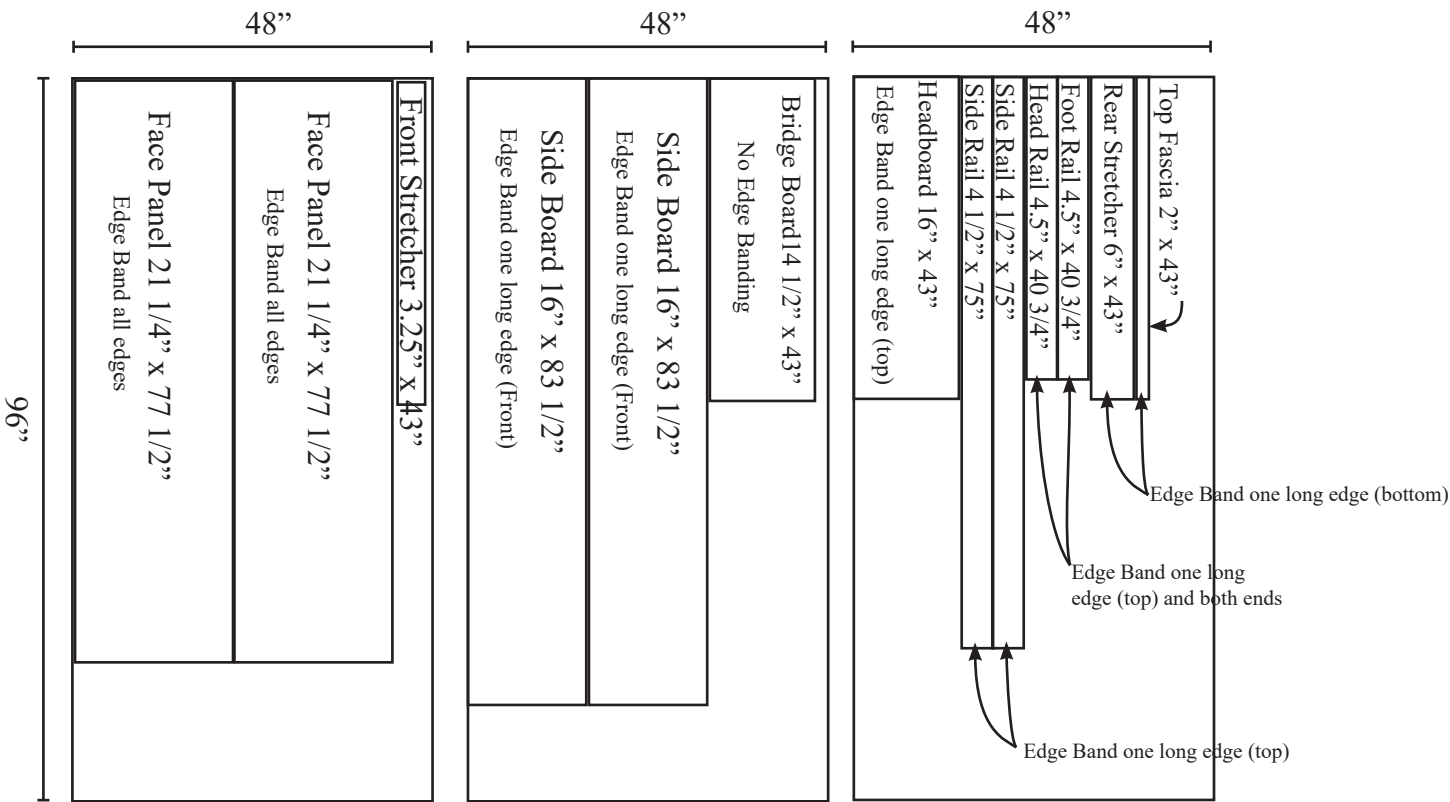
Suggested panel layout using 4' x 8' panels



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

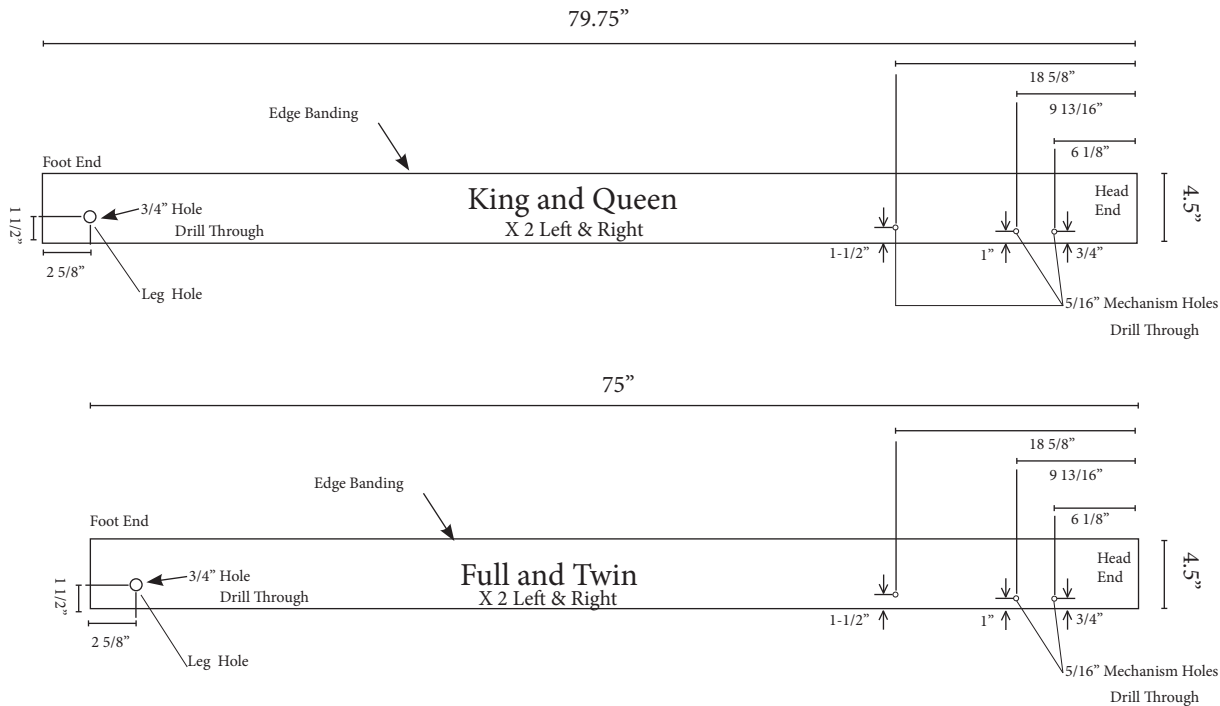
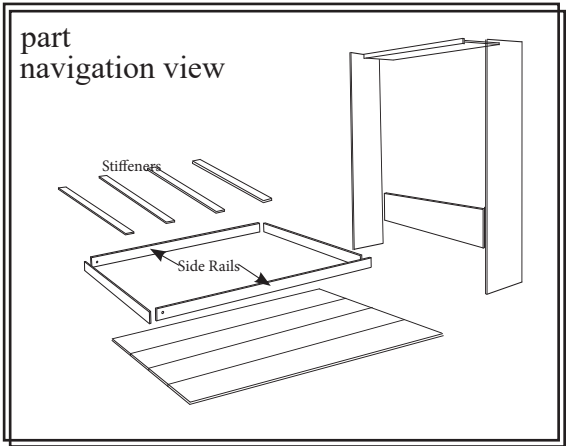


Twin Size Bed Suggested panel layout using 4' x 8' panels



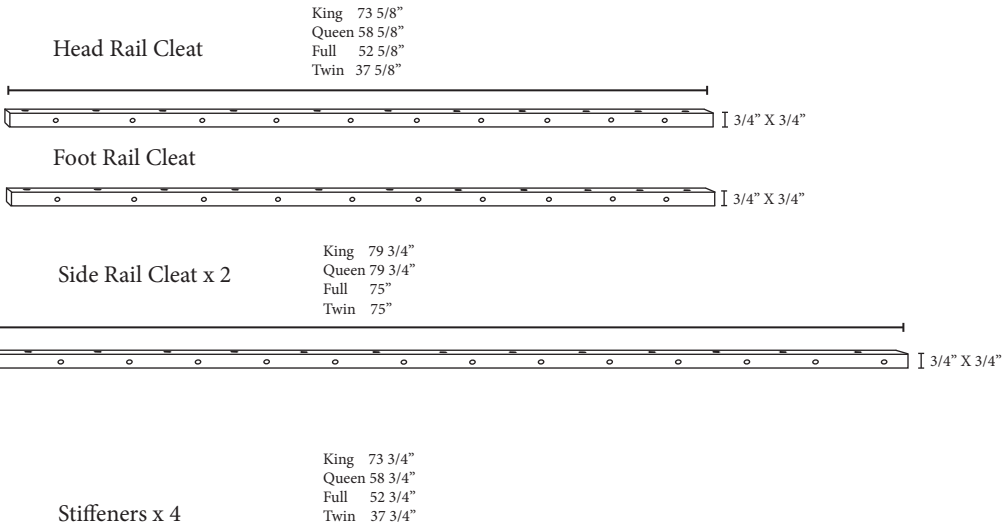
Step 1: Preparing Side Rails

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.



Step 2: Preparing Cleats and Stiffeners

With a 3/16\" Drill Bit drill holes approximately 4\" apart in opposite directions in the Head, Foot Rail Cleats and Side Rails Cleats



With a 3/16\" Drill Bit drill two rows of holes approximately 4\" apart in the Stiffeners as illustrated

Note Pinning the cleats in place with Brad Nails after gluing will help with accuracy and ease.

part
navigation view

Stiffeners

Head Rail Cleat

Side Rail Cleats

Foot Rail Cleat

This diagram illustrates the assembly of a window frame. It shows a rectangular frame with four main components: a top rail, a bottom rail, and two side rails. The top rail is labeled 'Head Rail Cleat', the bottom rail is labeled 'Foot Rail Cleat', and the side rails are labeled 'Side Rail Cleats'. Four 'Stiffeners' are shown as separate pieces, intended to be installed between the side rails. The frame is shown in an exploded view, with the side rails and stiffeners positioned to be attached to the top and bottom rails. A separate rectangular panel, representing the window sash, is shown to the right of the frame assembly.

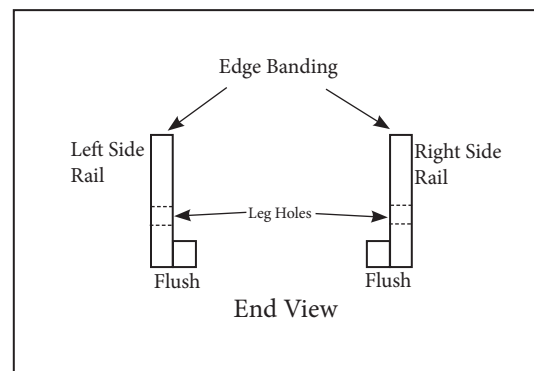


Diagram illustrating the application of wood glue to the edge of a board. The board is labeled "4.5\"". The edge banding is labeled "Edge Banding". The glue application is labeled "Wood Glue". The glue is applied to the edge of the board, which is labeled "1-9/16".

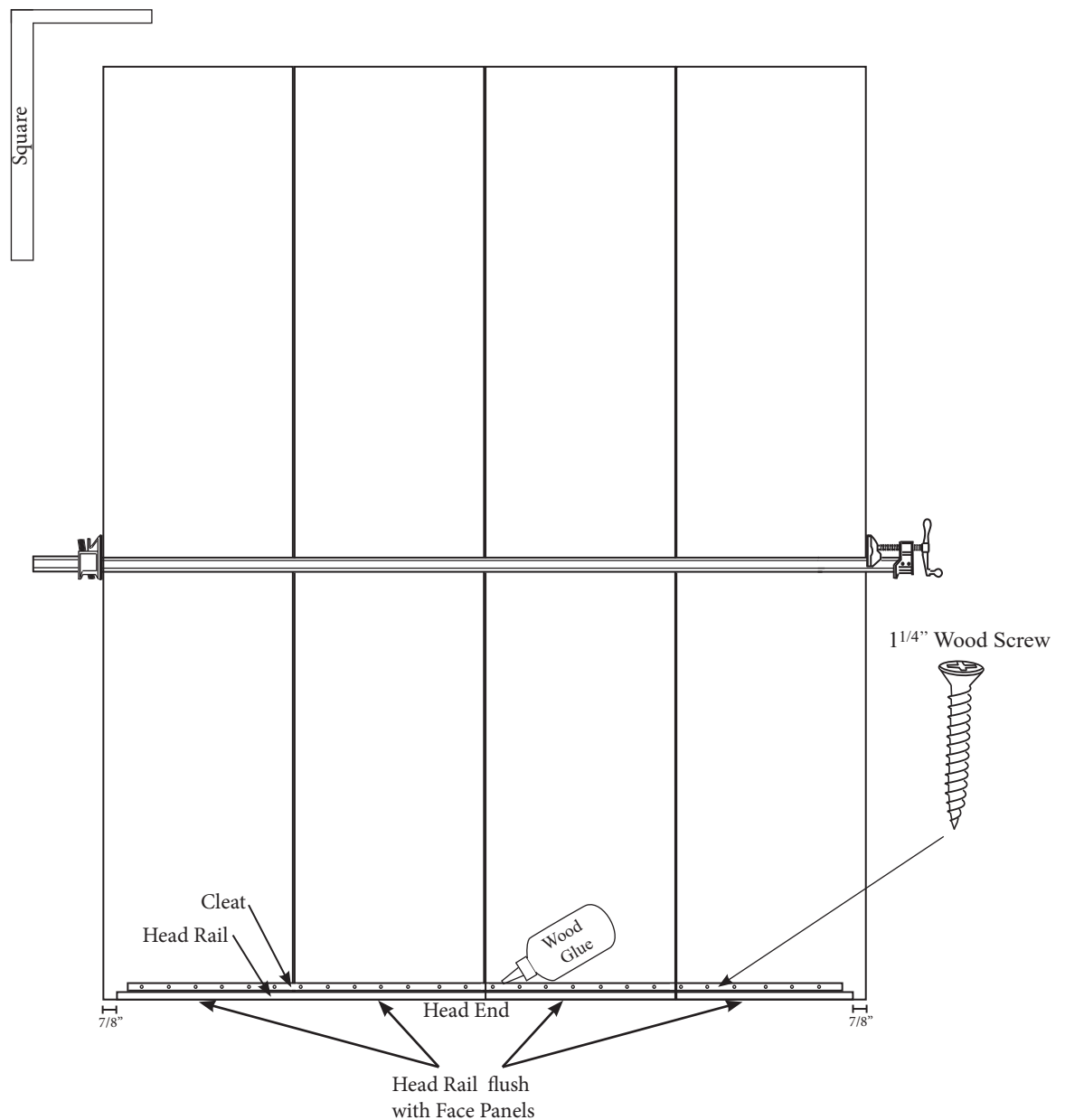
Step 4: Assembling Face Panels and Side Rails

Note Pinning the cleats to the Face Panels with Brad Nails after gluing will help with accuracy and

Lay out Face Panels good sides down on a flat surface. Face Panels will be the front of the Murphy Bed when the bed is closed. Best grain and overall appearance will be important so chose the sides, grain pattern etc that suits you best. Align the Face Panels with each other very carefully making sure the ends are even with each other and that the panels are pushed together. We recommend using a bar clamp to hold the Face Panels in position.

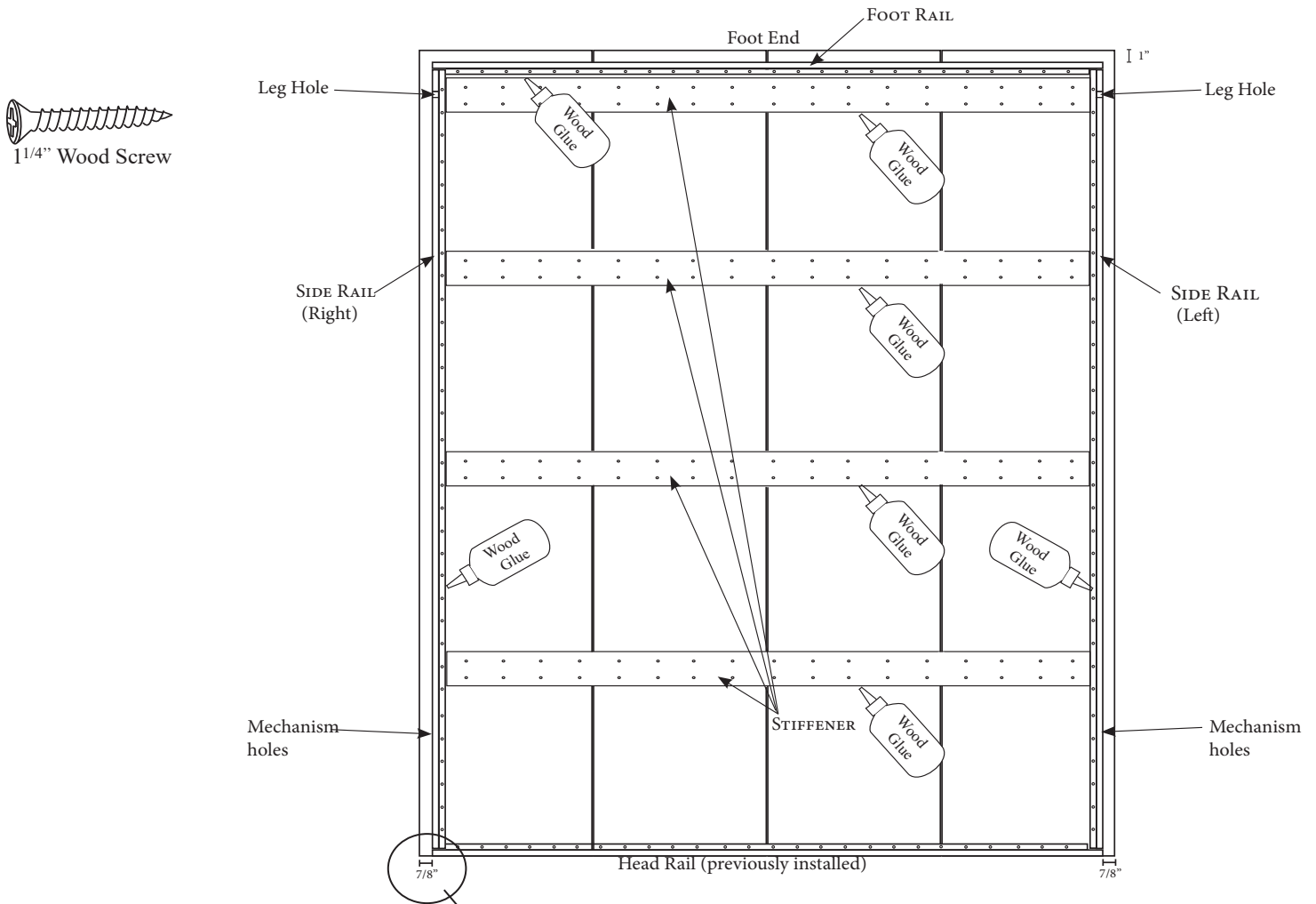
With the Face Panels square, and pushed together position the Head Rail (Head Rail and Foot Rail are identical) at head end ((head end) refers to the end the sleeper head will rest while bed is in use) of the Face Panels. The Head Rail should be flush with the ends of the Face Panels and centered evenly. The Head Rail should be short of each side of the Face Panels by $7/8$ ".

Once the Head Rail is positioned, use wood glue between the Cleat and Face Panels and tack it in place to hold its position, then use $1\text{-}1/4$ " wood screws to secure it to the Face Panels.



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. Note the Leg holes on the Side Rails are on the foot end of the bed. Dry fit the Rails to verify fit then start by attaching the left and right Side Rails and insure there remains 7/8" 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.



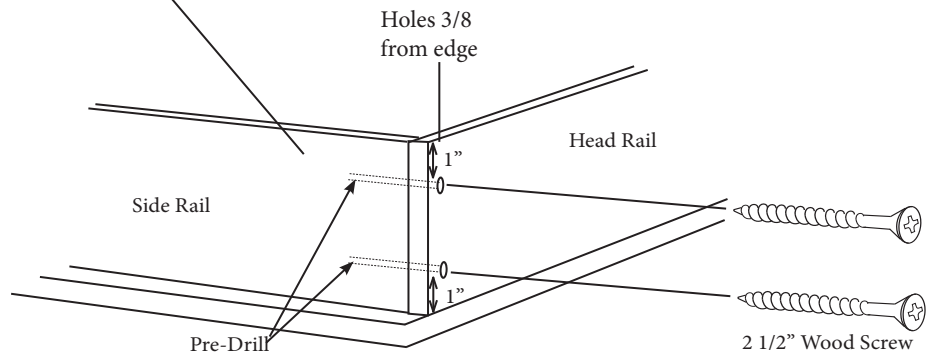
Plywood

Screw ALL the corners of the Bed Box together by pre-drilling 9/64" holes to 2" deep through the Head and Foot Rails and into the Side rails then use 2 1/2" wood screws in the pre-drilled holes.

Helpful hint: Use a Brad Nail gun to pin corners together before pre-drilling for better alignment.

MDF

Screw ALL the corners of the Bed Box together using 3 Comformat screws in each corner from hardware pack 23. Carefully pre-drill with 9/32 drill bit to 2 1/4" depth.

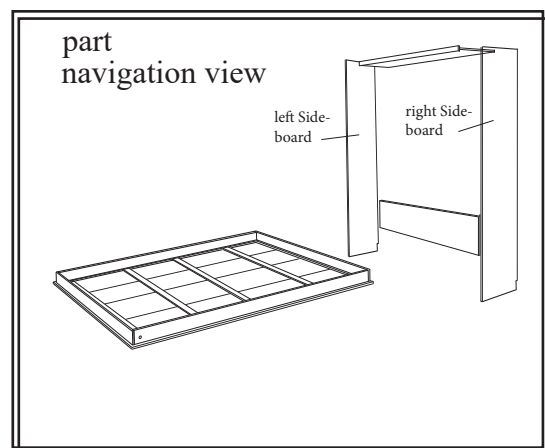


Step 6: Milling Side Boards for Lift Mechanisms

-Drill holes for Lift Mechanisms in the Side Boards (mirror holes for left and right Side Boards) by marking exact hole location on the inside side of each Side Board using illustration below.

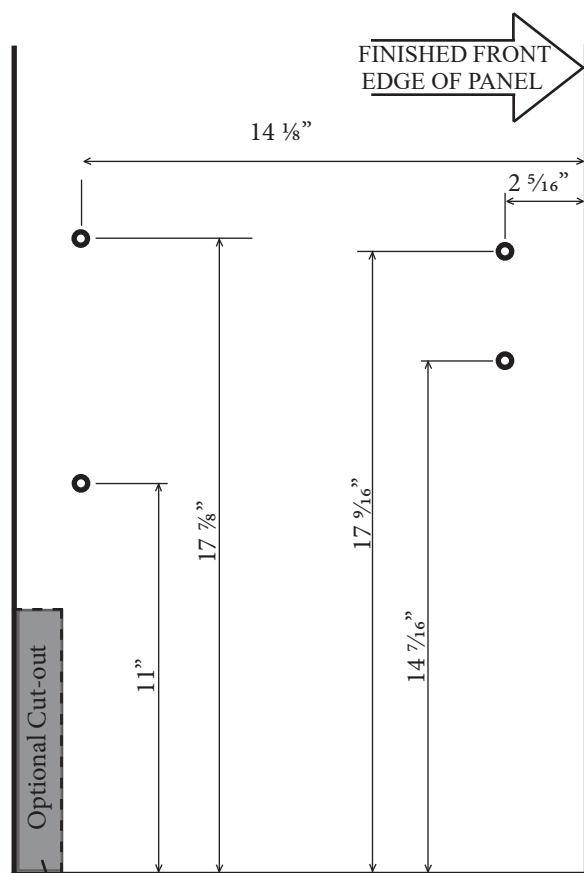
- Drill a 1/16" pilot hole for each mounting bolt. Then drill the final hole with a 5/16" bit.

- Countersink 5/8" on the outside of the panels just deep enough for the 5/16" x 1.25" Machine screws. (Found in the Mechanism box Pack 20).

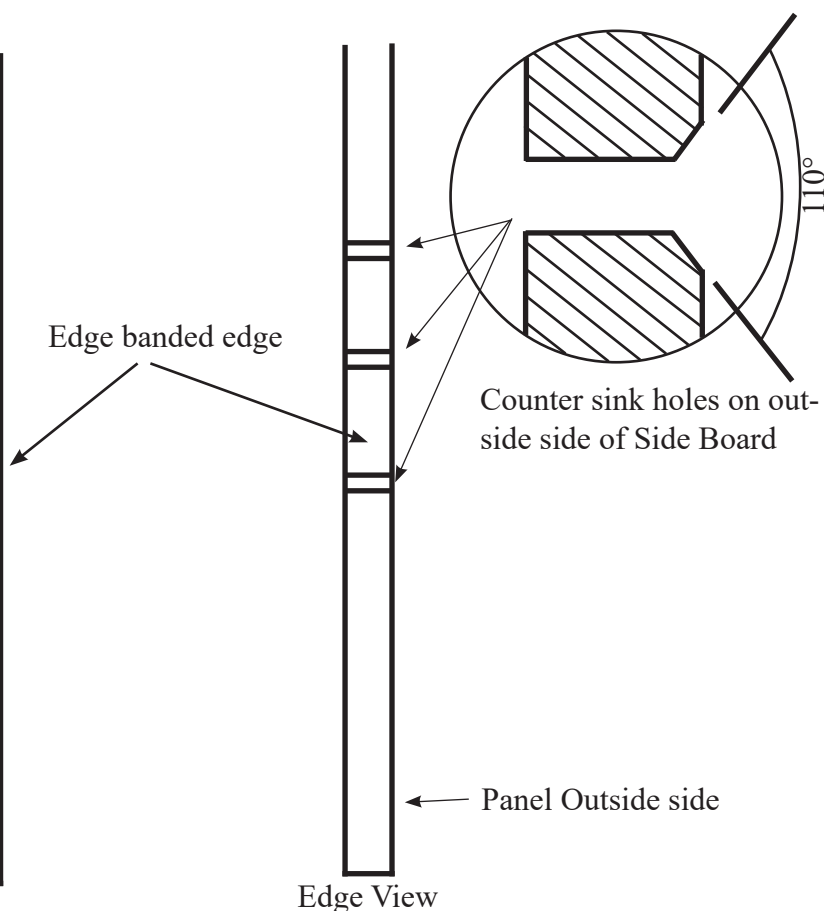


Right Side Board illustrated

(Inside panel side)



Drawing 1



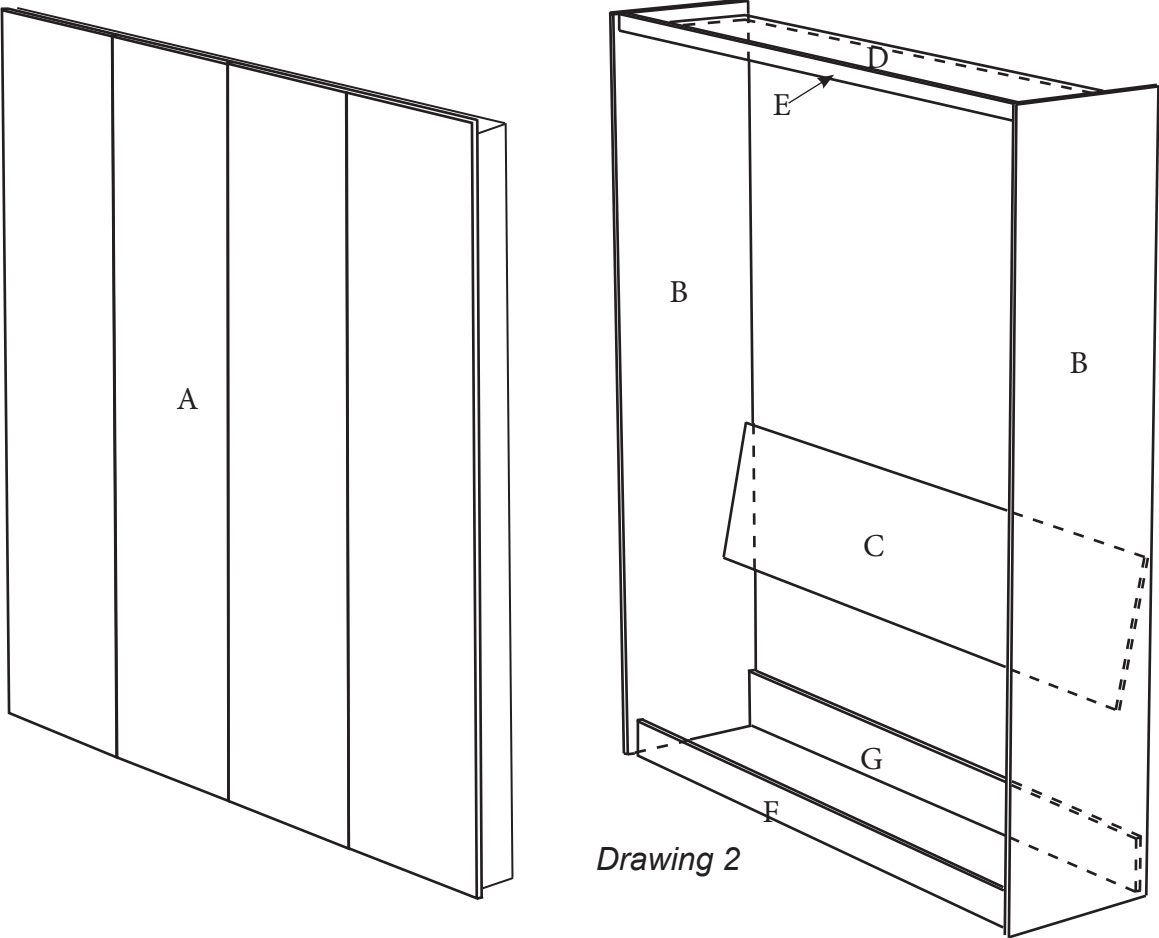
Optional Cut Out for Base Mold in Home

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 7: Apply Stain, Paint and Finish as desired

Finishing Diagram



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 back panel as well as the rails. Between the rails is where the mattress sits, finish if desired.
B	Side Board	Side Boards should have finish applied to both sides and the front edge. (Should be edge banded).
C	Headboard	Headboard should have finish applied to one side, top edge (should be edge banded). 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 desired, but is not typically seen.
E	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).
G	Rear Stretcher	Rear Stretcher should have finish applied to one side and one edge. (should be edge banded).

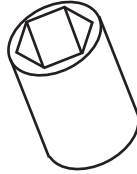
Final Assembly and Installation on the following
Pages should be done in the room bed will be used.

Tools Needed For Assembly and installation of Cabinet
and Lift Mechanism.

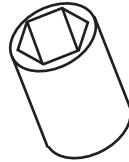
Socket Wrench



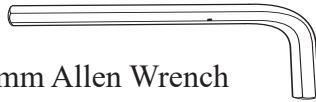
13mm Socket



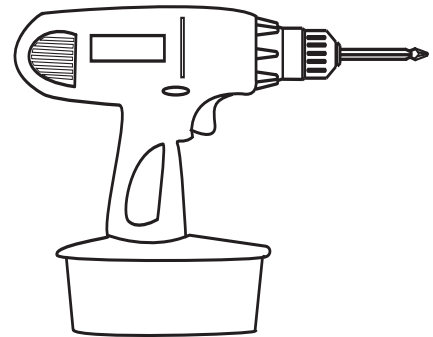
10mm Socket



5mm Allen Wrench

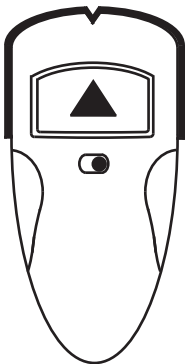


10/13mm Wrench

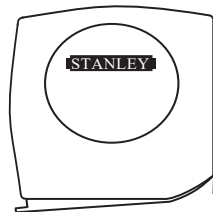


Cordless screw driver
With Phillips bit

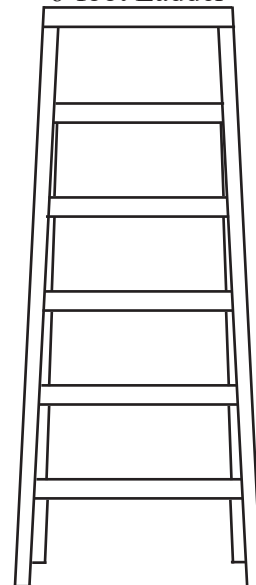
Stud Finder



Tape Measure



6-foot Ladder

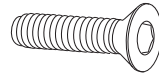


Hardware needed for next step from Card #20



X 6

5/16" Nylock Nut



X 8

5/16" x 1 1/4"

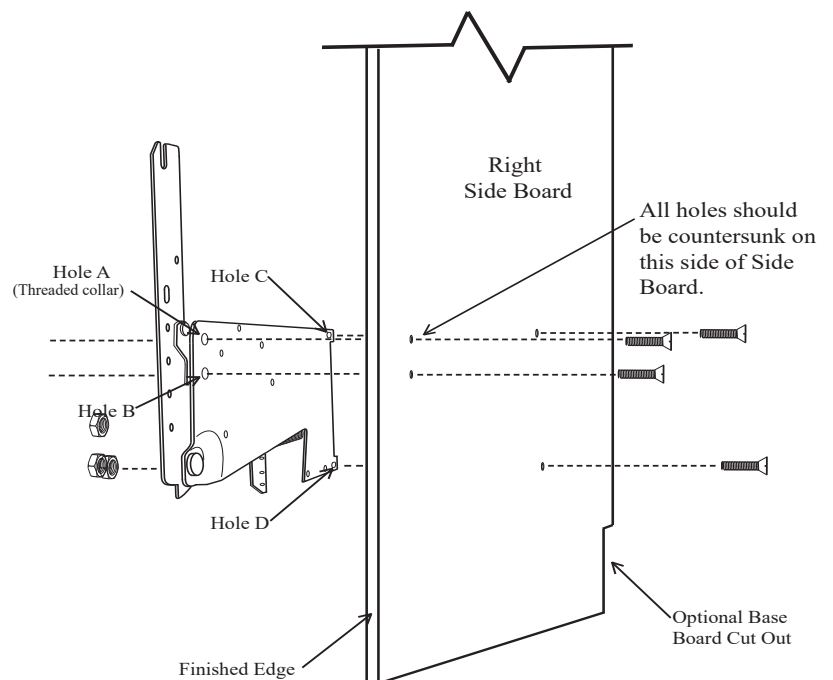
Tapered Allen Head Bolt

Step 8: Installing the Lift Mechanism

Install the Lift Mechanism to the Side Board first by inserting a 5/16 x 1 1/4" Tapered Allen Head Bolt through holes B, C and D from the outside (countersunk holes) of the Side Board. The bolts go through the corresponding holes of the Lift Mechanism. Now thread a bolt into hole A as illustrated. Thread on three 5/16" Nylock nuts and tighten hardware. Hole "A" has a threaded collar instead of a nut.

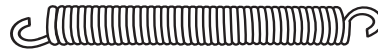
IMPORTANT! Over tightening the bolts will pull the head of the bolt too deeply into the Side Board. Tighten only until the head of the bolt is flush with the surface of the Side Board.

Repeat step 3 with the Left Side Board and Lift Mechanism.



Drawing 4

Items for next step:



Step 9: Installing the Springs

The required number of springs in the Lift Mechanisms varies with the different size Murphy Bed, material used and mattress weight. These values are approximate.

Bed Size	Number of Springs	
King	Ply core 8	MDF 9
Queen	Ply core 7	MDF 8
Full/Double	Ply core 5	MDF 6
Twin/Single	Ply core 3	MDF 4

King Size Bed

Install a spring into hole 5 by hooking one end of the spring into the hole on the Upturned edge of the mechanism plate first then manipulate the Lift Arm back and forth slightly while placing the other end of the spring in the Tension arm into the corresponding hole. Now load the Spring mechanism with 8 springs. (Leave lowest hole vacant)

Queen Size Bed

Install a spring into hole 5 by hooking one end of the spring into the hole on the Upturned edge of the mechanism plate first then manipulate the Lift Arm back and forth slightly while placing the other end of the spring in the Tension Arm into the corresponding hole. Now place a spring into the following holes in this order 4, 6 then into holes 3, 7 then 2. You will need a total of 6 springs installed for a Queen size bed.

Full Size Bed

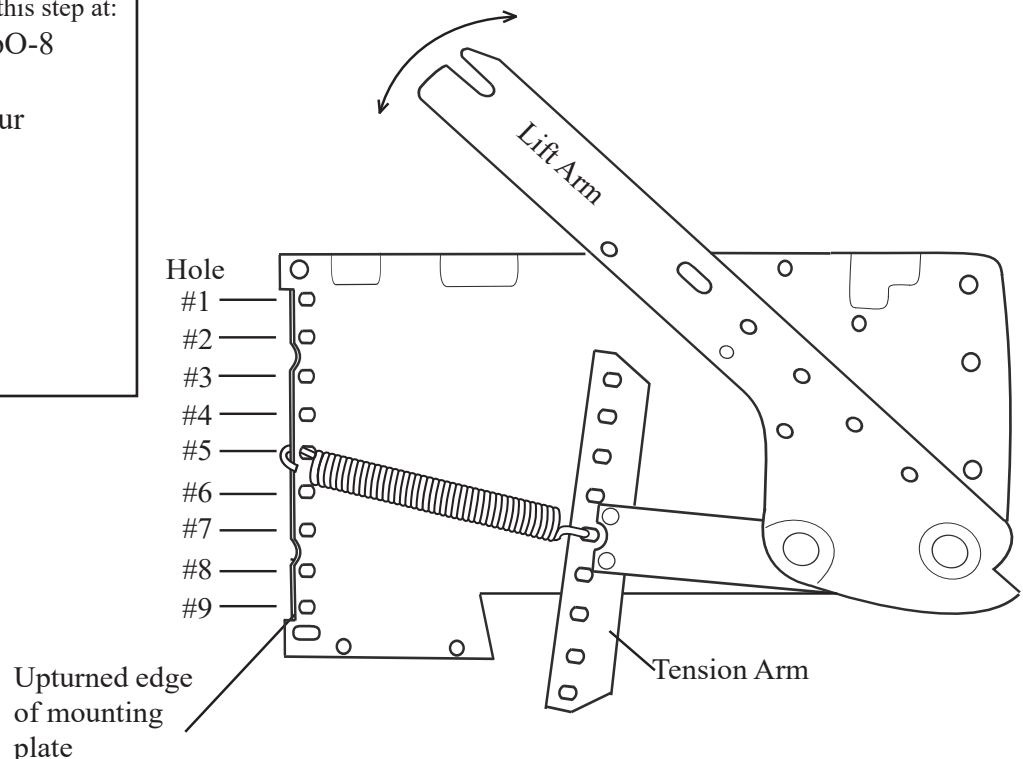
Install a spring into hole 5 by hooking one end of the spring into the hole on the Upturned edge of the mechanism plate first then manipulate the Lift Arm back and forth slightly while placing the other end of the spring in the Tension Arm into the corresponding hole. Now place a spring into the following holes in this order 4, 6. Then 3. You will need a total of 4 springs installed for a Full size bed.

Twin Size Bed

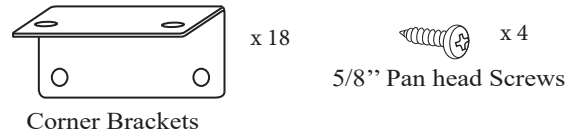
Install a spring into hole 5 by hooking one end of the spring into the hole on the Upturned edge of the mechanism plate first then manipulate the Lift Arm back and forth slightly while placing the other end of the spring in the Tension Arm into the corresponding hole. Now place a spring into the following holes in this order 4, the holes 6. You will need a total of 3 springs installed for a Twin size bed.

HELPFUL HINT: Watch how to do this step at:
https://youtu.be/2C_Exc_pO-8

Or use the camera on your phone to view this step.



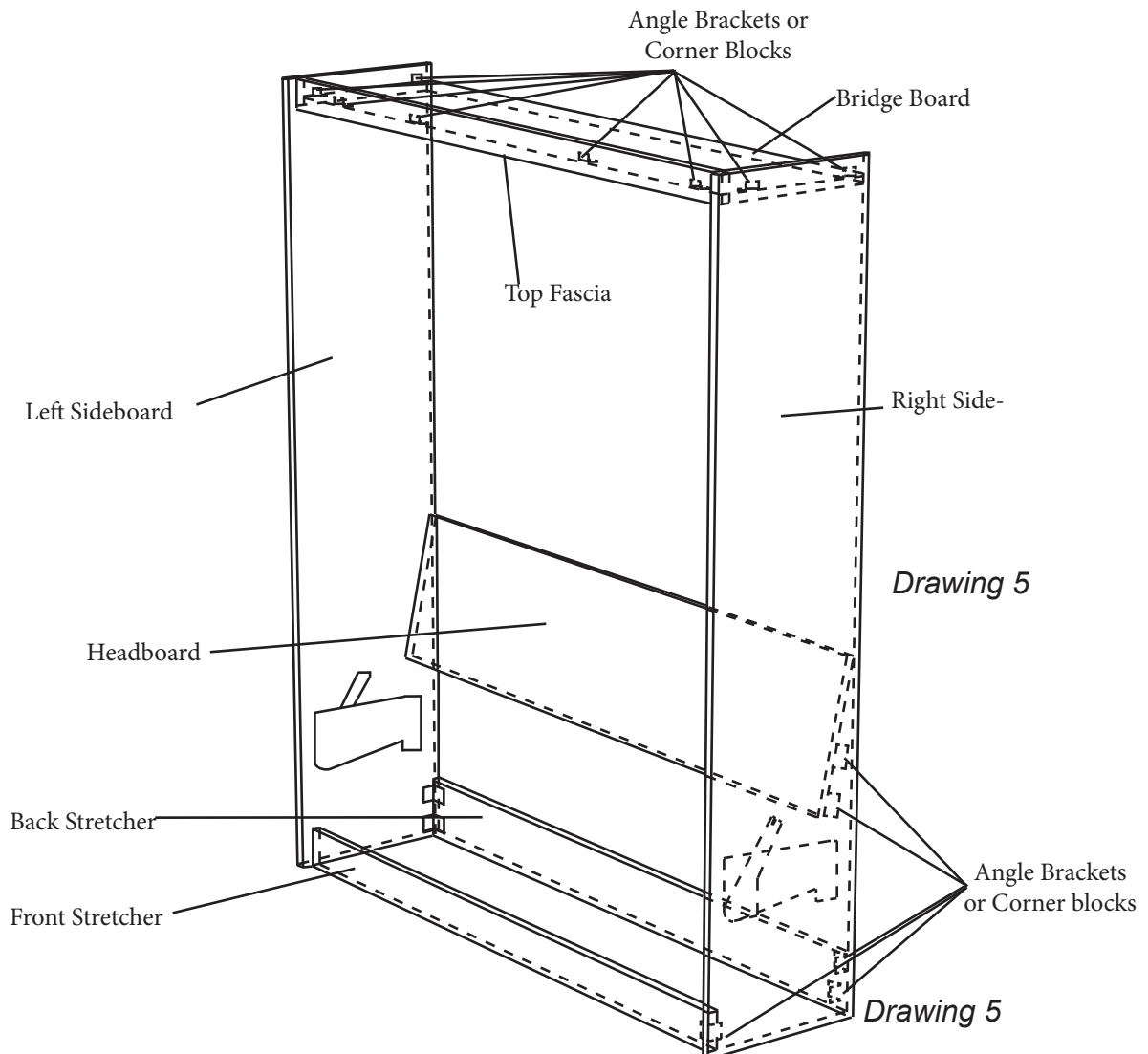
Hardware needed for next step from hardware pack #22



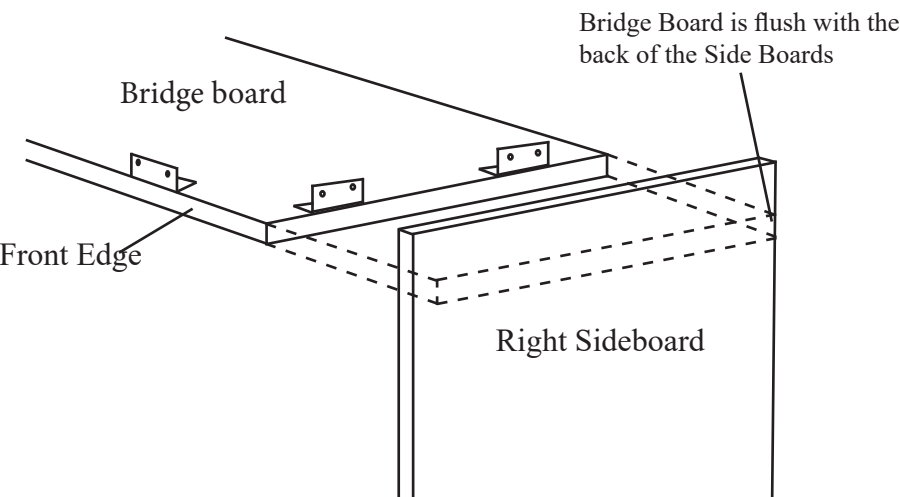
Step 10: Assembling the Bed Cabinet Surround

Bed Cabinet should be assembled in the room where it will be used

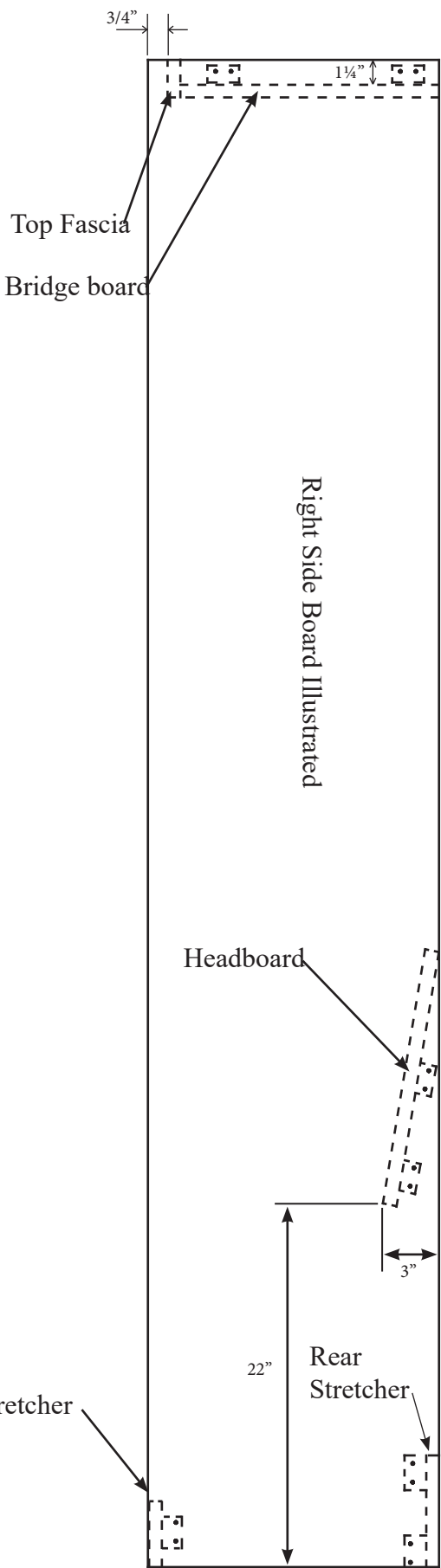
1. Locate the mounting position of the Headboard marking the left and right Side Boards 22" from the floor and 3" in from the back edge of the Side Boards See Drawing 5 below. Note that the Headboard sits at an angle and the bottom edge of the Headboard is out 3" from the back of the Side Boards. Use Corner Bracket to attach Headboard to Sideboards note that the Angle Bracket cannot protrude beyond the back of the Side Boards. The Headboard location may vary slightly; just be sure it is secure and at the approximate 3" distance from the back edge.
2. Use Angle Brackets to assemble Front and Back Stretchers in positions shown in Drawings 7, & 8 (next page) Use two Angle Brackets on each end of the Back Stretcher and one 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 1/4" 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.



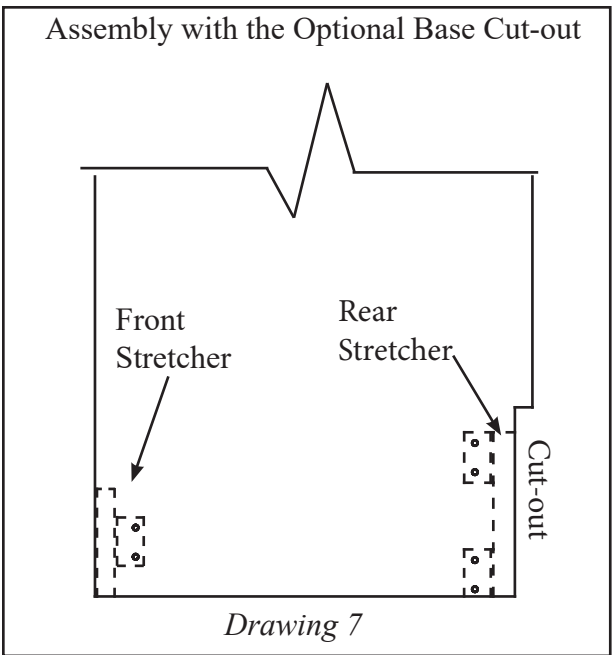
Step 10: Drawings Continued



Drawing 6



Drawing 8

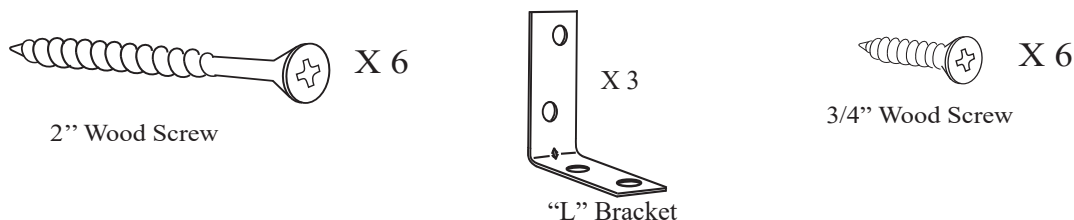


Drawing 7

WARNING! THE NEXT STEP MAY REQUIRE PROFESSIONAL HELP.

IF YOUR WALLS ARE NOT TRADITIONAL WOOD FRAMING, YOU MAY NEED TO HIRE A HANDY MAN OR CONTRACTOR TO HELP IN ANCHORING THE BED TO YOUR WALL. FAILURE TO PROPERLY ANCHOR CABINET COULD CAUSE SEVERE PERSONAL INJURY. CALL TECHNICAL SUPPORT AT 866-725-6401 IF YOU HAVE ANY QUESTIONS.

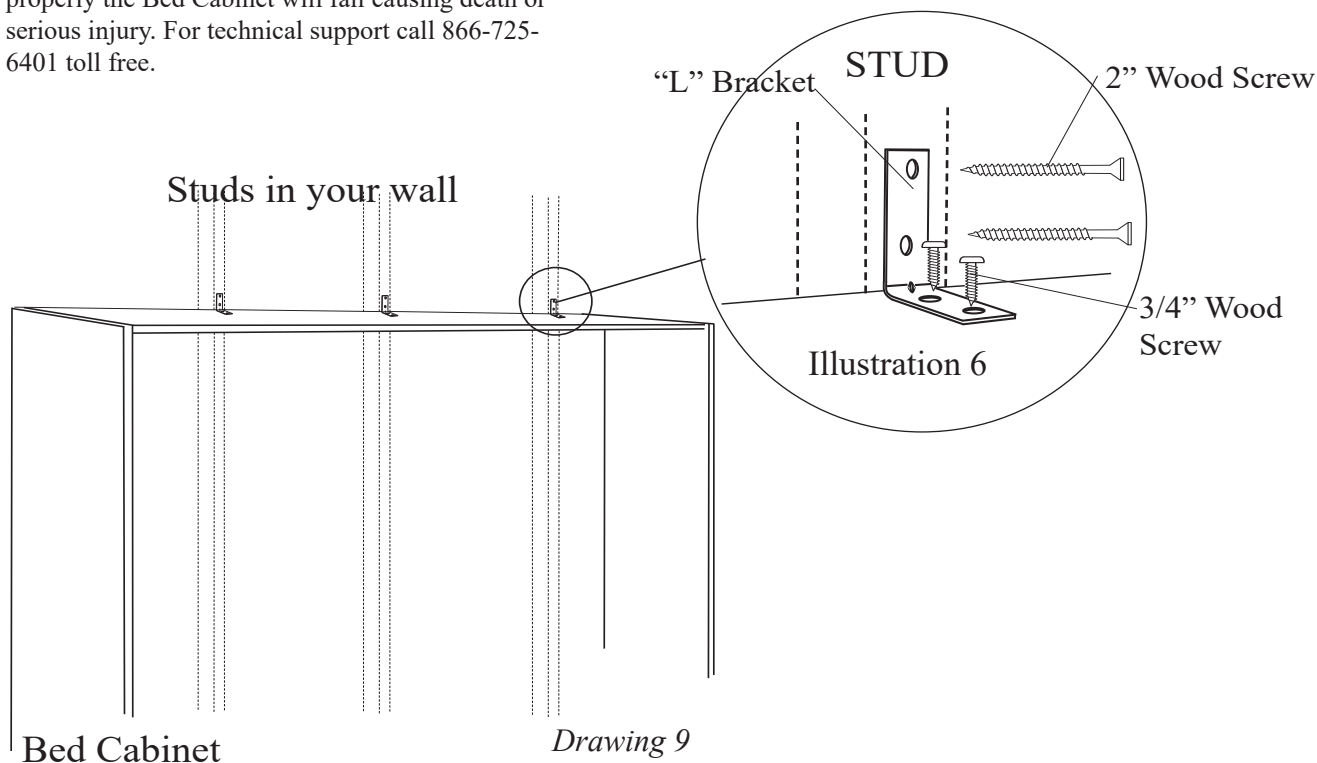
Hardware needed for next step from Card #20



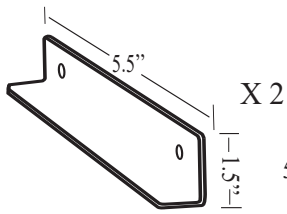
Step 11: Installing the Bed Cabinet Surround to the Wall

Using a Stud Finder locate and mark the studs in your wall directly above the Bed Cabinet. Attach "L" brackets to the top, back of the Bed Cabinet using 3/4" Wood screws corresponding to where the studs are located in your wall. Now attach the "L" brackets to the studs in the wall using six 2" wood screws. See Drawing 9

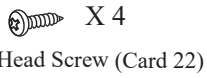
IMPORTANT! King, Queen and Full size beds require 3 studs, Twin size beds require 2 studs. It is VERY important that the bed cabinet be anchored securely to the wall. If the bed is not anchored properly the Bed Cabinet will fall causing death or serious injury. For technical support call 866-725-6401 toll free.



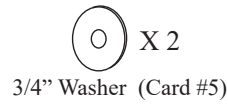
Hardware and parts needed for next steps



Panel Guards (Card 22)



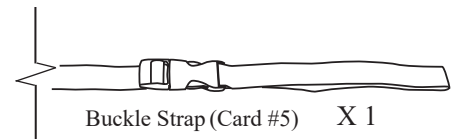
5/8" Pan Head Screw (Card 22)



3/4" Washer (Card #5)



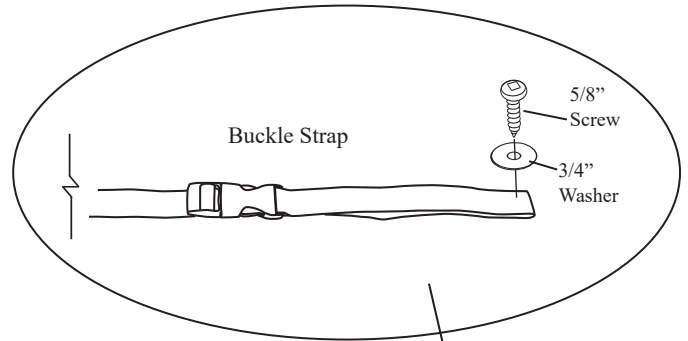
5/8" Pan Head Screw (Card #5)



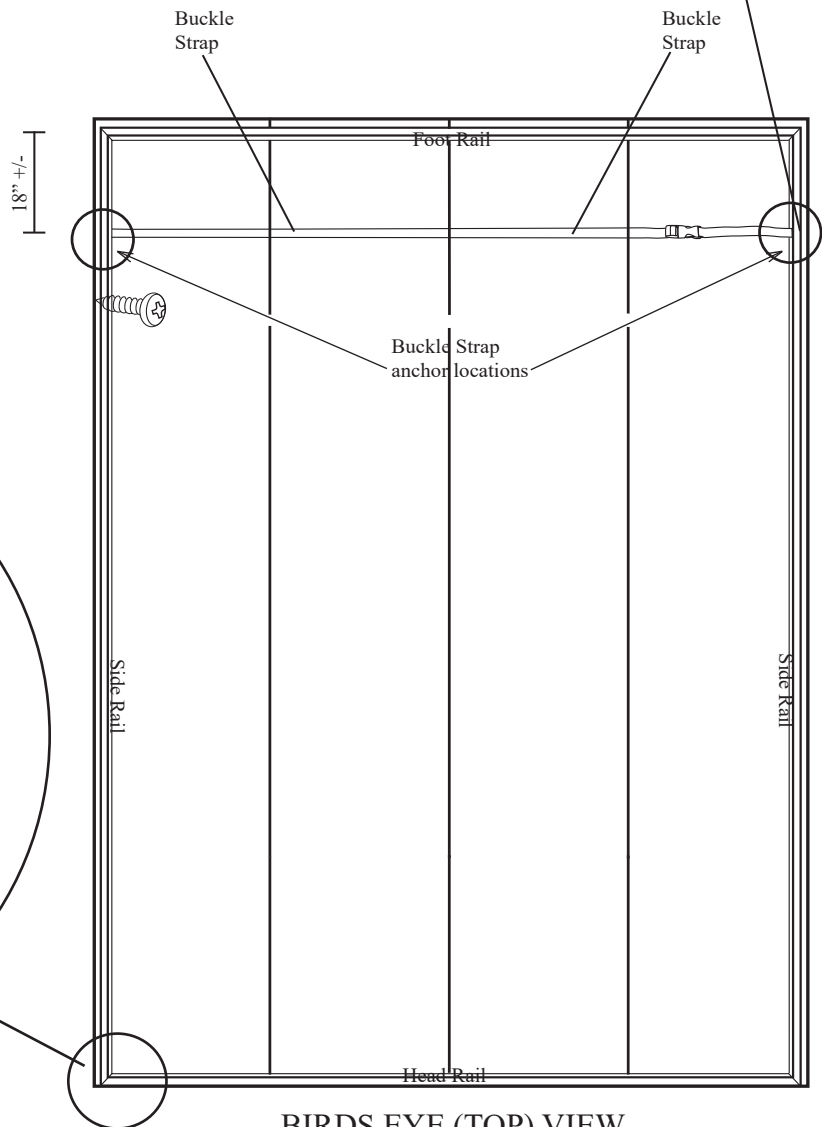
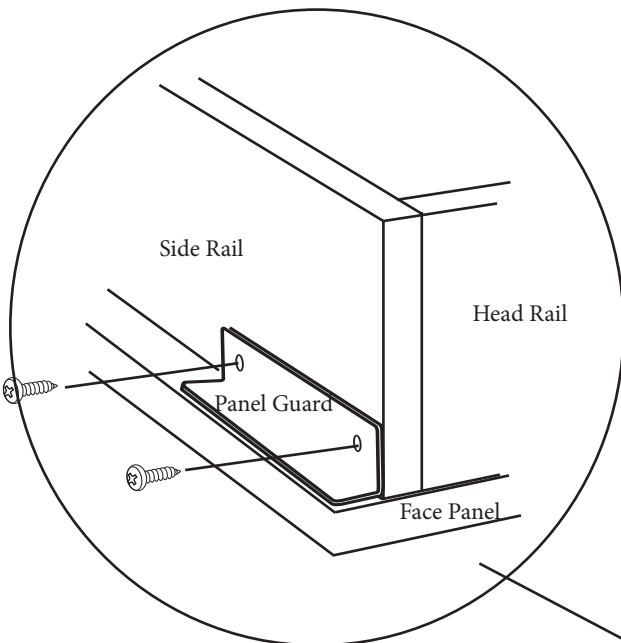
Buckle Strap (Card #5) X 1

Step 12: Installing the Mattress Strap and Panel Guards

Attach the Buckle Strap used for holding the mattress in place when the bed is closed. Hardware shown.



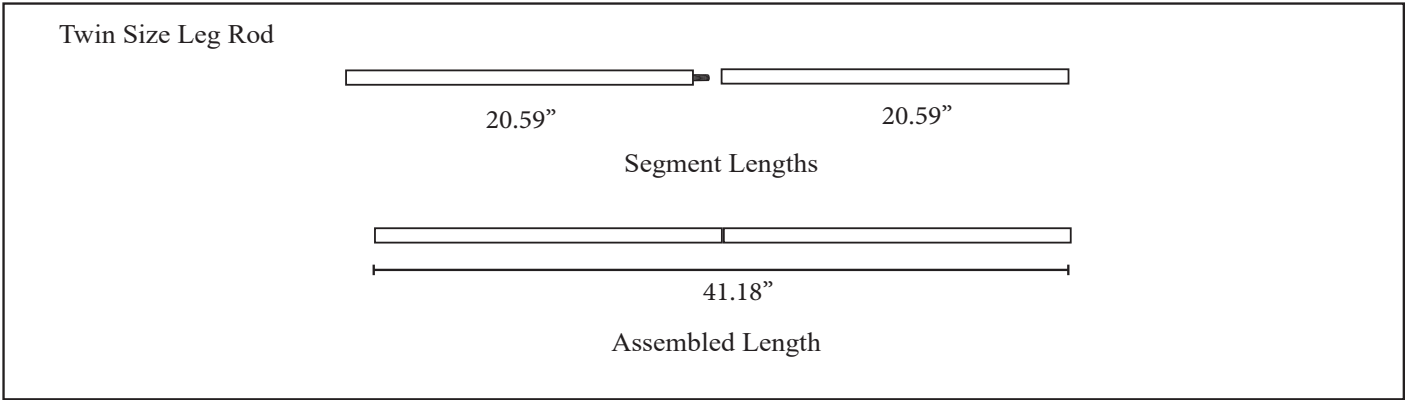
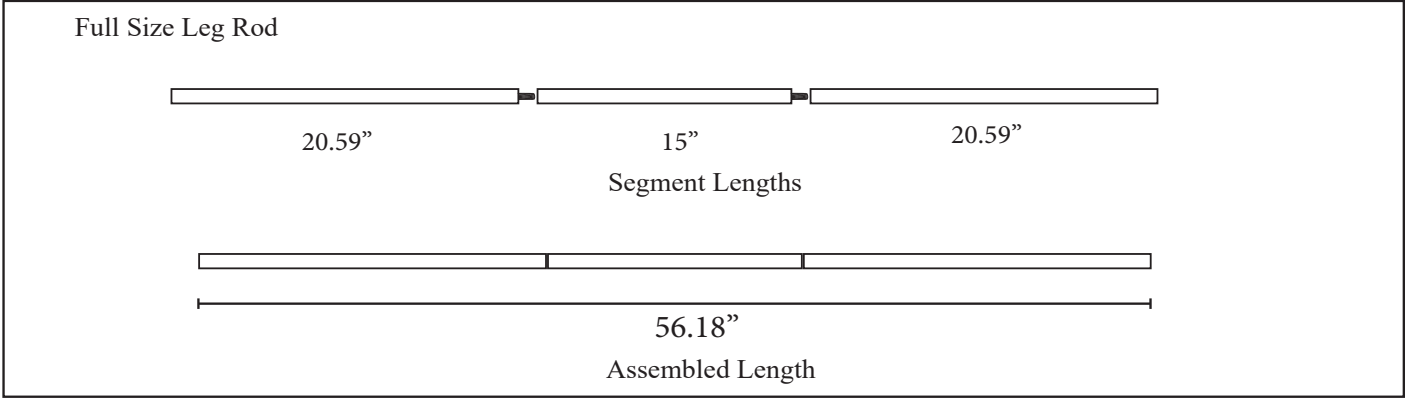
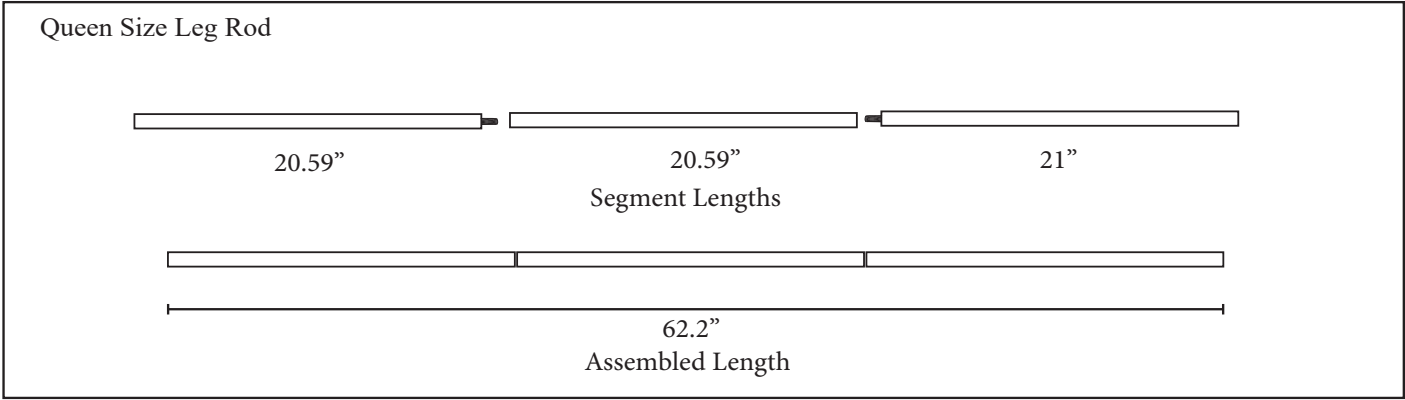
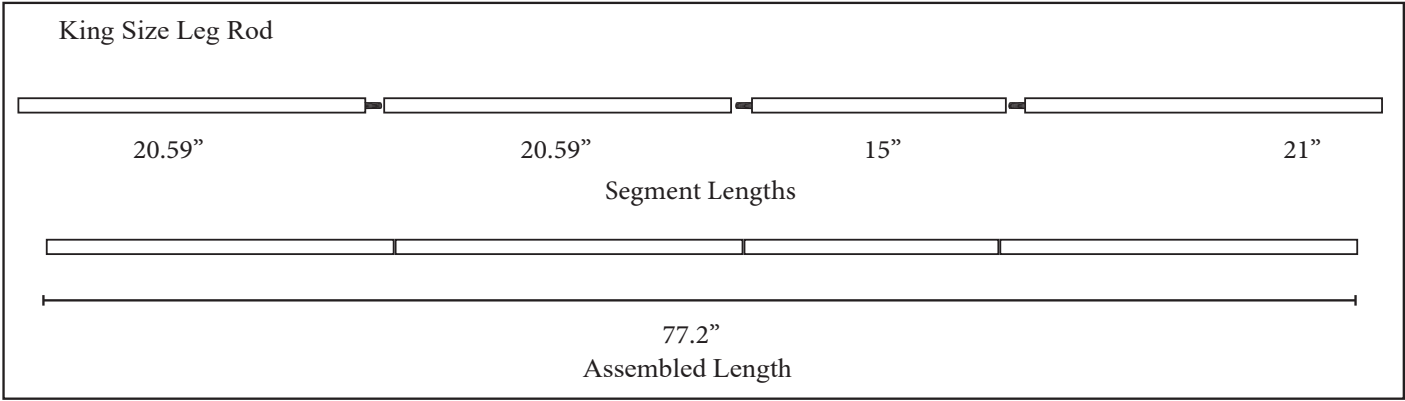
Attach the Panel Guards one on each Side Rail at the Head Rail. Use 5/8" Pan head screws to attach it to the Side Rail.



BIRDS EYE (TOP) VIEW

Step 13: Assemble Segmented Leg Rod

Assemble the Segmented Leg Rod based on the size bed being assembled using illustrations below



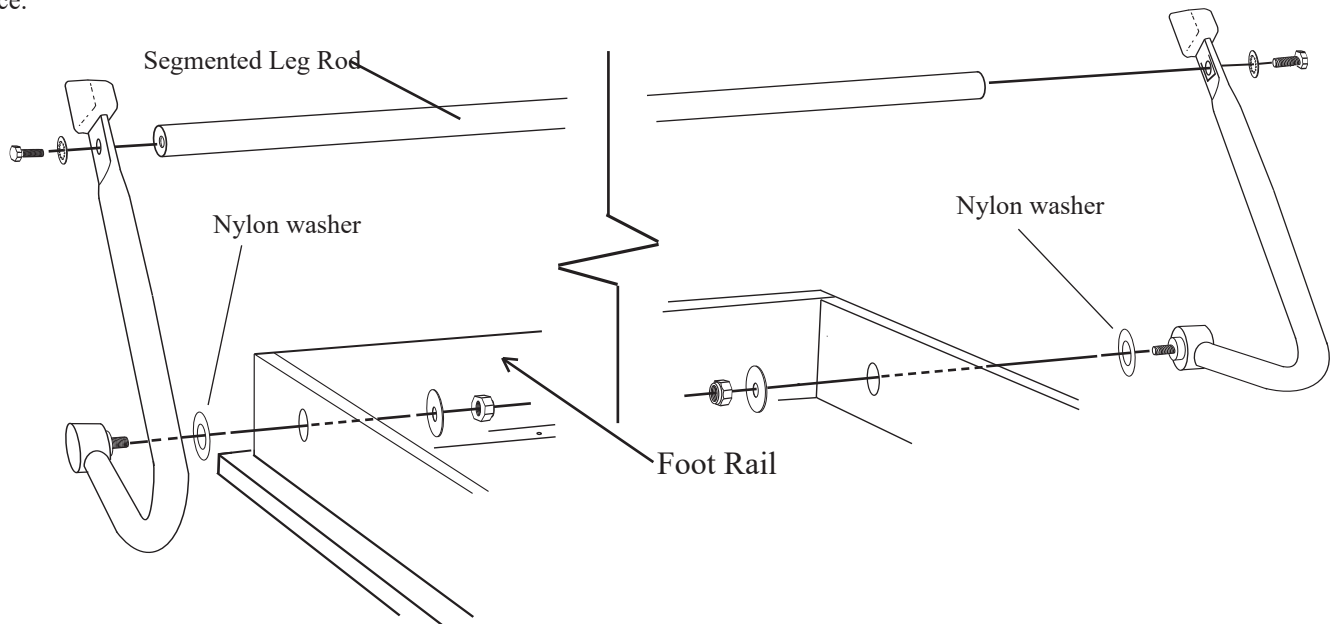
Hardware needed for next step from Hardware Card #21



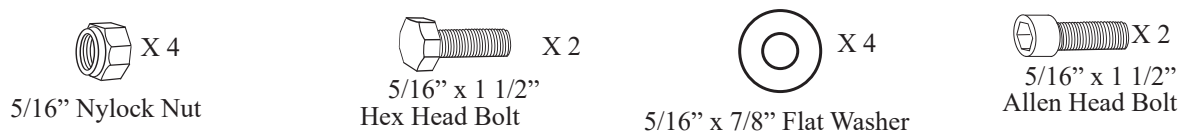
Step 14: Installing the Legs

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 correctly segmented Leg Rod between the Legs. Place the Star washer on the 1/4" X 1" Hex Head bolts and tighten rod in place.

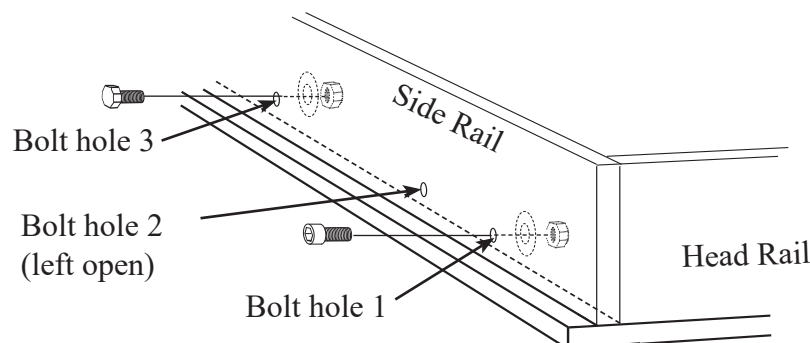


Hardware needed for next step from hardware pack #21



Step 15: Installing Mechanism Hardware

As illustrated below, insert the Allen Head Bolt through bolt hole # 1 use a 7/8" Washer then tighten it down securely using a Nylock Nut. Now insert a 5/16" x 1-1/2" Hex Head bolt through hole # 3 use a 7/8" Washer and thread the Nylock nut ONLY UNTIL THE NUT IS FLUSH WITH THE END OF THE BOLT. Bolt hole #2 will be used in a later step and is left open for now.



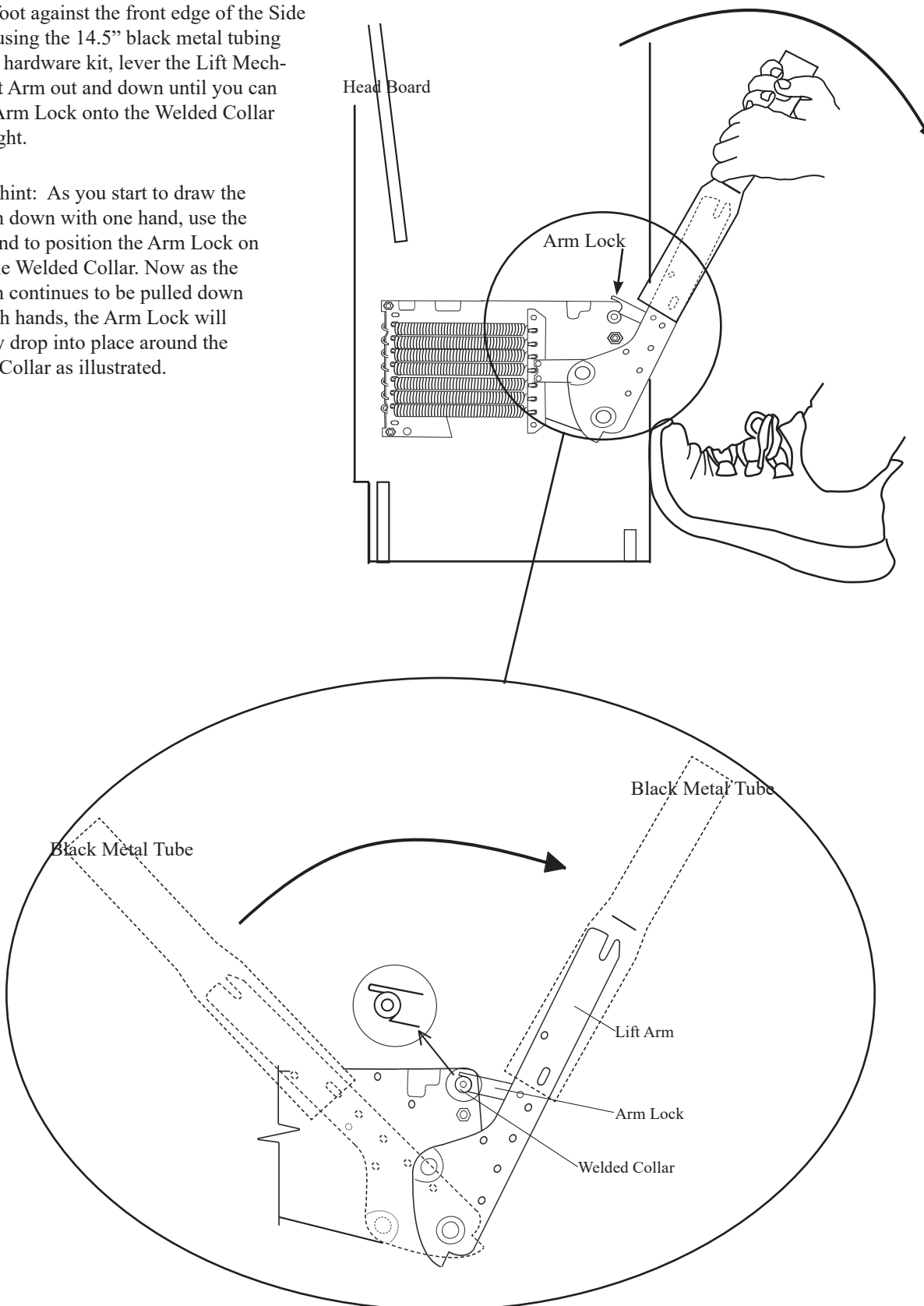
Repeat on left Side Rail

Step 16: Loading the Spring Tension

WARNING: There is tremendous force involved in the next step, do not place hands between the front of the Side Boards and the Tension Arms as you set the mechanism.

Brace one foot against the front edge of the Side Board and using the 14.5" black metal tubing provided in hardware kit, lever the Lift Mechanism's Lift Arm out and down until you can secure the Arm Lock onto the Welded Collar shown at right.

Helpful hint: As you start to draw the Lift Arm down with one hand, use the other hand to position the Arm Lock on top of the Welded Collar. Now as the Lift Arm continues to be pulled down with both hands, the Arm Lock will naturally drop into place around the Welded Collar as illustrated.

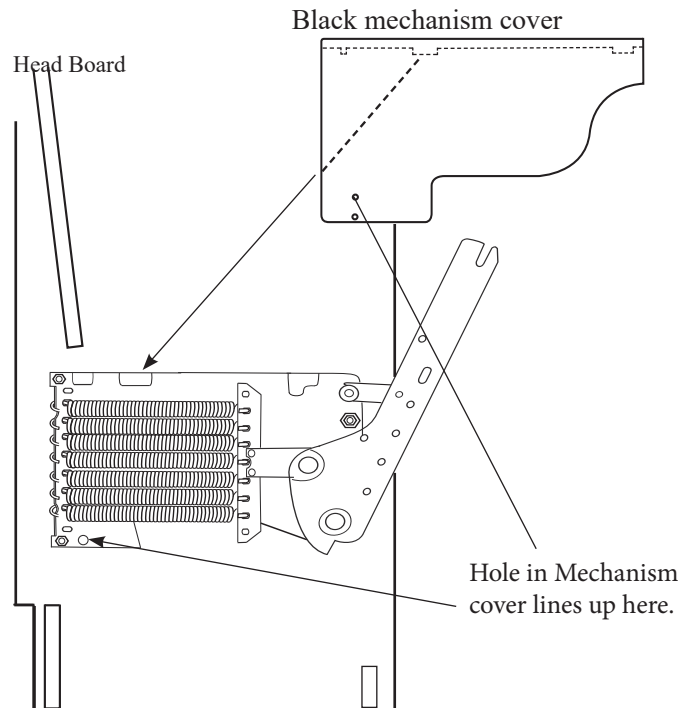




1-1/2" wood screw

Step 17: Installing the Spring Cover

Slip the Mechanism Cover over the Mechanism so that the tabs on the cover fit into the notches provided. Line up the top hole with the barrel support and anchor in place using two 1 1/2" wood screw provided

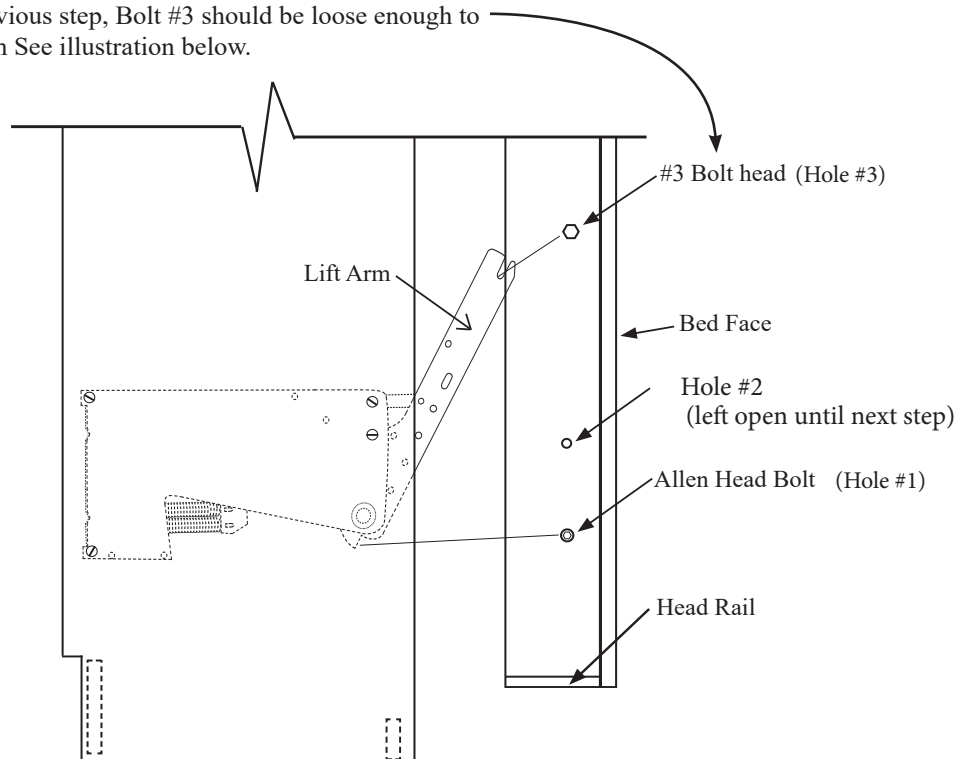


Drawing 20

Step 18: Installing the Bed Face on the Lift Mechanism


IMPORTANT! As instructed in a previous step, Bolt #3 should be loose enough to slip into the notch at the end of the Lift Arm See illustration below.

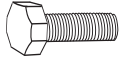
Two person Step: Stand the Bed Face unit up on its Head Rail. Now with you and your assistant on either side of the Bed Face unit lift until the # 3 bolt on the Side Rail is a few inches above the slotted end of the Lift Arm on both sides. Gently lower the Bed face unit between the Lift Arms and seat the # 3 bolt into the slot at the end of the Lift Arms. Now start pulling the bed face unit down and away from the Bed Cabinet the Allen Head bolt will naturally seat into the notch at the lower end of the Lift Arms. Lower the bed unit down and extend the Legs so that they are on the floor. Someone will need to hold the bed unit down as it will want to rise without the mattress.



Drawing 21

Hardware needed for next step from Hardware Card #21

 X 4
5/16" Nylock Nut

 X 4
5/16" x 1 1/2"
Hex Head Bolt

 X 4
5/16" x 7/8" Flat Washer

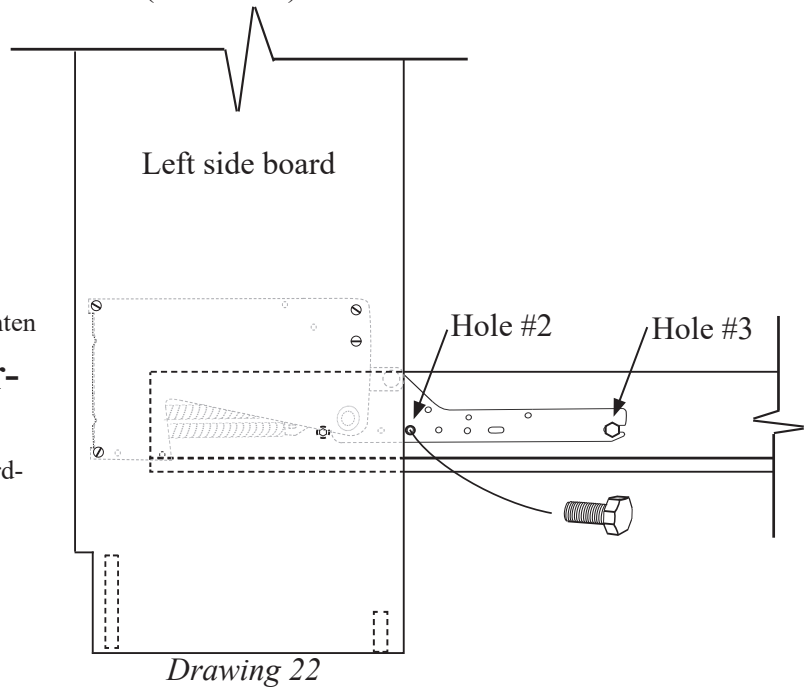
Warning very important step!

Step 19: Installing the Bed Face on the Lift Mechanism (Continued)

Insert a 5/16" x 1-1/2" Hex Head bolt through hole #2 and tighten a 5/16" Nylock nut and Washer onto the bolt. Now tighten the nut and bolt in hole #3.

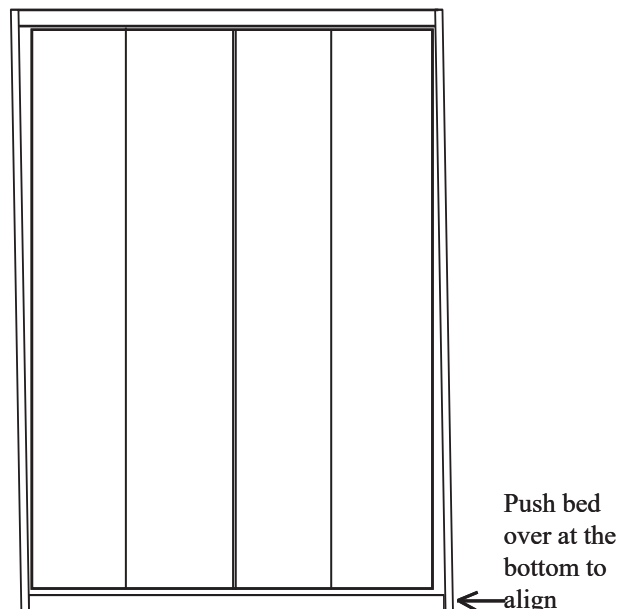
Repeat step on the other side of the bed unit.

WARNING! Failure to insert and tighten all the bolts in step 19 could result in **severe personal injury** or damage to the lift mechanism. Lift mechanism damage caused by missing or loose hardware is not covered by warranty.

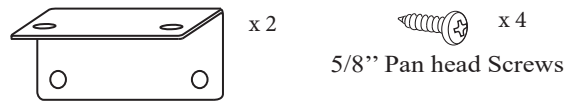


Step 20: Adjusting the Fit of the Bed Face

When the bed is closed, check to see if the gap on either side is the same. If the gap appears to be equal, skip this step. If the gaps are not right, meaning that the bed's face panel is too close to one sideboard, or, even touching it at the top while the other side has a large gap it will need to be adjusted. The procedure will require the bottom of the bed to be moved slightly to the left of right depending on which side has the smaller gap. If the Bed Face is too close on the top right (see illustration) for instance, the right side (bottom) will be to be moved to the left slightly. Have one person push the bed at the bottom with their feet while the second person pulls at the opposite bottom side.

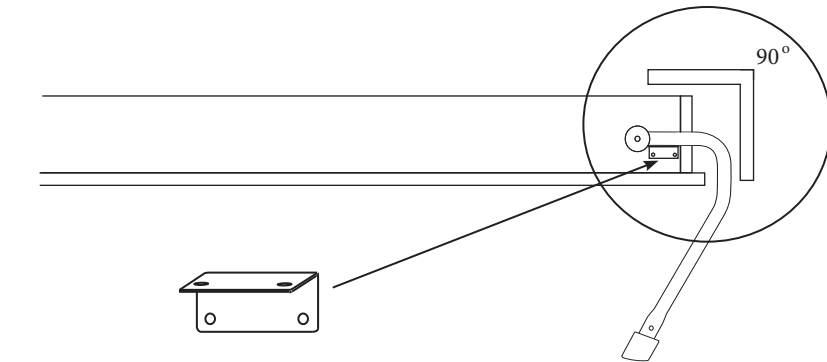


Hardware needed for next step from Hardware Card #22



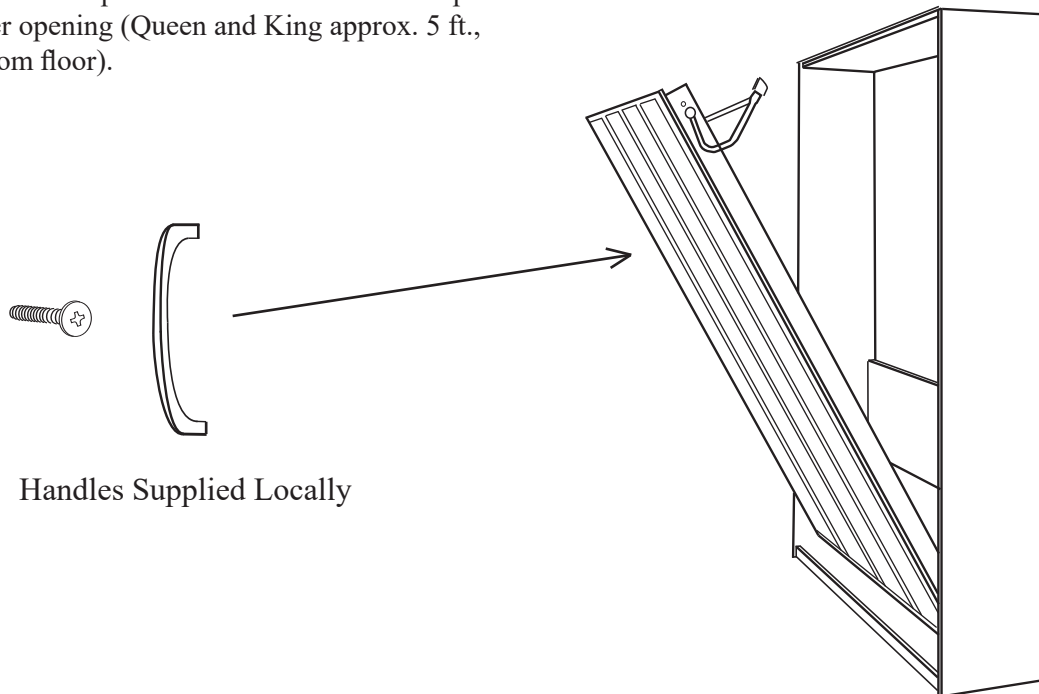
Step 21: Installing Leg Stops

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



Step 22: 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).



Enjoy Your Bed