

# WALL BED ASSEMBLY INSTRUCTIONS

Pardo European Adjustable Fold Away Bed Systems For Casework  
 The SM Series Bed Mechanisms

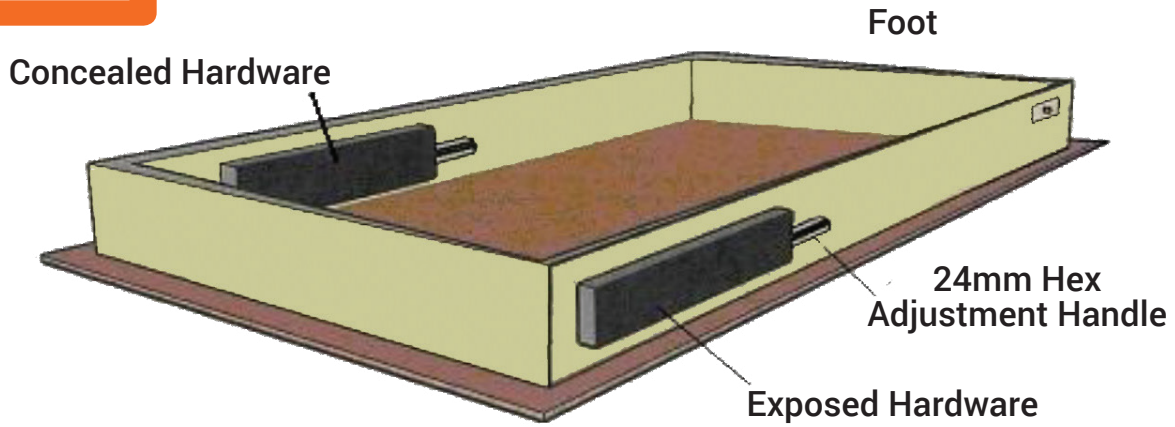


- VERTICAL DESCENDING
- HORIZONTAL DESCENDING
- CONCEALED HARDWARE
- EXPOSED HARDWARE
- END OPENING
- SIDE OPENING
- SHALLOW WALL CABINETS
- THICK MATTRESS CABINETS
- NATIONWIDE DISTRIBUTION

## XSMVO WALL BED KIT

1. XWRENCH *\*SOLD SEPARATELY*
2. ADJUSTABLE COUNTER BALANCE MECHANISMS
3. PIVOT MOUNTING MECHANISM PLATES
4. PIVOTING LEGS
5. HARDWARE FASTENERS





Install bed platform in a wall cabinet or between pier cabinets with a bridge.

**!** Wall Cabinetry Must be Securely Fastened to a Structural Wall!

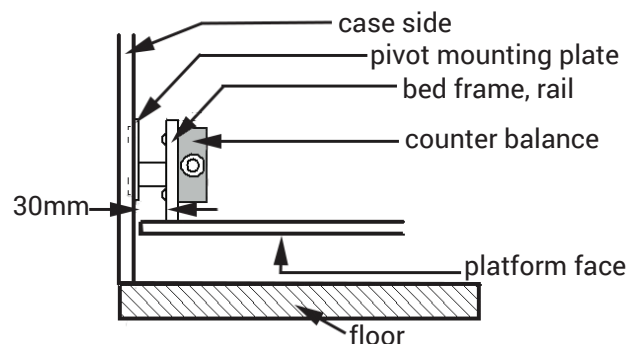
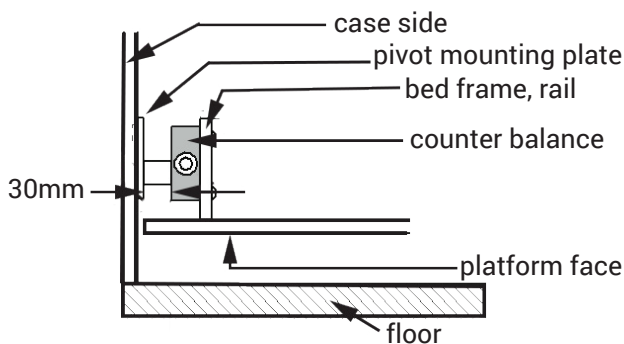


**BEFORE YOU START YOUR PROJECT:**

- Mattress size will determine the size of the bed frame and the weight capacity of the Pardo counter balance. Standard mattress sizes will vary +/- 1" in length and width.
- The Mattress thickness and height in the bed frame may determine the depth requirement of the wall cabinet. Top of the mattress on a opened bed frame should be 18" to 28" above the floor.
- Support the mattress on a platform or slats built into the bed frame. Avoid mattress contact with the back of the front panel. The combined height of frame components and mattress will effect the wall cabinet depth.

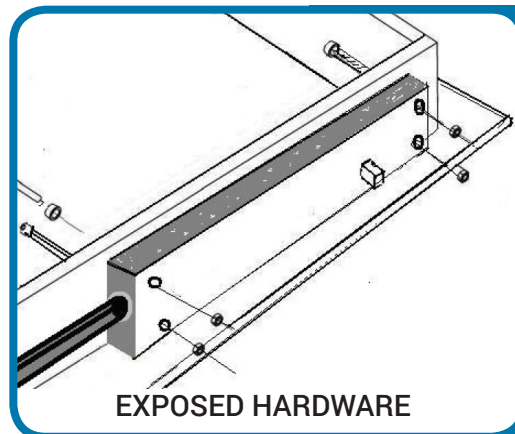
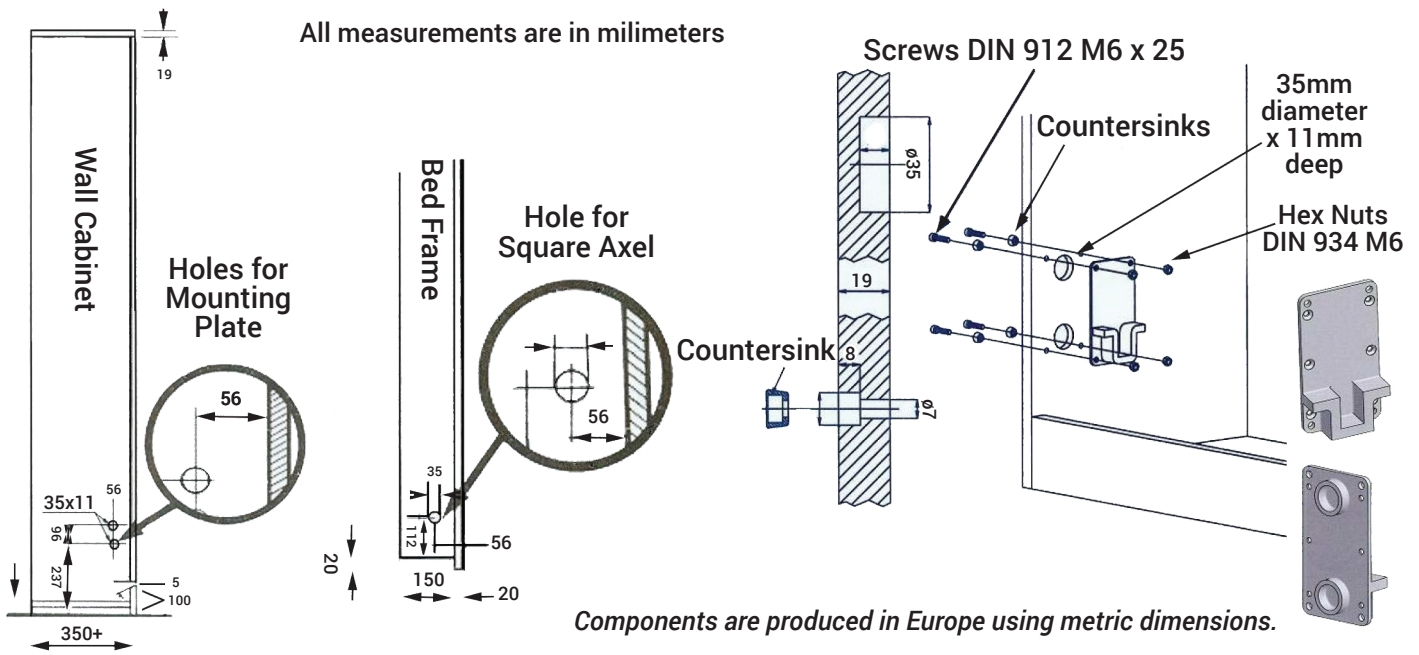
**EXPOSED HARDWARE**

**CONCEALED HARDWARE**

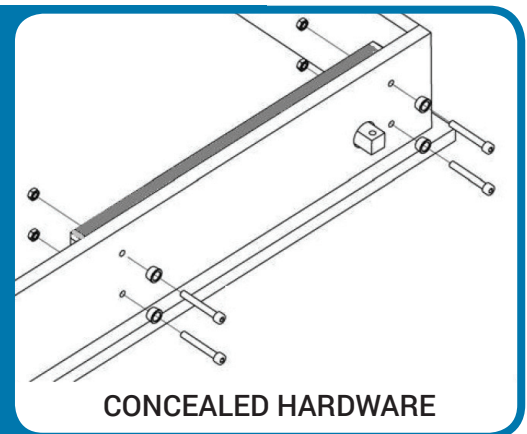


- You may choose concealed hardware or exposed hardware for aesthetic value or ease of access.
- The inside dimensions of the wall cabinet or space between side pier cabinets and the bed frame is critical. The bed frame, including counter balance mechanisms mounted on the outside of the bed frame, must be 60mm smaller than the inside of the wall cabinet.
- Material used for the construction of the bed frame will affect the Pardo counter balance weight capacity that is required.

# HOLE LOCATIONS FOR HARDWARE MOUNTING

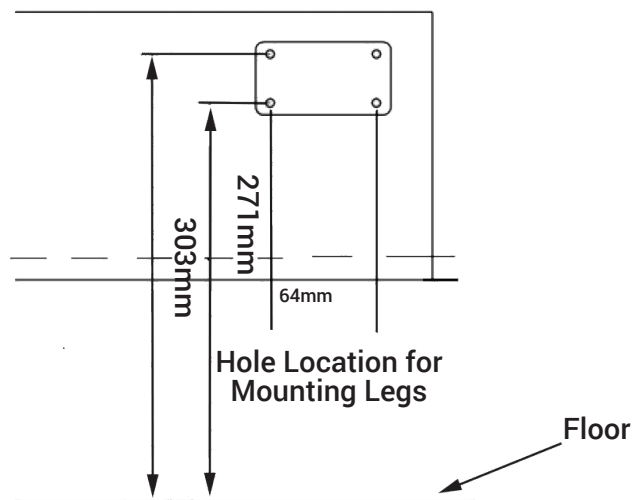


**SUPPLIED  
COUNTERSINK  
BUSHINGS ARE  
NECESSARY  
TO REDUCE  
STRESS WHEN  
PLATFORM IS IN  
MOTION**



## METRIC CONVERSIONS

5mm	0.196"	64mm	2.520"
7mm	0.276"	96mm	3.78"
11mm	0.433"	100mm	3.937"
12mm	0.472"	112mm	4.409"
19mm	0.748"	150mm	5.906"
20mm	0.787"	237mm	9.330"
30mm	1.181"	271mm	11.929"
35mm	1.378"	303mm	11.929"
56mm	2.205"	350mm	13.78"



**THE DIMENSIONS SHOWN ON THIS PAGE ARE FOR THE CONSTRUCTION OF CABINETS USING PARDO BRAND WALL BED MECHANISMS.**

This grid was produced based on use of 3/4" (.750") finished material. If the use of 13/16" or other thickness material for components is necessary, these dimensions must be adjusted. The inside width of the wall cabinet must be 60mm greater than the O/A width of the bed frame.

**CABINETS DIMENSIONS FOR END OR VERTICAL OPENING WALL BED CONSTRUCTION**

	INSIDE BED FRAME MECHANISM				OUTSIDE BED FRAME MECHANISM			
	Twin	Double	Queen	King <sup>1</sup>	Twin	Double	Queen	King <sup>1</sup>
Part Number XSMVO-	3950I	5475I	54110I	54110I	1235678	1234678	1234678	1234678
Design Weight	110#	165#	243#	260#	110#	165#	243#	260#
<b>Case Width</b>								
A- Inside Bed Frame	39"	55"	61"	77"	39"	55"	61"	77"
B- Outside Bed Frame	40-1/2"	56-1/2"	62-1/2"	78-1/2"	40-1/2"	56-1/2"	62-1/2"	78-1/2"
C- Outside Bed Frame & Mechanism					44-21/32	60-21/32	65-21/32	81-21/32
D- Door Panel width*	42-3/8"	59-3/8"	64-3/8"	80-3/8"	45-1/2"	61-1/2"	67-1/2"	83-1/2"
G- Wall Cabinet Opening	42-7/8"	59-7/8"	64-7/8"	80-7/8"	46"	62"	68"	84"
H- Wall Cabinet O/A	44-3/8"	61-3/8"	66-3/8"	82-3/8"	47-1/2"	63-1/2"	69-1/2"	85-1/2"
<b>Case Height</b>								
1- Inside Bed Frame	76"	76"	81"	81"	76"	76"	81"	81"
2- Outside Bed Frame	77-1/2"	77-1/2"	82-1/2"	82-1/2"	76-1/2"	76-1/2"	81-1/2"	81-1/2"
3- Length Door Panel	79-3/8"	79-3/8"	84-3/8"	84-3/8"	79-3/8"	79-3/8"	84-3/8"	84-3/8"
4- Toe Kick	4"	4"	4"	4"	4"	4"	4"	4"
6- Inside Case Height	83-1/2"	83-1/2"	88-1/2"	88-1/2"	83-1/2"	83-1/2"	88-1/2"	88-1/2"
7- Cabinet Height O/A	85"	85"	90"	90"	85"	85"	90"	90"

\* Allows for 1/4" Reveal

<sup>1</sup> Eastern King

**! Wall Cabinetry Must be Securely Fastened to a Structural Wall!**

**CABINETS DIMENSIONS FOR SIDE OR HORIZONTAL OPENING WALL BED CONSTRUCTION**

	INSIDE BED FRAME MECHANISM			OUTSIDE BED FRAME MECHANISM		
	Twin	Double	Queen	Twin	Double	Queen
Part Number XSMHO-	90INSD	140INSD	140INSD	90	140	140
Design Weight	110#	198#	198#	110#	198#	198#
<b>Case Width</b>						
A- Inside Bed Frame	76"	76"	81"	76"	76"	81"
B- Outside Bed Frame	77-1/2"	77-1/2"	82-1/2"	77-1/2"	77-1/2"	82-1/2"
C- Outside Bed Frame & Mechanism				80-21/32	80-21/32	85-21/32
D- Door Panel width*	79-3/8"	79-3/8"	84-3/8"	82-1/2"	82-1/2"	87-1/2"
G- Wall Cabinet Opening	79-7/8"	79-7/8"	84-7/8"	83"	83"	88"
H- Wall Cabinet O/A	81-3/8"	81-3/8"	86-3/8"	84-1/2"	84-1/2"	89-1/2"
<b>Case Height</b>						
1- Inside Bed Frame	39"	55"	61"	39"	55"	61"
2- Outside Bed Frame	40-1/2"	56-1/2"	62-1/2"	40-1/2"	56-1/2"	62-1/2"
3- Length Door Panel	42-3/8"	58-3/8"	64-3/8"	42-3/8"	58-3/8"	64-3/8"
4- Toe Kick	4"	4"	4"	4"	4"	4"
6- Inside Case Height	46-1/2"	62-1/2"	68-1/2"	46-1/2"	62-1/2"	68-1/2"
7- Cabinet Height O/A	48"	64"	70"	48"	64"	70"

Mattress manufacturers produce nominal sized +/- 1". The dimensions in these instructions are nominal size + 1"  
 \*Platform weight is inclusive of wood platform, mattress, foundation, etc. for the specified counter balance mechanism function.

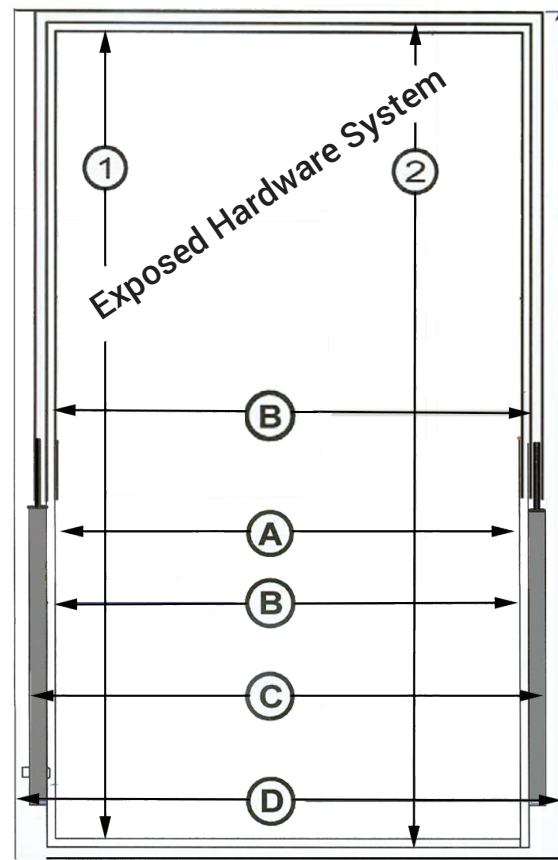
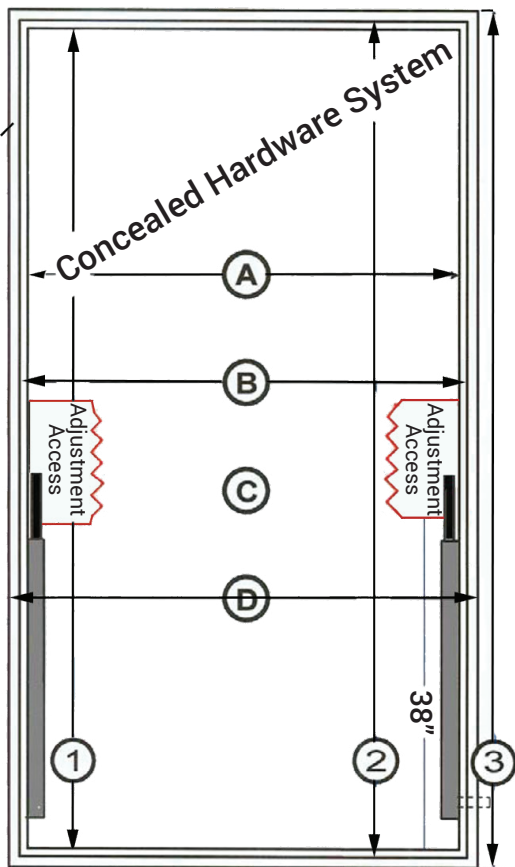
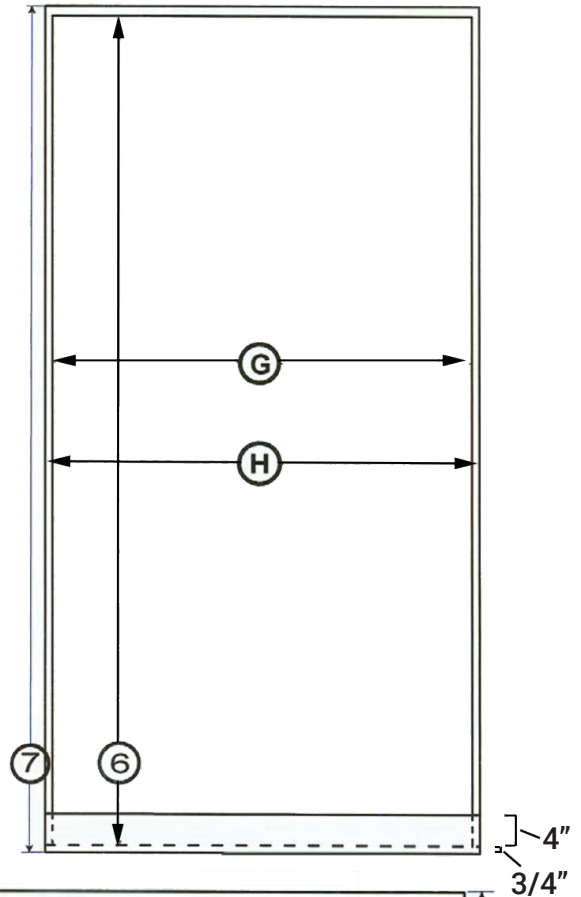
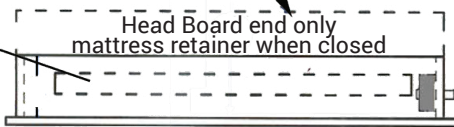
- North American Standard King Nominal Mattress size is 76" x 80" long (shown) - California King is 72" x 84" long.
- 1/4" reveals used to allow maximum leveling adjustment. Increase door panel to reduce reveal gap.

**! Wall Cabinetry Must be Secured to a Structural Wall!**

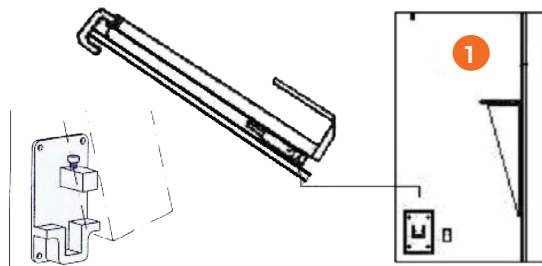
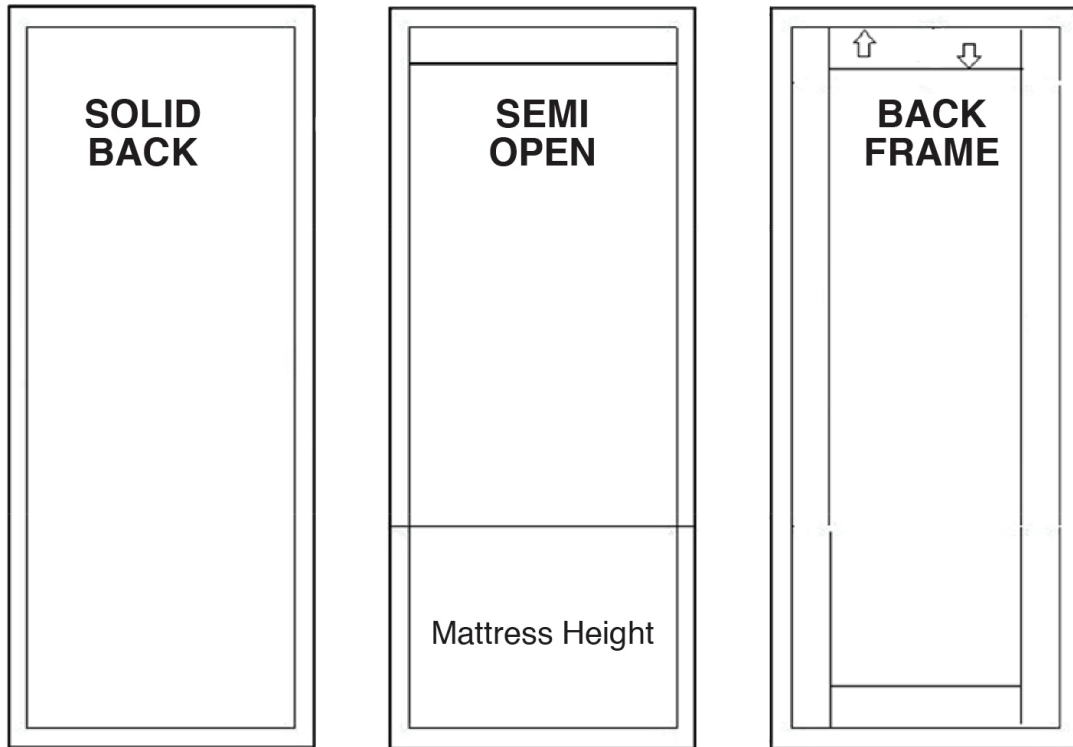
# BED FRAME DETAIL

1" x 2" cleat support for slats or platform, if used

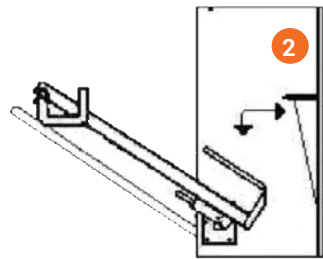
**Bull nose top of head board on bed frame flush to mattress**



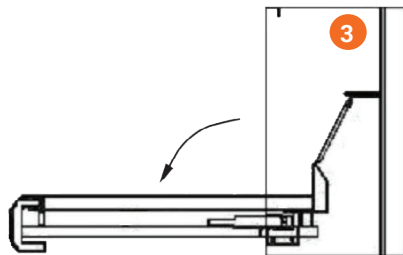
A 3/4" HARDWOOD PLYWOOD CABINET BACK MUST BE PROVIDED FOR CABINET INTEGRITY AND ATTACHMENT OF THE CABINET TO A STRUCTURAL WALL. THE PLATFORM CAN WEIGH SEVERAL HUNDRED LBS, AND WILL BE IN MOTION WHEN OPENING OR CLOSING.



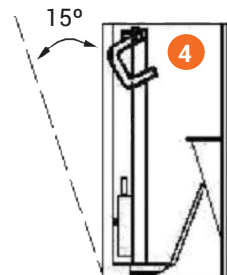
Lift door platform and bed frame on a 45° angle to clear all obstructions and lower the assembly into place with the square axels in the mount plate saddles in the cabinet.



Close and open the door panel to insure against obstruction of movement.



Lower door and install the mattress on the bed frame in preparation for adjusting the balance of the platform.

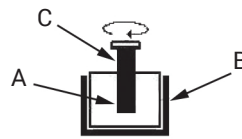
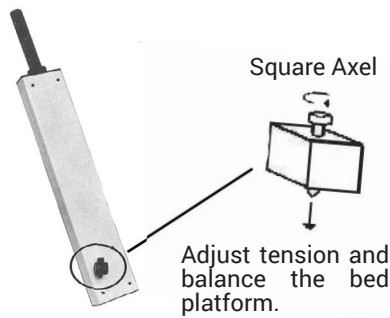


Open door to 15° and tighten tension sequentially, a few turns on one side and a few turns on the other until the door panel is balanced. The door panel is balanced when the door will stand at about 45° open. See FAQ page for detail.

**! Wall Cabinetry Must Be Secured to a Structural Wall before attempting to adjust platform!**

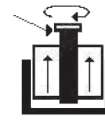
# WALL BED INSTALLATION AND ADJUSTMENT

Adjusting the gap around door.



During Installation end of "C" to be flush

M8 x 30mm Leveling Screw

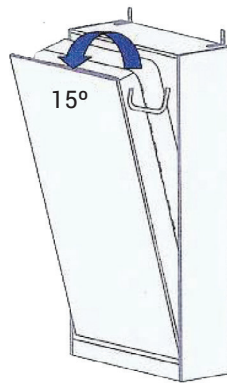


Socket head screw in square axel is used for adjusting the door reveal.

**! Secure the cabinet and bed firmly to a structural wall of the building!**

To adjust the mechanism tension and balance the bed platform, place mattress in the bed frame and position the door at 15° open. This is the neutral position of the springs used to balance the bed weight.

The handles may be turned "hand tight", after which they must be sequentially tightened with a 24mm socket wrench.



Use a 24mm socket and ratchet wrench to adjust tension.

Use of a flat wrench may damage the handle.



## ADJUSTMENT PROCEDURE

**! Do not attempt to adjust the tension with the door panel in the full open position!**

1. With the cabinet secured to the wall, you may start the adjustment procedure.
2. Lower the panel door to an approximate 15° angle (from vertical) and tighten by hand. Turn both left and right tension handles until they stop turning without force.
3. Unwind the regulators an even 10 full turns each.
4. Lower the panel door and carefully install the chosen mattress. Carefully release the panel door to see if it will remain at this angle. With a foam mattress, the panel door may stay at this position, but a spring mattress may require further adjustment.
5. Bring the bed back up to the original 15° angle (from vertical). At this point, uniformly tighten the tensioning handles one side at a time in an equal number of turns in multiples of 8-10 turns. A ratchet wrench and 24mm socket is recommended to avoid damage to the tension adjusting handles.
6. Lower the panel door until bed is parallel to the floor. At this point, you may judge for yourself the weight of the bed. If you feel it is too heavy, tighten the regulators further (always tighten in the up-right position, sequentially, one side at a time) to obtain the perfect setting.
7. Your new Wall Bed is now ready for use!

**! Wall Beds can be relocated by reversing the procedures shown on this page. A professional installer is recommended.**

# FAQ

**COUNTERSINK BUSHINGS REQUIRED** Countersink bushings are supplied with the wall bed system hardware and **MUST** be inserted in counter bores to attach the pivot mounting mechanism plate to the side wall of the cabinet or piers and to attach the counter balance mechanisms to the bed frame with appropriate machine screws and washers. The countersink bushings supply extra strength at high-tension points when operating the bed.

**BASEBOARD INSTALLATION** Installation of angle iron brackets (not supplied) at wall cabinet base will require that the cabinet base is notched for clearance **OR** that the baseboard is cut away for a tight connection to the base plate in the wall.

## **INSTALLATION, ATTACHING THE WALL CABINET OR PIERS & BRIDGE TO A STRUCTURAL WALL**

A minimum of ten 3" or larger wood screws must be placed through the connection rail of the wall cabinet(s) at every wall stud and installation must conform to all applicable building codes.

**TOOL CHOICE** Tension the counter balance units of the system using a 24mm socket wrench. The use of a flat wrench, adjustable wrench or open end wrench is not advised, and may damage the tensioning handle. *\*24mm socket and ratchet wrench are sold separately.*

**MATTRESS SUPPORT** The mattress used on a wall bed requires support. Placing the mattress directly on the backside of the front panel or door is not recommended! The three most common methods of supporting the mattress are:

- A commercial foundation or innerspring, lowered into the bed frame.
- A grid and Bunkie board built into the bed frame.
- A platform or slats built onto the rails of the bed frames.

## **Important Safety Information**

The bed should only be operated by an adult.

Due to the risk of entrapment, children should not play with the bed in the sleeping or stored positions.

Ensure the bed cabinet is securely fixed to the wall (and adjoining units) before pulling the bed down.

Always manually control the bed by maintaining hand contact with the bed frame while in ascent and descent. Do not let the bed drop freely or slam when opening or closing.

Fasten your bedding to the mattress using the straps (sold separately), and secure to the bed before closing the cabinet. Insure that no bedding is protruding, as it may cause damage to the mechanism.

Do not remove the mattress while the bed is in the horizontal position, unless the bed frame is being held by another person.

Bed and cabinet should be checked regularly for signs of wear.

If you are relocating the bed, do not remove any of the fittings until the bed is in a vertical position. Bed relocation should be done by a qualified installer.

Adjustable mechanisms should not be tampered with unless by a qualified fabricator.

We employ a policy of continuous development and therefore reserve the right to alter specifications or illustrations in this manual at any time.