



VERSATILT BED
OEM INSTALLATION MANUAL

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Introduction

The VersaTilt Bed system provides more accessible sleeping space, even when the slide room is retracted. The VersaTilt Bed system is operated by a 12V DC momentary switch. When the bed system is in it's closed/ retracted position, bedroom storage can easily be reached that would otherwise be blocked.

For information on the assembly or individual components of this product, please visit:

<https://support.lci1.com/beds/versatilt>

NOTE: Images used in this document are for reference only when assembling, installing and/or operating this product. Actual appearance of provided and/or purchased parts and assemblies may differ.

System Information

The following system ratings pertain to mechanical operation only.

NOTE: Ratings for additional items, e.g., mattress, bedding, person(s), are not rated in this document. Load ratings for these items are the responsibility of the manufacturer.

- Voltage = 12V DC
- Nominal current: 3-5 amps both directions
- Load limit = 50 lbs dynamic (moving) load

NOTE: The maximum static weight load limit is determined by the complete installation of the VersaTilt Bed system, mattress support, mattress, bedding and two adults.

Safety

Read and understand all instructions before installing or operating this product. Adhere to all safety labels. This manual provides general instructions. Many variables can change the circumstances of the instructions, i.e., the degree of difficulty, operation and ability of the individual performing the instructions. This manual cannot begin to plot out instructions for every possibility, but provides the general instructions, as necessary, for effectively interfacing with the device, product or system. Failure to correctly install, remove or service the system may result in voiding the warranty, inflicting injury or even causing death.

WARNING

The "WARNING" symbol above is a sign that a procedure has a safety risk involved and may cause death or serious personal injury if not performed safely and within the parameters set forth in this manual.

WARNING

Failure to follow instructions provided in this manual may result in death, serious personal injury and/or severe product and property damage, including voiding of the component warranty.

CAUTION

The "CAUTION" symbol above is a sign that a safety risk is involved and may cause personal injury and/or product or property damage if not safely adhered to and within the parameters set forth in this manual.

CAUTION

Always wear eye protection when performing service, maintenance or installation procedures. Other safety equipment to consider would be hearing protection, gloves and possibly a full face shield, depending on the nature of the task.

CAUTION

Moving parts can pinch, cut or crush. Keep clear and use caution.

NOTICE

All electrical wiring harnesses shall be loomed and secured to prevent possible damage and installed in accordance with RVIA electrical standards.

Resources Required

- Cordless or Electric Drill or Screw Gun
- Appropriate Drill Bits
- Appropriate Drive Bits
- Quick-release clamps (or similar)
- Carpenter's square (or similar)
- Tape Measure
- Pencil
- #10 - 20 Screws of various lengths (Not Provided)

Preparation

Specifications

The VersaTilt Bed system is designed to install directly into the unit's end cap. Make sure desired location is appropriate for a bed and the VersaTilt Bed system. Adhere to the following specifications:

- VersaTilt Bed System Cutout Width: 47 $\frac{3}{4}$ " - 48"

NOTE: Any cutout width greater than 48" could lead to bed system detachment and/or inoperable.

- VersaTilt Bed System Overall Length: 51 $\frac{1}{2}$ ", but final overall length is determined by struts and bedding assembly needs.

NOTE: Verify fit of the strut before establishing final overall length dimension.

- VersaTilt Bed System EXTEND (flat)/RETRACT (raised):

Do **NOT** eyeball the measurement of an installed mattress into the cabin area.

Observe the following:

- Extended (flat) Length - With the mattress flat, measure from the unit wall to the end of the mattress. This measurement will vary install-to-install.
- Retracted (raised) Length - With the bed system fully closed/retracted, measure from the end of the mattress to the previous open/extended location (end of extended, flat mattress). This measurement should add 12" - 14" to the living quarters space. This measurement will vary based upon accuracy of the install.

- Weight

The VersaTilt Bed System is a light-weight solution to extend and retract the mattress. The bed system's operating weight limit is dependent on the amount of bedding applied to the bed and the structural integrity of the installation.

NOTE: The VersaTilt Bed System is **NOT** designed for use as additional cabin seating.

NOTICE

All electrical wiring harnesses shall be loomed and secured to prevent possible damage and installed in accordance with RVIA electrical standards.

- Power

- The 12V DC momentary switch must be mounted in a safe, convenient location to operate, but far enough away from the bed system to prevent accidental activation during sleep, non-use or travel.

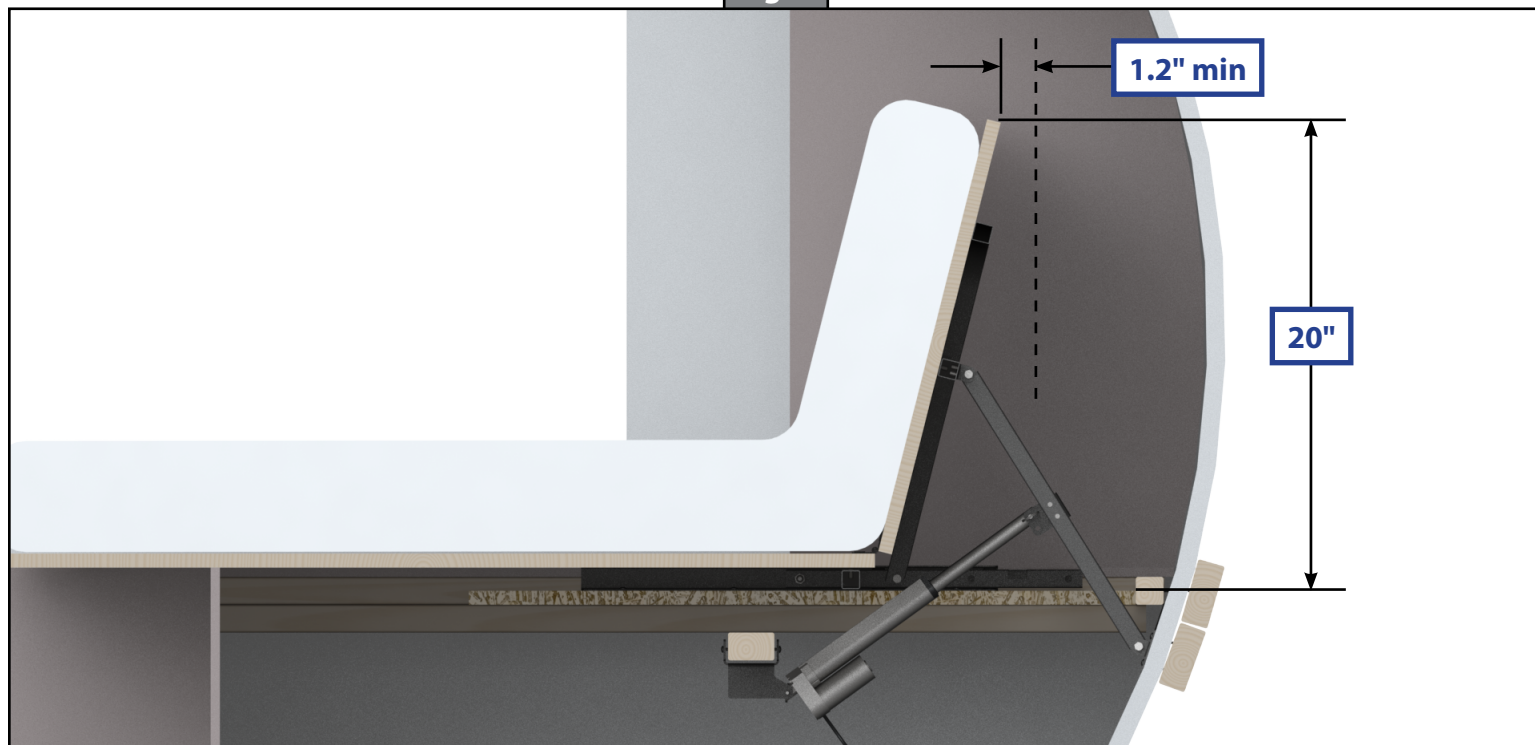
- Height (Fig. 1)

- VersaTilt Bed Height Closed/Retracted - 20"

The retracted area for the bed system and mattress **MUST** allow the mattress—and headboard, if applicable—to move freely without interference from obstructions.

NOTE: Approximately 1.2" minimum of horizontal clearance must be maintained from the head-edge of the top base bed to the wall or any other installed structure (Fig. 1).

Fig. 1

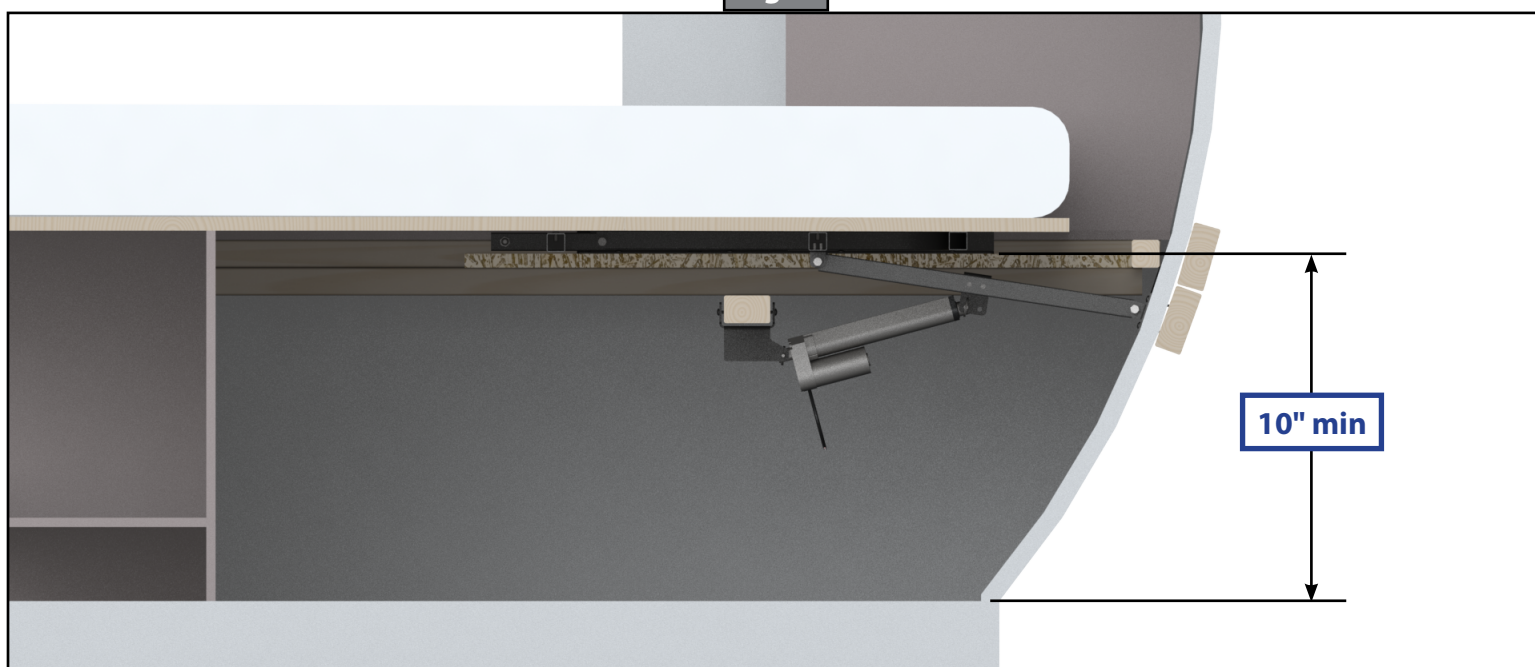


- Depth (Fig. 2)

- VersaTilt Bed Height Open/Extended - 10" minimum clearance

The extended area for the bed system must be clear of any obstructions that would prevent full extension of the bed system and mattress into the cabin area.

Fig. 2



Pre-Installation

The OEM-prepared trailer shall have:

1. A cutout opening for the VersaTilt Bed system.

⚠ CAUTION

Installing the VersaTilt Bed system without considering the trailer's wall structure, and/or adding the appropriate backing, may result in product and/or trailer wall damage.

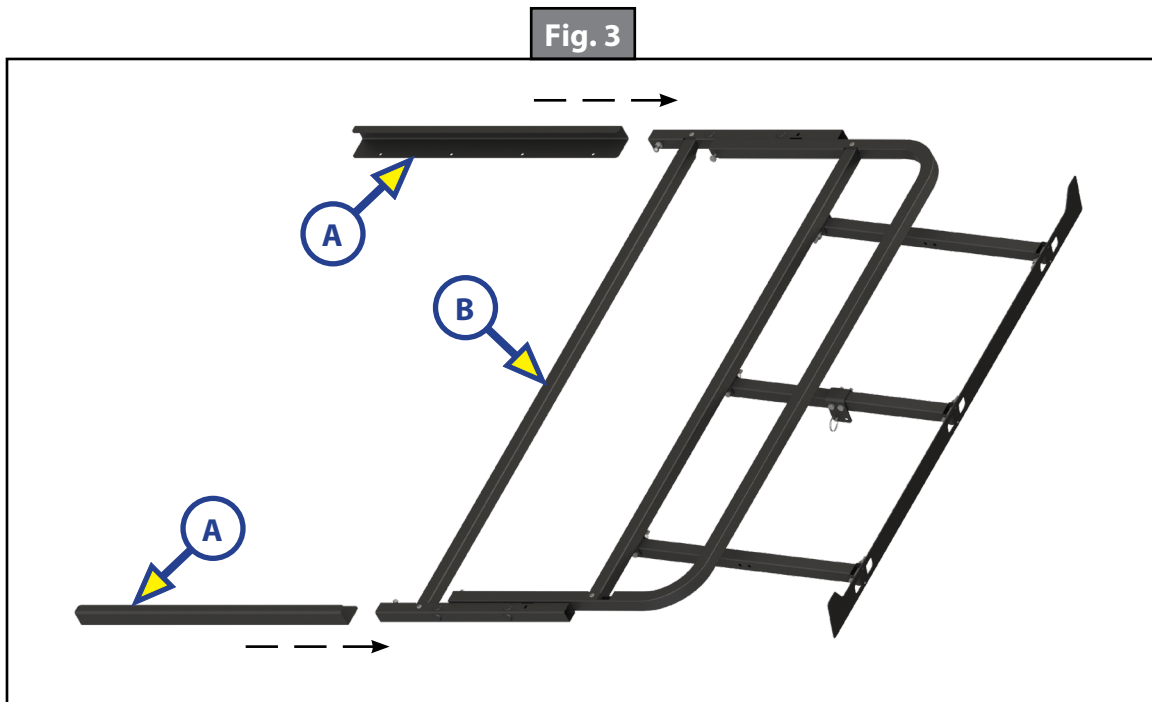
2. Reinforced backing for the attachment of the VersaTilt Bed system.
3. A hinged, two-piece platform base designed to properly interface with the VersaTilt Bed frame and accommodate the OEM-supplied mattress.
4. OEM-supplied lumber cut to appropriate lengths and installed into the OEM-prepared cut-out to accommodate the proper installation of the VersaTilt Bed system.

Installation of VersaTilt Bed System

Bed Frame Guide Rails

1. Slide OEM-provided bed frame guide rails (Fig. 3A) onto the bedslide lower bar assembly (Fig. 3B).

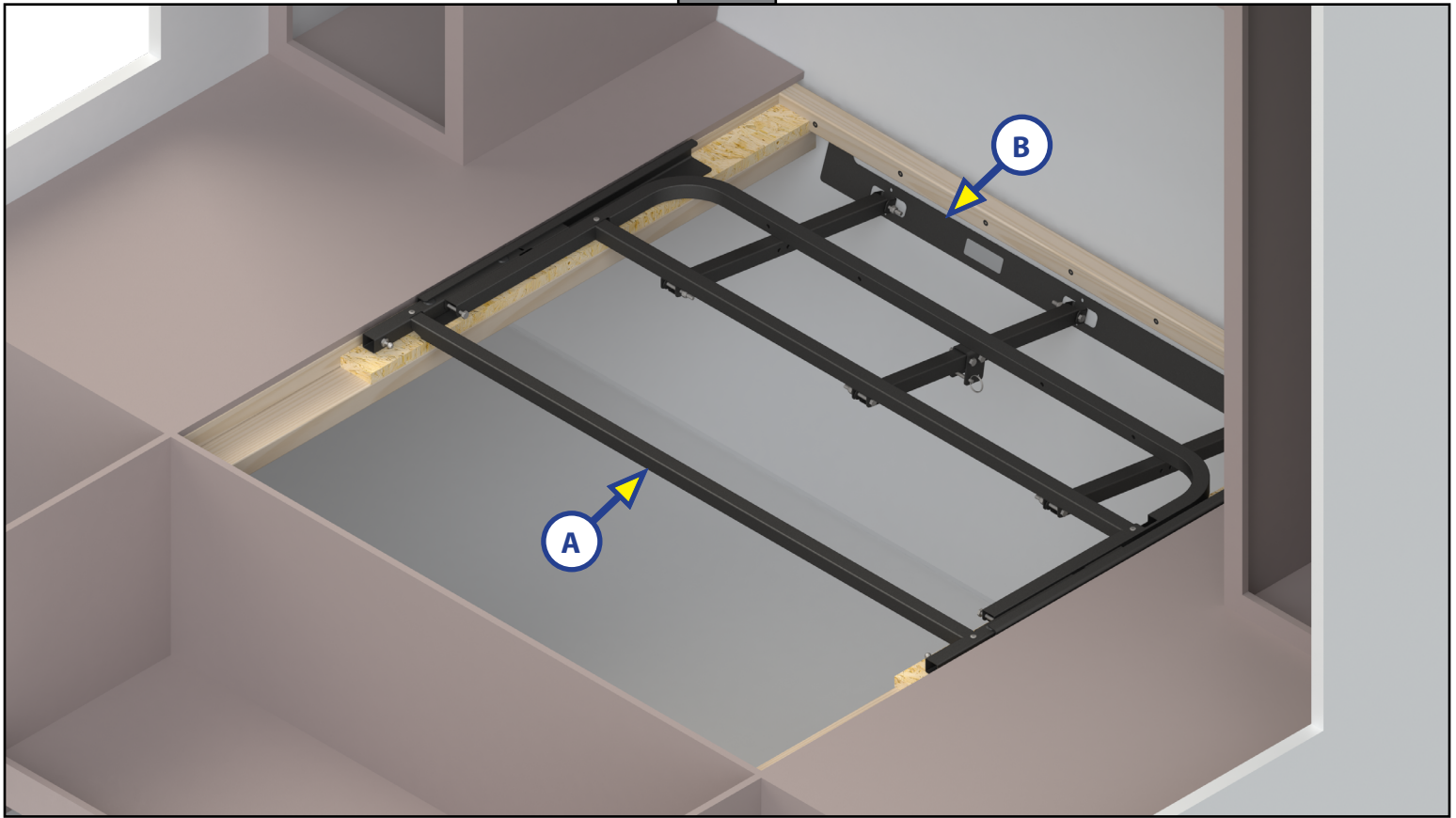
NOTE: Bedslide guide rails for the VersaTilt Bed system are an option available from Lippert.



2. Dry-fit the bedslide system (Fig. 4A) into the cut-out.
3. Position the bedslide mounting plate (Fig. 4B) against the trailer's wall.
4. Adjust the positioning of the bed frame guide rails to allow for full extension and retraction of the system.

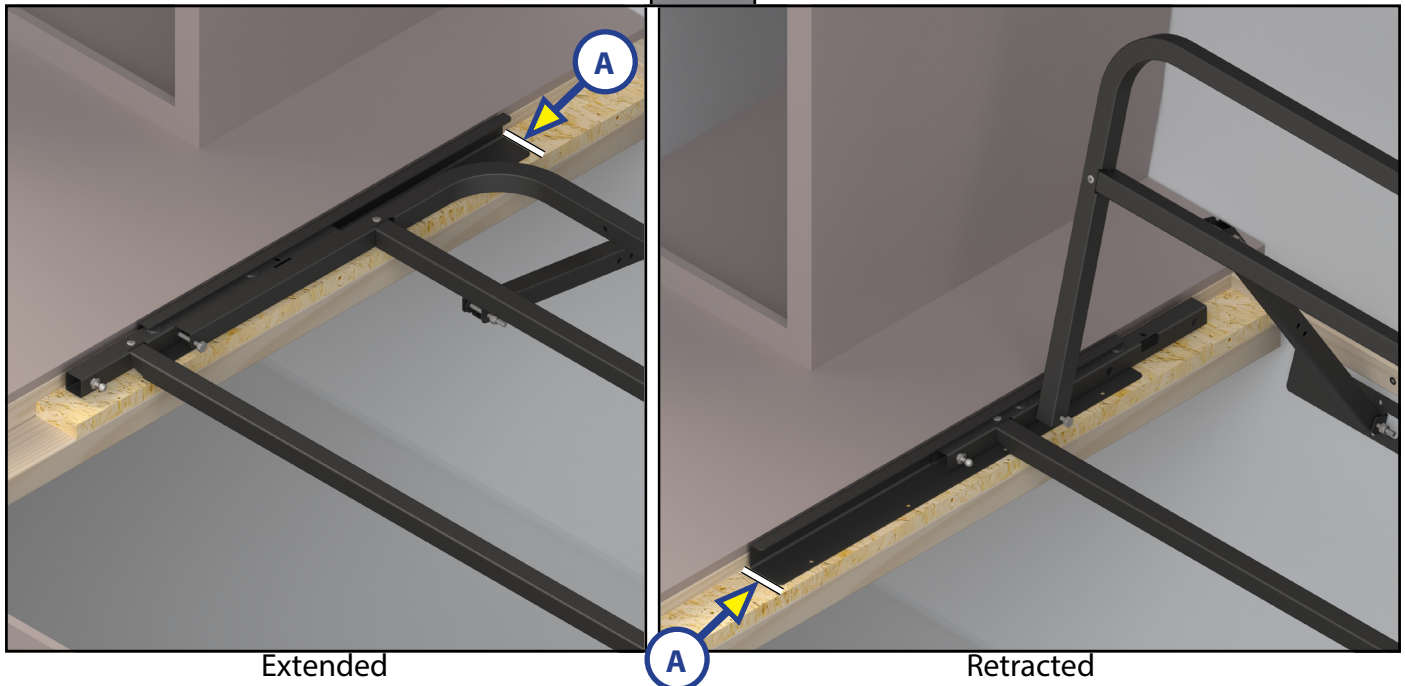
5. Dry-fit the bedslide system (Fig. 4A) into the cut-out.
6. Position the bedslide mounting plate (Fig. 4B) against the trailer's wall.
7. Adjust the positioning of the bed frame guide rails to allow for full extension and retraction of the system.

Fig. 4



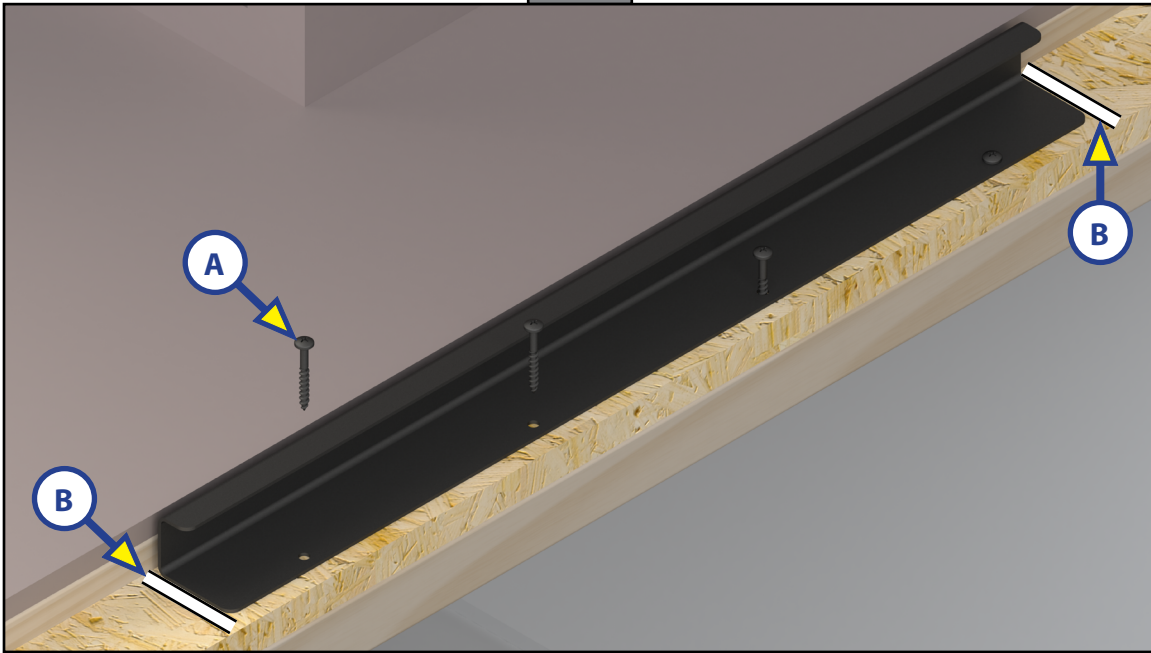
5. Mark the location of the guide rails (Fig. 5A). Make sure they are parallel and even with each other.

Fig. 5



6. Remove the guide rails from the bedslide system. Use OEM-supplied screws (Fig. 6A) and appropriate drive bit to install the guide rails at the previously marked locations (Fig. 6B).

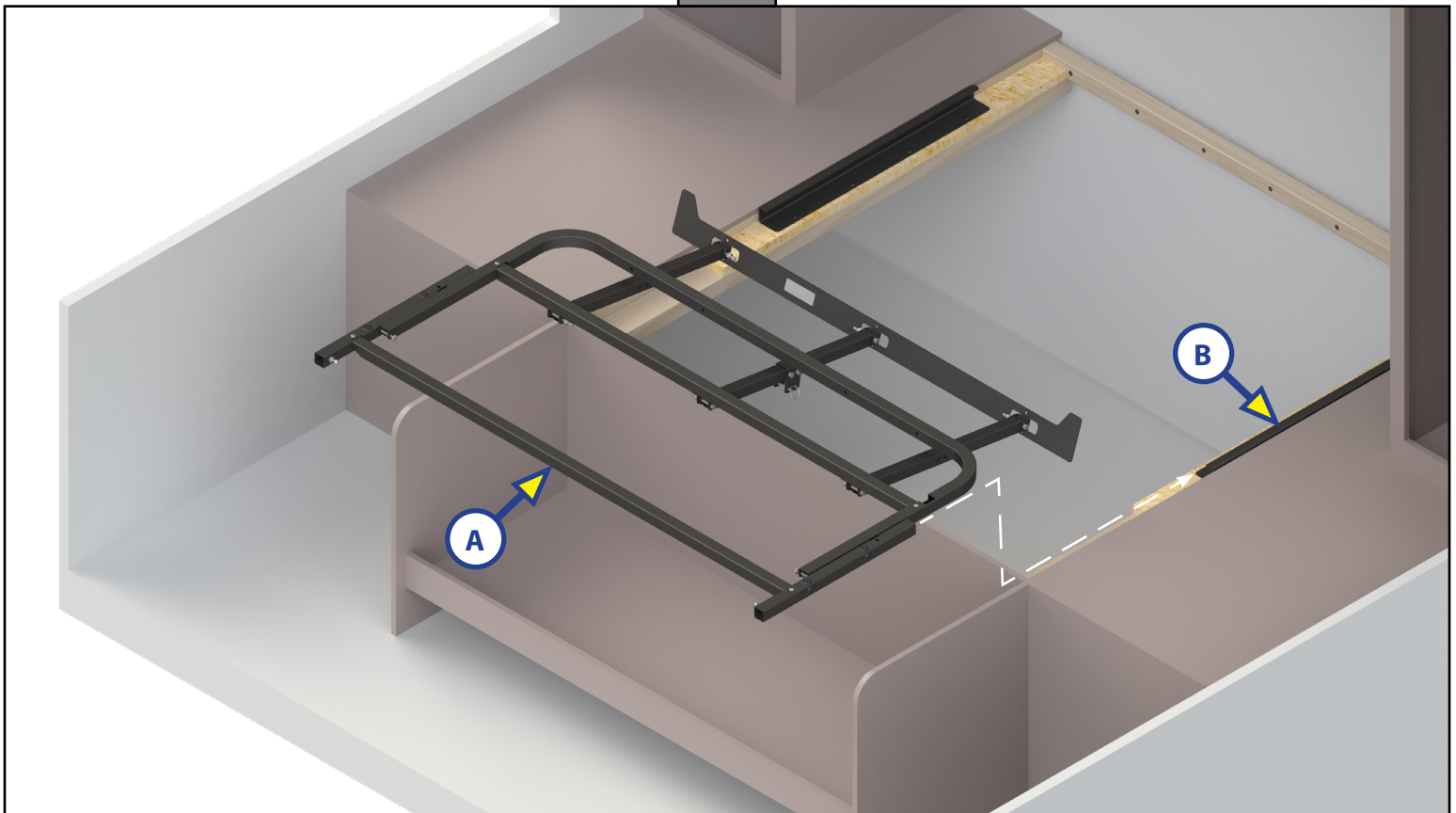
Fig. 6



Bedslide Mounting Plate

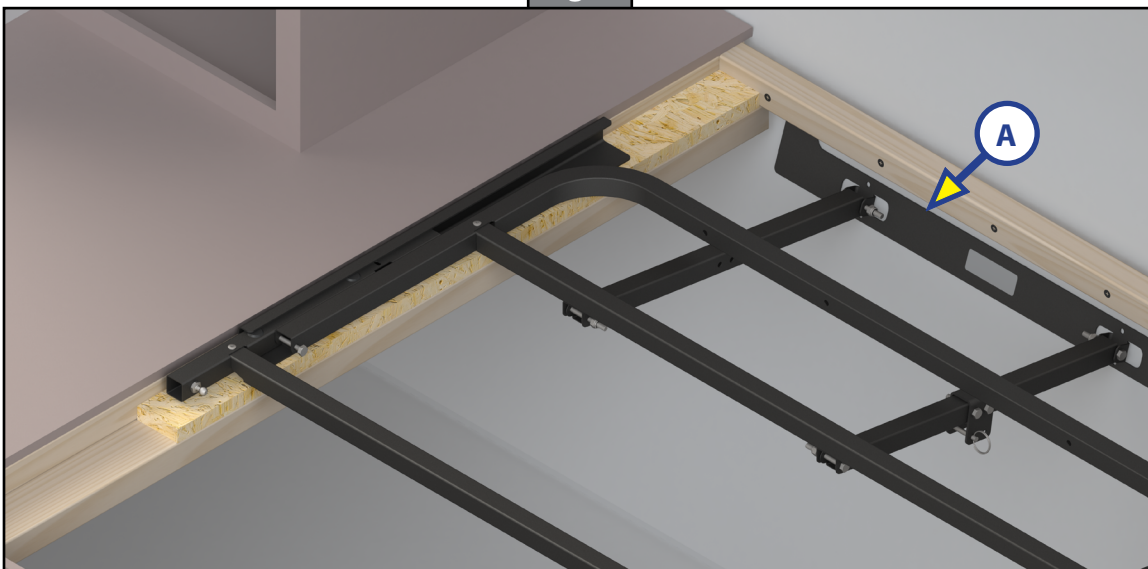
1. Slide the VersaTilt Bed system's lower bar assembly (Fig. 7A) into the previously installed bed frame guide rails (Fig. 7B).

Fig. 7



2. With the VersaTilt Bed system in it's extended (flat) position, slide the system forward until the mounting plate (Fig. 8A) is positioned against the trailer's wall.

Fig. 8



3. Pull up on the bedslide's upper tube assembly (Fig. 9A) until the system is fully retracted (raised).
 - A. Make sure the upper tube assembly's path is clear of obstructions and does not hit the trailer's wall.
 - B. If necessary, adjust location of guide rails to ensure the bedslide has full freedom of movement during extension and retraction.

Fig. 9



⚠ CAUTION

Do NOT use staples to secure the mounting plate to the trailer wall. Staples do NOT provide enough holding force for a secure installation. Use screws of an appropriate length for good thread engagement.

4. Use six OEM-supplied screws of 1 1/4" length minimum to ensure good thread engagement for a solid mounting of the mounting plate to the trailer's wall. Use appropriate drive bit to install the screws.

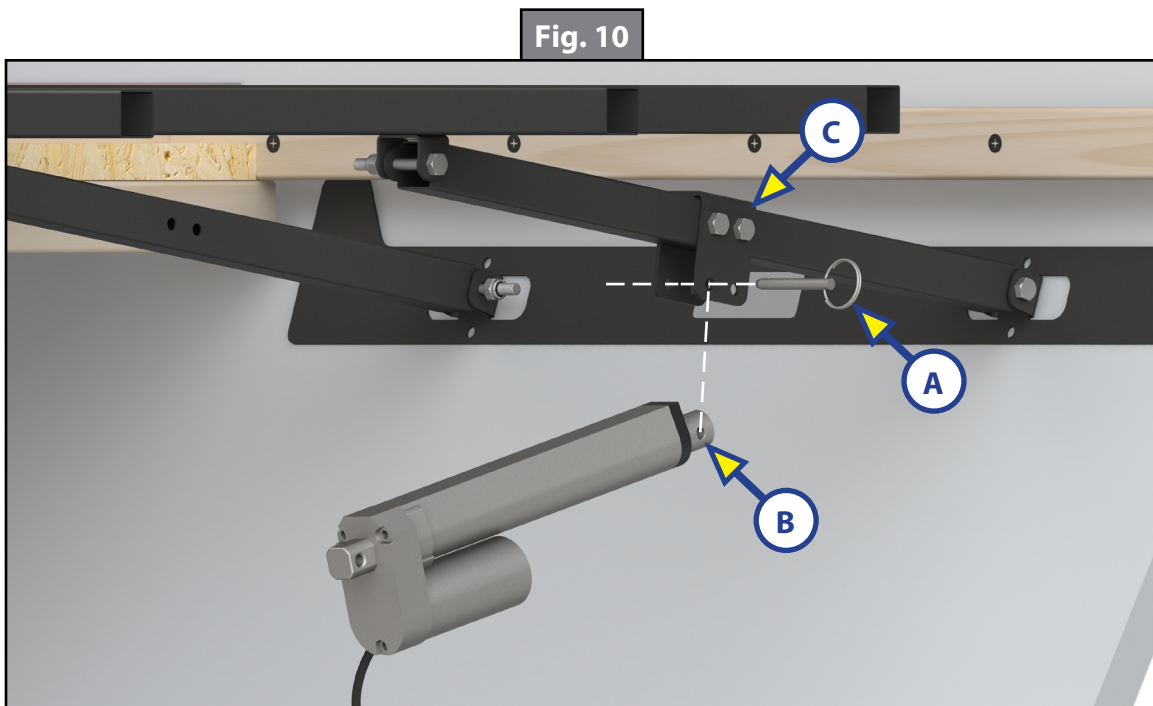
Installation of OEM-Supplied Components

Actuator

1. Use the detent ring pin (Fig. 10A) to secure the rod-end of an OEM-supplied actuator (Fig. 10B) to the actuator anchor bracket (Fig. 10C) located on the middle tube of the bedslide mounting plate.

NOTE: An actuator for the VersaTilt Bed system is an option available from Lippert.

2. The actuator **MUST** meet the following specifications:
 - **Power:** 12V DC
 - **Stroke:** 6.00"
 - **Performance Rating:** 675 lbs at 6A
 - **Max Performance Rating:** 899 lbs at 15A
 - **Travel Speed:** 0.3"/s
 - **Nominal Retract Length:** 10.2" $\pm$ 0.125"
 - **Nominal Extend Length:** 16.2"
 - **Internal Limit Switches:** Prevents actuator over-travel.

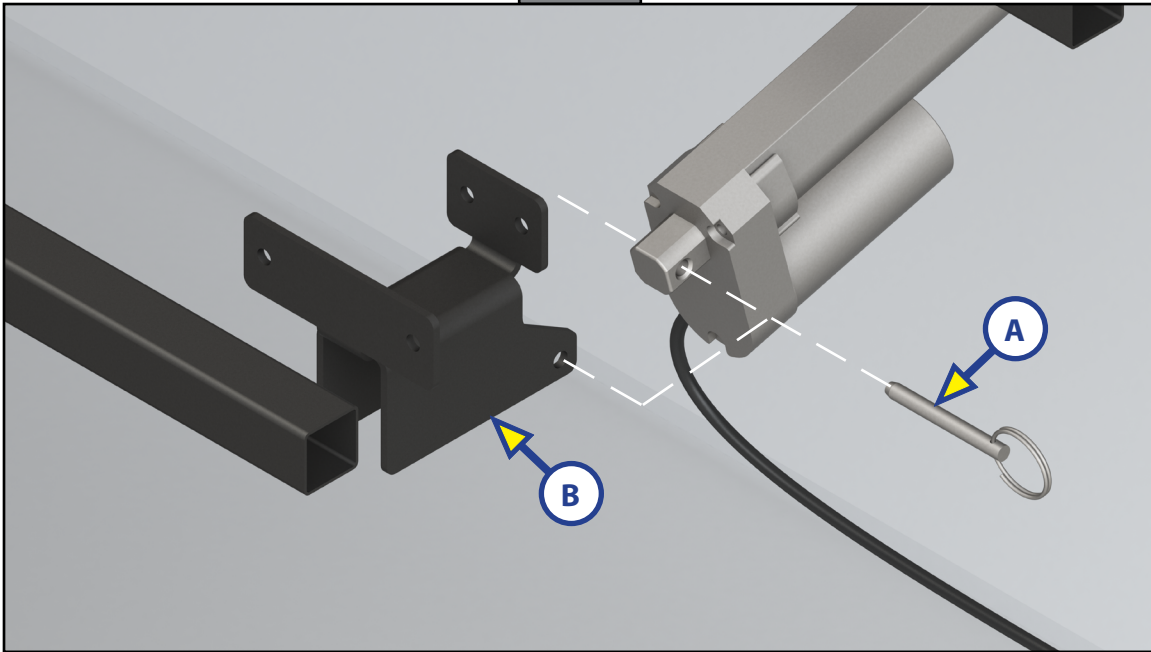


3. Use a detent ring pin (Fig. 11A) to secure the OEM-supplied actuator to an OEM-supplied actuator cross-member mounting bracket (Fig. 11B).

NOTE: An optional actuator cross-member mounting bracket for the VersaTilt Bed system designed for use on a 2"x3" piece of lumber is available from Lippert.

4. An OEM-supplied mounting bracket should be designed with a 0.255" diameter anchor through-hole for securing the motor-end of the actuator. The mounting bracket should also contain mounting plates to attach the bracket to a 2"x3" piece of lumber for installation as a cross-member within the VersaTilt cut-out.

Fig. 11

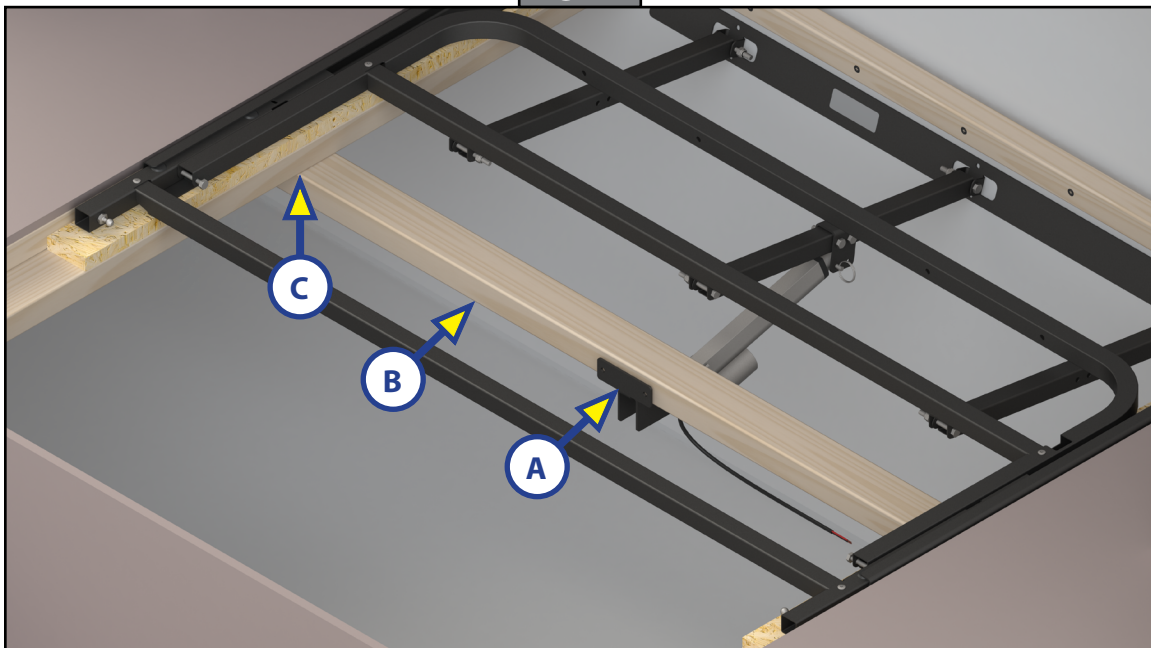


Actuator Cross-member

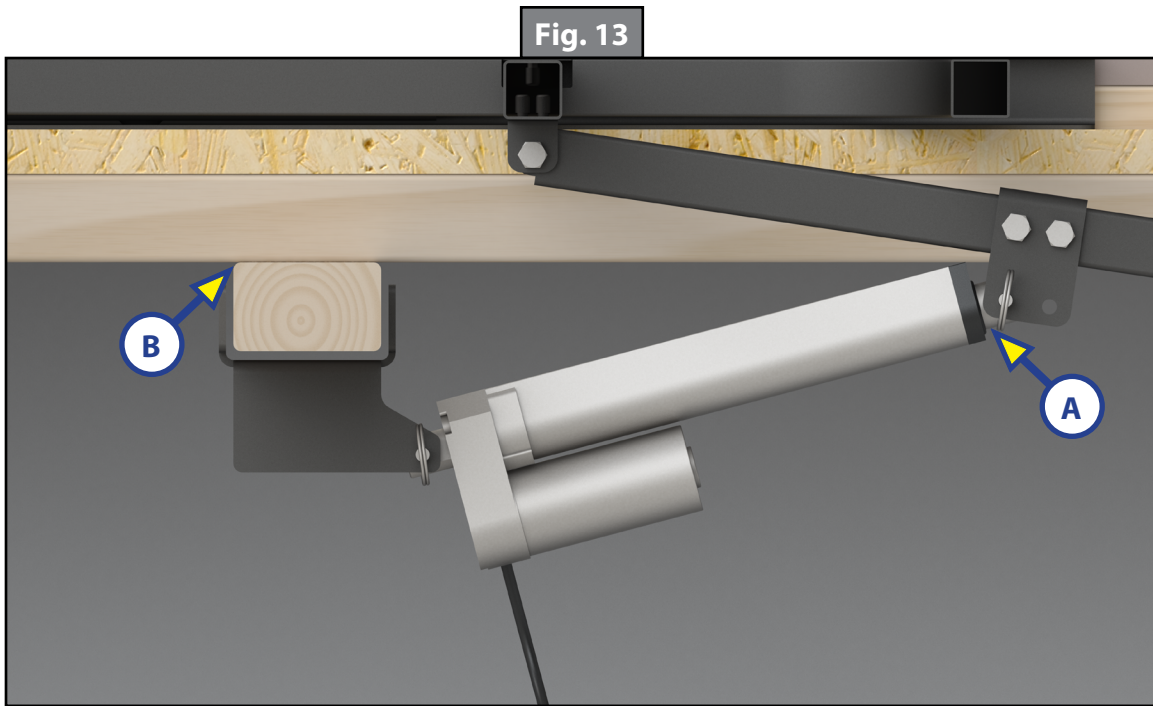
Lippert recommends using the actuator to set the cross-member distance with each install or create a jig. The VersaTilt Bed system should be installed so that it can lay flat in its extended position without forcibly engaging the bedslide guide rails.

1. Clamp the actuator motor-end mounting bracket (Fig. 12A) to a 2"x3" piece of lumber (Fig. 12B) that is long enough to be anchored at both sides of the cut-out (Fig. 12C).

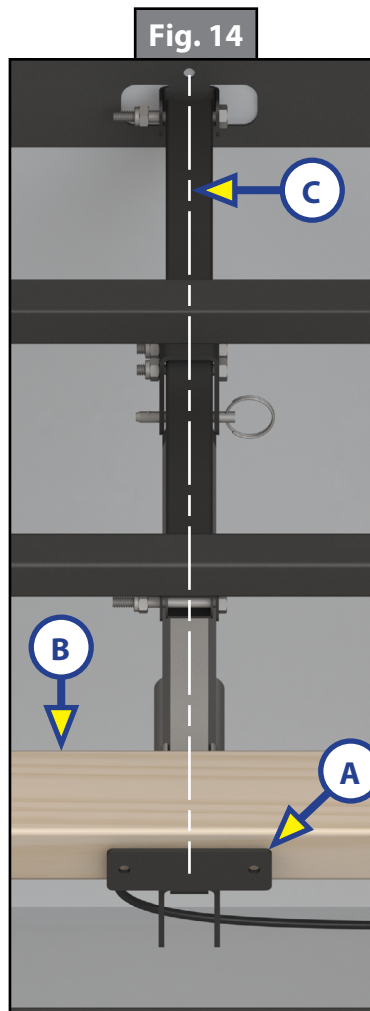
Fig. 12



2. Fully extend the VersaTilt Bed system so it lays flat (Fig. 12). The rod-end of the actuator should be retracted inside of the actuator (Fig. 13A).
3. Place the 2"x3" wooden cross-member across and underneath the cut-out (Fig. 13B).
4. Adjust the span of the 2"x3" cross-member so that it can be adequately secured to the framework of the cut-out.
5. Adjust each intersecting end of the cross-member and framework to be at 90-degree angles.

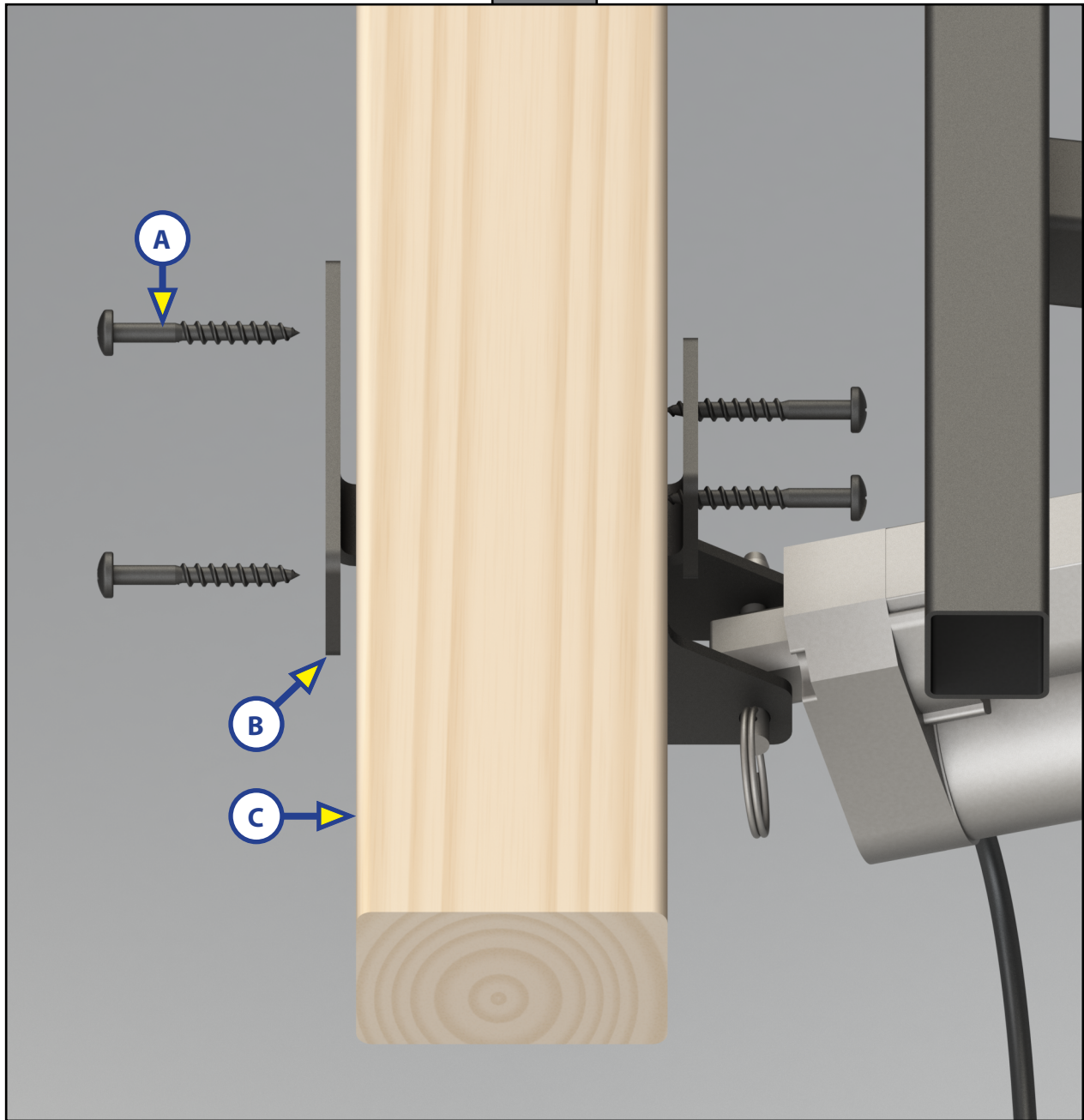


6. Use OEM-supplied screws and appropriate drive bit to install the wooden 2"x3" cross-member to the underside of the cut-out.
7. If necessary, adjust the placement of the actuator's motor-end mounting bracket (Fig. 14A) along the cross-member (Fig. 14B) so that the centerline of the actuator and the centerline of the mounting plate's middle tube (Fig. 14C) are aligned.



8. Use OEM-supplied screws of 1 1/2" minimum length (Fig. 15A) to ensure good installation and appropriate drive bit to install the actuator's motor-end mounting bracket (Fig. 15B) to the wooden 2"x3" cross-member (Fig. 15C).

Fig. 15



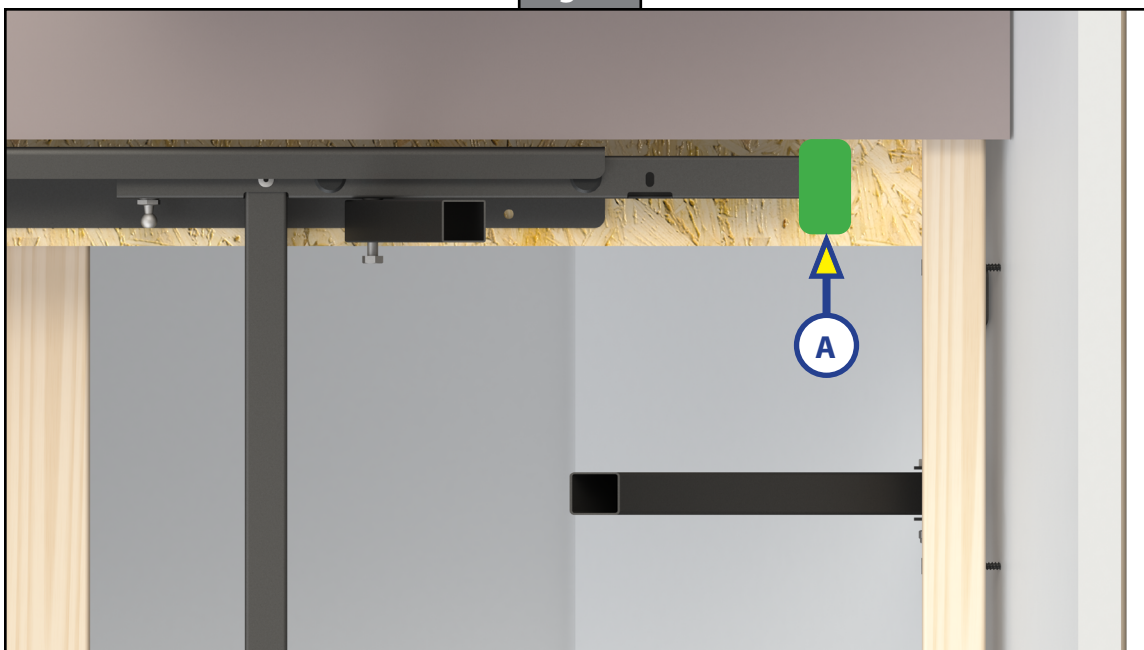
Travel Limit Stops

Travel limits incorporated into the actuator will prevent possible over-extension/retraction of the bedslide. Refer to the Actuator portion of the Installation of OEM-Supplied Components section.

Lippert recommends installing an additional retraction limit stop to prevent any interference with other installed amenities; i.e. headboard, shelving, mirror.

1. Place OEM-supplied retract travel limit stop on both sides of the bedslide lower bar assembly.
2. With the VersaTilt Bed system in its fully retracted position (Fig. 16), place a retract travel limit stop at the head-end (Fig. 16A) of both slide tubes.
3. Secure both retract travel stops to the cut-out frame.

Fig. 16



Momentary Switch

The VersaTilt Bed system requires the use of a momentary switch (not supplied) that must be pressed and held during the bedslide's extend/retract cycles.

⚠ CAUTION

Use of a non-momentary switch may override travel limit stops, which can result in product and/or property damage including personal injury. Only momentary switches shall be used to control the bedslide system.

1. Install a 12V DC momentary switch (not supplied) in a location away from the VersaTilt bed system to prevent accidental operation of the bedslide.
2. Electrical wire connections from the actuator to the momentary switch shall be in accordance with governing industry standards.

⚠ NOTICE

All electrical wiring harnesses shall be loomed and secured to prevent possible damage and installed in accordance with RVIA electrical standards.

3. Provide 12V DC power to the momentary switch for a quick operational test.
4. Press and hold the switch buttons to extend and retract the bedslide.
5. Make sure bedslide motion is in accordance with switch button labeling.

⚠ CAUTION

Moving parts can pinch, cut or crush. Keep clear and use caution.

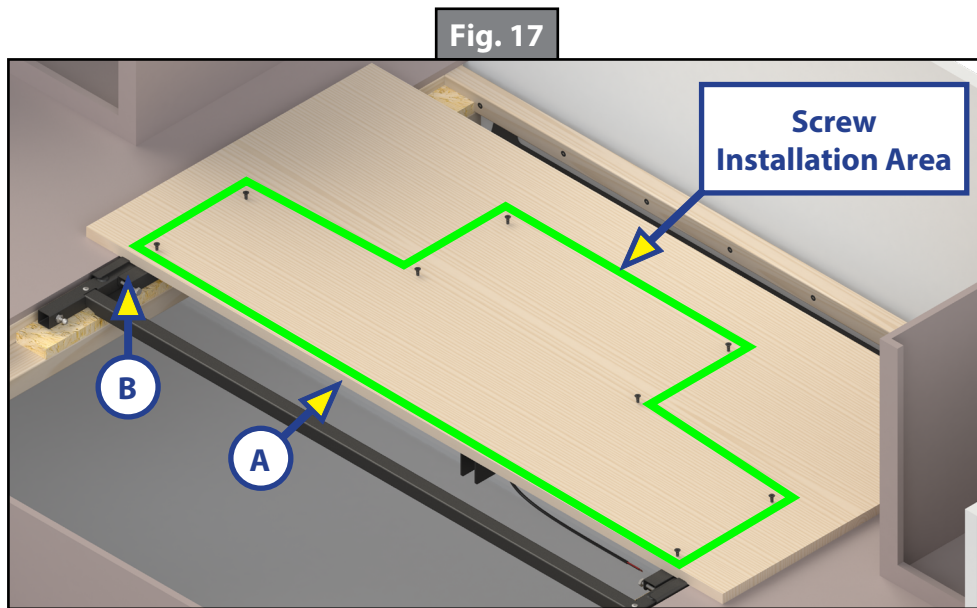
6. If necessary, adjust electrical connections and repeat operational test to verify proper bedslide motion with switch labeling.

Bed Base

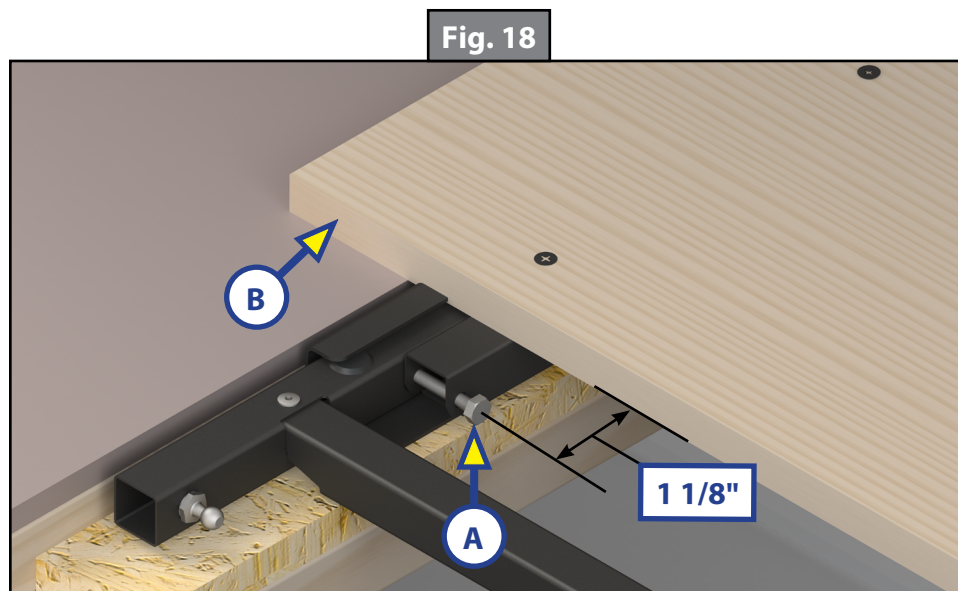
1. An OEM-supplied bed base can be installed as follows:

NOTE: The bed base **MUST** be free from obstruction throughout the entire motion of the system.

2. With the VersaTilt Bed system in its extended (flat) position:
 - A. Center-align the top bed base (Fig. 17A) with the bedslide's upper tube assembly (Fig. 17B).

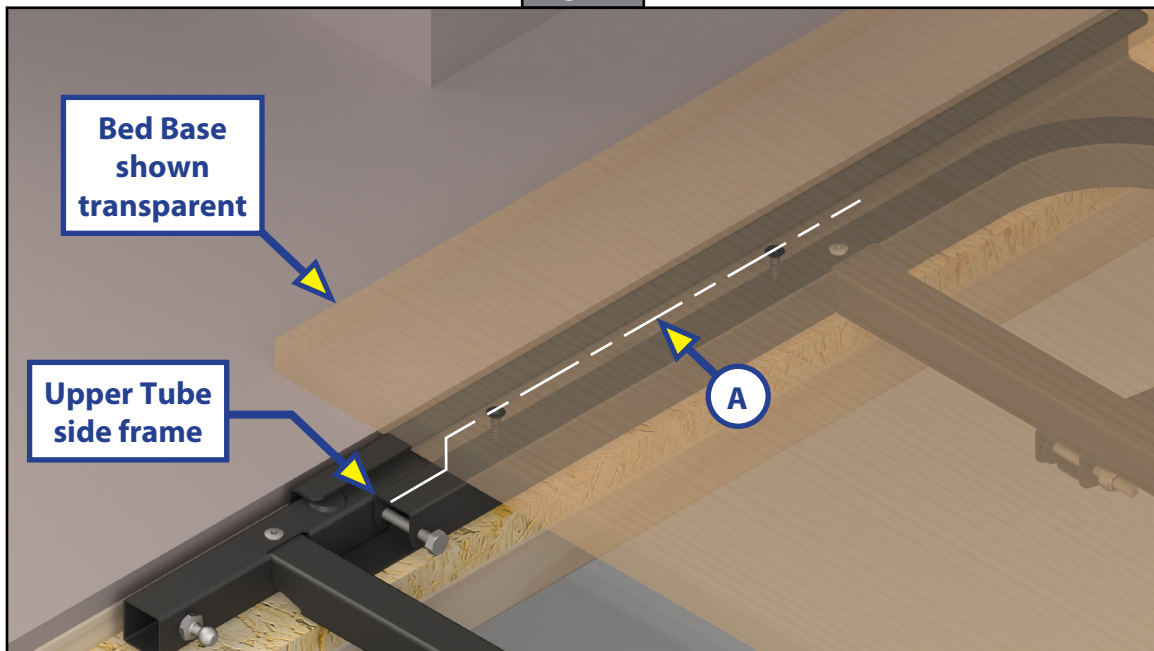


- B. Measure from the upper tube assembly's pivot bolt (Fig. 18A) $1\frac{1}{8}" \pm 1/8"$ to the bottom edge of the bed base (Fig. 18B). Repeat this step for the other side of the bed base and upper tube assembly.



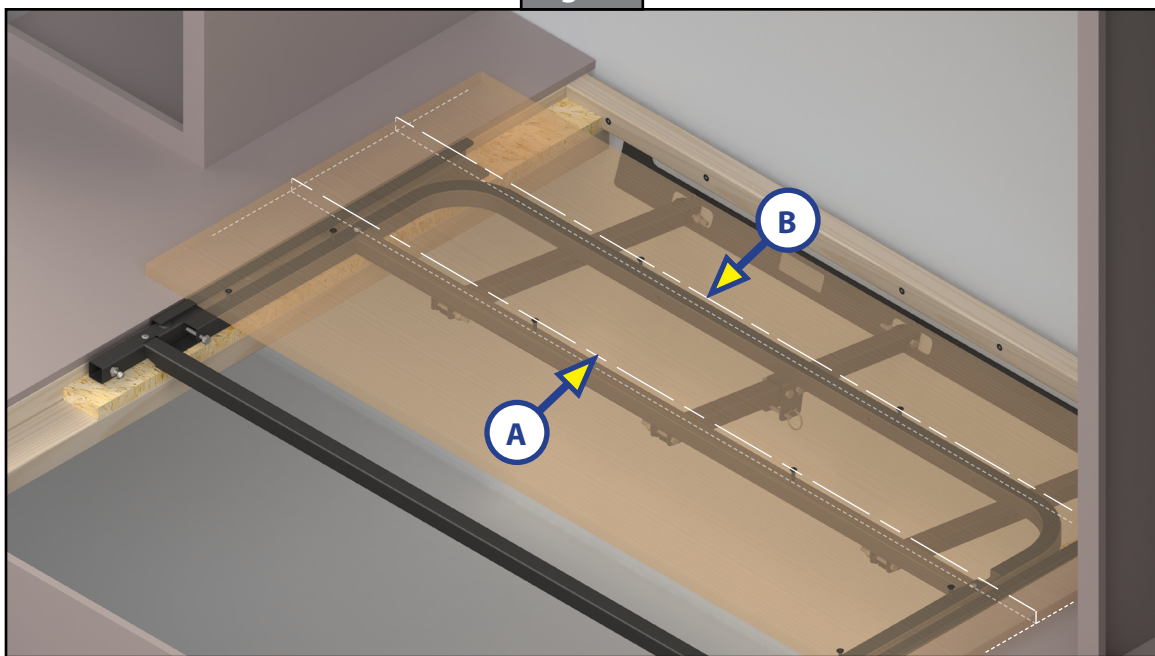
- C. Clamp the bed base in-place.
- D. Use a square against the bottom edge of the bed base and aligned with the middle of the upper tube's side frame. Use a pencil to mark a line the length of the tube (Fig. 19A).

Fig. 19



- E. Repeat step D for the other side of the bed base.
- F. Use a square against the side edge of the bed base and aligned with the middle of the upper tube's mid-crossing frame. Use a pencil to mark a line the length of the mid-crossing tube (Fig. 20A).
- G. Use a square against the side edge of the bed base and aligned with the middle of the upper tube's top crossing frame. Use a pencil to mark a line the length of the top crossing tube (Fig. 20B).

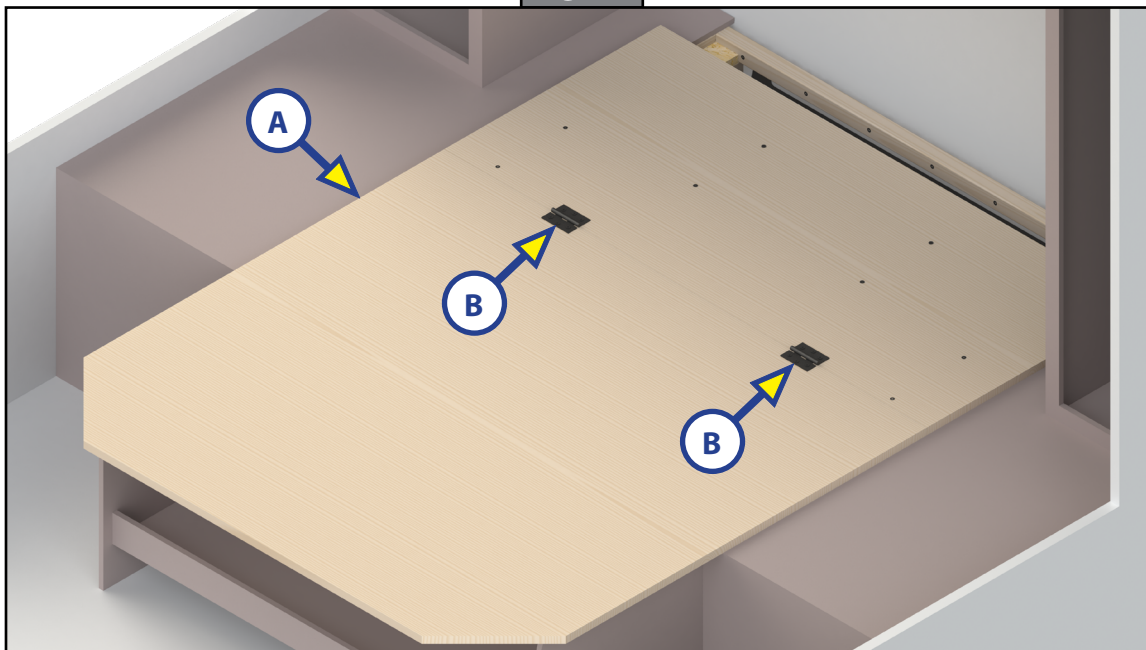
Fig. 20



- 3. Use OEM-supplied 1.0" long self-tapping screws and appropriate drive bit to secure the bed base to the bedslide's upper tube assembly.
 - A. Install screws along the previously marked lines (steps 2.D-G.).
 - B. Do **NOT** install screws on the curved portions of the upper tube assembly.

4. Center-align the bottom portion of the bed base (Fig. 21A) with the bedslide's lower bar assembly.
5. Install OEM-supplied hinge brackets (Fig. 21B) to connect the top and bottom bed boards. Use OEM-supplied screws and appropriate drive bit.

Fig. 21



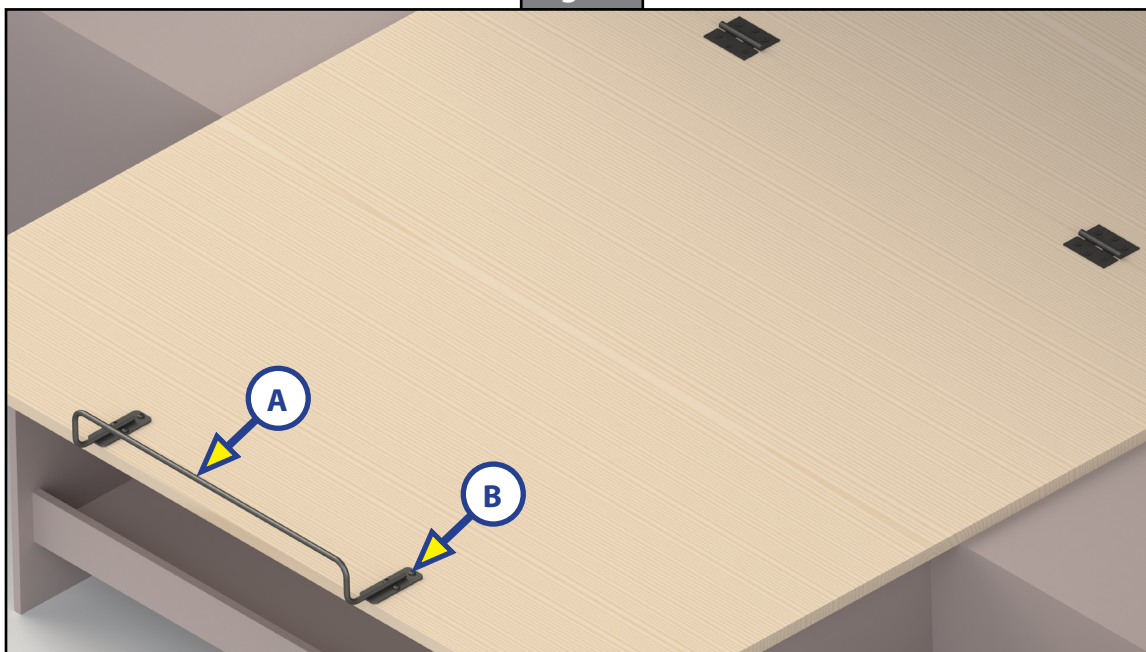
Mattress Retainer

1. If so desired, an OEM-supplied mattress retainer may be installed.

NOTE: A mattress retainer for the VersaTilt Bed system is an option available from Lippert.

2. With the bed base still laying flat, center-align the mattress retainer (Fig. 22A) with the bottom portion of the bed base.
3. Mounting holes for the mattress retainer should be 1 3/4" from the back edge of the bottom portion of the bed base.
4. Use OEM-supplied screws (Fig. 22B) and appropriate drive bit to secure the mattress retainer to the bedslide's bottom portion of the bed base.

Fig. 22



Lift-assist Struts

If OEM-supplied lift-assist gas struts are to be installed, make sure the strut is rated for 80 lbs (355N) minimum.

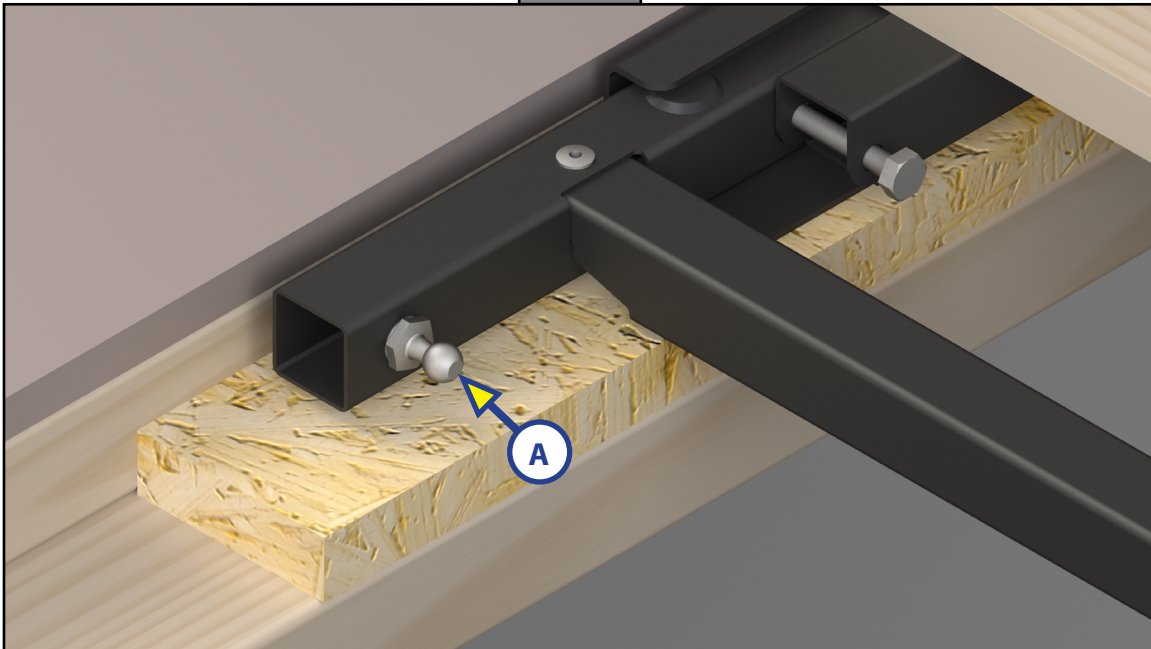
NOTE: Lift-assist gas strut force (rating) selection is dependent upon OEM-supplied materials used for the VersaTilt Bed system installation.

⚠ CAUTION

Moving parts can pinch, cut or crush. Keep clear and use caution.

1. Lift up the hinged bottom portion of the bed base and prop it open.
2. Press the strut arms onto the lower bar assembly's 0.394" (10 mm) ball studs (Fig. 23A).
3. Raise strut arms up and install the struts' mounting plates to the bottom bed base using OEM-supplied screws and appropriate drive bit.

Fig. 23



Post-installation Checks

A mattress should be installed upon the VersaTilt Bed system to adequately perform a good post-installation system-check.

With 12V DC power supplied to the VersaTilt Bed system, check for the following:

NOTE: A minimal humming sound will be heard during the extend/retract operation of the bedslide. This is normal. If excessive noise or vibration is experienced, check for interference to the system.

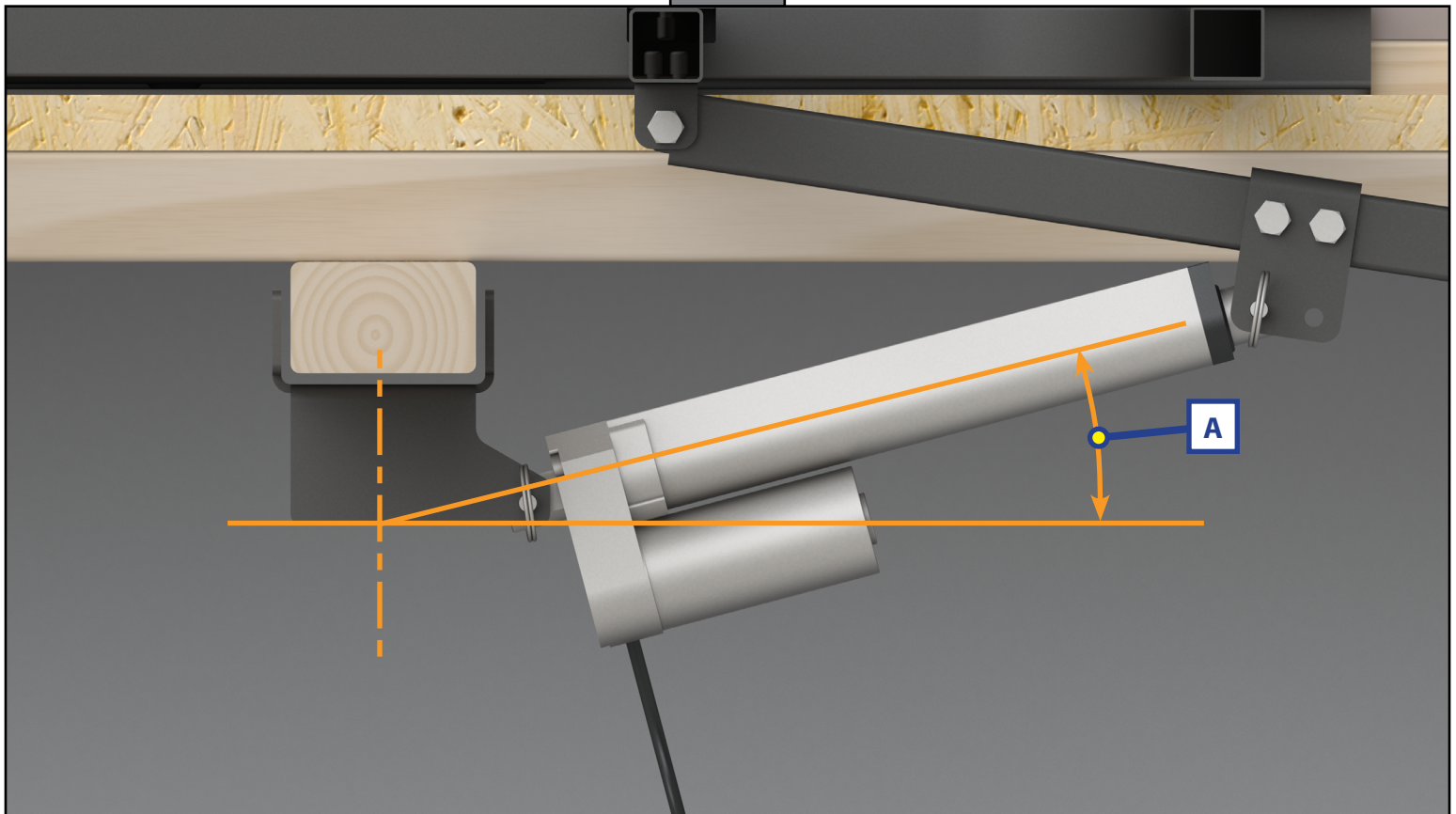
- Make sure that actuator/switch wiring is clear of pinch points and tangling due to motion of the bedslide.
- Make sure the area around and underneath the bedslide is free of possible obstructions or points of interference that would prevent the system from operating within its full range-of-motion (extend/retract).

⚠ CAUTION

Moving parts can pinch, cut or crush. Keep clear and use caution.

- Run the VersaTilt Bed system through its full range-of-motion (extend/retract).
 - Make sure the lower bar assembly side tubes move freely, but not enough to allow the mechanism to slip apart.
 - Make sure there is no excessive force and/or binding on the lower bar assembly side tubes.
 - Make sure the actuator has an upward angle (Fig. 24A) when the bedslide is fully extended. If the actuator is flat (horizontal) or facing downward, damage to the bedslide system can occur when the system is retracted.
 - Make sure the bedslide and mattress lays flat when the system is fully extended.
- Inspect for any cracking, splintering and/or dislodgement of the wall-mount from the bedslide's mounting plate after running the system-check.

Fig. 24





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