SMART BED™ UNIVERSAL KIT

OEM INSTALLATION MANUAL

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Introduction

The Smart Bed™ Universal Kit distributed by Lippert Components, utilizes a unique nylon strap-based system, adaptable to a broad range of RV and heavy truck applications including cabs, living rooms, slide-out rooms and master bedrooms. The straps retract into the bed base, concealing the lifting system in the retracted position, permitting OEMs more floor plan design freedom. The nearly silent Smart Bed Lift system is operated by a single motor that controls four support mounts to raise and lower the bed at 58.4 mm (2.3 inches) per second. The 362 Kilogram (800-pound) capacity system can be customized in both size and configuration to maximize space in any motorhome, towable RV or truck cab floor plan design. The system can even "bend" to conform to wall curvatures found in some motorhome cabs.

For information on the assembly or individual components of this product, please visit: https://www.lippertcomponents.eu/support-smart-bed.

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.

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 follow the provided instructions may result in death, serious personal injury, severe product and/or property damage.

Important Safety Information

- Safety devices shall not be tampered with for any reason.
- It is strictly forbidden to be on the Smart Bed Lift system while it is being operated.
- Do not interfere with the Smart Bed Lift system while operated, neither with any objects or with hands.
- Before starting the vehicle engine and driving, always make sure the Smart Bed Lift system is in its highest position and the safety belts are fastened (excluding garage bed).
- Do not operate the system improperly (e.g. with people on it).
- The Smart Bed Lift system shall only be used by adults and responsible staff.
- Do not move the Smart Bed Lift system if people or animals or items are around, under or on it.
- The Smart Bed Lift system must never be used while the vehicle is running.
- It is forbidden to start the Smart Bed Lift system manually with disconnected wires from motor unit to control unit.
- Should the mechanism not work, do not use the bed and ask for assistance at the next service center.

NOTE: Always install the Smart Bed Lift system taking into account the system maximum load. The bed unit, as a whole - Including Smart Bed Lift system, mattress, pillow, blankets, etc. - must not weigh more than 60 kg (132 lbs).

NOTE: The Smart Bed Lifting system can bear a total maximum weight of 362 kg (800 lbs).

⚠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, crush or cut. Keep clear and use caution during assembly.

Resources Required

- Cordless or Electric Drill or Screw Gun
- Pneumatic Rivet Gun With Extended Tip
- Pneumatic Staple Gun
- Appropriate Drive Bits
- Appropriate Drill Bits
- Hex Key (4mm)
- Socket Wrench (8 mm)
- Rubber Mallet
- Super Lube® Grease
- High Strength Red Loctite
- Tape
- Pencil

Prior to Installation

Make sure that all components i.e., bed frame rails, wood slats, motor mount, drive shaft and center support, are all cut to the proper dimensions prior to installation.

Holes depicted in the components indicate where fasteners will be needed including self tapping fasteners.

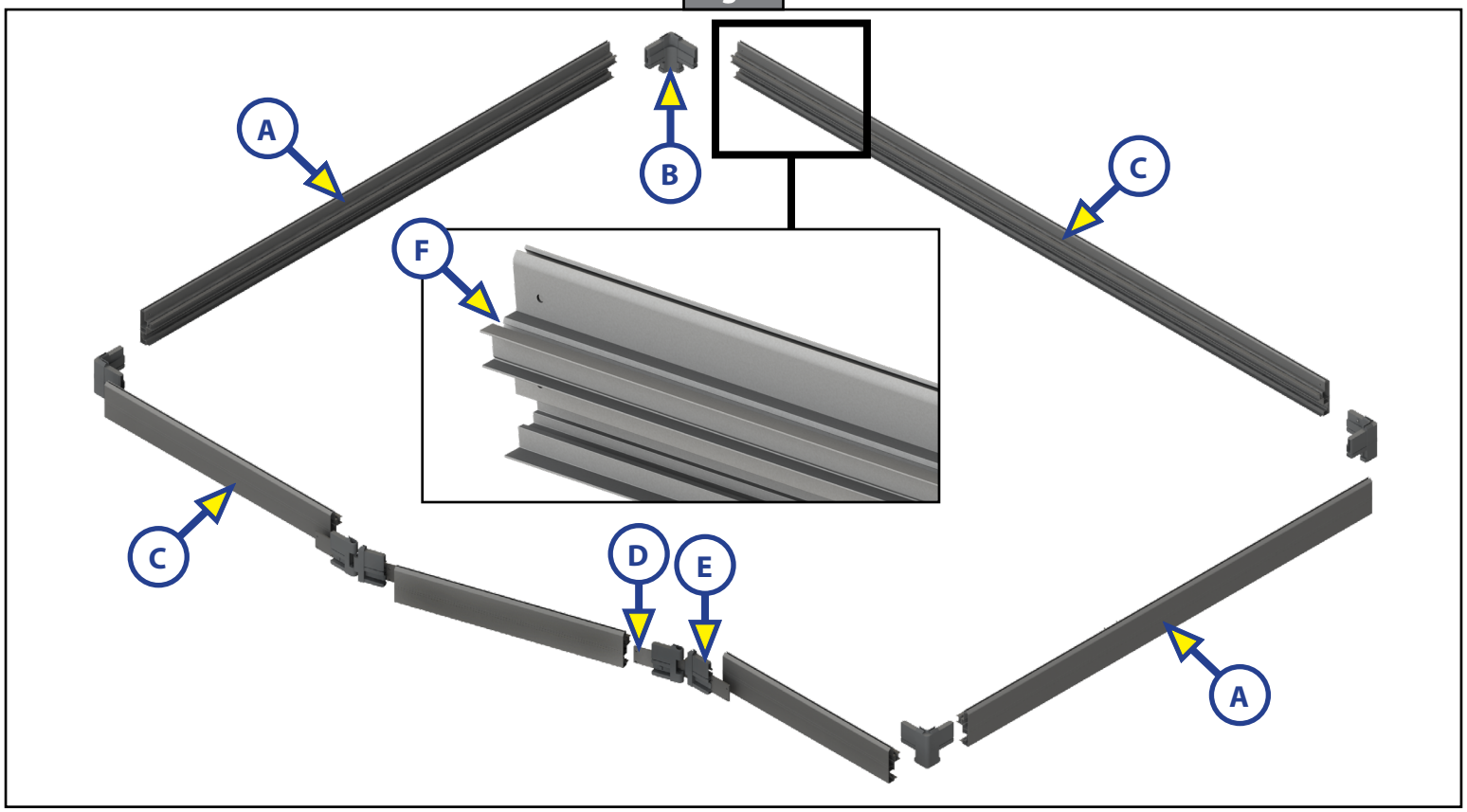
Installation

Bed Frame Assembly

NOTE: The dimensions of each Smart Bed Lift will differ in size and some components but the bed frame assembly instructions will be close to the same for every Smart Bed.

1. Locate two end rails (Fig. 1A), side rails (Fig. 1C), corner cap keys (Fig. 1B), if applicable, Smart Bed Lift joint assembly parts (Fig. 1E), bendable flat bracket (Fig. 1D) and place in a clean. flat, work area.
2. Place the plastic corner cap keys (Fig. 1B) at each corner. If applicable, Smart Bed Lift joint assembly parts and bendable flat bracket at the desired angles.
3. Place the rails into the desired shape with the slat insert channel facing towards the bed area with the channel extrusion facing up. (Fig. 1F).

Fig. 1



4. Starting at one end rail, insert a corner cap key (Fig. 2A) into each end of the rail (Fig. 2B).
5. Use a rubber mallet to make sure the corner cap keys are connected tight within the end rail.

NOTE: The end rails should stop at the notched top (Fig. 2C) and bottom edge of the corner cap (Fig. 2D).

6. Repeat step 4 and step 5 for the rest of the corner caps.
7. If the Smart Bed Lift configuration uses angled sides, assemble the joints together (Fig. 3A) and secure with a bolt (Fig. 3B) and nut (Fig. 3C).
8. Insert the assembled angled joint into the side rails (Fig. 4). The end rails should stop at the notched center (Fig. 4A).
9. Use a rubber mallet to make sure all the rails are tightly secured onto the corner cap keys and angled joints.

Fig. 2

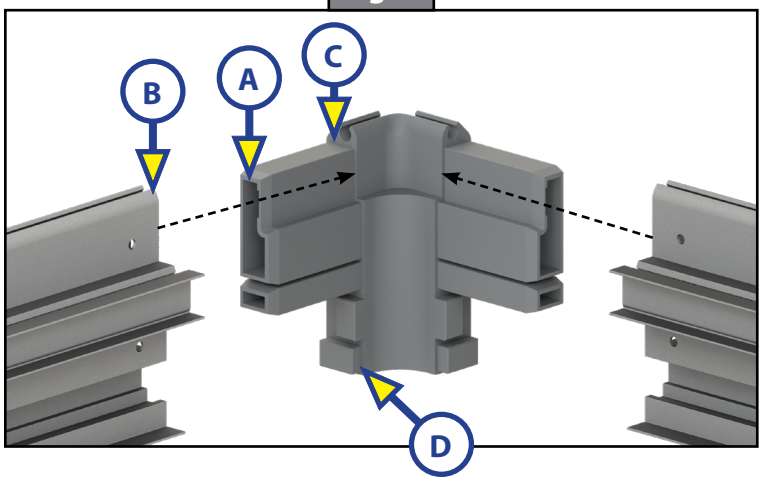


Fig. 3

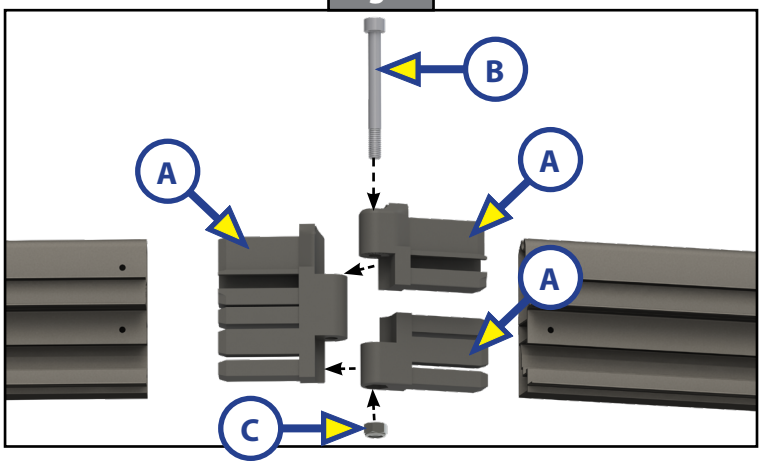
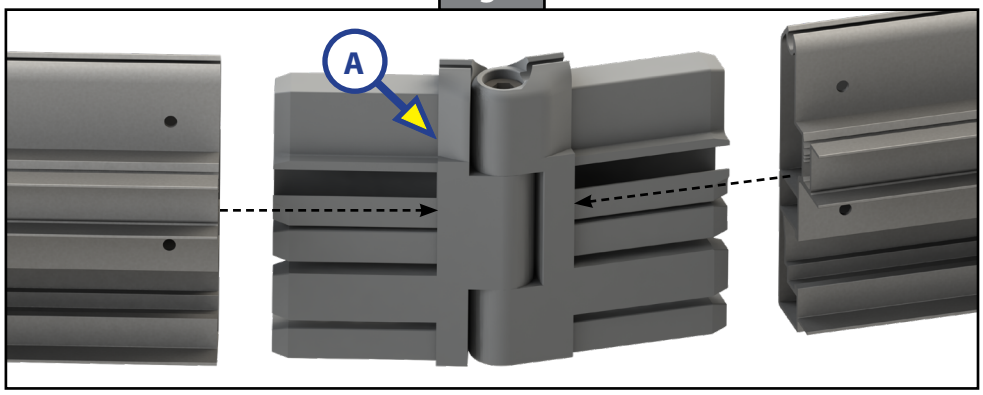


Fig. 4



10. To hold the corner cap keys and angled joints in place, install four 3.9 x 9.5mm screws, two on either end of each rail (Fig. 5A and Fig. 6A).

Fig. 5

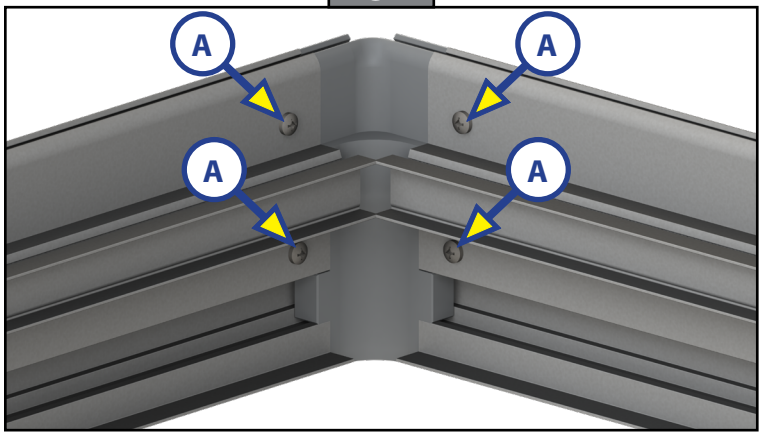
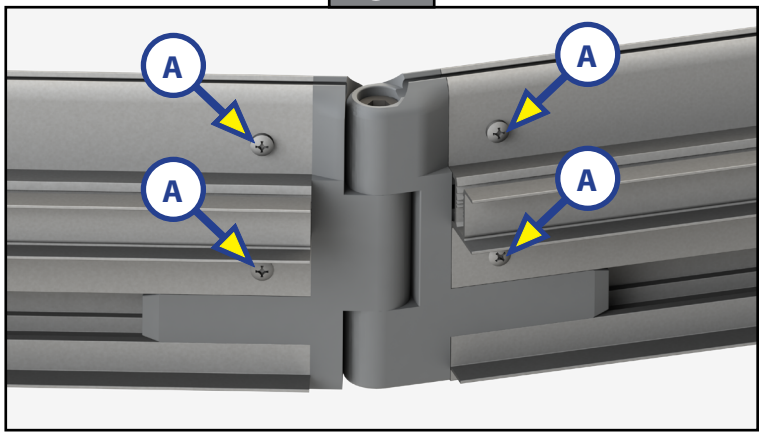
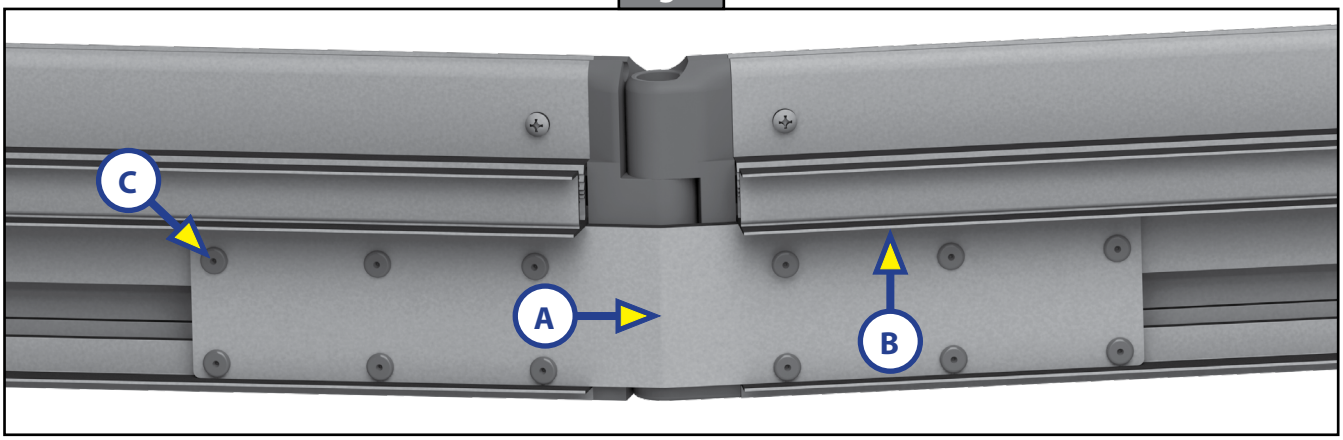


Fig. 6



11. If applicable, bend the bendable flat bracket (Fig. 7A) to the desired angle for each joint assembly.
12. Place the bendable flat bracket centered over the assembled joint and just under the slat and insert channel (Fig. 7B) on the side rail.
13. Install 12 rivots at each pre-drilled hole (Fig. 7C).
14. If applicable, repeat steps 11-13 for each support joint.

Fig. 7



Center Rail Support

1. Measure and mark the center of both end rails (Fig. 1A).
2. Attach the center rail support mounting brackets (Fig. 8A) to both ends of the center rail support (Fig. 8B) with three #8 - 15 x 1.00" Phillips flat head screws (Fig. 8C).
3. Place the center rail support (Fig. 9A) at the center of the end rails (Fig. 9B) with the wide flat side of the center support, facing down. Make sure to insert the center rail support into the top channel extrusion of the end rails (Fig. 9C).
4. Insert the wood slats into place, see Slat Brackets and Wood Slats section.

NOTE: Secure the center rail mounting brackets (Fig. 9D) to the end rail channels only **AFTER** the wood slats are completely in place. This ensures the center rail support is properly aligned and gives sufficient play when hammering in the slat brackets.

5. Attach each end of the center rail support's mounting brackets (Fig. 9D) to the end rail's insert channels (Fig. 9C) with two 3.9 x 9.5mm screws (Fig. 9E) into each end of the center rail support mounting bracket and the end rail inner channel.

Fig. 8

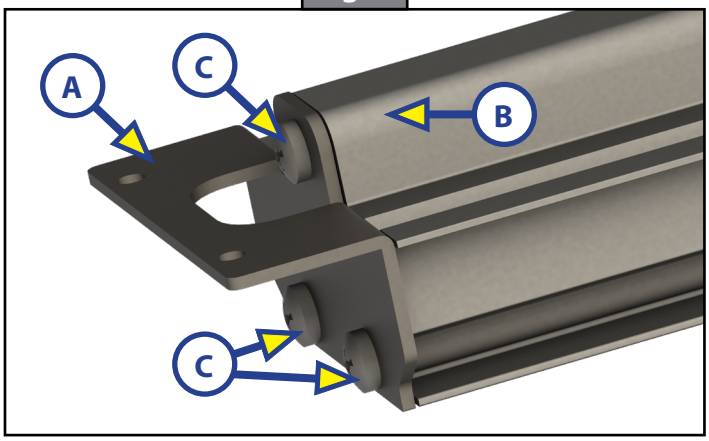
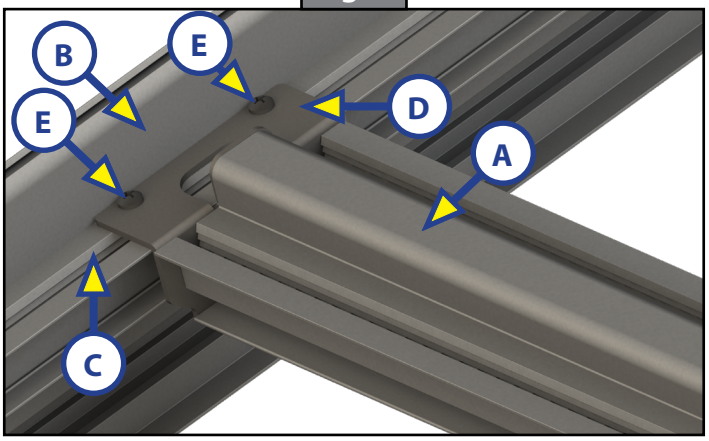


Fig. 9



Slat Brackets and Wood Slats

NOTE: Wood slats will be cut to length for different bed sizes. Refer to model print for quantity.

1. Locate a left and a right slat bracket (Fig. 10A). With the insert tabs facing down, insert three wood slats (Fig. 10B) with their curved side facing up, into the slat brackets.
2. Place the assembled brackets into the side rail insert channels with the bracket tabs (Fig. 10A) facing down.

NOTE: The slat bracket assemblies should rest in the insert channels of the side rails and the center rail support (Fig. 11) until all the slat bracket assemblies are in place.

Fig. 10

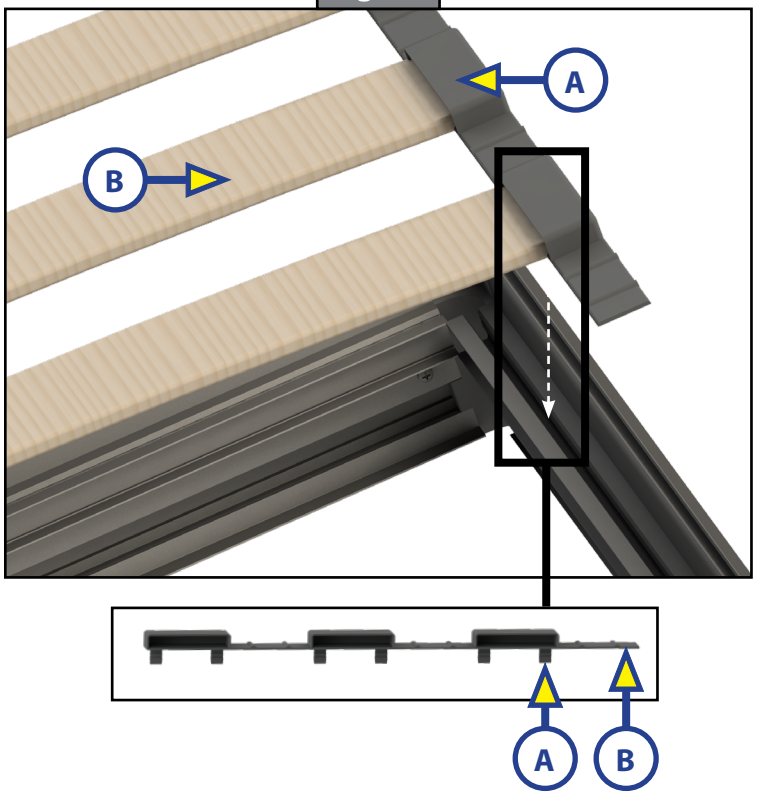
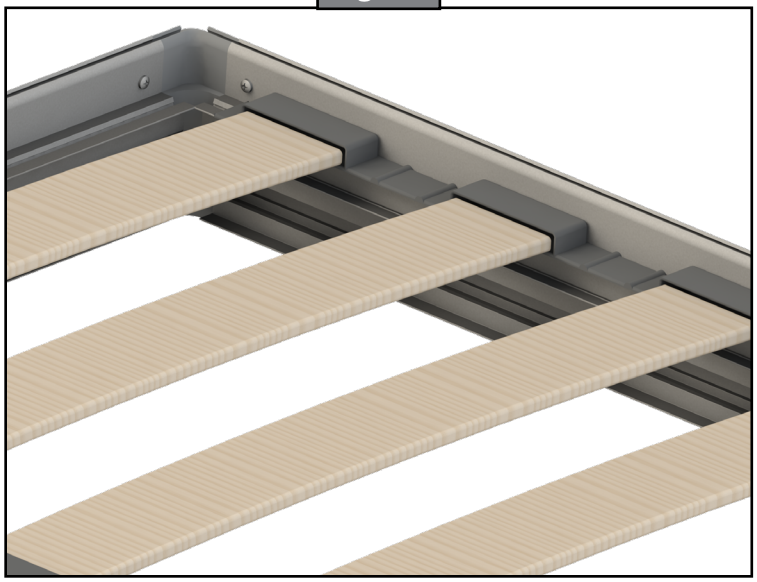
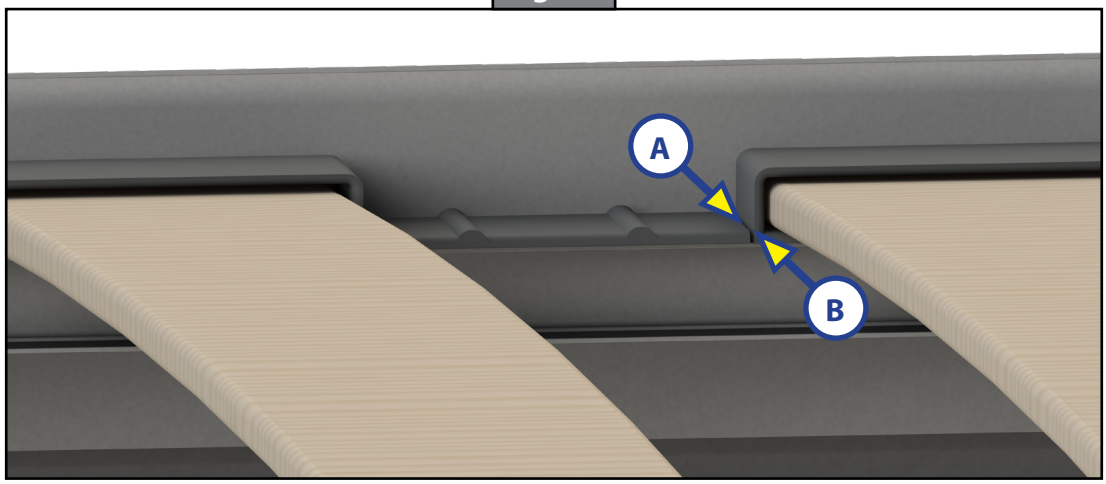


Fig. 11



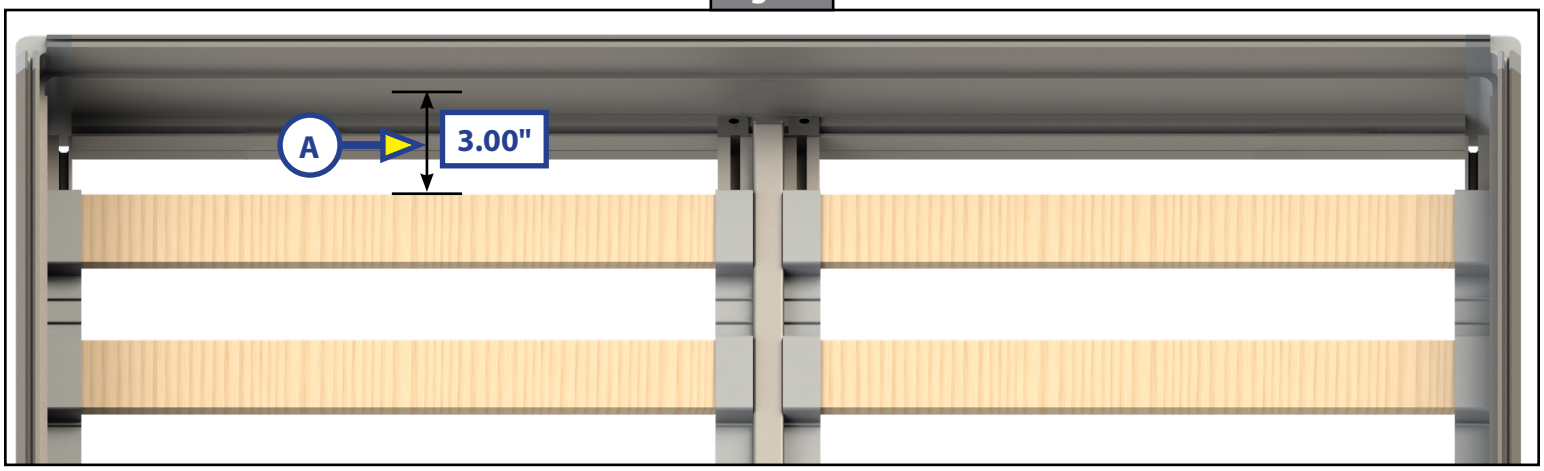
3. During slat bracket assembly installation, make sure the end of one slat bracket (Fig. 12A) is seated to the beginning of the next slat bracket assembly's tab (Fig. 12B).

Fig. 12



4. Create an approximate 3" gap from the end rail's insert channel to the first wood slat on both sides of the center rail support (Fig. 13A).
5. Make sure the wood slats installed on either side of the center rail support are even with each other (Fig. 13).

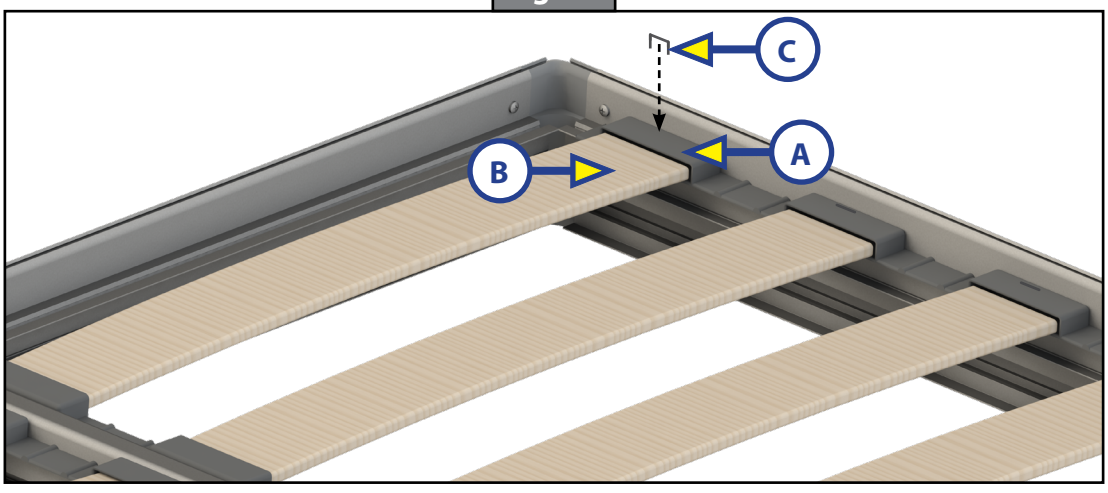
Fig. 13



6. Repeat steps 1-5 on the other side of the center support rail until all slat bracket assemblies have been installed.
7. Cut the excess slat bracket (Fig. 10B) off the last slat bracket assembly to fit, before it is placed into the frame.
8. Use a rubber mallet to secure the tabs on the bottom of the slat holders into the side rail insert channel.
   - **A.** Smart Beds using a center rail support.
     - **I.** Start with the slat brackets on one side of the center support rail at one end.
     - **II.** Using a rubber mallet, firmly strike the slat brackets into the side rail channels and the center rail support channels, alternating between the left and right sides of the bracket.
     - **III.** Continue securing the slat brackets from one end to the other.
     - **IV.** Make sure the wood slats on either side of the center support rail are aligned (Fig.13).
     - **V.** Repeat steps I - IV for the other side.
     - **VI.** Secure the center rail support to the end rail channels by inserting two #6 - 18 x 3/8" Phillips drive pan head screws (Fig. 9E) into each end of the center rail support mounting bracket and the end rail inner channel (Fig. 9C).
9. Using a pneumatic staple gun, attach the slat bracket holders (Fig. 14A) to the wood slats (Fig. 14B), on both sides, one staple per wood slat (Fig. 14C).

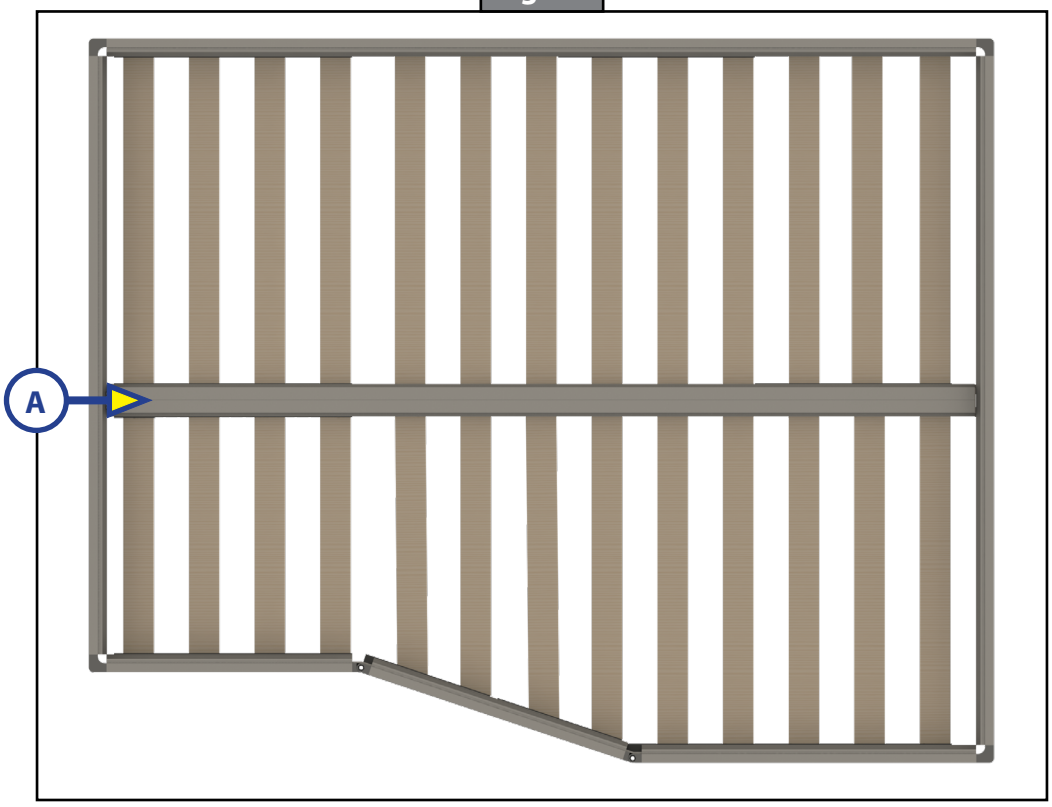
NOTE: Inspect the bed frame and make sure there are no dents to the frame. Buff out any minor scratches.

Fig. 14



10. Flip the assembled bed frame bottom facing up throughout the rest of the Smart Bed assembly. The assembled center rail support (Fig. 15A), wide flat side, will be facing up.

Fig. 15



Belt and Stabilizer Guide Brackets

Belt Brackets

NOTE: The proper belt bracket locations will depend on the type of Smart Bed Lift configuration and where the motor is installed.

1. Measure from the corner edge out on the end rail with the supplied measurements for each Smart Bed Lift model. This measurement will be from the corner to the outside edge of the belt bracket.
2. Align the strap mounting bracket drill fixture with the marked location on the end rail frame. Make sure the fixture's drill hole guide is facing outward.
3. Use a 5/32" drill bit to pre-drill the side hole (Fig. 16A) for the #9 rivet.
4. Remove the strap mounting bracket drill fixture.
5. Align the side hole in the belt bracket (Fig. 16A) with the pre-drilled hole in the end rail.
6. Use a pneumatic rivet gun with an extended tip to secure a #9 rivet (Fig. 16B) into the side of the belt bracket and the rail.
7. Repeat steps 3-7 for all belt brackets.
8. Pre-drill the top hole of the belt bracket closest to the outside of the end rail (Fig. 17B).
9. Secure the top of the belt bracket with a #9 rivet (Fig. 17A).
10. Repeat steps 8-9 for the remaining belt brackets.

Fig. 16

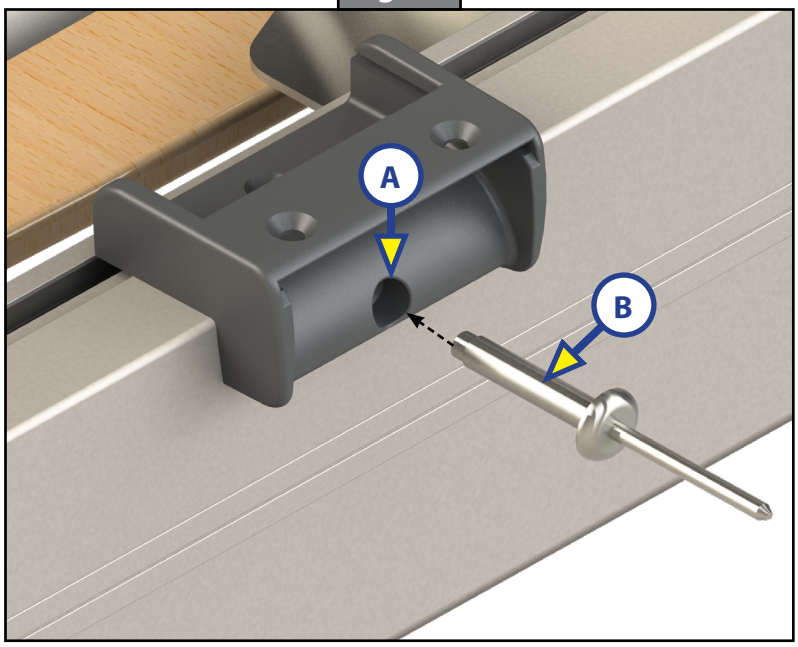
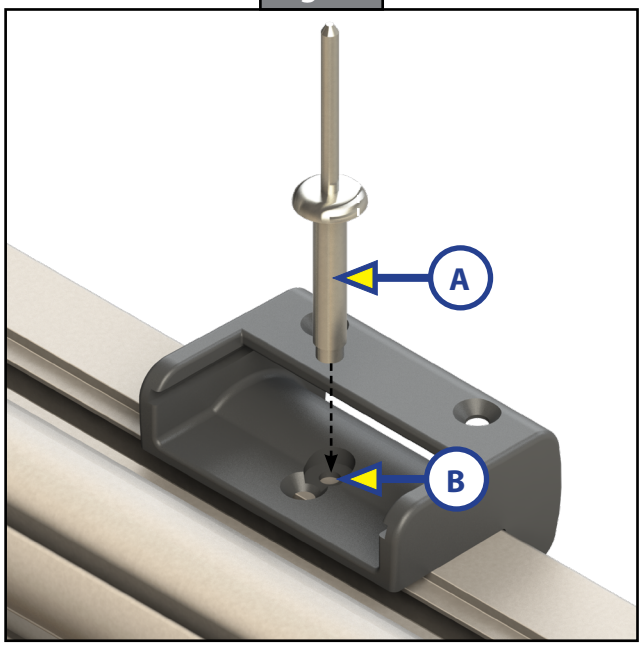


Fig. 17



Stabilizer Guide Track Bracket

Install the stabilizer guide track brackets (Fig. 18A) as close as possible to the side of the bed to avoid a tip-over when under load.

NOTE: The stabilizer guide track bracket (Fig. 18A) locations may vary per bed.

1. Place the stabilizer guide track bracket (Fig. 18A) on the end rail frame, as close as possible to the side of the bed frame.
2. Use a 4.0 mm (5/32 in) drill bit to pre-drill the side hole (Fig. 18B).
3. Install a 4.2 mm x 13mm screw (Fig. 18B) in the side hole of the stabilizer guide track bracket.
4. Use a 4.0 mm (5/32 in) drill bit to pre-drill the top of the end rail hole (Fig. 19A).
5. Install a 4.2 mm x 13 mm screw with a #5 washer into the belt bracket top hole (Fig. 19A) closest to the edge of the outside rail.
6. Repeat steps 1-5 for the other stabilizer guide track bracket.

Fig. 18

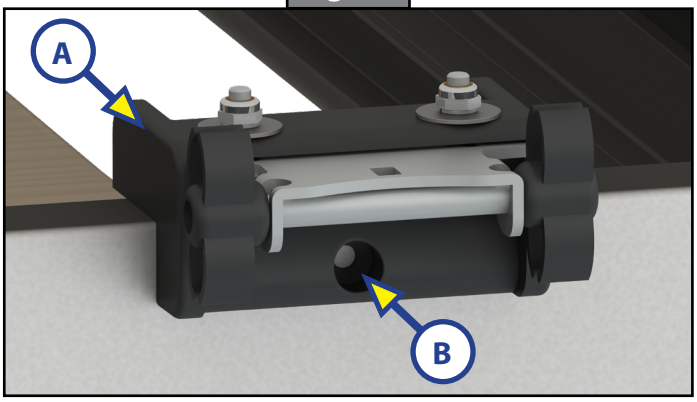
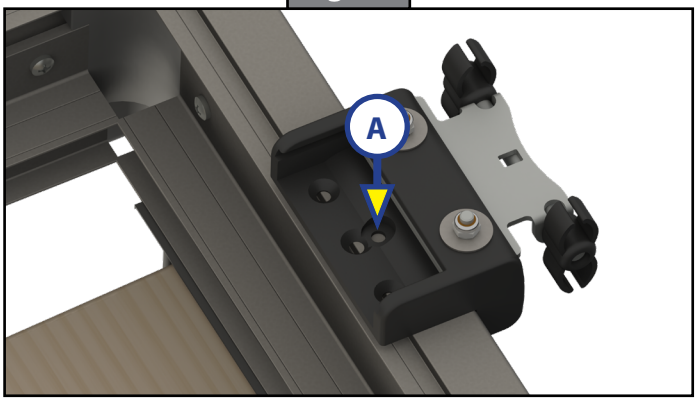


Fig. 19



Mounting Channel Brackets

1. Insert the shorter, motor mounting channel bracket (Fig. 20A), into the end rail channel closest to where the motor will be placed. Tip the topside up into the channel and then slide the motor mounting bracket down into the bottom of the end rail channel.
2. Place one mounting channel bracket (Fig. 21A) into the side rail channel, closest to where the motor will be placed. Tip the topside of the mounting channel bracket up into the top of the side rail channel and then slide the mounting channel bracket down into the bottom of the side rail channel.
3. Repeat step 2 for the opposite side of the Smart Bed.

Fig. 20

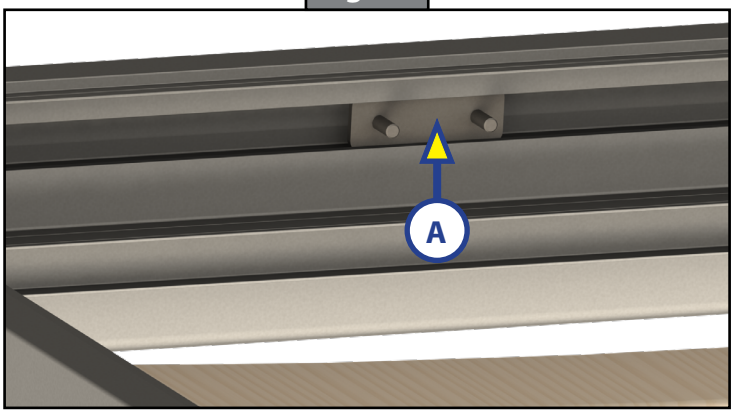
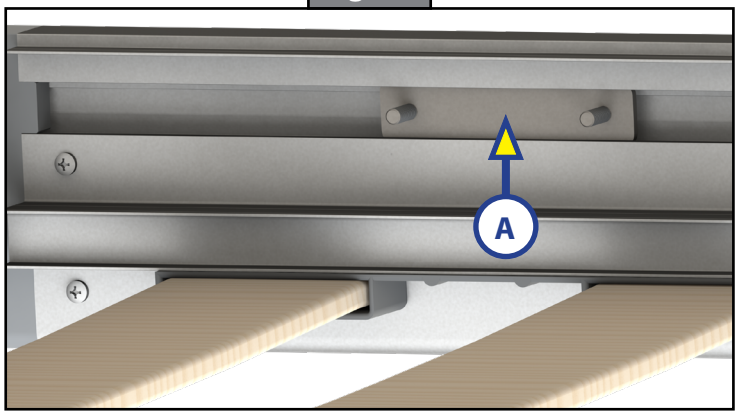


Fig. 21

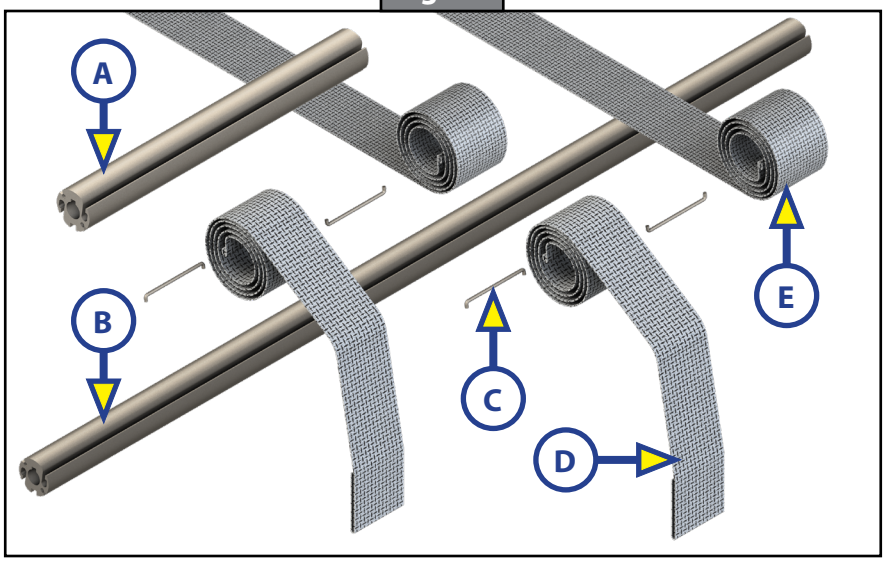


Drive Shafts and Belts

NOTE: If the drive shaft needs to be cut down to fit the Smart Bed Lift dimensions, make sure to clean the center hole of the drive shaft with a drill bit.

1. Locate two long belts (Fig. 22E), two short belts (Fig. 22D) long drive shaft (Fig. 22B) short drive shaft (Fig. 22A), and four pin strap fasteners (Fig. 22C).

Fig. 22

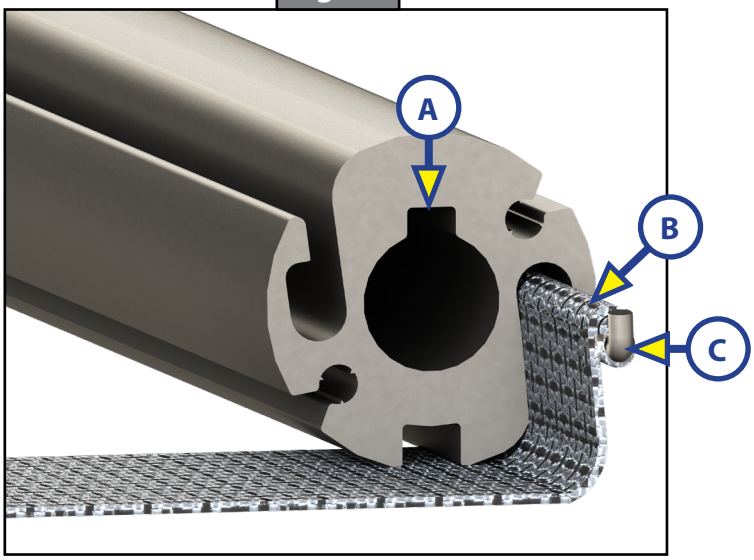


2. Beginning with the short drive shaft, position the end of the shaft so the internal keyway is positioned up (Fig. 23A).

3. Install a pin strap fastener (Fig. 23C) into the end loop of the short belt (Fig. 23B).

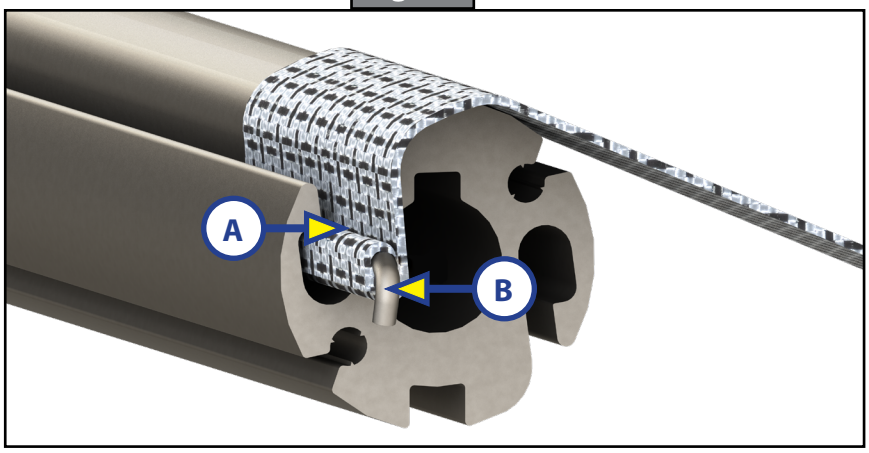
4. With the pin strap legs facing up towards the top of the drive shaft, and the seam of the belt facing out away from the drive shaft, thread the pin strap fastener with the short belt installed into the drive shaft channel located to the right of the internal keyway.

Fig. 23



5. Install a pin strap fastener (Fig. 24B) into the loop end of the long belt (Fig. 24A).
6. With the pin strap legs facing down towards the bottom of the drive shaft, and the seam of the belt facing out away from the drive shaft, thread the pin strap fastener with the long belt installed into the short drive shaft channel on the left side of the drive shaft.

Fig. 24



7. Locate the long drive shaft, position the end of the shaft so the internal keyway is positioned up (Fig. 25A).
8. Install a pin strap fastener (Fig. 25C) into the loop end of the short belt (Fig. 25B).
9. With the pin legs facing up towards the top of the drive shaft, and the seam of the belt facing out away from the drive shaft, thread the pin strap fastener with the short belt installed, into the drive shaft channel on the left side of the drive shaft (Fig. 25).
10. Install a pin strap fastener (Fig. 26A) into the loop end of the long belt (Fig. 26B).
11. With the pin legs facing down towards the bottom of the drive shaft, and the seam of the belt facing out away from the drive shaft, thread the pin strap fastener with the long belt installed, into the drive shaft channel on the right side of the drive shaft.

Fig. 25

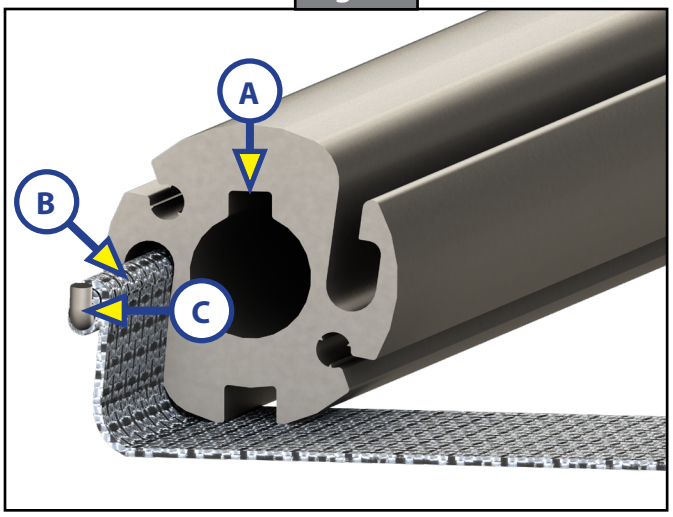
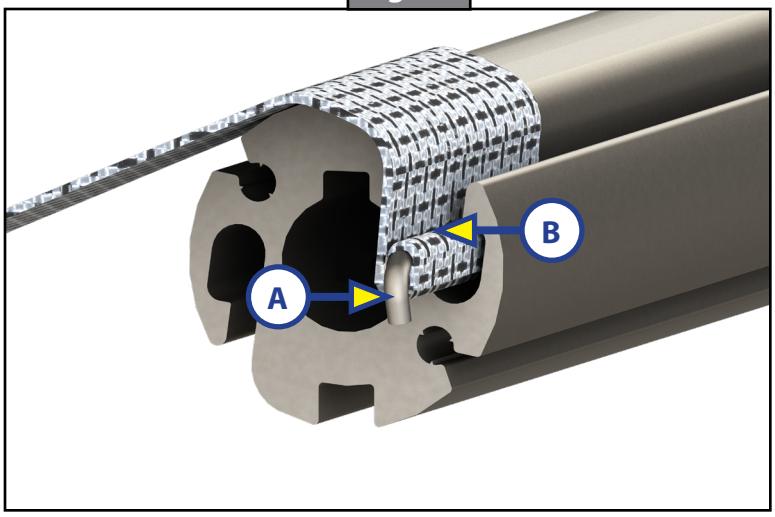


Fig. 26

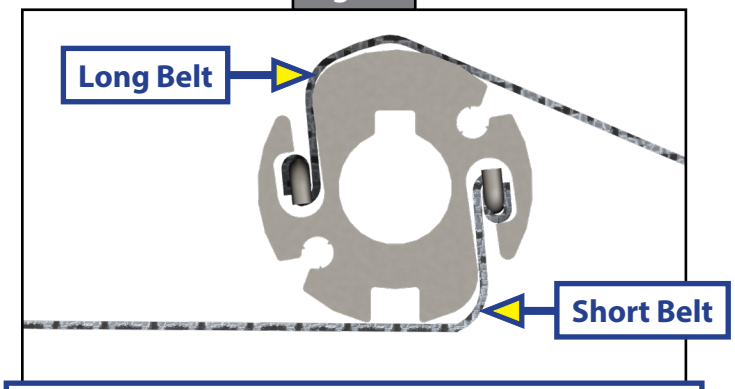


12. Roll the belts on the drive shafts and tape the ends so they do not unroll until instructed to insert the belts into the belt bracket.

Drive Shaft Header Assembly

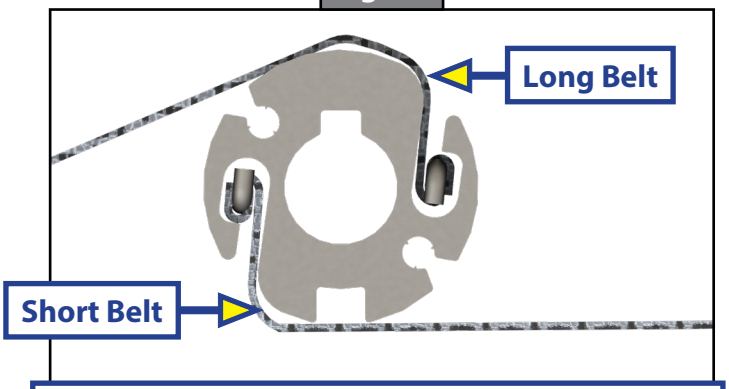
The drive shaft header assembly will be installed on one side of the short drive shaft (Fig. 27) and one side of the long drive shaft (Fig. 28). Make sure that the header is installed on the correct side of the drive shafts prior to installing on the bed frame. This step is imperative as the belts will not function correctly if the drive shaft is improperly installed.

Fig. 27



Correct End for Short Drive Shaft Header Installation

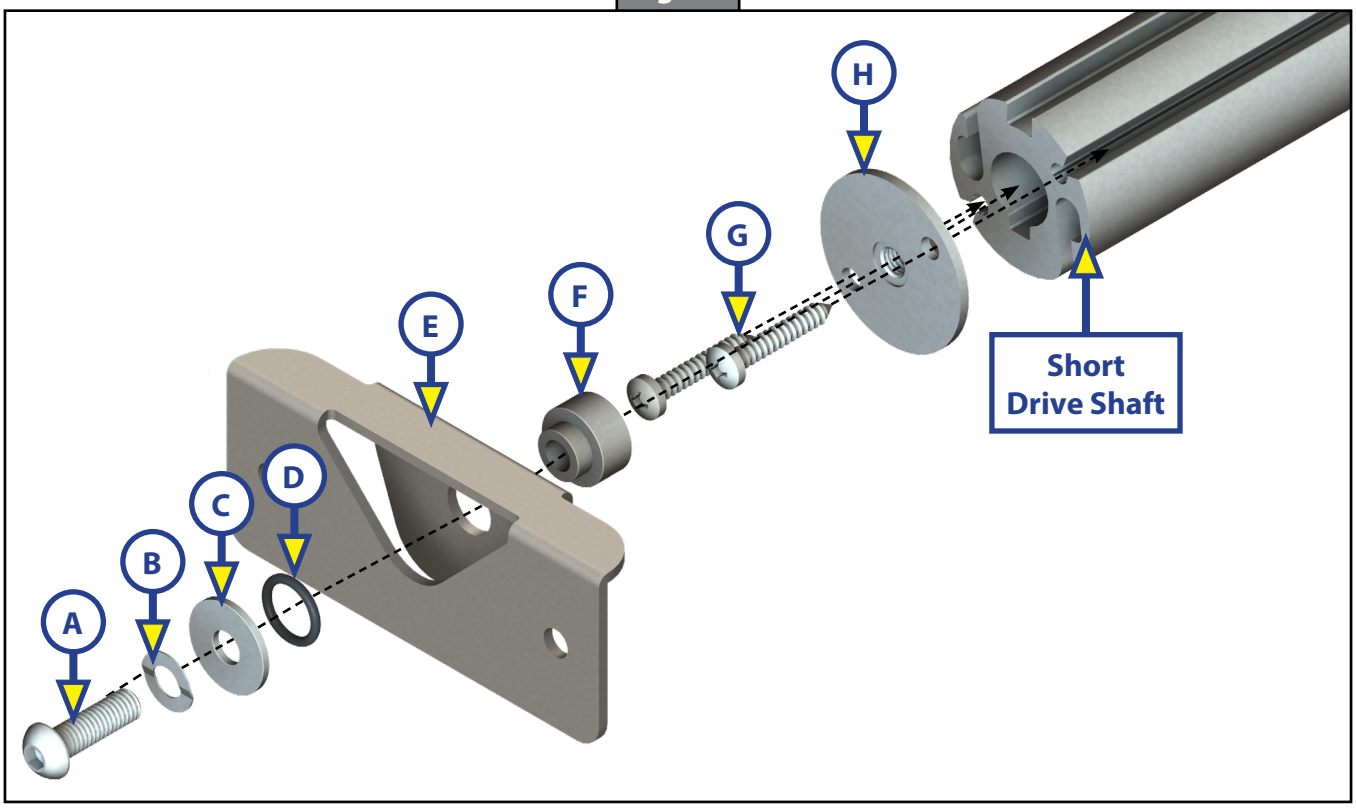
Fig. 28



Correct End for Long Drive Shaft Header Installation

1. Place the drive shaft end plate (Fig. 29H) on the correct end of the drive shaft and secure with two #8-15 x 1.00" Phillips pan head steel sheet metal screws (Fig. 29G) with a clutched screw gun. Torque to 14 ft-lbs.
2. Coat the threaded part of the M6 screw (Fig. 29A) with high strength red Loctite® and apply Super Lube® grease to the end of the bolt.
3. Insert the M6 hex head screw (Fig. 29A) through the M6 wave washer (Fig. 29B), the zinc fender washer (Fig. 29D), the o-ring (Fig. 29D), and the centering bracket (Fig. 29E).
4. Coat the inside of the bushing (Fig. 29F) with Super Lube® grease, then install it onto the end of the assembled M6 hex head screw (Fig. 29A).

Fig. 29



5. Use a hex key to tighten the M6 screw with assembly onto the drive shaft end plate (Fig. 29H).

NOTE: Make sure the o-ring (Fig. 29D) is not compressed beyond the zinc fender washer (Fig. 29C).

6. Repeat steps 1-5 for the long drive shaft end.

Drive Shaft and Motor Installation

Refer to (Fig. 30 and Fig. 31) for motor and advanced control system (ACS) parts and assembly orientation.

1. Slide the ACS module holder (Fig. 30A) onto the long drive shaft end (Fig. 30B). Make sure the ACS module housing (Fig. 30C) faces away from the motor (Fig. 30D).
2. Apply Super Lube® Grease to both ends of the motor shafts (Fig. 30E and Fig. 30F).
3. Make sure motor shaft keys (Fig. 30E and Fig. 30F) are in place prior to long or short shaft installation.
4. Align motor key (Fig. 30F) with long drive shaft keyway, then insert the keyed motor shaft into the end of the long drive shaft (Fig. 30B).
5. Align the screw holes to the motor mounting bracket (Fig. 30G) along with the angle bracket holes (Fig. 30H) and the motor holes (Fig. 30I). Install three hex head steel serrated flange bolts (Fig. 30J) through the two brackets and into the motor.
6. Align motor key with short drive shaft keyway (Fig. 30E) then insert the short drive shaft (Fig. 30K) onto the motor shaft (Fig. 30E).
7. Align the power controller (Fig. 30L) screw holes with the motor mounting bracket screw holes (Fig. 30M).
8. Make sure the power controller interface is facing towards the motor, then install two #4 x 1/4" Phillips, Type A, sheet metal screws up through the motor bracket and into the power controller (Fig. 30L).

Fig. 30

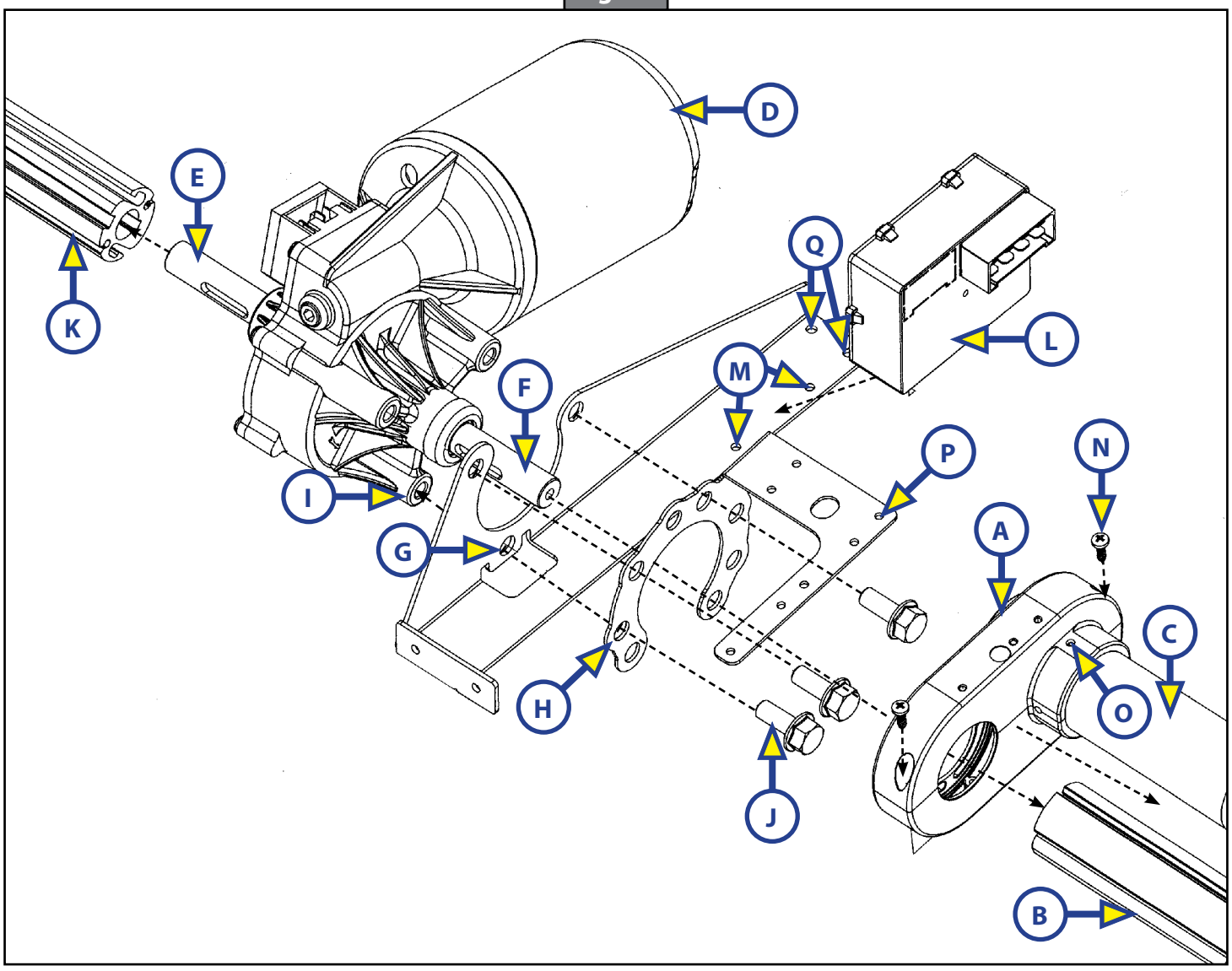


Fig. 31

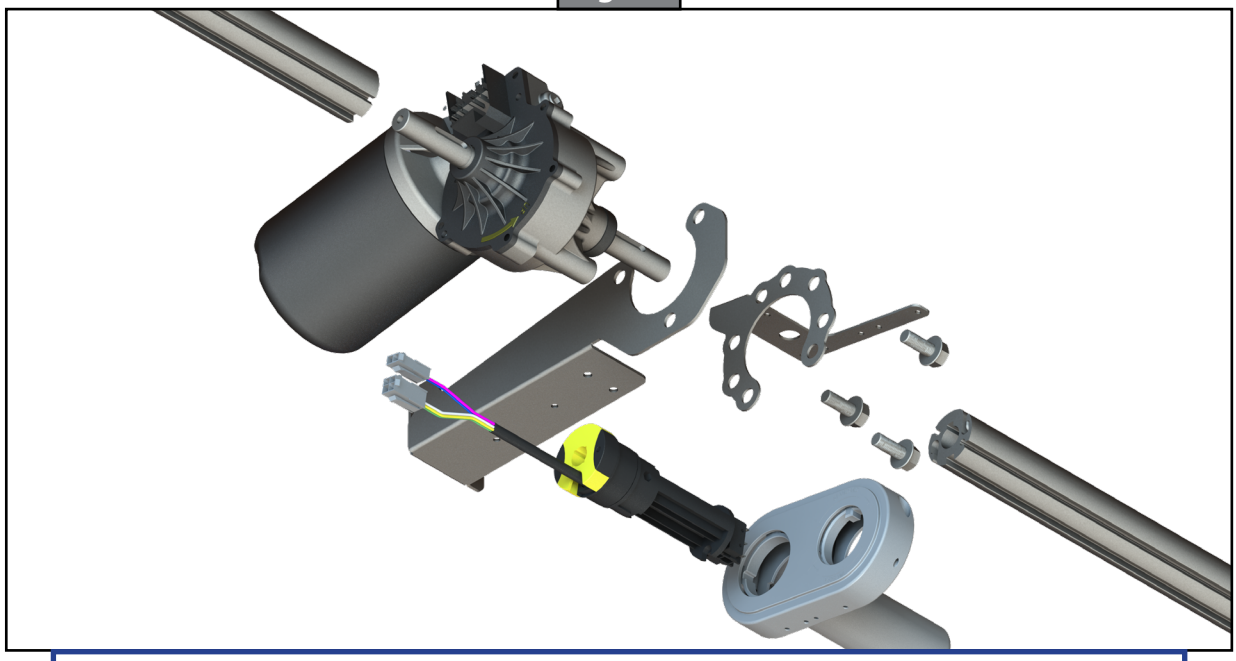
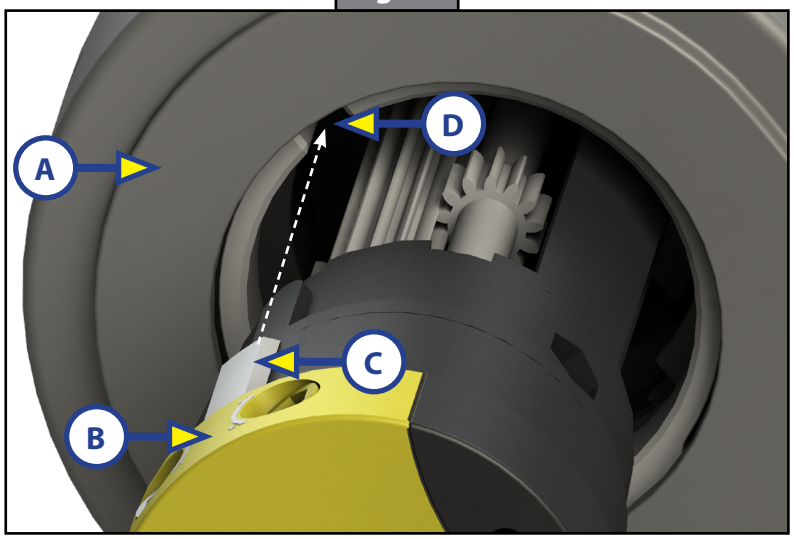


Fig. 31 Viewing from underneath, up, towards the end rail frame.

9. Insert the ACS module (Fig. 32B) into the ACS module holder (Fig. 32A). Make sure the ACS module key (Fig. 32C) is aligned with the ACS module keyway (Fig. 32D) in the ACS module holder. Push and turn the ACS module until ACS module seats into place (Fig. 32D).

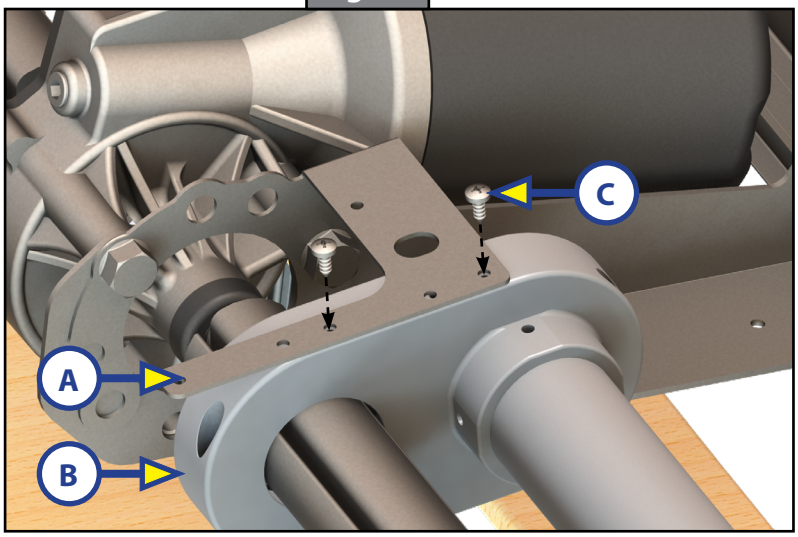
Fig. 32



10. To hold the ACS module into the ACS module holder, install one #6 x 1/2, 18-8 SST, pan head screw (Fig. 30N) into the ACS module holder (Fig. 30O).

7. If not already installed, install two 2.9 x 9.5 mm screws (Fig. 30N) one on each side of the ACS module holder (Fig. 30A) holding the two half's of the ACS module holder together.
8. Slide the ACS module holder (Fig. 33B) underneath the angle support bracket (Fig. 33A). Align the angle support bracket holes with the ACS Module holder. Attach with two screws 2.9 x 9.5mm (Fig. 33C) to hold the ACS module holder to the angle bracket.

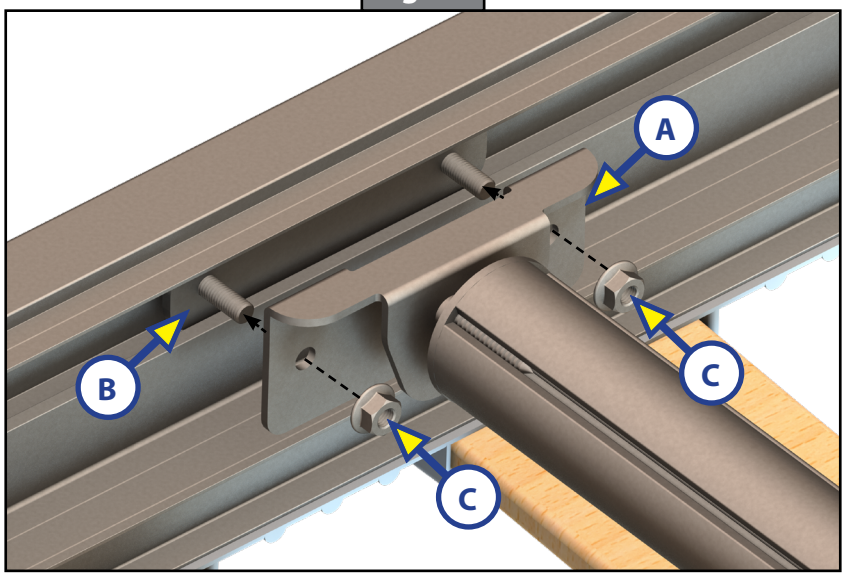
Fig. 33



Drive Shaft Centering Bracket

1. Measure from the outside end rail to the end of the drive shaft header center brackets (Fig. 34A) with the supplied measurements for each Smart Bed Lift model. Move the long and short drive shaft header center brackets into place so that both sides are even.
2. Loosely attach the long and short drive shaft header assembly centering bracket (Fig. 34A) to the side rail mounting channel brackets (Fig. 34B) with two nuts (Fig. 34C).
3. Tighten the nuts completely after the motor mount support and motor mount bracket have been installed.

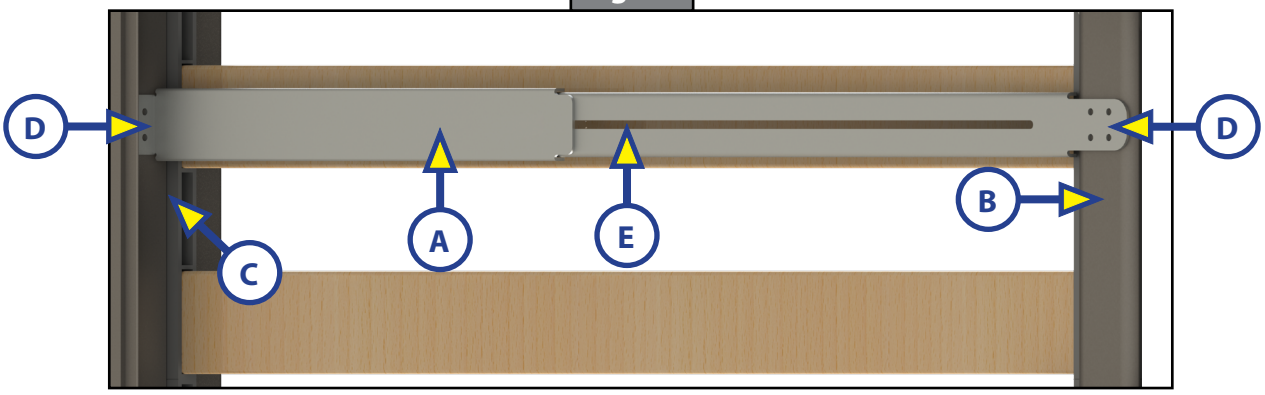
Fig. 34



Motor Mount Support and Bracket

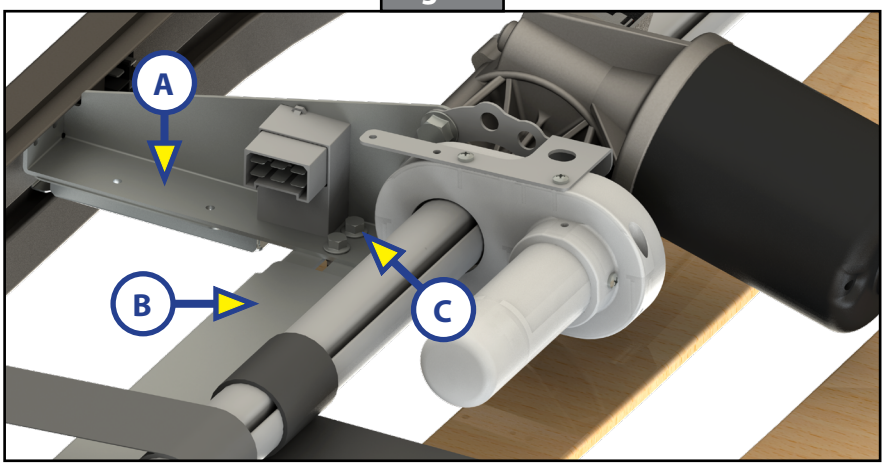
1. Place the motor mount support bracket (Fig. 35A) onto the center rail support (Fig. 35B) and the inner channel of the side rail (Fig. 35C) just in front of the drive shaft centering bracket (Fig. 34A), towards the end rail.
2. Place the motor mounting bracket (Fig. 36A) on top of the motor mounting support (Fig. 35A).

Fig. 35



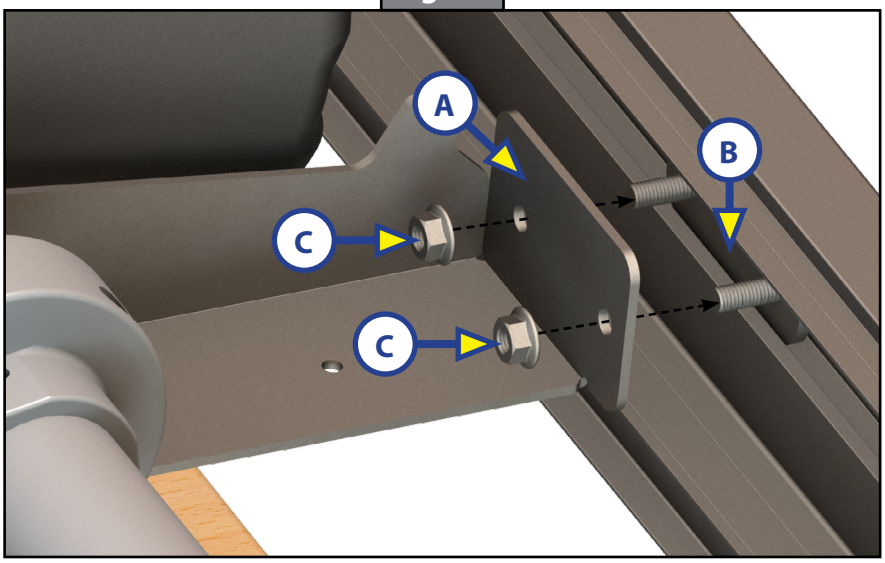
3. Fasten the motor mounting bracket (Fig. 36A) to the motor mount support adjustable slot (Fig. 35E) with two 4.2 x 13mm screws (Fig. 36C). Also refer to Figure 31Q for the screw holes in the mounting bracket.

Fig. 36



4. Place the opposite end of the motor mounting bracket (Fig. 37A) onto the motor mounting channel bracket (Fig. 37B) and install two nuts (Fig. 37C).

Fig. 37



NOTE: Tighten the nuts on the drive shaft completely after the motor mount support and motor mount bracket have been installed.

Belt Mounting Brackets

1. Remove the tape holding the belts in the rolled-up position on the drive shaft.
2. Feed the short belts into the closest end rail belt brackets (Fig. 38A) and feed the long belts into the opposite end rail belt brackets (Fig. 39A).

Fig. 38

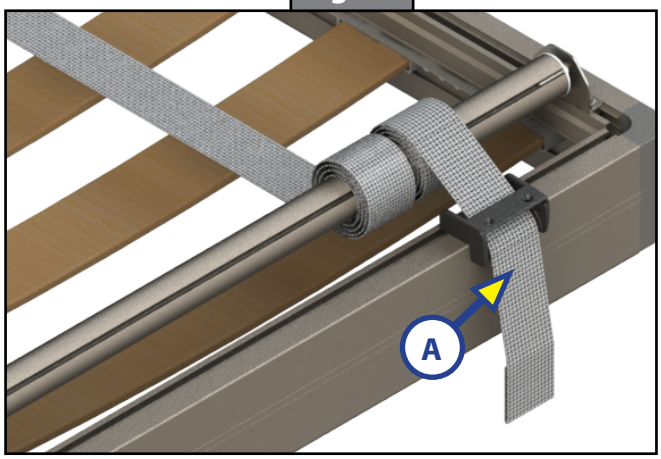
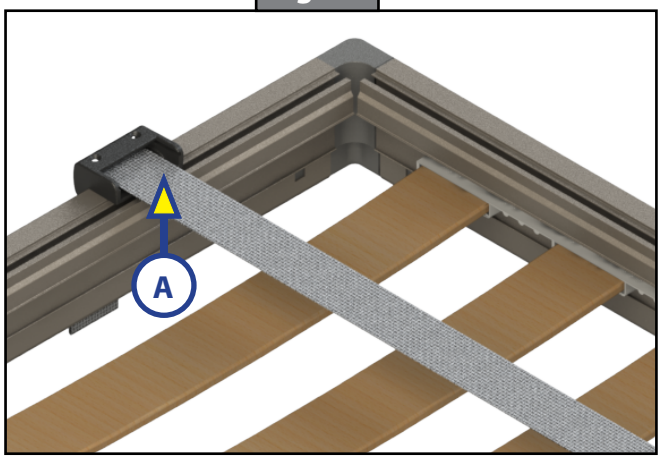


Fig. 39



3. Locate the belt mounting assembly (Fig. 40). Unscrew the nuts (Fig. 41A) and slide the belt plates (Fig. 41B) off the belt bracket (Fig. 41C) and set aside. Do this for all four belt brackets.

Fig. 40

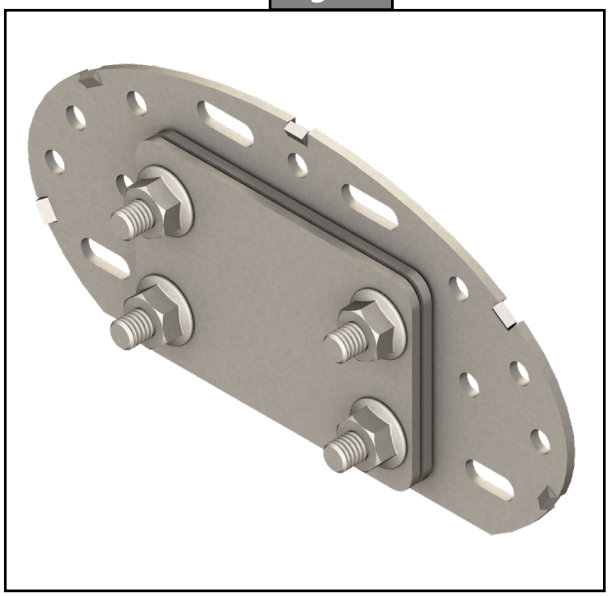
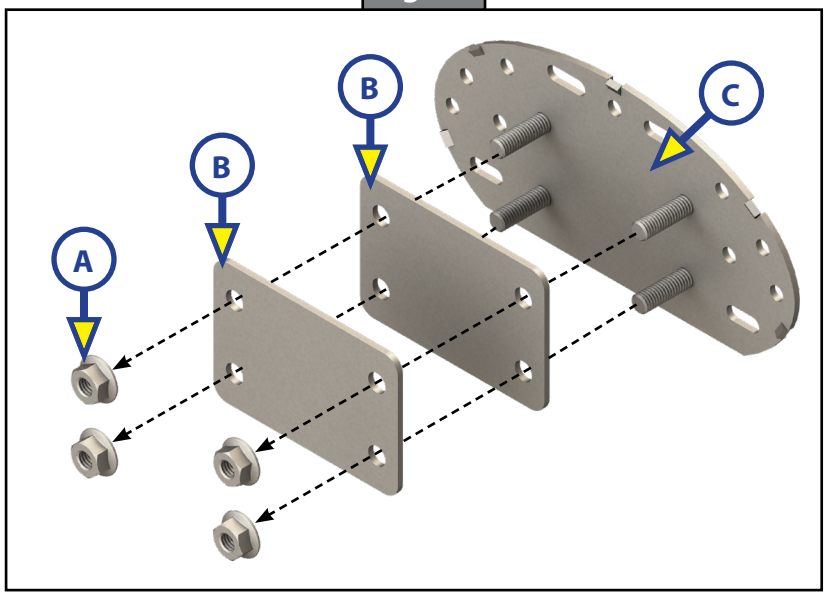


Fig. 41

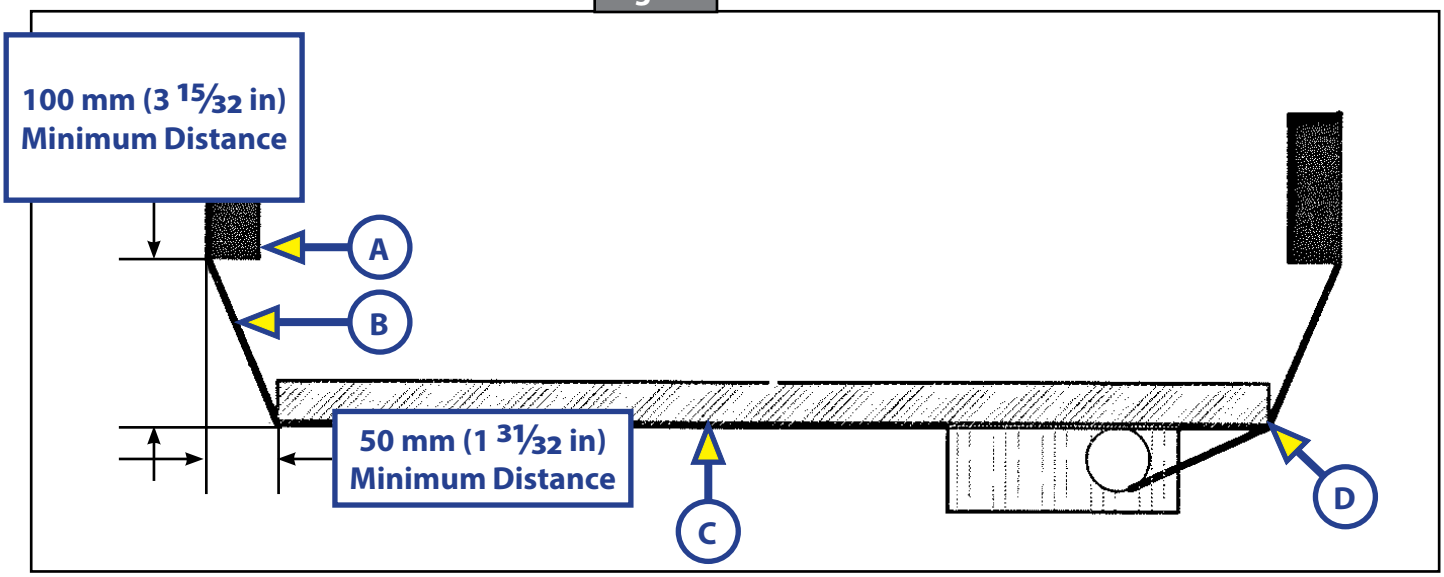


4. If installing on a unit with aluminum backing in the wall, use a minimum size of #10 x 1.00" self-drilling screws. If installing on a unit with wood backing in the wall, use a minimum size of #10 x 1.00" wood screws.
5. Place the bottom side of the bed frame down on level supporting saw horses at the approximate fully retracted position. Make sure the bed frame is level.

6. With the bed frame supported and at the fully retracted position, measure from the desired belt mounting bracket position to the bottom of the bed on both sides. The measurement from the bottom of the belt mounting bracket (Fig. 422A) to the bottom of the bed frame (Fig. 42C) should be at a minimum of 100 mm (3 15/32 in).
   The maximum distance away from the bottom of the belt mounting bracket (Fig. 42A) on the wall to the edge of the rail of the bed frame (Fig. 42D) is 50 mm (1 31/32 in).
7. Mark the measured locations for the brackets.

NOTE: A prefabricated jig may be used for a faster installation of the belt brackets.

Fig. 42



8. Install the belt mounting brackets at the marked locations from step 7, onto wall of the unit with nine #10 x 1.00" screws.
9. Place the bottom side of the bed frame down on level supporting saw horses at the approximate fully extended position. Make sure the bed frame is level.
10. Extend one belt up from the bed frame, making sure the belt is not twisted and there is no slack in the belt.

11. Wrap the belt (Fig. 43C) over the top of the first belt plate (Fig. 43B). The belt extending up from the bed frame should be in between the belt mounting bracket and the belt plate.
12. Place the belt plate and the belt onto the posts (Fig. 43A) of the belt mounting bracket.
13. Slide the second belt plate (Fig. 44A) onto the posts (Fig. 44B) of the belt mounting plate, against the belt.
14. Install the four previously removed M6 - 1.0 mm hex flange nuts (Fig. 45A) onto the belt mounting bracket posts. Tighten the nuts to 10 ft-lbs.
15. Place a belt mounting bracket cover (Fig. 46A) over the top of the belt mounting bracket (Fig. 46B).
16. Repeat steps 10-15 for the other three belts.

Fig. 43

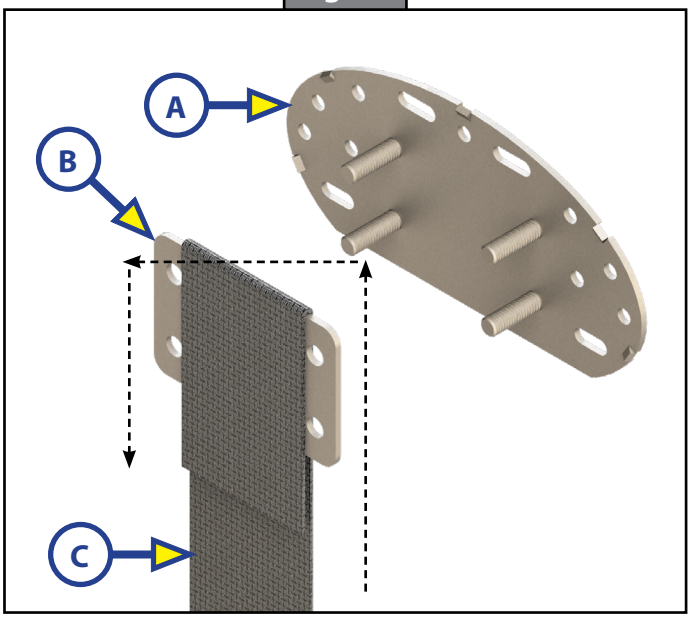


Fig. 44

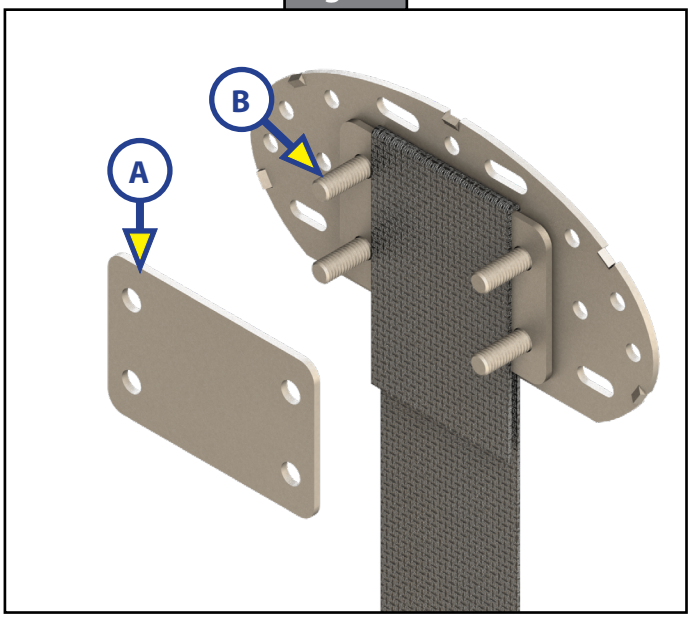


Fig. 45

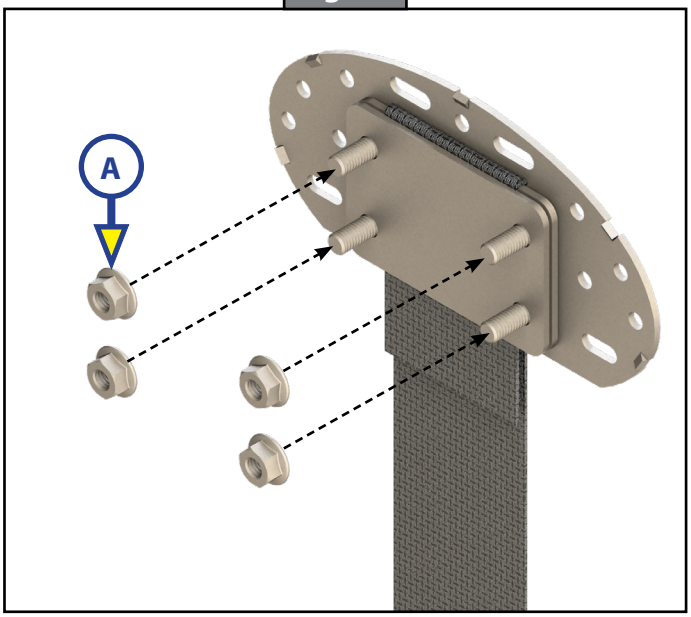
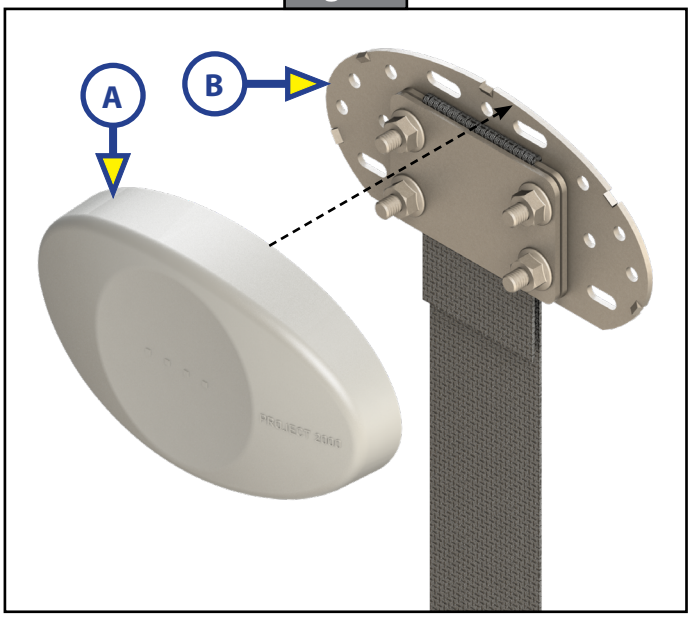


Fig. 46



Stabilizer Channel Guides

Stabilizer Channel Guides have different properties depending on the shape, but generally they should be mounted furthest away from each other, and on the side of the bed facing the front of the vehicle. This is because it's the safest position, since the mass of the bed during braking or crash is at least partially supported by the internal structure and furniture of the vehicle.

NOTE: Prior to installing the stabilizer channel guides, the excess length of the stabilizer channel guides can be removed with a metal cutting tool.

NOTE: Quantity of screws for each stabilizer channel guide depends on the material of the wall and backing of the unit. If installing on a unit with aluminum backing in the wall, use a minimum size of #10 x 1.00" self-tapping screws. If installing on a unit with wood backing in the wall, use a minimum size of #10 x 1.00" self-drilling screws.

1. Make sure the bed frame is in the fully extended position.
2. Take the bottom end of the stabilizer channel guide (Fig. 47A) and slide it over the stabilizer guide track bracket roller ends (Fig. 48A).
3. Slide the stabilizer channel guide up to the bottom of the belt mounting bracket.
4. Install three #10 x 1.00" screws through the stabilizer channel guide; top, middle and bottom, inside the middle of the stabilizer channel guide (Fig. 47B) and into the wall of the unit.
5. Install the decorative top and bottom caps (Figs. 49A, 50A) into the top and bottom of the stabilizer channel guide.
6. Repeat steps 2-4 for the opposite side.

Fig. 47

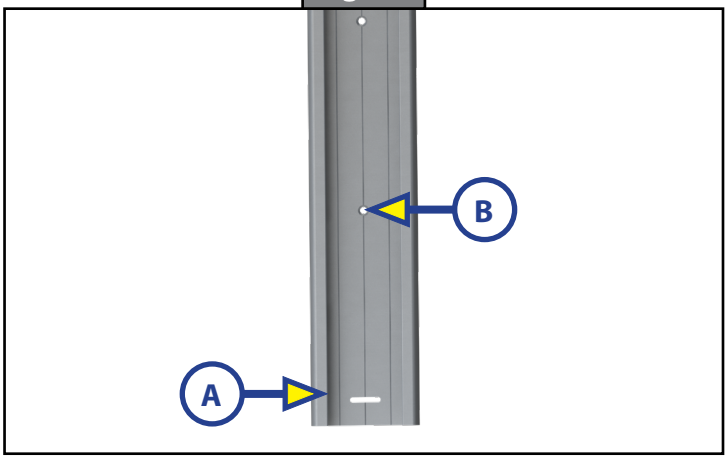


Fig. 48

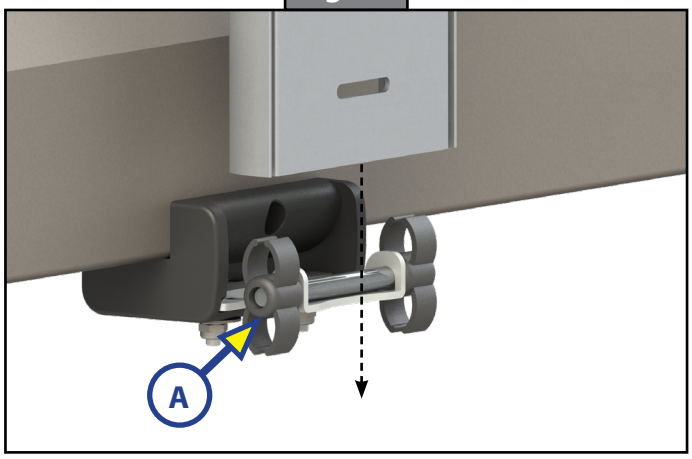


Fig. 49

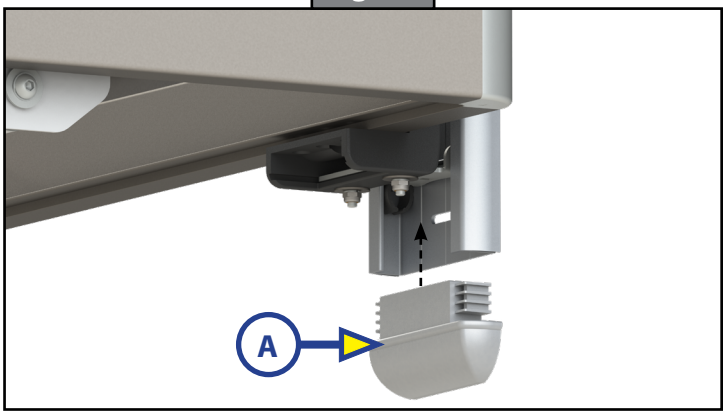
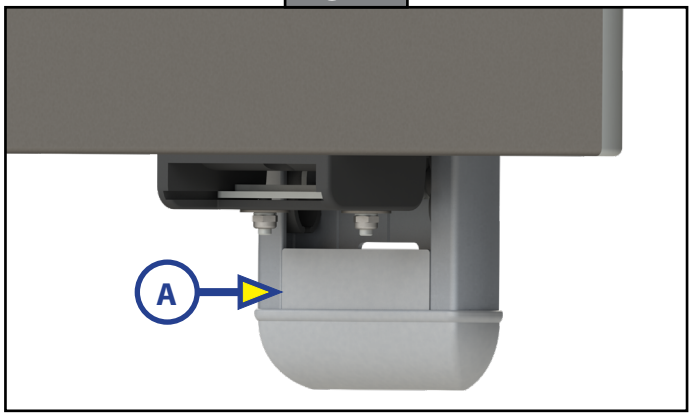


Fig. 50



Operation Switch

NOTE: If installing on a unit with aluminum backing in the wall, use a minimum size of #10 x 1.00" self-drilling screws. If installing on a unit with wood backing in the wall, use a minimum size of #10 x 1.00" wood screws.

The operation switch can be installed in the wall of the unit next to the bed frame or if installing padded rails to the bed frame, in the padded rails.

1. Cut into the wall or the side panel of the bed an area 3" x 2" x 1" for the switch plate to be installed.
2. Install two #10 x 1/2" screws one screw on each side of the switch plate (Fig. 51A).

Fig. 51

Wiring Harness Connections

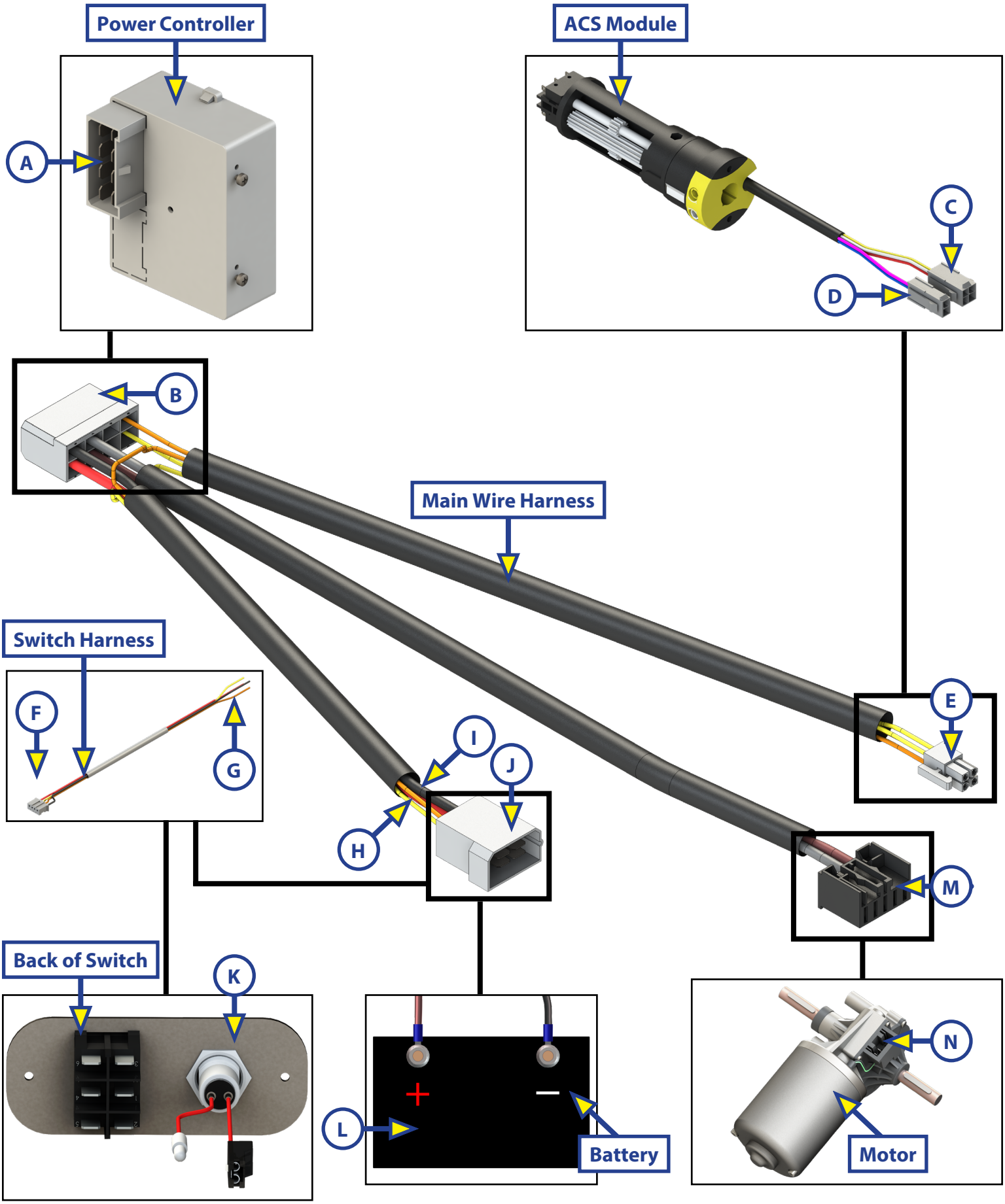
Wire Harness to Components

1. Install the main wire harness power controller's connector (Fig. 52B) to the power controller's male connector (Fig. 52A).
2. Install the main wire harness ACS (Advanced Control System) connector (Fig. 52E) to the ACS module connector (Fig. 52C). The connecting wire colors are white, yellow, orange and green.

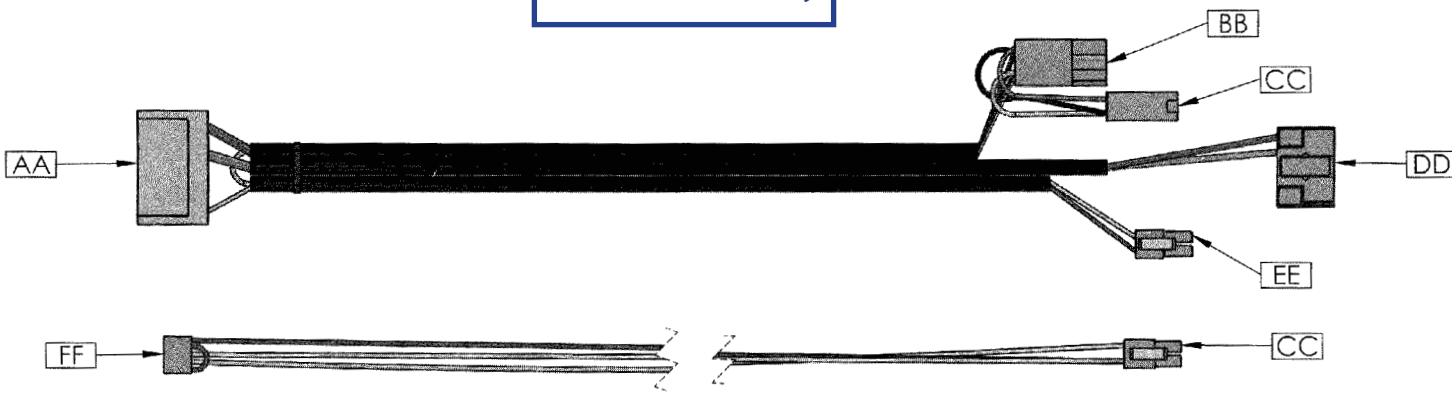
NOTE: The ACS module blue and purple wires (Fig. 52D) are only used to set the ACS module when assembling the components. Disregard these wires for OEM installation.

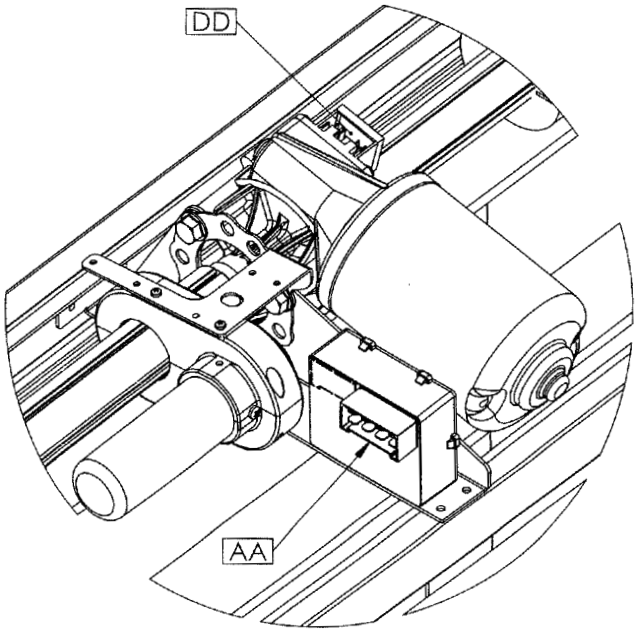
3. Remove the connector plug (Fig. 52J) from the main wire harness power and directional wires. This plug is only used when testing the system.
4. Splice the yellow and orange wires (Fig. 52H) to the corresponding yellow and orange wires of the switch harness non-connector end (Fig. 52G).
5. Splice the red and black wires (Fig. 52I) to the corresponding red and black wires of the switch harness non-connector end (Fig. 52G). The 20A circuit protection should be wired between the switch and the main power source or battery (Fig. 52L).
6. Install the switch harness connector end (Fig. 52F) to the back of the switch (Fig. 52K).
7. Install the main wire harness motor connector (Fig. 52M) to the motor's female connector (Fig. 52N).

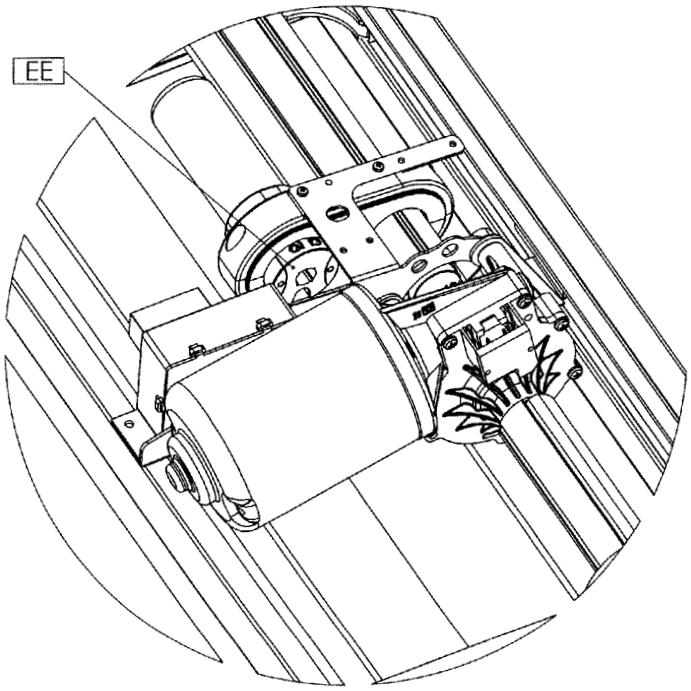
Fig. 52


Power Controller
A
ACS Module
C
D
B
Main Wire Harness
Switch Harness
F
G
E
I
J
H
M
Back of Switch
K
L
Battery
N
Motor

For Reference Only







Setting the ACS Stop Procedure

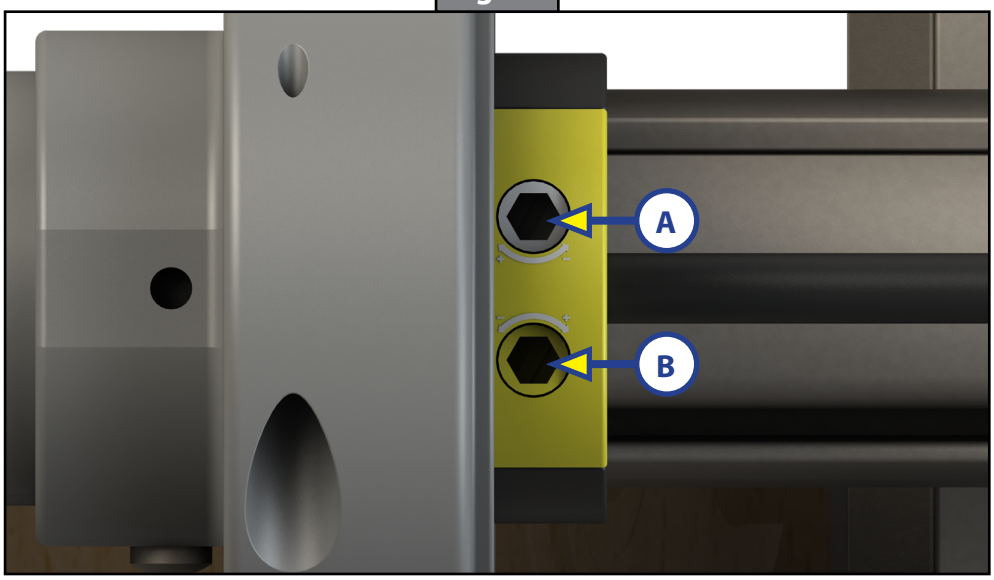
Setting the UP Position

1. Make sure the safety belts are unfastened.
2. Turn the key switch to the ON position (Fig. 59B) located on the key switch.
3. Press and hold the UP arrow-shaped button (Fig. 59C) on the key switch. The bed will keep moving until you reach the pre-set stop position.
4. If the Smart Bed Lift stops too low, turn the white screw (Fig. 53A) in the ACS module counterclockwise. This will allow the Smart Bed Lift to move higher. If the Smart Bed Lift stops too high, turn the white screw (Fig. 53A) clockwise until the Smart Bed Lift stops lower.

NOTE: One full rotation of the screw is approximately one inch of movement up or down.

5. Press the UP arrow (Fig. 59C) and DOWN arrow (Fig. 59D) to run the Smart Bed Lift system after each adjustment of the screw. If necessary, repeat this procedure until desired stop location is obtained.

Fig. 53



Setting the DOWN Position

1. Make sure the safety belts are unfastened.
2. Turn the key switch to the ON position (Fig. 59B) located on the key switch.
3. Press and hold the DOWN arrow-shaped button (Fig. 59C) on the key switch. The bed will keep moving until you reach the pre-set stop position.
4. If the Smart Bed Lift stops too high, turn the yellow screw (Fig. 53B) counterclockwise. This will allow the Smart Bed Lift to move lower. If the Smart Bed Lift stops too low, turn the yellow screw (Fig. 53B) clockwise until the Smart Bed Lift stops higher.

NOTE: One full rotation of the screw is approximately one inch of movement up or down.

5. Press the UP arrow (Fig. 59C) and DOWN arrow (Fig. 59D) to run the Smart Bed Lift system after each adjustment of the screw. If necessary, repeat this procedure until desired stop location is obtained.

Flex Track For Wires

Prior to installing the Flex Track, make sure the Smart Bed Lift is in its fully extended position.

1. Position the Flex Track under the bed frame, where the wiring needs to be protected.

NOTE: The Flex Track is designed so that it only articulates or bends in one direction. Do not attempt to bend the Flex Track in a direction it does not freely move. Doing so will cause damage to the Flex Track and hinder its operation.

2. Mount the flat end of the Flex Track to the bed frame (Fig. 54A), using the two provided wood lag screws (Fig. 54B) through the channel slots (Fig 54C) on the mounting bracket (Fig. 54D).
3. Position the mounting plate (Fig. 55C) on the unit wall, as close as possible to the entry point for the wiring to be protected.

NOTE: Make sure the protected wiring is not pinched by the mounting plate.

Fig. 54

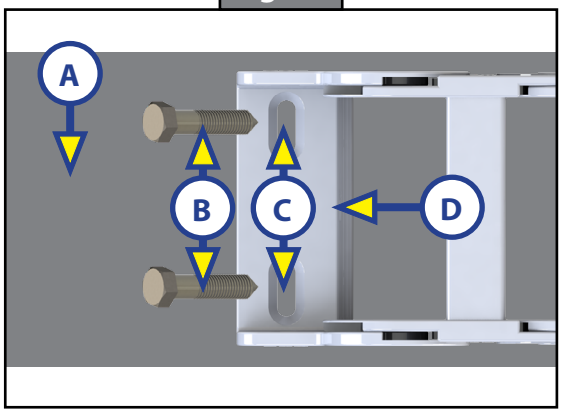
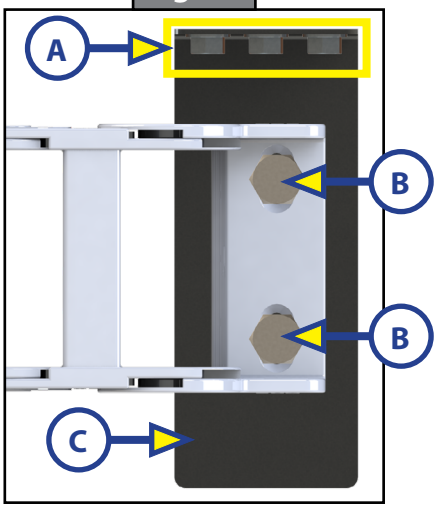


Fig. 55



4. Fasten the mounting plate to the bottom of the Smart Bed Lift with three provided wood lag screws (Fig. 55A).
5. Attach the remaining loose end of the Flex Track to the mounting plate with two provided wood lag screws, through the channel slots (Fig. 55B). The Flex Track must remain as horizontal as possible, and parallel to the bottom of the Smart Bed Lift. Small adjustments can be made with the channel slots.
6. After the Flex Track has been properly installed, it can now be utilized to protect and guide vital wiring to the Smart Bed Lift. One side of the Flex Track is equipped with the unique retaining tabs (Fig. 56A) that allow wires to run through its interior. If installed properly, the Flex Track retaining tabs will be located on the outer diameter of the Flex Track assembly. To secure the loose wiring, press the item to be secured firmly against the retaining tab (Fig. 56A). The retaining tab will momentarily give way, capturing the loose wiring, before returning to its closed position.
7. Continue securing the length of the wires (Fig. 57).

Fig. 56

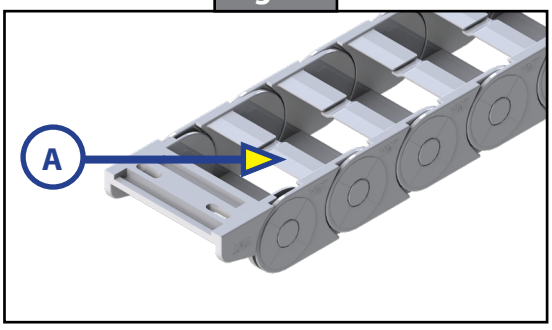
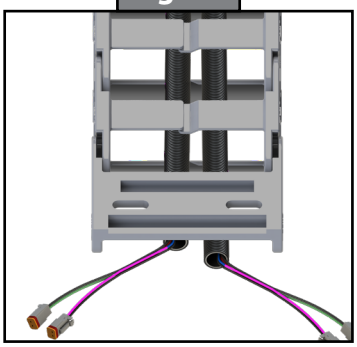


Fig. 57



Safety Belt Harness

The safety belt harness (Fig. 58A and 58B) will need to be fastened one side to the bed frame and the other side to the ceiling of the unit, on both sides of the bed frame. In some cases it's better to have the female plug (Fig. 58B) on the ceiling, in other cases it's better to have it on the bed frame. Actual fastening methods and materials may be dictated by the project plans or applicable local codes.

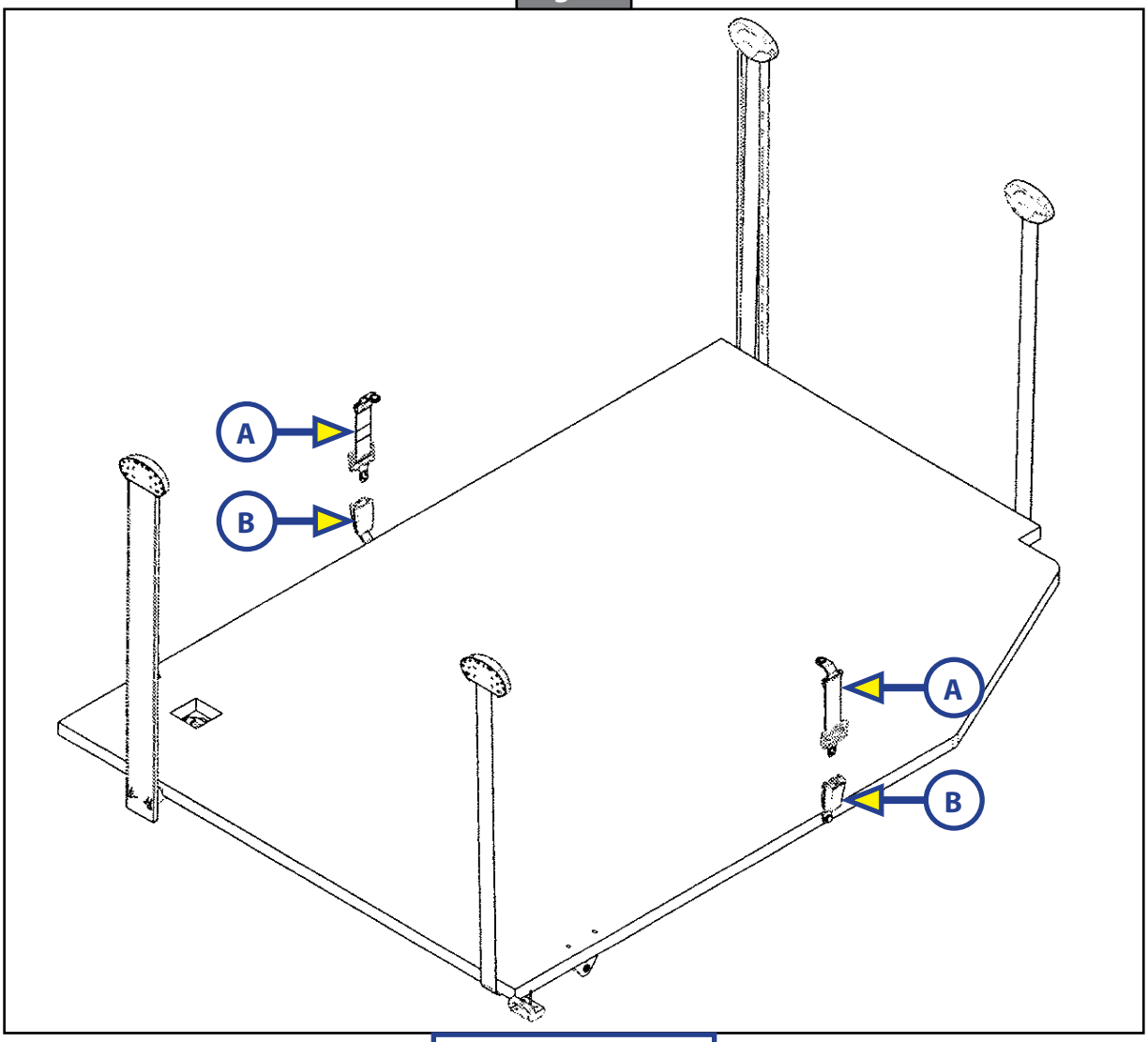
Fastening and wiring methods may also be directed by a professional engineer. Usually a plate is used to fasten the male side (Fig. 58A) to a surface.

An electrical connector on the female plug (Fig. 58B) will need to be wired to a relay positioned between the power supply and the control switch of the bed, so if the safety belt is connected the bed will not move.

1. Make sure the Smart Bed Lift is in the highest retracted position.
2. Install the safety belt harness to the bed and ceiling on both sides of the bed.
3. Wire the safety belt harness female plug (Fig. 58B) ends into a relay between the power source and the power controller connector on the main wire harness.

NOTE: Wiring and relay must meet all appropriate electrical and installation codes.

Fig. 58



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Operation

⚠WARNING

Always make sure that the Smart Bed Lift path is clear of people, pets and objects before and during operation. Always keep away from the slide rails when the bed is being operated. Do not allow people or pets on bed while it is in motion.

Prior to Operating the Smart Bed Lift System

⚠WARNING

The Smart Bed Lift system must never be used while the vehicle is in motion.

1. Make sure the vehicle is parked, secured and stabilized before starting operations.
2. Set the parking brake, if applicable.

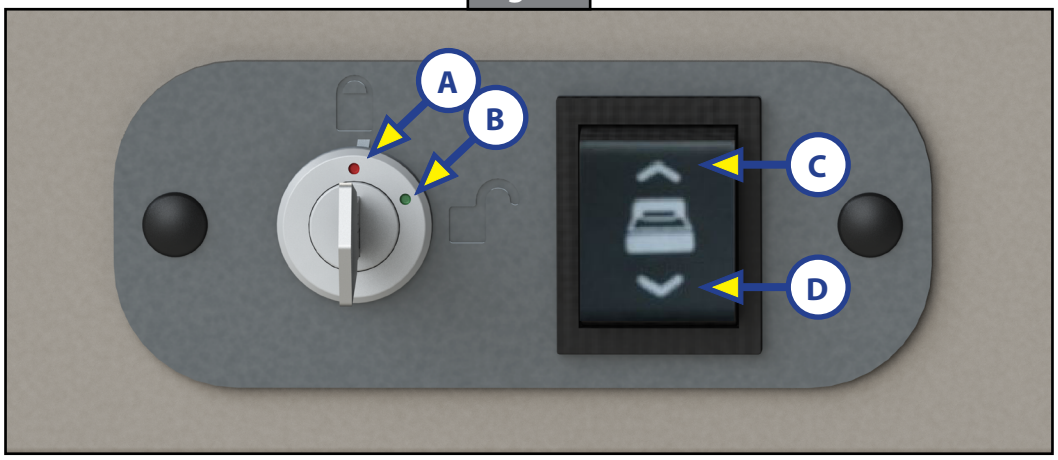
Lowering the Smart Bed Lift

1. If installed, make sure the safety belts are unfastened.
2. Turn the key switch to the ON position (Fig. 59B) located on the key switch.
3. Press and hold the DOWN arrow-shaped button (Fig. 59D) on the bed switch. The bed will keep moving until it reaches the pre-set stop position.

NOTE: The bed will stop moving when the button is released. Continue to press and hold the button until the stop position has been reached.

4. Release the DOWN arrow-shaped button.
5. Turn the key switch to the OFF position (Fig. 59A).

Fig. 59



Raising the Smart Bed Lift

1. Turn the key switch to the ON position (Fig. 59B) located on the key switch.
2. Press and hold the UP arrow-shaped button (Fig. 59C) on the key pad. The Smart Bed Lift will keep moving until it reaches the pre-set stop position.

NOTE: The bed will stop moving when the button is released. Continue to press and hold the button until the stop position has been reached.

3. Release the UP arrow-shaped button.
4. If installed, make sure the safety belts are fastened.
5. Turn the key switch to the OFF position (Fig. 59A).

Manual Override

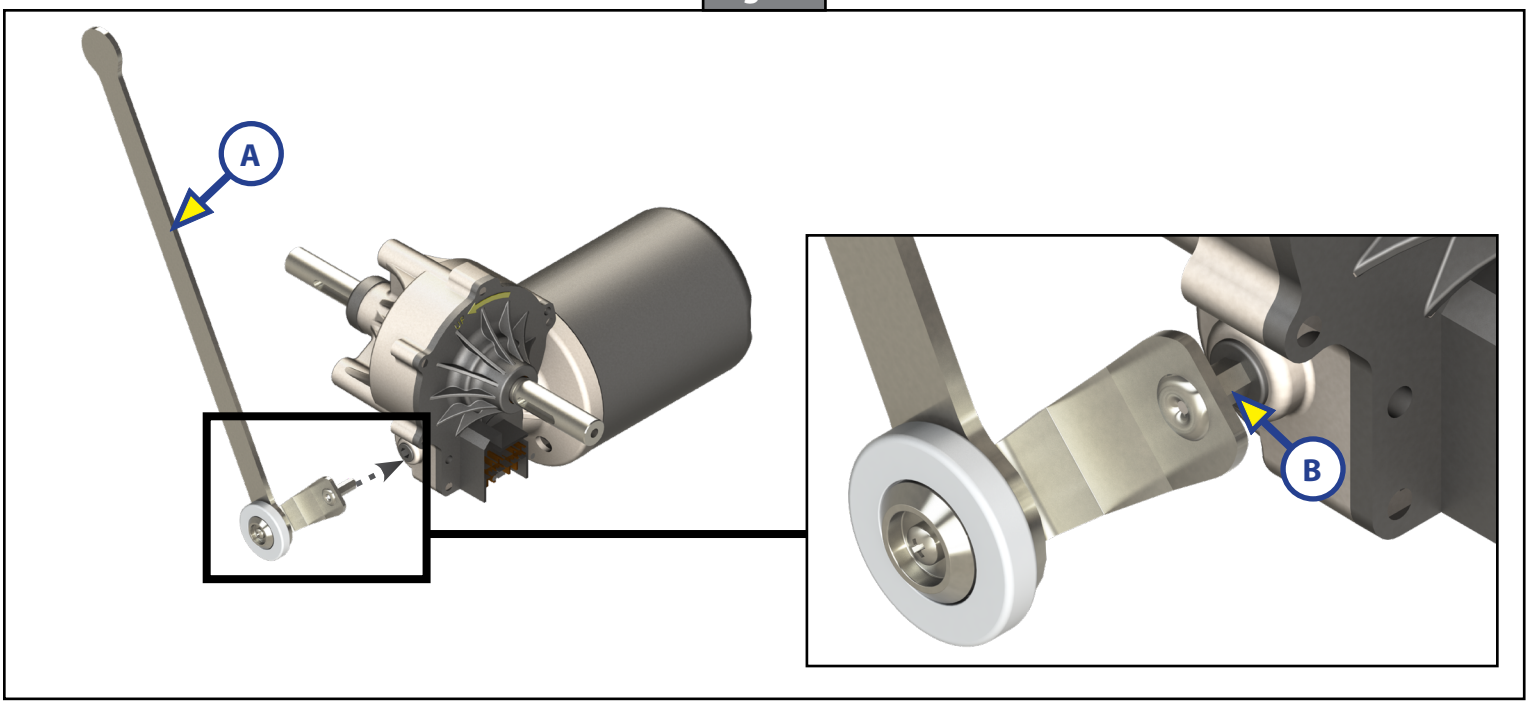
⚠WARNING

Always disconnect from power source before performing any operation on the Smart Bed Lift System

To raise or lower the Smart Bed Lift in case of emergency, it is possible to operate the system manually.

1. Insert the provided crank device (Fig. 60A) into the motor (Fig. 60B).
2. Turn clockwise to raise or counterclockwise to lower the bed.
3. Have the Smart Bed Lift serviced by an OEM-authorized dealer as soon as possible. Do not operate the Smart Bed Lift until service is complete, as damage to the Smart Bed Lift system may result.

Fig. 60



Maintenance

The Smart Bed Lift system has been designed to require very little maintenance. To ensure the long life of your Smart Bed Lift system, read and follow these few simple procedures:

1. When the bed is raised, visually inspect the slide rail assemblies.
   - **A.** Check for excess buildup of dirt or other foreign material.
   - **B.** Remove any debris that may be present.
2. If the system squeaks or makes any noises, blow out any debris from the drive shaft and apply a dry lubricant to prevent and/or stop squeaking.

Please recycle all obsolete materials.

For all concerns or questions, please contact Lippert
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