SELF-DEPLOYING RAIL KIT

OEM INSTALLATION MANUAL

LIPPERT COMPONENTS®

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Introduction

The patio has a maximum capacity of 10 persons or 1,500 lbs maximum. The total weight of the patio must remain within the 1,500 lb limit.

Safety Information

⚠WARNING

Do not exceed maximum capacity or weight ratings. Exceeding the maximum capacity or weight ratings can cause death, serious personal injury, product or property damage.

⚠WARNING

Never use the Self-Deploying Patio while anything is obstructing its operation. Obstructions in the Self-Deploying Patio's path can cause serious personal injury, severe product or property damage.

⚠CAUTION

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

⚠ WARNING	⚠ CAUTION
• Failure to follow these instructions may result in death, serious injury or property damage. • Always secure the side patio door in either the closed or fully extended position. • Never use the side patio door while anything is obstructing operation. • Keep hands away from all opening and cables when operating the side patio door.	• Read the instructions before installation or operation. • Never force the side patio door in any direction except for emergency manual override. • Always make sure the safety cables are extending straight, staying in the middle of the deploy assist bushing and not coming in contact with any obstructions. • Do not operate the side patio door if the safety cables are frayed or damaged.

Resources Required

- 1-2 people, depending on task
- Cordless or electric drill or screw gun
- Appropriate drive bits
- 1/2" magnetic socket with extension
- 7/32" hex key
- 3/16" allen wrench
- Tape measure
- Grease pencil/frame marker
- 1 x 1 or 1 x 2 aluminum square tube stock (optional)
- #10 x 1" self-tapping pan head screws
- 9/16" Socket on either a ratcheting wrench or impact wrench

Prior to Installation

1. Chassis subfloor must be installed.
2. Sidewalls must be installed.

Installation

Doorjamb

NOTE: The Side Door with F.A.S.T. (Force Assisted Spring Tension) Technology is set after the walls have been installed onto the chassis. The side wall cut-out dimensions should be 8 1/2" greater total than the rough opening width and 2 3/4" greater than the rough opening height. This ensures the wall opening has sufficient space for wiring and that the doorjamb is properly supported.

1. Recess the cut-out a minimum of 7" into the trailer. Add proper support determined by OEM.
2. Make the cut-out of the side wall for the doorjamb determined by OEM.
3. Stabilize the cut-out determined by OEM.

Setting the Doorjamb

NOTE: The doorjamb can weigh in excess of 350 lbs. Use appropriate lifting equipment and proper personal protective equipment to guide the doorjamb onto the chassis.

1. Lift the doorjamb and place it in front of the cut-out.
2. While the doorjamb is still suspended, insert the top edge of the doorjamb into the cut-out opening.

NOTE: If necessary to distribute the weight of the doorjamb; the OEM can use 1 x 1 or1 x 2 aluminum square tube stock under the doorjamb.

3. Insert the bottom of the doorjamb into the cut-out opening.
4. Make sure the doorjamb is level with the trailer floor.

NOTE: LCI recommends using #10 x 1" self-tapping pan head screws, OEM supplied.

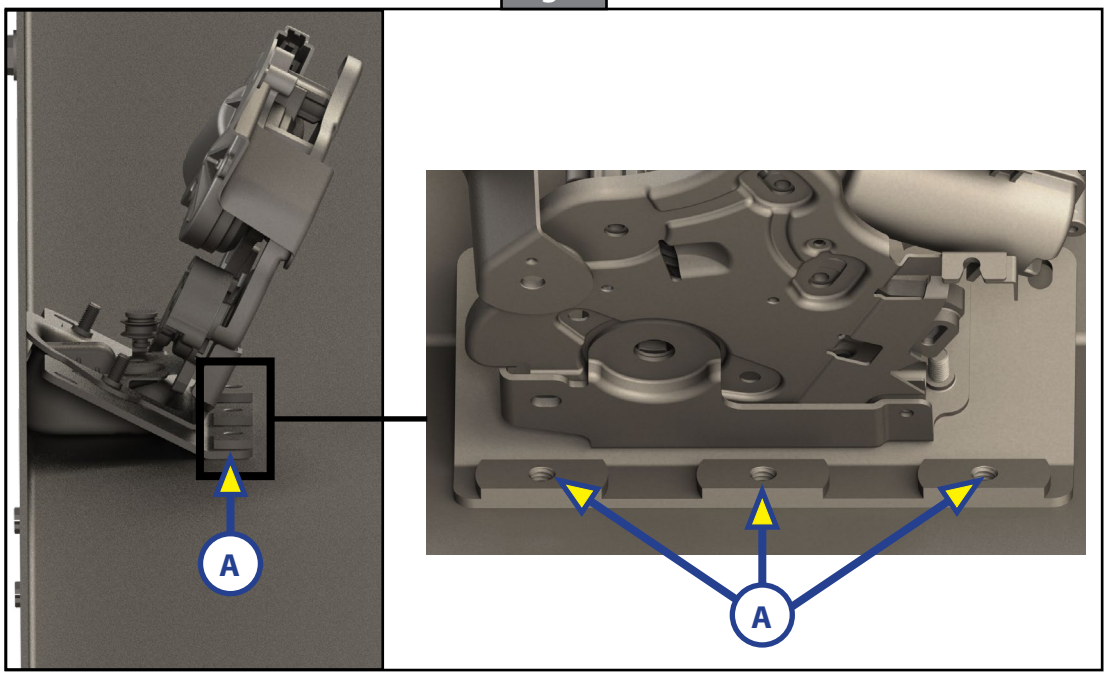
5. After the trailer floor, the side wall cut-out and the doorjamb are made flush; fasten the doorjamb to the exterior side wall of the trailer using #10 screws.
6. Attach the interior of the doorjamb to the cut-out using #10 screws.

NOTE: In order to support the side doorjamb, it is essential to anchor the doorjamb using all pre-drilled holes in the doorjamb. This helps to distribute the weight of the side door and doorjamb, while also helping to enhance the structural integrity of the trailer.

Cinch Latch

1. Locate the cinch latch motor assembly and align the three holes in the cinch latch base (Fig. 1A) with the three pre-drilled holes in the top middle of the door jamb.

Fig. 1



2. Attach the cinch latch motor to the door jamb using three 5⁄16" - 18 x 3⁄4" button head stainless steel bolts (Fig. 2, 3A).

Fig. 2

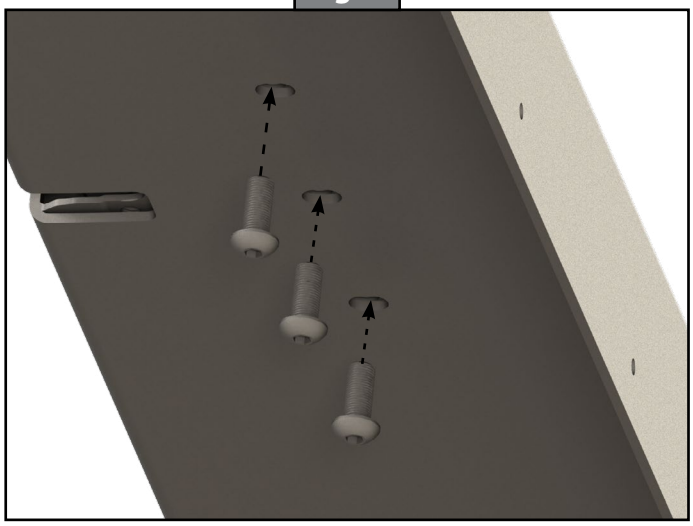
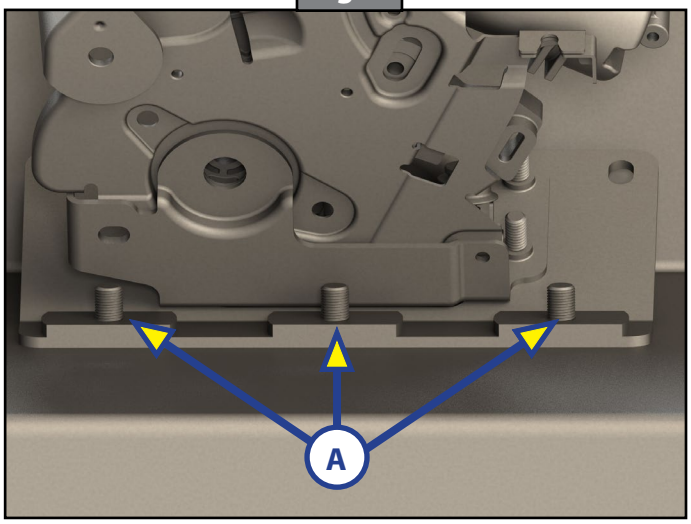


Fig. 3



Hidden Hinge Brackets

⚠ CAUTION

Use appropriate supports, lifting equipment and proper personal protective equipment to guide the Self-Deploying Rail Kit door onto the doorjamb.

1. Remove the right hidden hinge bracket from the doorjamb by removing the three 5⁄16" - 18 x 3⁄4" button head fasteners (Fig. 4B) installed into the bracket and doorjamb. Set screws aside to be re-installed later.
2. Place the right hidden hinge bracket (Fig. 4A) into the cylindrical pocket on the right side of the Self-Deploying Rail Kit door (Fig. 4B).
3. Mount the side door onto the left hidden hinge pin (Fig. 4C), using the left cylindrical pocket located on the side door.
4. Slide the side door, along with the right hidden hinge, into the doorjamb, to the left.
5. Align right hidden hinge into predrilled mounting holes (Fig. 5A).
6. Secure the right hidden hinge onto the vertical column (Fig. 4D) using three previously-removed 5⁄16" - 18 x 3⁄4" button head fasteners (Fig. 5B).

Fig. 4

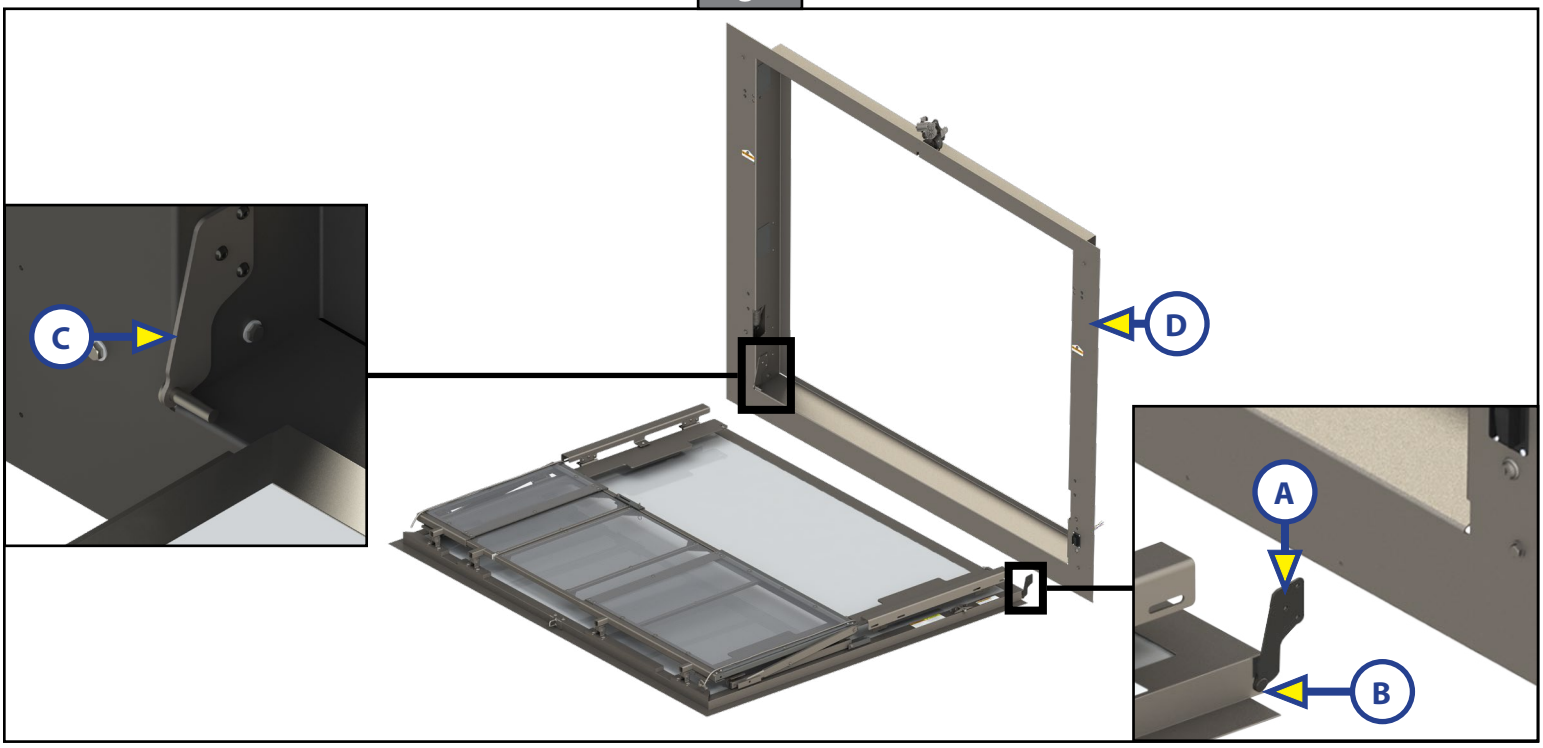
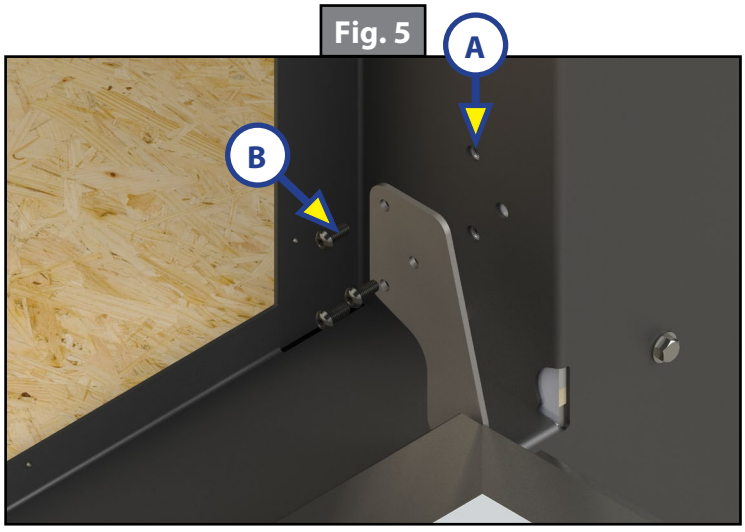


Fig. 5



Cable Anchors

⚠WARNING

Failure to properly secure both tension cables and anchors can result in catastrophic failure of the Force Assisted Spring Tension (F.A.S.T.) Self-Deploy Rail Kit, serious personal injury, severe product or property damage.

1. Using a hex key, remove the button head bolt (Fig. 6A), two metal bushings (Fig. 6B) and the nylon insert lock nut (Fig. 6C) from the side door cable anchor (Fig. 6D).
2. Extend the side door cable from the doorjamb, insert the cable eyelet end, seam side out (Fig. 7A), onto the ⅜" - 16 x 2 ¾" button head bolt (Fig. 7B).
3. Insert the smaller metal bushing onto the exposed button head bolt (Fig. 7C). The small step of the metal bushing should seat into the inside of the eyelet.
4. Insert the bolt through the outside bracket of the side door cable anchor (Fig. 7D) mounted to the surface of the side door.
5. Place the larger metal bushing (Fig. 8A) into the middle of the anchor bracket and slide the button head bolt (Fig. 8B) through the metal bushing.
6. Insert the button head bolt through the inside bracket of the side door cable anchor (Fig. 9A).
7. Thread a ⅜" nylon insert lock nut (Fig. 9B) onto the exposed button head bolt.
8. With 7⁄32" hex key and a 9⁄16" box-end wrench, secure the cable assembly to the anchor bracket.
9. Repeat steps 1-8 on the opposite side of the side door.

Fig. 6

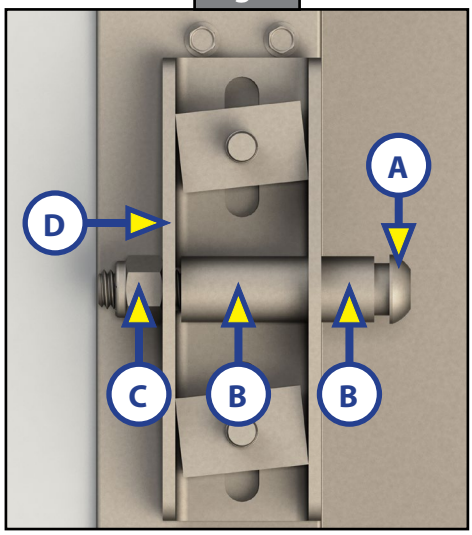


Fig. 7

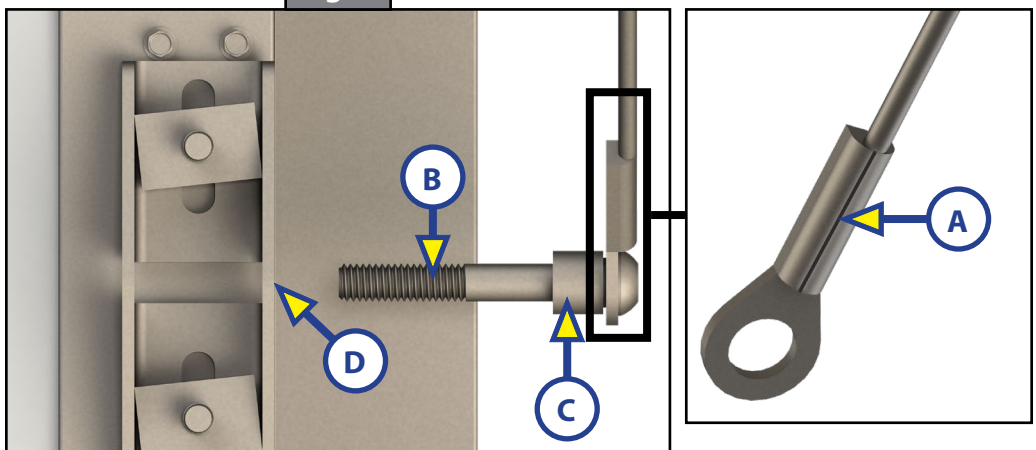


Fig. 8

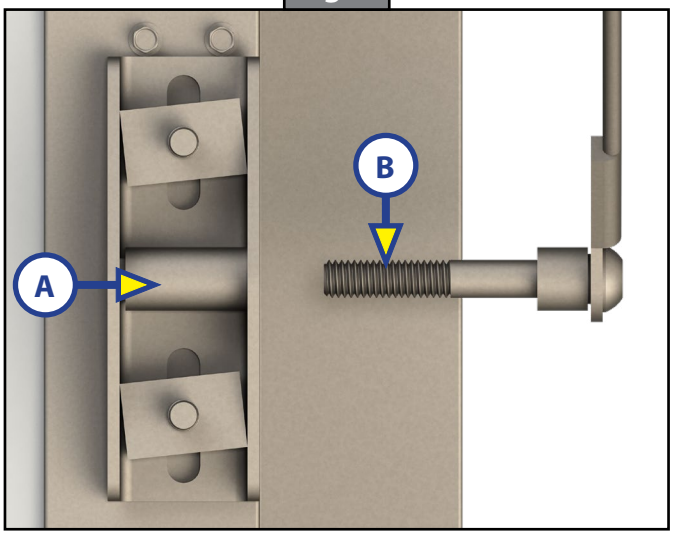
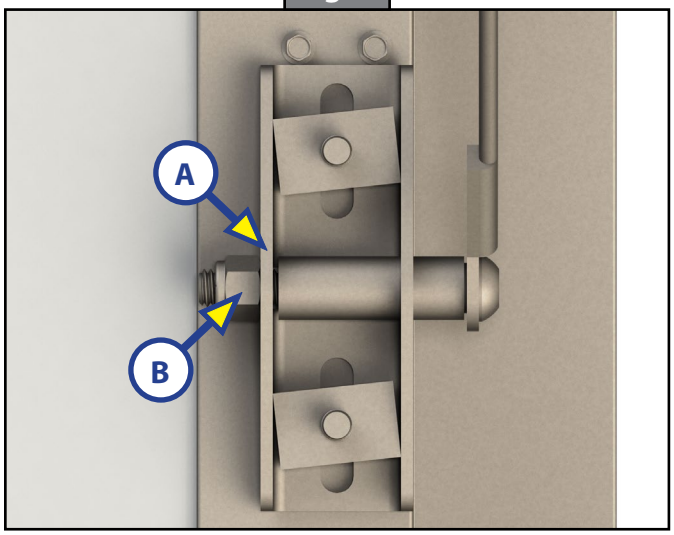


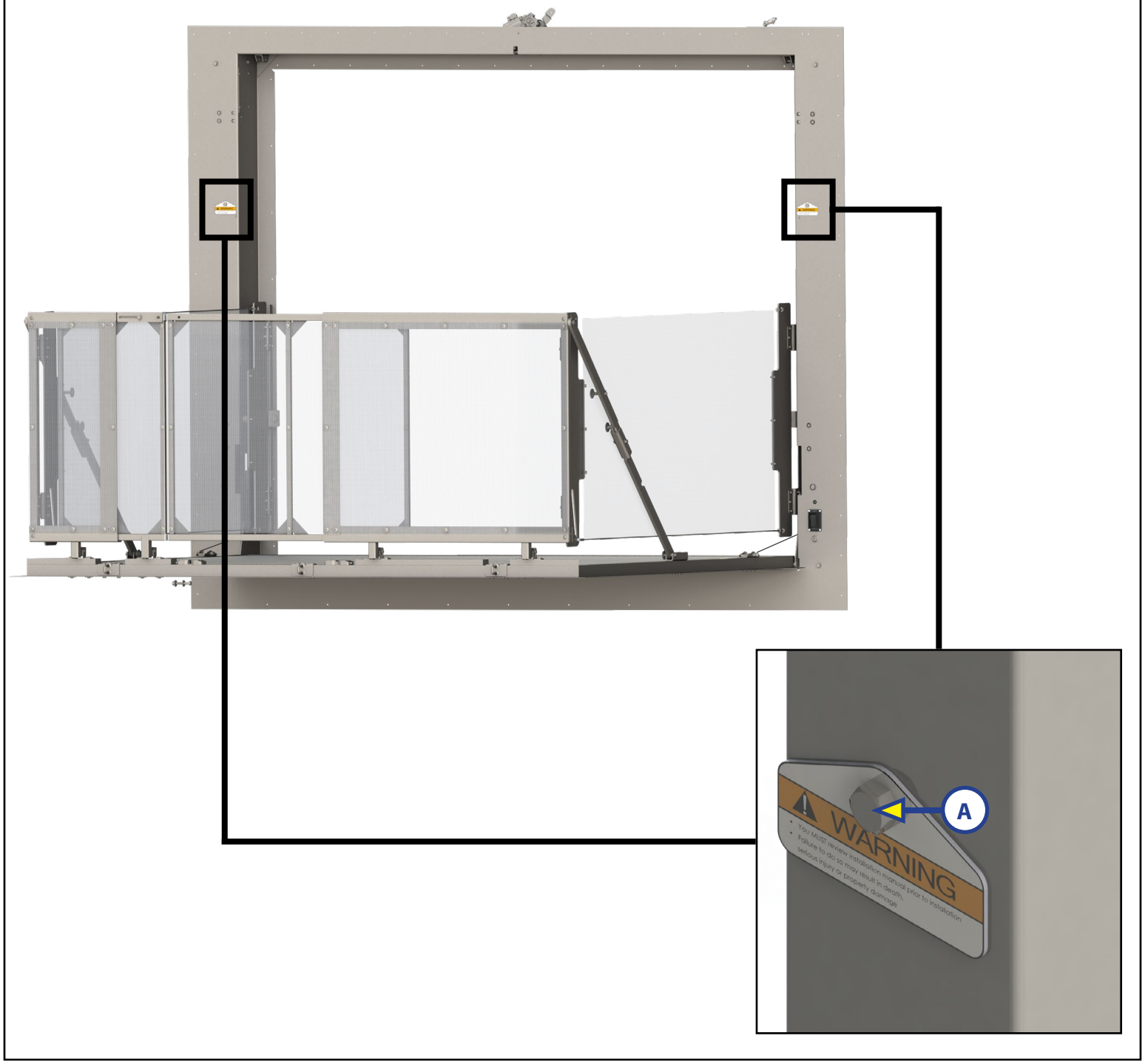
Fig. 9



Setting The Doorjamb Tension

1. With the side door open and parallel to the ground, use a 9/16" socket on either a ratcheting wrench or impact wrench and remove the 3/8" - 16 x 4 1/2" tensioning bolt (Fig. 10A) from the vertical columns of the side door jamb.
2. As the two bolts (Fig. 10A) are drawn out of the vertical columns, tension will be transferred to the Self-Deploy door cable assembly.
3. Once both tensioning bolts have been removed from both vertical columns, slowly lower the side door. Once this is completed, the F.A.S.T. side door is now operational.
4. Tensioning bolt holes on the vertical columns should be plugged with the hole plugs that are provided with the LCI F.A.S.T. Side Door kit.

Fig. 10



Safety Cables

⚠WARNING

The Self-Deploying Rail Kit was designed to have two safety cables installed before any use. Failure to connect the safety cables from the side door to the doorjamb may result in serious personal injury or severe product or property damage.

1. Two people are required to install the safety cables; one person located outside of the trailer and the second person inside of the trailer.
2. On one side of the side door, lift up on the front of the side patio to expose the attached safety cable. The safety cable (Fig. 11A) MUST be in the middle of the deploy assist bushing (Fig. 11B).
3. The person outside the trailer lifts, and holds the door to about a 85 degree angle, while the person inside attaches the safety cables.
4. Install the opposite end of the safety cable (Fig. 12A) into the pre-mounted anchor point (Fig. 12B), located on the top front corner of the doorjamb by placing the safety cable end into the anchor point and securing the eyelet with the supplied retainer pin (Fig. 12C)
5. While the door is still held in the 85 degree position, repeat step 4 on the opposite side of the door.
6. Gently allow the side door patio to fully extend to its open position. The patio front and sides will unfold into its intended position.
7. Make sure the scissor arms (Fig. 13A) on both sides of the patio are locked in place.

Fig. 11

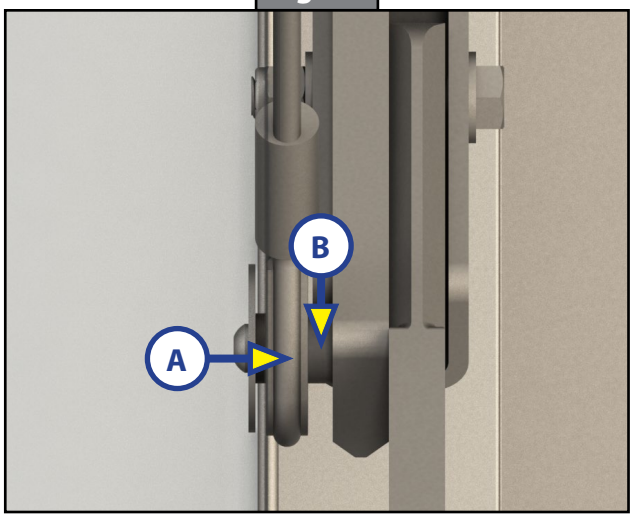


Fig. 12

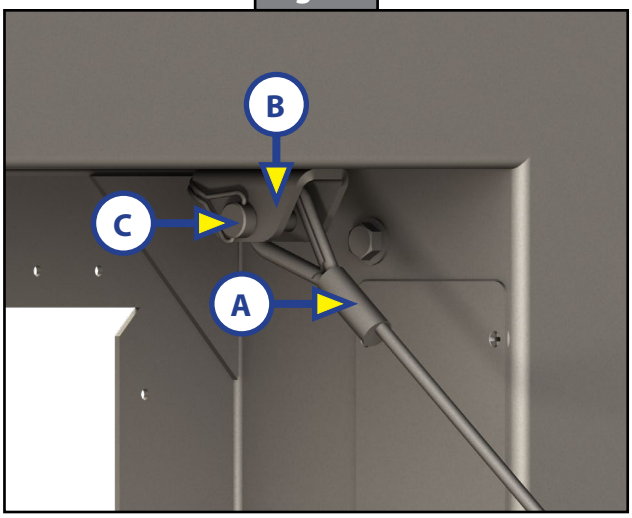
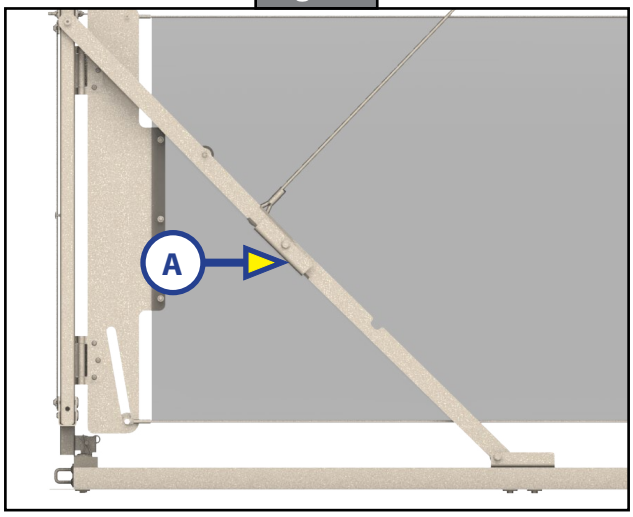


Fig. 13



Shock Gas Strut

1. Included in the Self-Deploy Rail Kit is a shock gas strut (Fig. 14B) and nylon locking nut (Fig. 14A). Locate the C-bracket (Fig. 14C, 15A) attached to the flip panel bracket of the side panel of the patio screen (patio screen not shown) on the non-controller side of the patio.
2. Insert the shock gas strut into the pre-drilled hole in middle of the C-bracket (Fig. 15B).
3. Attach the nylon locking nut (Fig. 16A).

NOTE: Figure 17A shows the non-controller side of the Self-Deploy Rail Kit patio with the shock gas strut (Fig. 17A) installed onto the C-bracket which is attached to the flip panel bracket of the side of the patio screen. Installing the C- bracket onto the doorjamb is located in section C- brackets.

Fig. 14

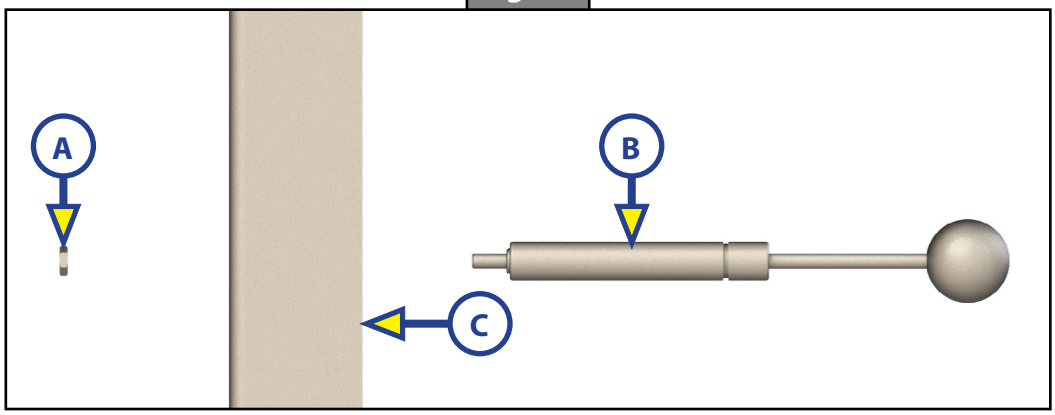


Fig. 15

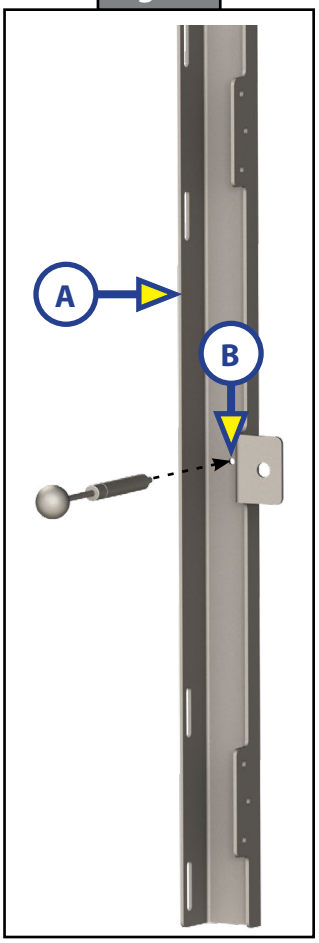


Fig. 16

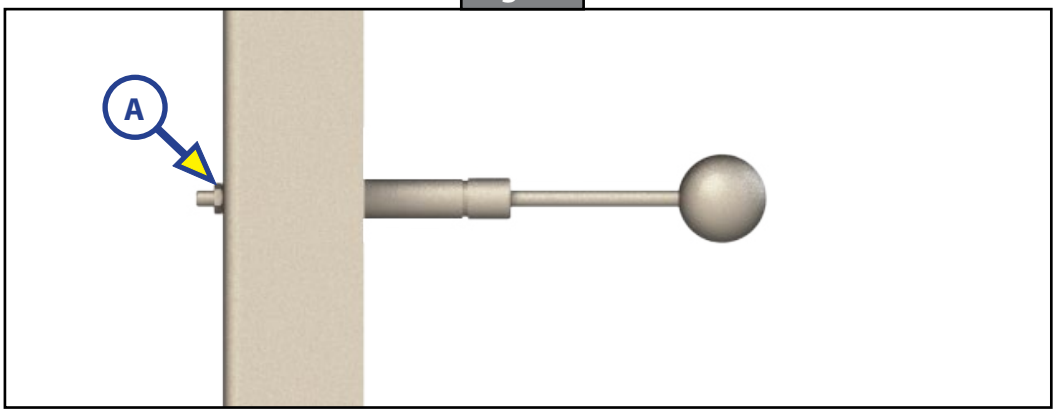
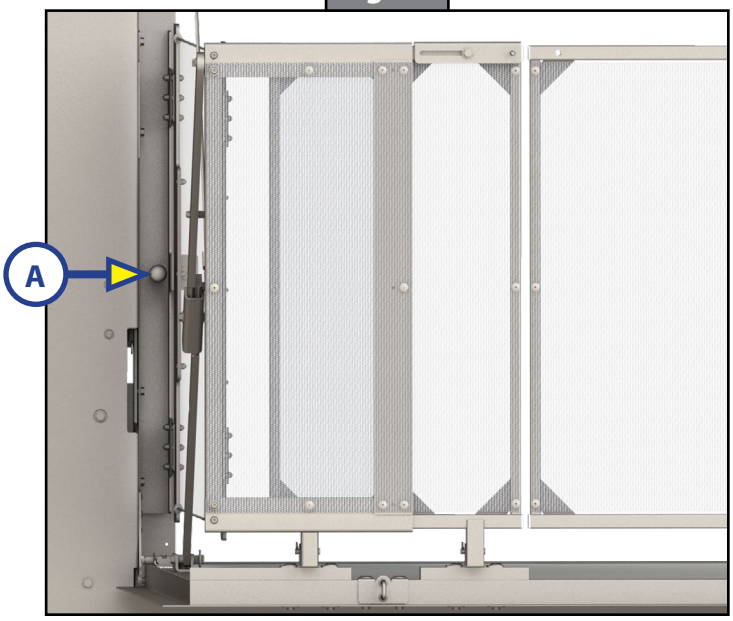


Fig. 17



C- Brackets

1. Locate the C- brackets (Fig.15) which are attached to the flip panel brackets (Fig. 18A). Make sure the side panel of the patio screen extends straight out and is not twisted.
2. Align the slotted holes in the C-bracket (Fig. 19A) to the holes in the side of the doorjamb (Fig. 19B) located approximately next to the doorjamb inner spring.
3. Starting with the top slotted hole in the C- bracket, using a cordless or electric drill or screw gun with a ½" magnetic socket and extension, insert a 5⁄16" x 1" self-drilling tek screw (Fig. 19C) through the top of the bracket hole slot and into the pre-drilled holes in the doorjamb. Install the bottom screw, then the two center screws.
4. Repeat steps 1-3 on the opposite side of the side door.

Fig. 18

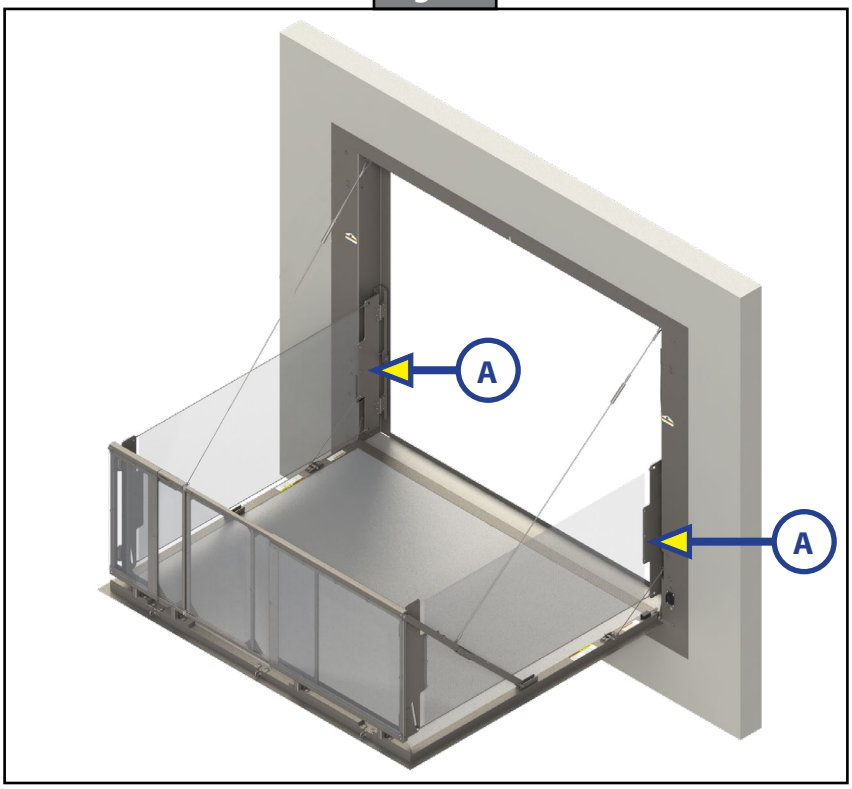
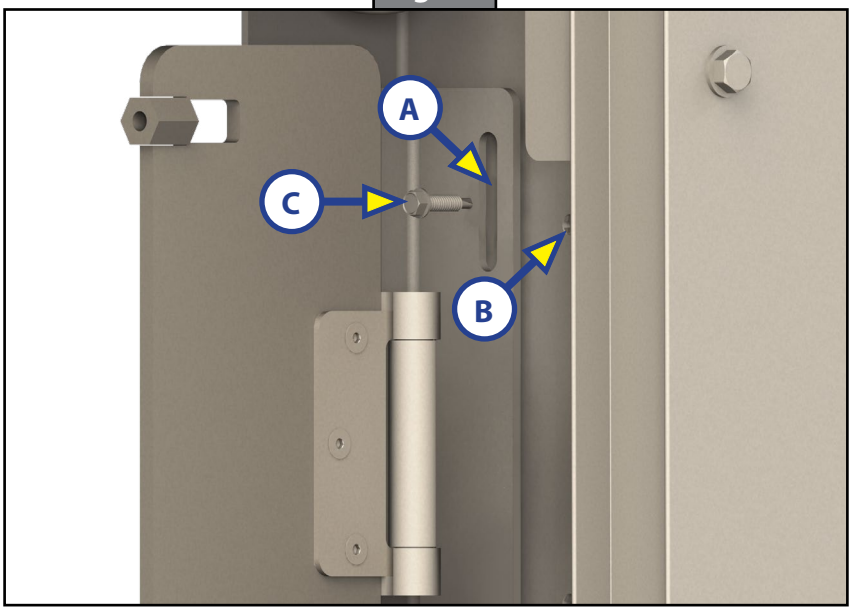


Fig. 19



Angle Sensor

NOTE: White lines indicate where marking on an object with a permanent or non-permanent marking method is required. These lines may be solid or dashed.

1. Locate the inside side of the side patio door frame closest to where the doorjamb has the LED light (Fig. 20A), rocker switch (Fig. 20B) and key switch (Fig. 20C).
2. Measure up from the bottom of the side door patio frame approximately 6". Mark the location (Fig. 21A).
3. Place the bottom edge of the angle sensor (Fig. 21B) with the wires coming out at the marked location.
4. Using a #10 self-drilling screw, attach the angle sensor to the frame of the side patio door (Fig. 21C).

Fig. 20

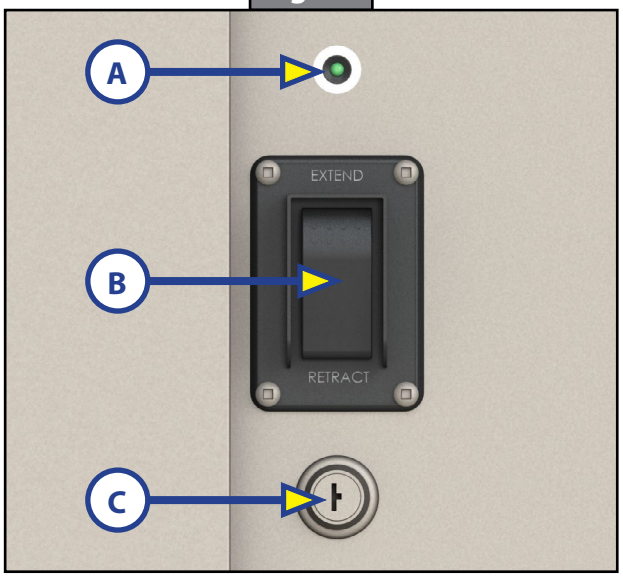
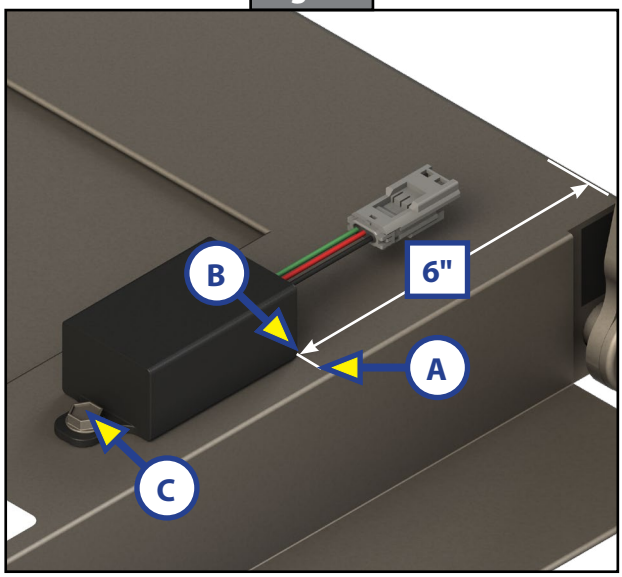


Fig. 21



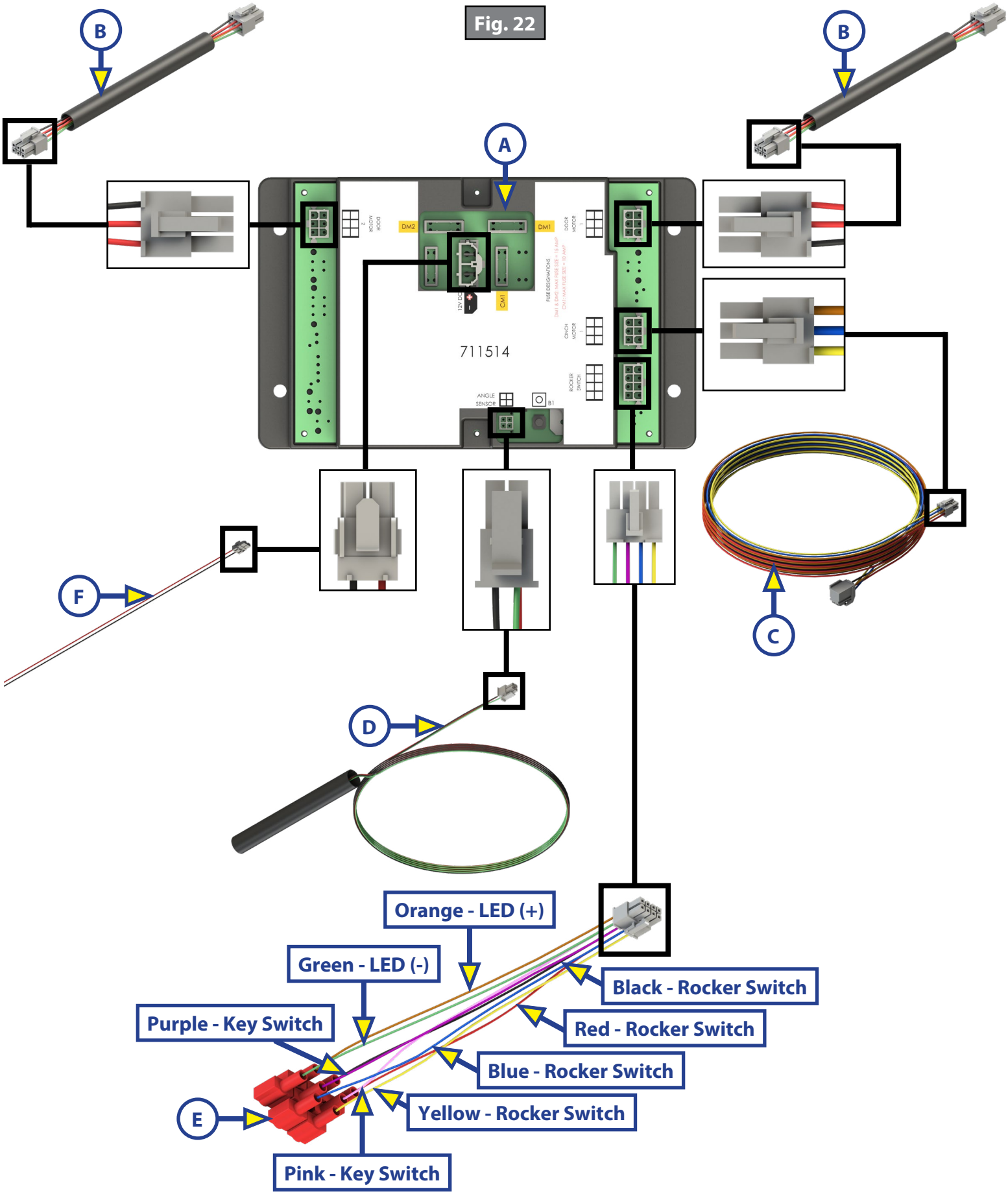
Controller

1. Mount the controller (Fig. 22A) in a clean and dry, weather-tight location close to the cinch latch in the doorjamb. The controller needs to be in a location safe from possible damage, but easily accessible for service. The controller is NOT waterproof.

NOTE: The controller MUST be mounted with the connector sockets visible.

2. Route and attach the two gear motor harnesses (Fig. 22B) from the controller to each motor.
3. Route and attach the cinch latch harness (Fig. 22C) from the controller to the cinch latch.
4. Route and attach the angle sensor harness (Fig. 22D) from the controller to the angle sensor.
5. Locate the back side of the doorjamb that has the LED light, rocker switch and the key switch. The LED light in the doorjamb will need two male blade ends spliced onto the wires. The rocker switch will need four male blade ends spliced onto the wires.
6. Attach the main electrical harness (Fig. 22E) to the controller.
   - **A.** On the opposite end of the main electrical harness, attach the purple and pink wires to the key switch.
   - **B.** On the opposite end of the main electrical harness, attach the green (negative wire) and the orange (positive wire) to the LED light.
   - **C.** On the opposite end of the main electrical harness, attach the rest of the wires (yellow, black, red and blue) to the corresponding colored wires on the rocker switch.
7. Route and attach the power wire harness (Fig. 22F) from the controller to the power source. Use the proper gauge wire to support the 12V DC battery when connecting to the power source.

Wiring Diagram



Required Additional Drop Support Leg (PN 433597)

The drop support leg is a necessary item to be used with the Self-Deploying Rail Kit for added support and is an OEM separate purchase and not included in the OEM Self Deploying Rail Kit.

1. Locate the area of the patio door to the left side of the patio rail gate opening (Fig. 23A).
2. Insert the drop support leg (Fig. 24A) with an attached patio rail support arm keeper (Fig. 24B) connected, over the patio door flange lip (Fig. 24C).
3. Center the drop support leg keeper base (Fig. 25A) underneath the patio rail, on the edge of the flange lip.
4. Fasten the drop support leg keeper base to the side door patio flange lip using the two provided self-tapping screws (Fig. 25B).

NOTE: The drop support leg (Fig. 26A) should be detached and secured inside the trailer when the Self-Deploying Rail Kit is not in use.

Fig. 23

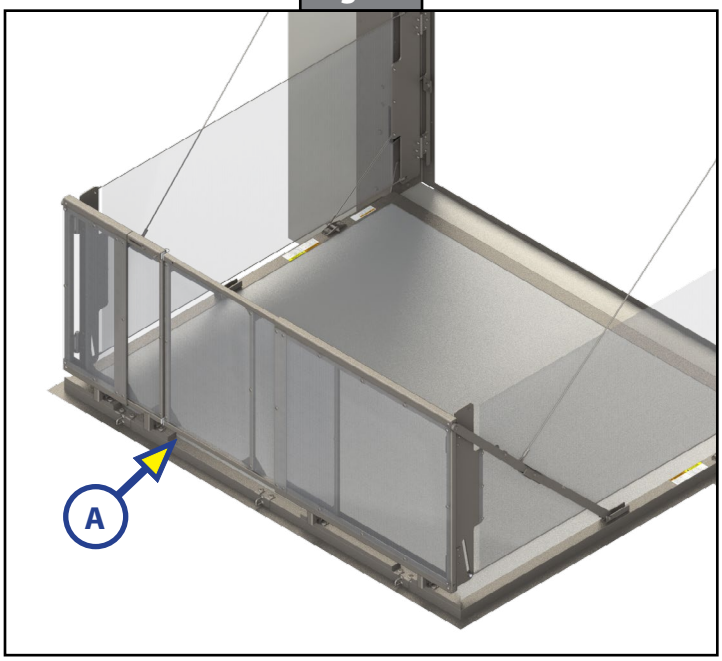


Fig. 24

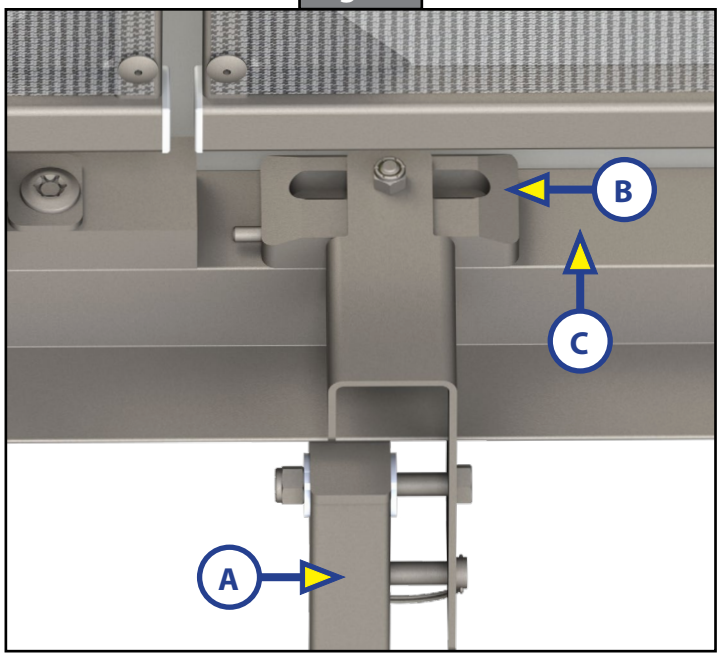


Fig. 25

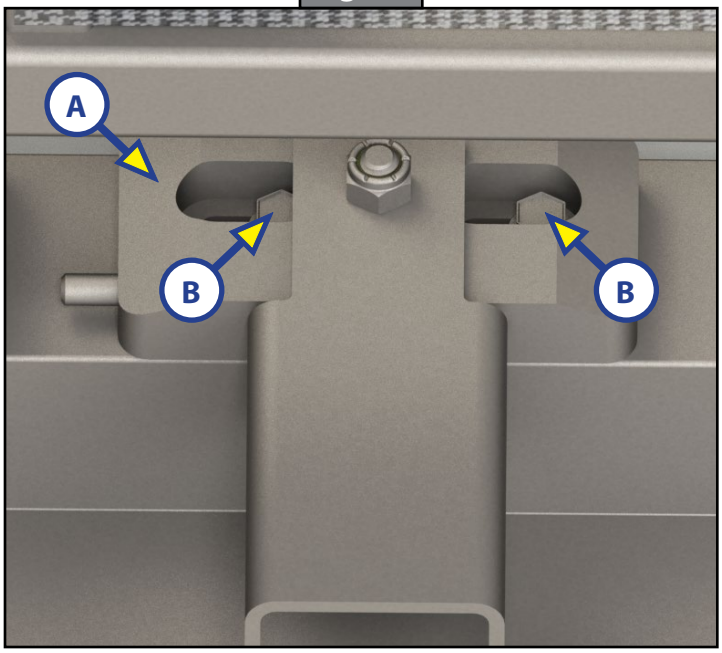
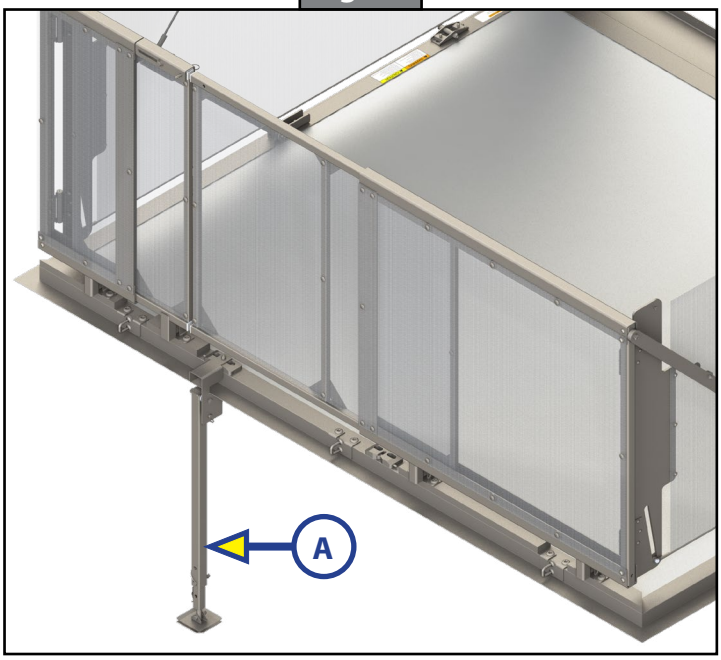


Fig. 26



Operation

Extended Position

⚠WARNING

Keep hands away from all openings and cables when operating the side patio door.

⚠CAUTION

Always make sure the safety cables are extending straight, staying in the middle of the deploy assist bushing and not coming in contact with any obstructions.

Make sure the trailer is connected to a power source.

1. Insert the key into the keyed access point located in the doorjamb of the side patio door (Fig. 27A).
2. Turn the lock mechanism to the on position. The LED light will turn on green (Fig.27B).
3. Press and hold the extend side of the rocker switch (Fig. 27C).

NOTE: The door will slightly "jog" up and down as it reaches its fully extended position. This motion is normal so that the door does not extend down too fast and stress the safety cables.

NOTE: When the door is fully extended, the Self-Deploying patio door will stop and will be in a level position (Fig. 28).

4. Release the rocker switch.
5. Make sure the scissor arms on both sides of the patio are locked in place (Fig. 29A).
6. Turn the key to the off position. The key can now be removed.
7. Attach the drop leg support (Fig. 30A) into the keeper base.

Fig. 27

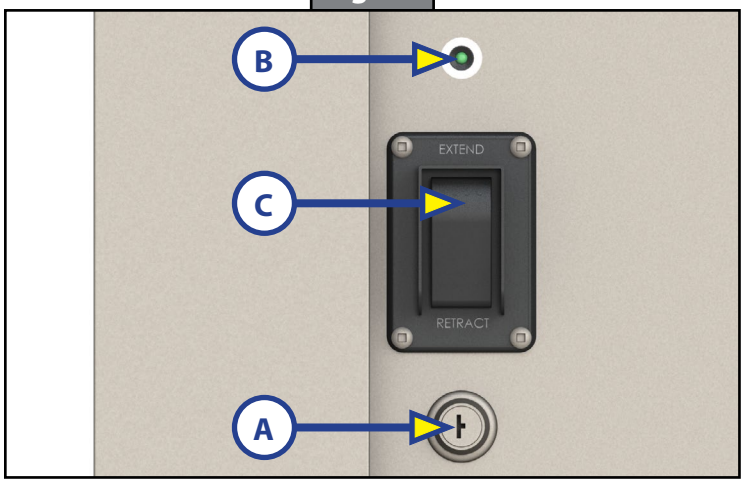


Fig. 28

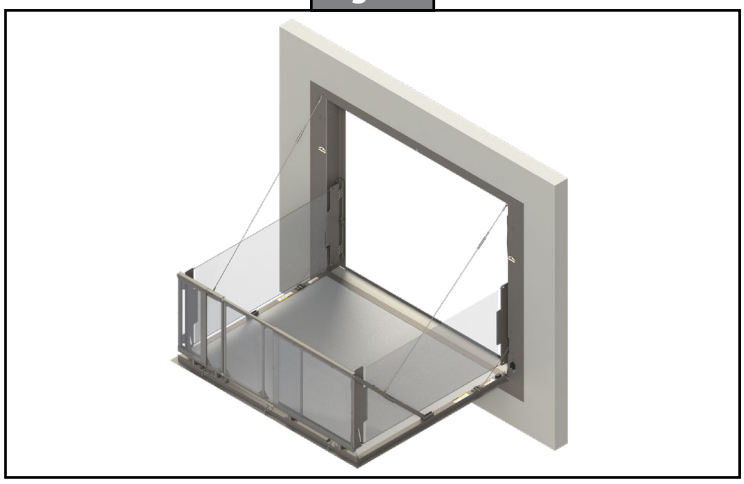


Fig. 29

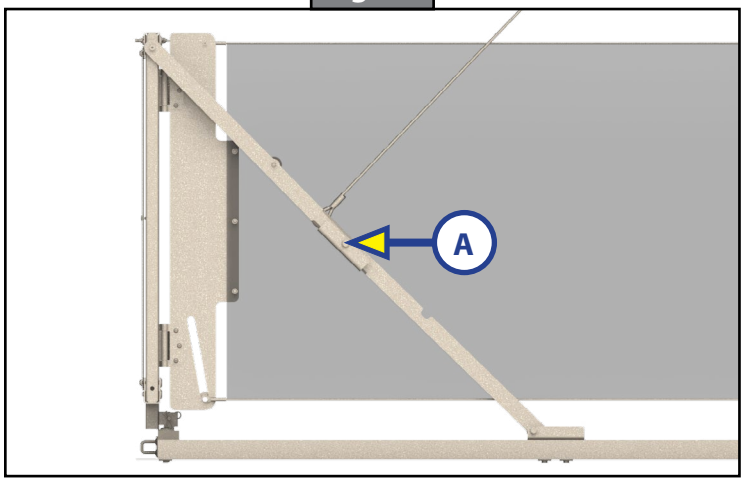
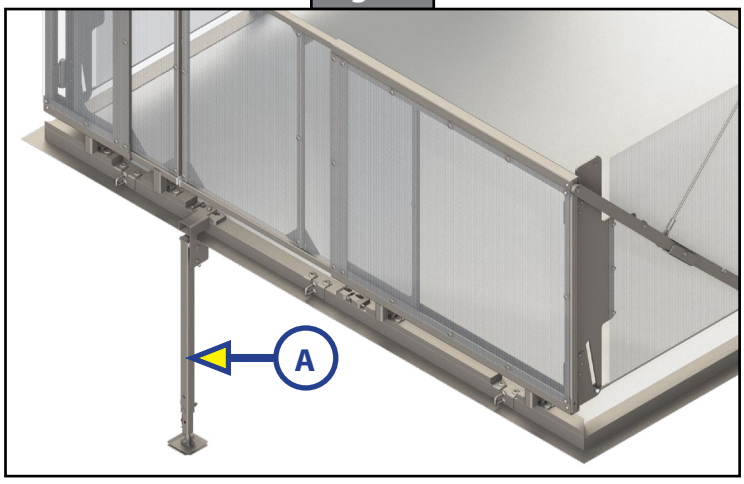


Fig. 30



Stowed Position

⚠WARNING

Keep hands away from all openings and cables when operating the side patio door.

⚠CAUTION

Always make sure the safety cables are retracting straight, staying in the middle of the deploy assist bushing and not coming in contact with any obstructions.

Make sure the trailer is connected to a power source.

1. Detach the drop support leg from it's drop support leg keeper base by depressing the lever (Fig. 31A) on the side of the keeper base. Stow and secure any other additional support or stairs.
2. Make sure the safety cables (Fig. 32A) on both sides of the side door patio are in the middle of the deploy assist bushing (Fig. 32B).
3. Insert the key into the keyed access point located in the doorjamb of the side door patio (Fig. 33A).
4. Turn the lock mechanism to the on position. The LED light (Fig. 33B) will turn on green.
5. Press and hold the retract side of the rocker switch (Fig. 33C).

NOTE: When the door is fully retracted the cinch latch (Fig. 34A) at the top of the doorjamb will activate and pull the door completely closed.

6. Release the rocker switch.
7. Turn the key to the off position. The key can now be removed.

Fig. 31

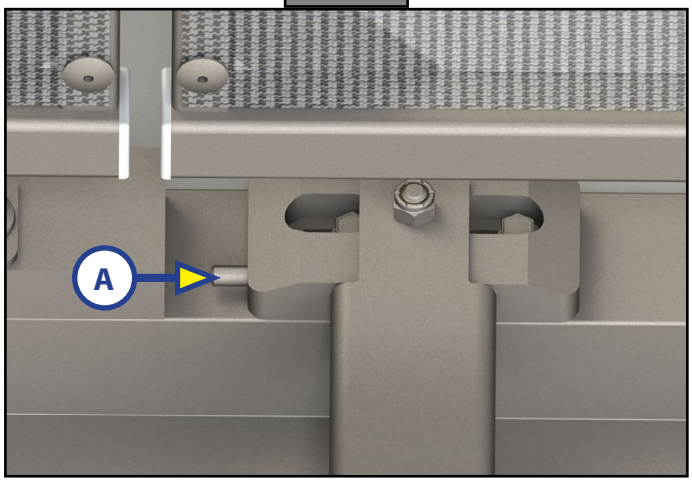


Fig. 32

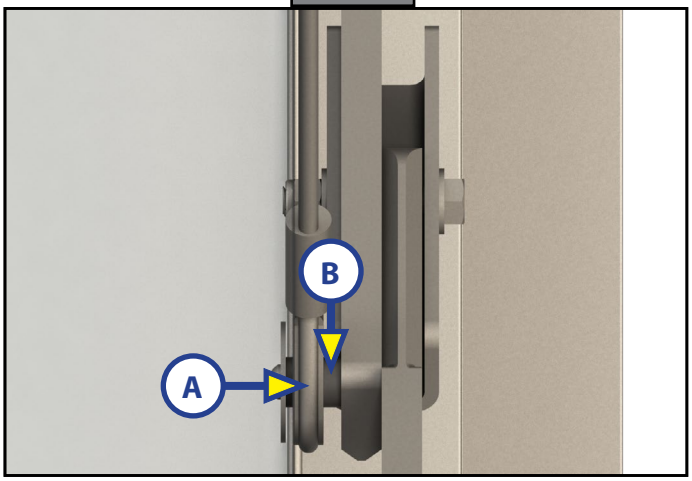


Fig. 33

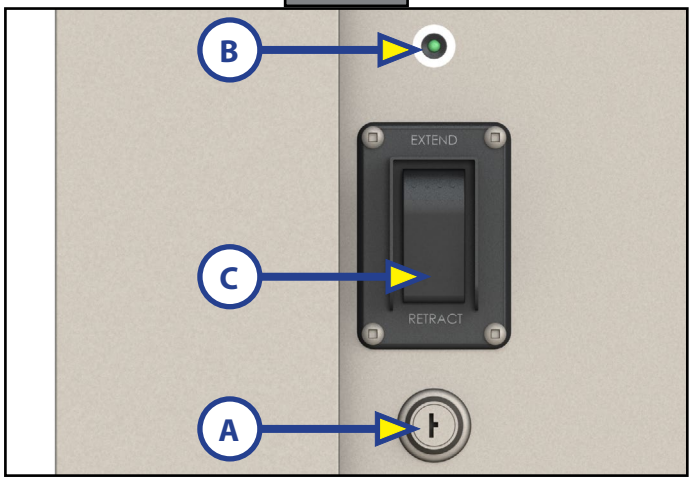
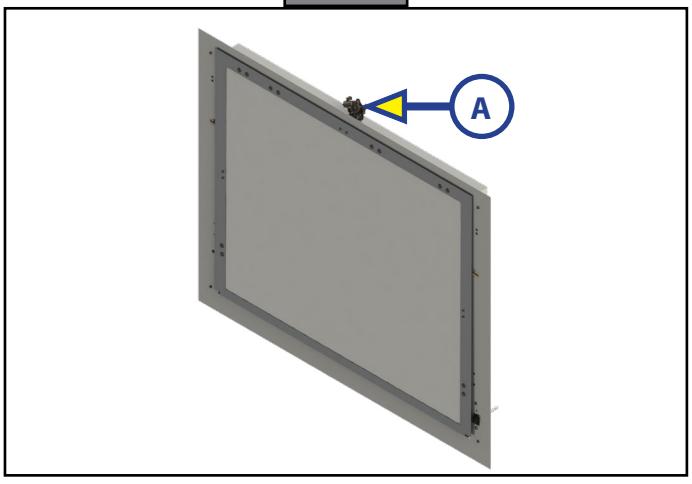


Fig. 34



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