



F.A.S.T. RAMP REAR DOOR OEM INSTALLATION MANUAL

L I P P E R T
C O M P O N E N T S®

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Introduction

The Force Assisted Spring Tension or F.A.S.T. Ramp Rear Door incorporates dual cinch latches for a tight seal. For information on the assembly or individual components of this product, please visit:

<https://support.lci1.com/ramp-doors>

Safety Information

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.

NOTE: Cables are not always shown in the images for clarity purposes.

NOTE: Some trailers are equipped with an optional adjustable cable system for the ramp door. Follow applicable tensioning bolt warning for use of the adjustable cable. The adjustable cable system allows for up to +/- 2.5" of adjustment in order to achieve a 90° angle for the ramp door while in patio mode.

WARNING

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

WARNING

The maximum weight for the F.A.S.T. (Force Assisted Spring Tension) Ramp Rear Door in ramp configuration is 3,000 lbs. The maximum weight for the F.A.S.T. Ramp Rear Door in patio configuration is 1,500 lbs. Exceeding the maximum weight ratings can cause death, serious injury or damage to the trailer. Do not allow the ramp door to free fall while being lowered into the horizontal position, as this could cause injury or damage to the trailer or door.

⚠ 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

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

Resources Required

- 1 to 3 People Depending on Task
- Cordless or Electric Drill or Screw Gun
- Appropriate Drive Bits
- $\frac{3}{4}$ " Deep Well Socket
- Impact Wrench
- Ratchet Extension
- Flat Blade Screw Driver
- Alignment Punch
- $\frac{3}{4}$ " Wrench
- $\frac{9}{16}$ " Wrench
- $\frac{7}{32}$ " Hex Wrench
- $\frac{5}{32}$ " Hex Wrench
- Caulk

Installation

NOTE: F.A.S.T. Ramp Rear Doors with the hidden hinge system will have four door jamb/hoop clearance holes, (two per column) see Hidden Hinge Door Jamb Installation section.

NOTE: Green lines accompanied with a callout indicate a designated area.

Leaf Spring Hinge Door Jamb

NOTE: The F.A.S.T. Ramp Rear Door System is available in a wide variety of dimensions, dependent on the OEM specifications.

1. Set the ramp door jamb/hoop assembly (Fig. 1A), onto the chassis door frame supports (Fig. 1B).
2. Verify that six door jamb clearance holes (three on each column) line up with the six ramp door frame support holes (Fig. 2A).

Fig. 1

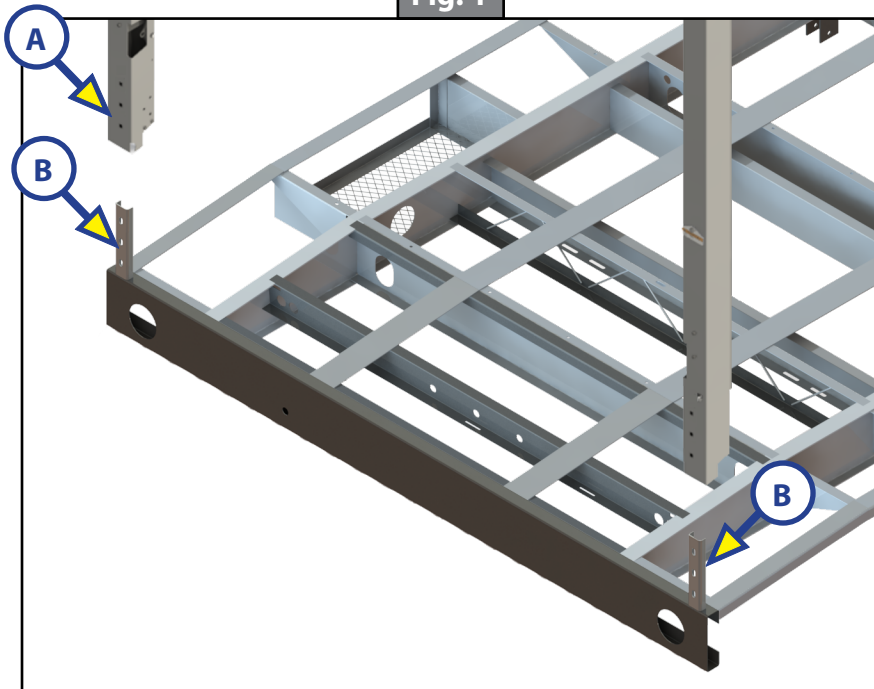
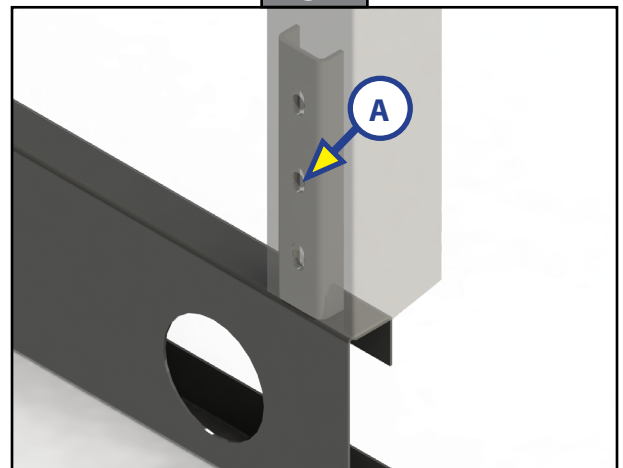


Fig. 2



NOTE: A small alignment punch or screw driver may be used to make small adjustments.

3. Insert carriage bolts (three per column), of at least 1 1/2" length, through the door jamb and the ramp door frame supports (Fig. 3A).
4. Use a 3/4" deep well socket attached to a ratchet extension to thread and secure the flange nuts to the carriage bolts (Fig. 4A).

NOTE: Access to the carriage bolts is through the large round end slot or the three access ports or a on the interior of the door jamb (Fig. 5A).

5. Once the hex nut is attached to the carriage bolt, an impact wrench may be used to tighten the hex nut.

NOTE: If a 3/8" carriage bolts is used instead of a 1/2" carriage bolt, those have the potential to spin and not properly seat.

Fig. 3

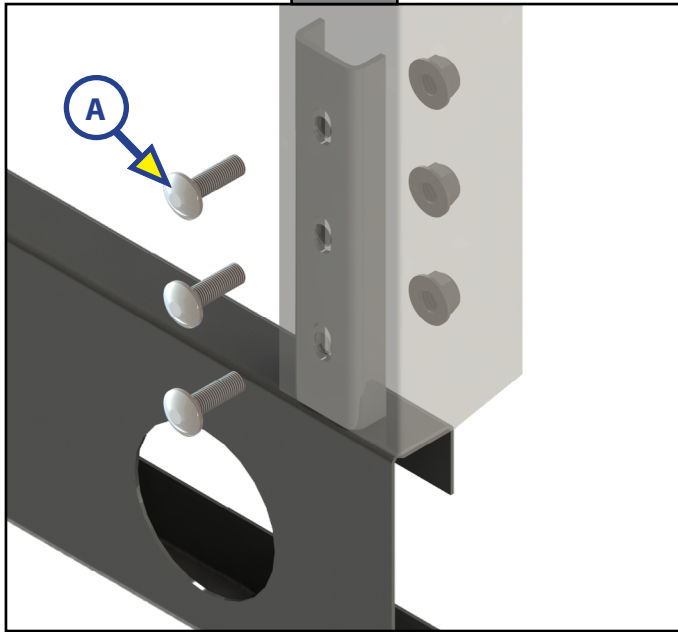


Fig. 4

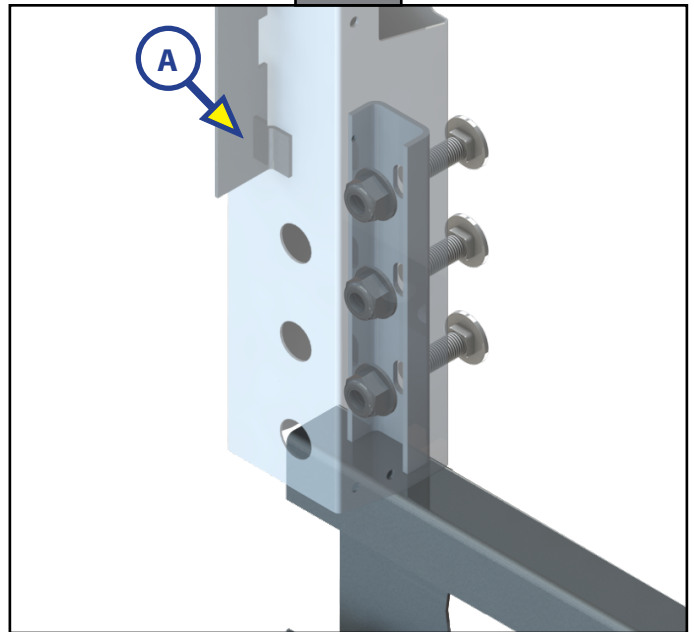
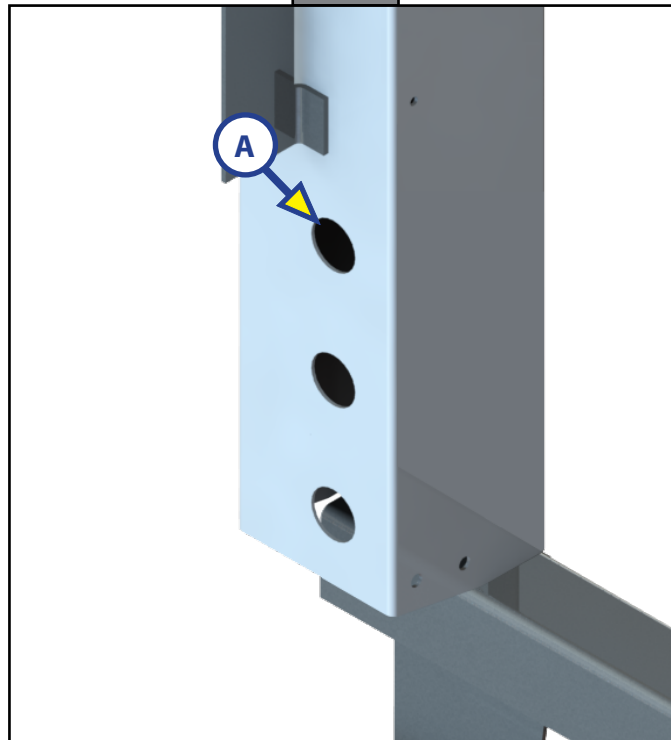


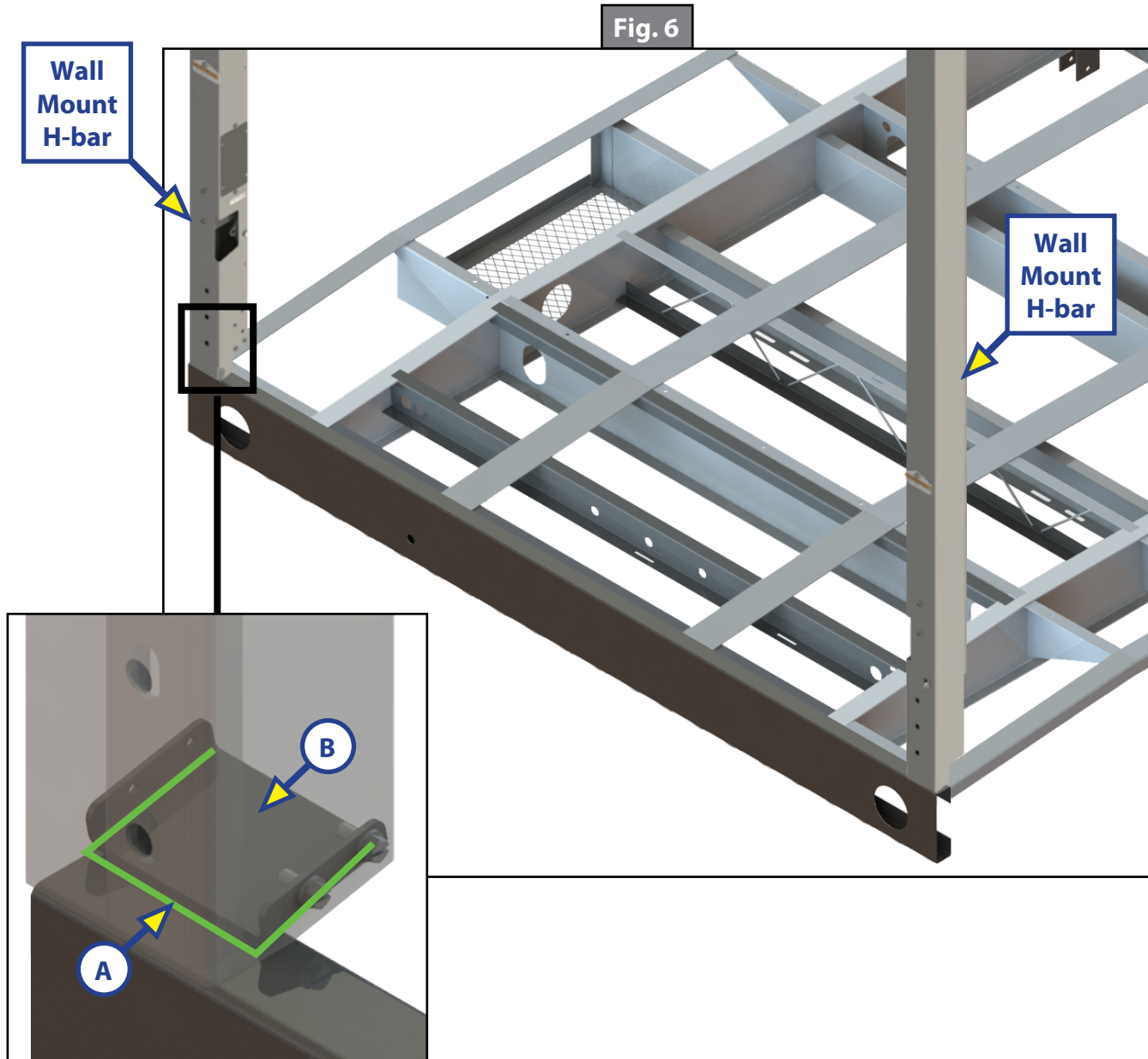
Fig. 5



NOTE: The ramp door jamb assembly is now installed on the trailer chassis (Fig. 6) and is ready for the installation of the Leaf Spring Hinge equipped ramp door.

NOTE: Located at the bottom of the door jamb assembly, caulking (Fig. 6A, green line) may be applied around the outside edge of the water management plate (Fig. 6B), on both sides of the door jamb assembly.

NOTE: Once the exterior walls are placed onto the trailer, make sure that the jamb is perpendicular to the chassis frame.



Hidden Hinge Door Jamb

NOTE: Ramp doors with the hidden hinge system will have four door jamb/hoop holes (two per column).

1. Set the ramp door jamb/hoop assembly (Fig. 7A), onto the chassis door frame supports (Fig. 7B).
2. Verify that four door jamb clearance holes (two on each column) (Fig. 7C) line up with the top two ramp door frame support holes (Fig. 7D).

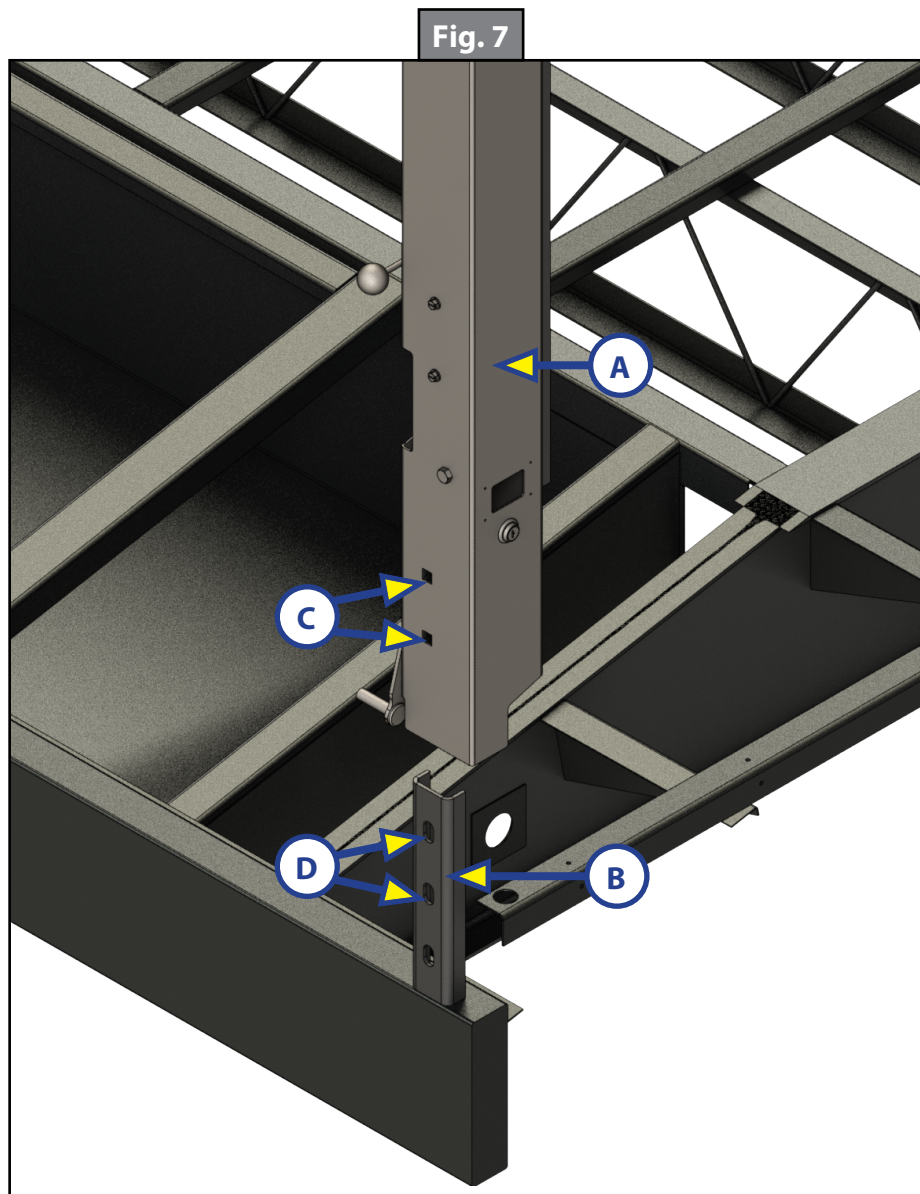
NOTE: A small alignment punch or screw driver may be used to make small adjustments.

3. Insert carriage bolts (two per column), of at least 1 1/2" length, through the door jamb and the ramp door frame supports.
4. Use a 3/4" deep well socket attached to a ratchet extension to thread and secure the flange nuts to the carriage bolts.

NOTE: Access to the carriage bolts is through a large round slot on the interior of the door jamb.

5. Once the hex nut is attached to the carriage bolt, an impact wrench may be used to tighten the hex nut.

NOTE: If a 3/8" carriage bolts is used instead of a 1/2" carriage bolt, those have the potential to spin and not properly seat.



Hidden Hinge Installation

NOTE: The hidden hinge pivot brackets should come assembled to the door jamb.

1. Remove the roadside pivot bracket from the three $\frac{5}{16}$ " - 18" button head fasteners.
2. Place the roadside hidden hinge bracket into the ramp door (Fig. 8B).
3. Mount the ramp door (Fig. 9A) onto the curbside hidden hinge pin (Fig. 9B).
4. Slide the ramp door, along with the roadside hidden hinge, into the roadside/left vertical hoop column.
5. Secure the roadside hidden hinge (Fig. 10) onto the vertical column reusing the previously removed three $\frac{5}{16}$ " - 18 x $\frac{3}{4}$ " button head fasteners (Fig. 10A).
6. Installation of the hidden hinge is now complete. See Door Cable System section for completing the ramp door installation.

Fig. 8

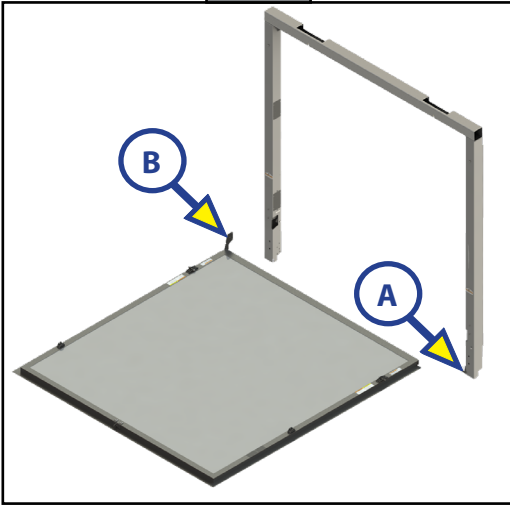


Fig. 9

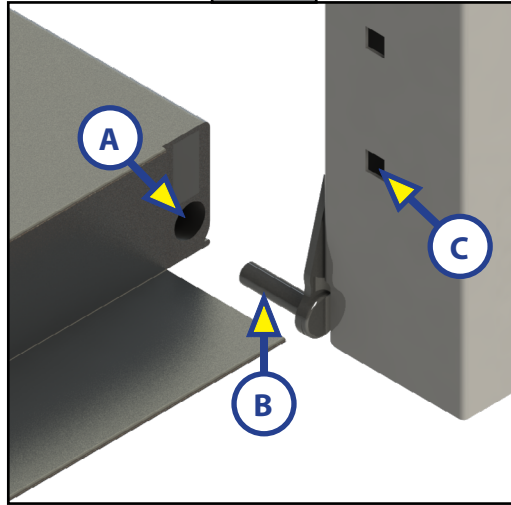
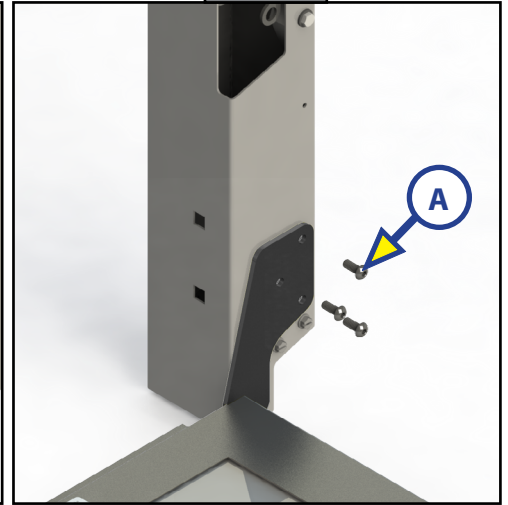


Fig. 10



⚠ WARNING

Failure to properly secure both tension cables and anchors can result in catastrophic failure of the F.A.S.T. Ramp Rear Door System, serious personal injury, and or damage to the trailer.

⚠ WARNING

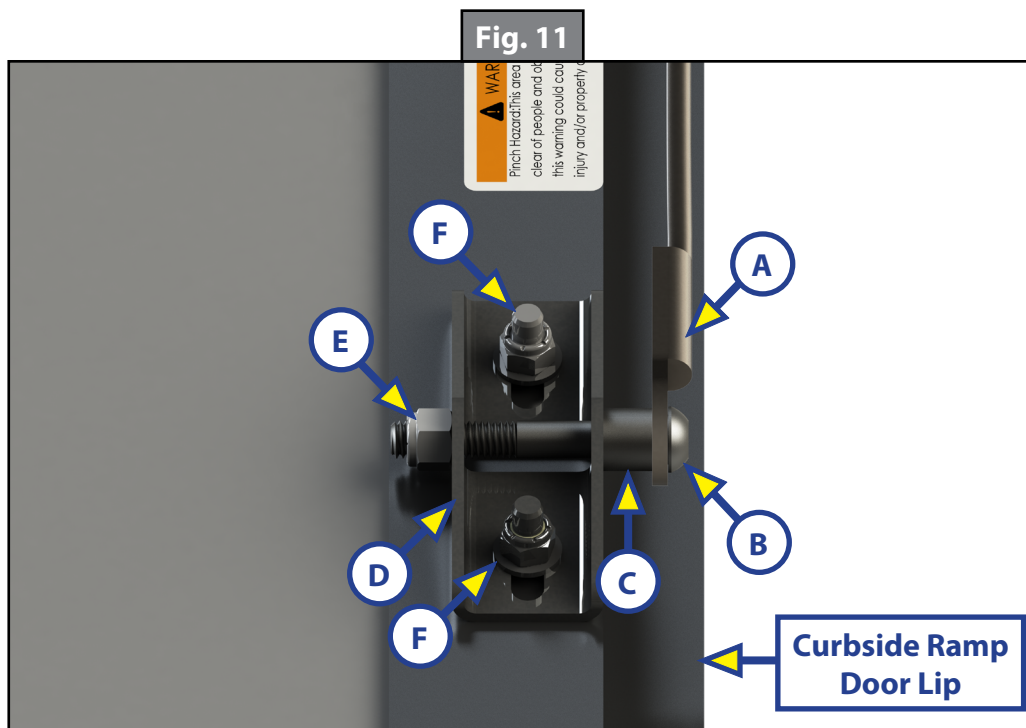
Do not remove the tensioning bolt. Failure to follow this warning may result in death, serious personal injury and/or property damage. See owner's manual for instructions on use of adjustable cable.

NOTE: Cables are not always shown in the images for clarity purposes.

NOTE: Some trailers are equipped with an optional adjustable cable system for the ramp door. Follow applicable set screw warning for use of the adjustable cable. The adjustable cable system allows for up to +/- 2.5" of adjustment in order to achieve a 90° angle for the ramp door while in patio mode.

⚠ WARNING	⚠ CAUTION
• Failure to follow these instructions may result in death, serious injury or property damage. • Always secure the ramp door in either the closed, ramp or party deck position. • Never use the ramp door while anything is obstructing operation. • Keep hands away from all openings, rollers and cables when operating the ramp door.	• Failure to follow these instructions may result in serious injury or property damage. • Read the instructions before installation or operation. • Never force the ramp door in any direction. • Always make sure the cables are pulling out straight, staying in the grooved portion of the rollers and not coming in contact with any obstructions. • Do not operate the ramp door if the cable is frayed or damaged.

1. Insert the cable eyelet, seam side out (Fig. 11A), onto the $\frac{3}{8}$ " - 16 X 2 $\frac{3}{4}$ " socket button head bolt (Fig. 11B).
2. Insert the metal bushing onto the exposed socket button head bolt (Fig. 11C). The small step of the metal bushing should seat into the inside of the eyelet.
3. Insert the bolt through the ramp door cable anchor (Fig. 11D) mounted to the surface of the ramp door.
4. Thread a $\frac{3}{8}$ " nylon insert lock nut (Fig. 11E) onto the exposed button head bolt.



5. Use a $\frac{7}{32}$ " hex key and a $\frac{9}{16}$ " wrench, to secure the cable assembly to the anchor bracket.
6. Repeat steps 1-5 on the opposite side of the ramp door.

NOTE: Refer to Fig. 12 and Fig. 13 for the roadside and curbside cable assemblies. The cables **MUST** be secured to the anchor brackets before proceeding with the remainder of the F.A.S.T. Ramp Rear Door installation.

Fig. 12



Fig. 13



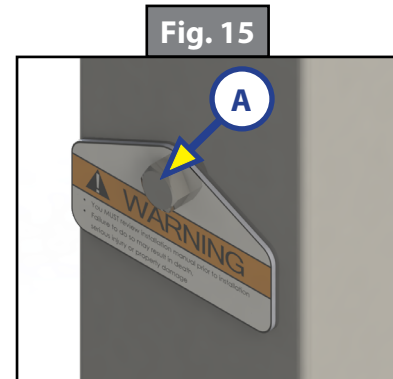
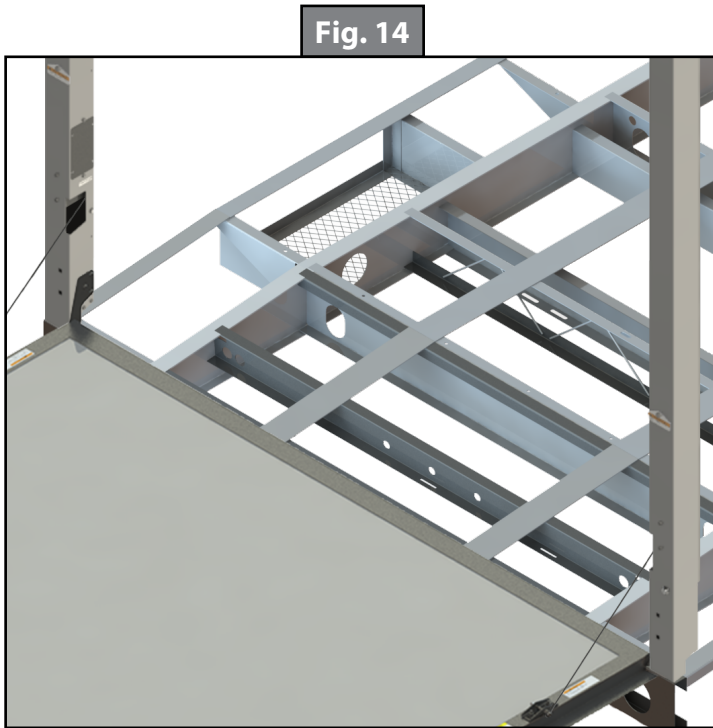
Setting Ramp Door Tension

1. With the F.A.S.T. Ramp Rear Door parallel to the ground (Fig. 14), use a $\frac{9}{16}$ " socket on either a ratcheting wrench or impact wrench and remove the $\frac{3}{8}$ " - 16 X 4 $\frac{1}{2}$ " tensioning bolt (Fig. 15A) from the vertical columns of the F.A.S.T. Ramp Rear Door jamb.
2. As the two bolts (Fig. 15A) are drawn out of the vertical columns, tension will be transferred to the F.A.S.T. Ramp Rear Door cable assembly.
3. Once both tensioning bolts have been removed from both vertical columns, slowly lower the ramp door to the ground.
4. Tensioning bolt holes on the vertical columns should be plugged with the hole plugs (Fig. 16) that are provided with the F.A.S.T. Ramp Rear Door kit.
5. Once this is completed, the F.A.S.T. Ramp Rear Door System is operational.

Cable System Adjustment

The F.A.S.T. Ramp Rear Door cable system was designed to be ready for use without adjustment, after installation has been completed. However, if there is more than a $\frac{1}{2}$ " of cable sag on an installed cable system with ramp door tension applied, cable tension adjustments can still be made.

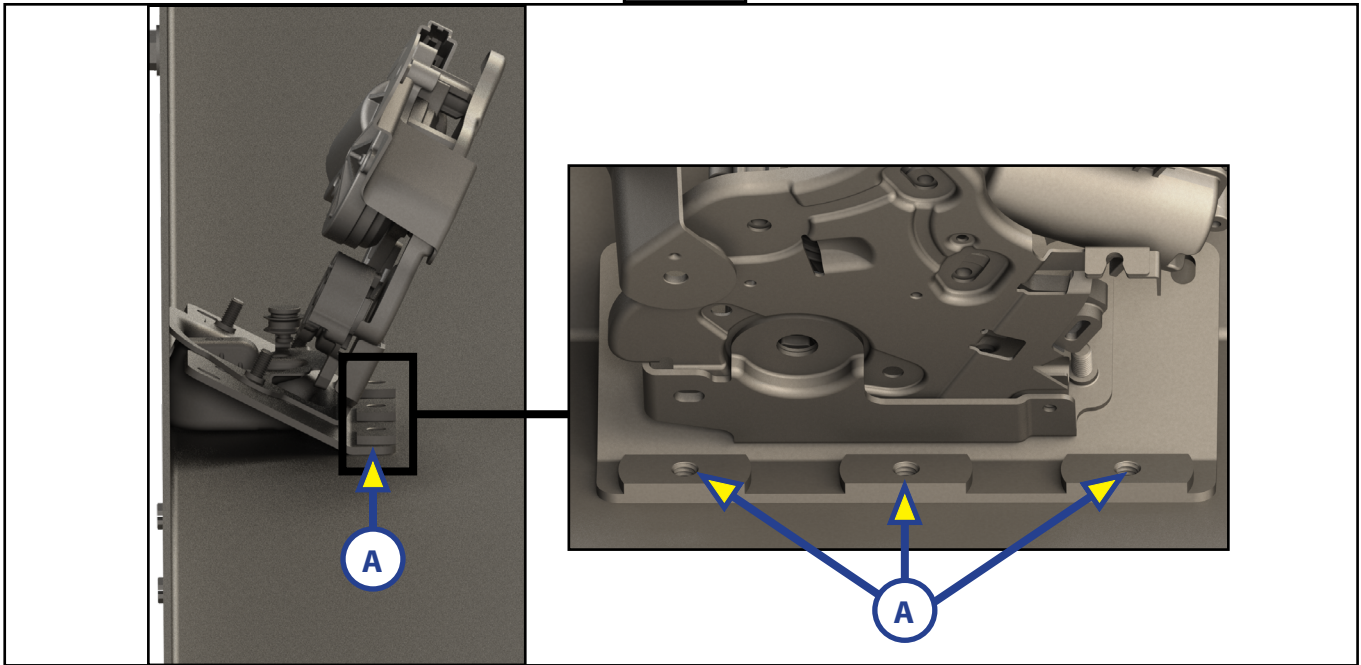
1. Extend the ramp door, remove the hole plugs, reinsert the two ramp door tension bolts (Fig. 14).
2. Once pressure has been released from the ramp door cable system, loosen the two anchor mounting bolts (Fig. 11F).
3. With the bolts loosened, slide the anchor bracket along the channel to achieve maximum tension.
4. Tighten anchor bolts to reset ramp door tension.



Cinch Latch Installation

1. Locate the cinch latch motor assembly and align the three holes in the cinch latch base (Fig. 17A) with the three pre-drilled holes in the top of the door jamb.

Fig. 17



2. Attach the cinch latch motor assembly to the door jamb using three $\frac{5}{16}$ " - 18 x $\frac{3}{4}$ " button head stainless steel bolts (Fig. 18A, 19A).
3. If applicable, do steps 1-2 to install the second cinch latch.

Fig. 18

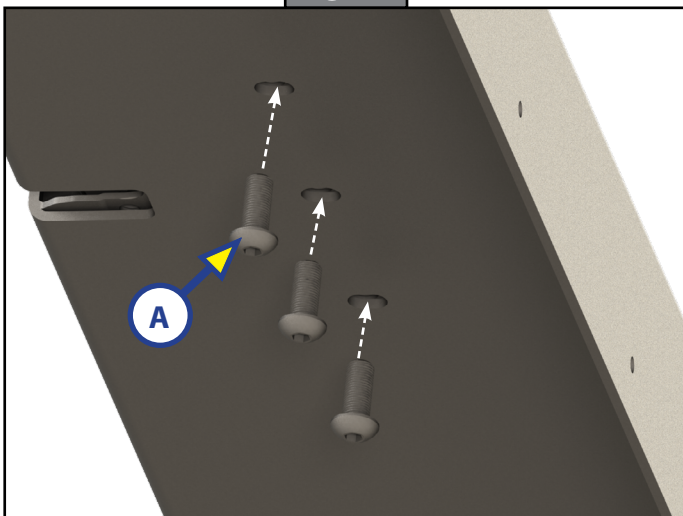
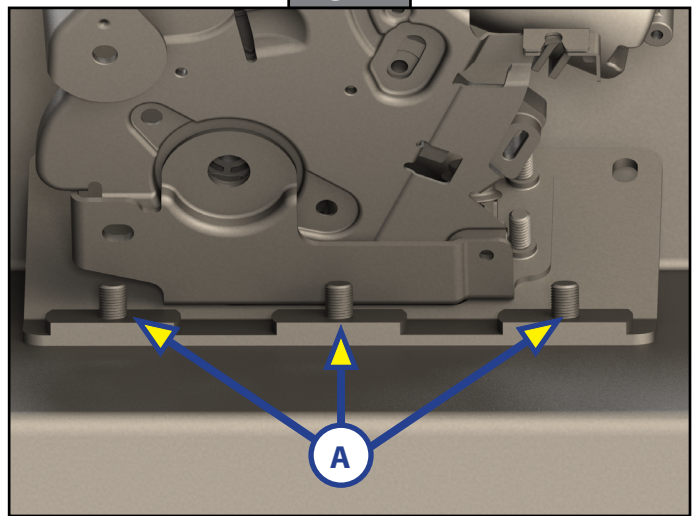


Fig. 19



4. From inside the unit, Install the cinch latch cover, single or double. Locate the two holes in the top front face of the door jamb located near the cinch latch (Fig. 20A).
5. Place the cinch latch cover (Fig. 20B) on the lip of the door jamb (Fig. 20C).
6. Align the holes in the cinch latch cover (Fig. 20D) with the holes in the door jamb (Fig. 20A).
7. Install the two push pin fasteners (Fig. 20E) through the cover and into the door jamb.
8. If applicable, do steps 4-7 for the second cinch latch cover.

NOTE: Figure 21A shows a single cinch latch cover completed. Figure 22A shows the two covers completed for dual cinch latches.

Fig. 20

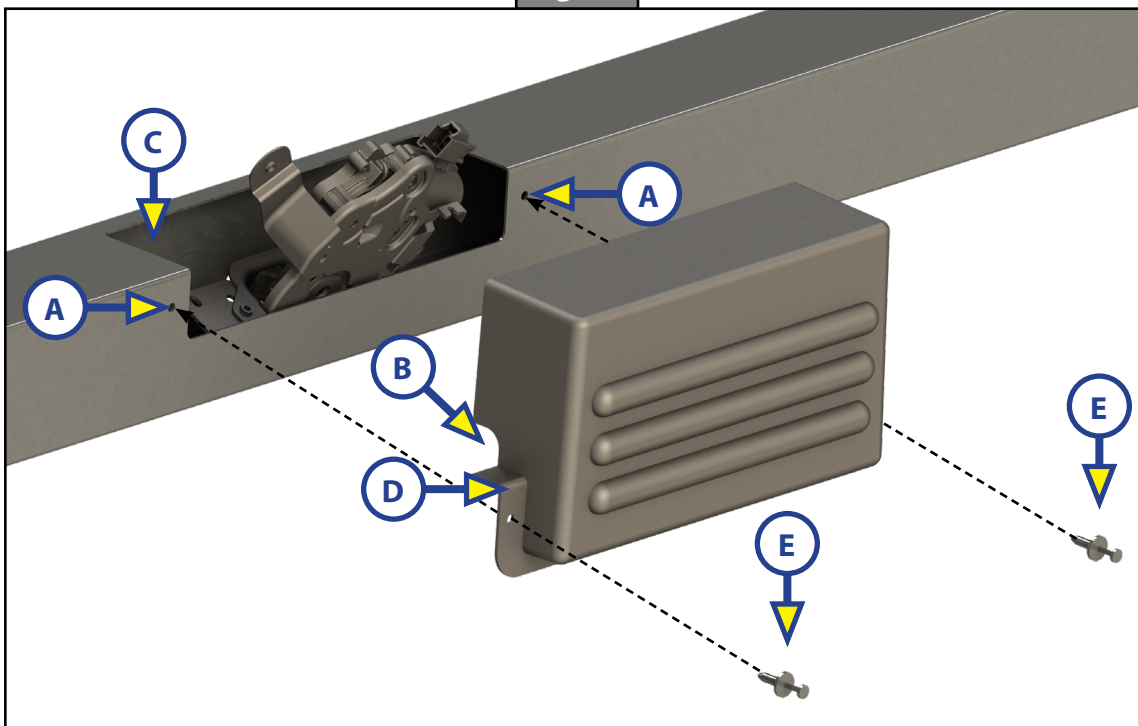


Fig. 21

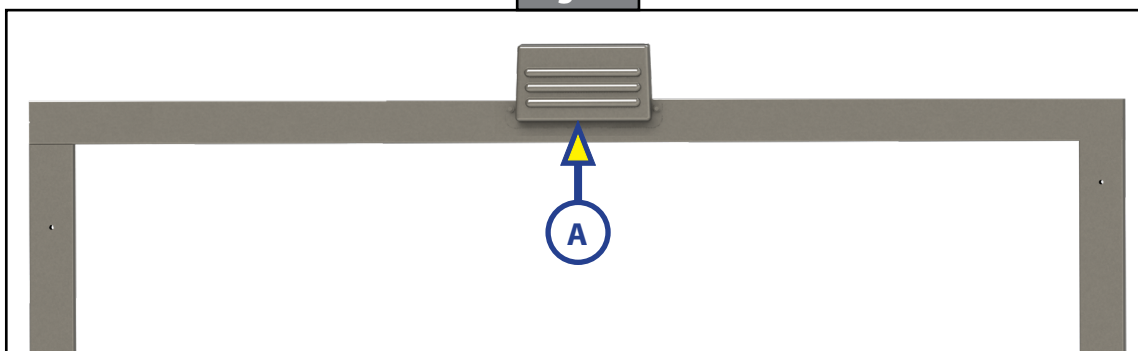
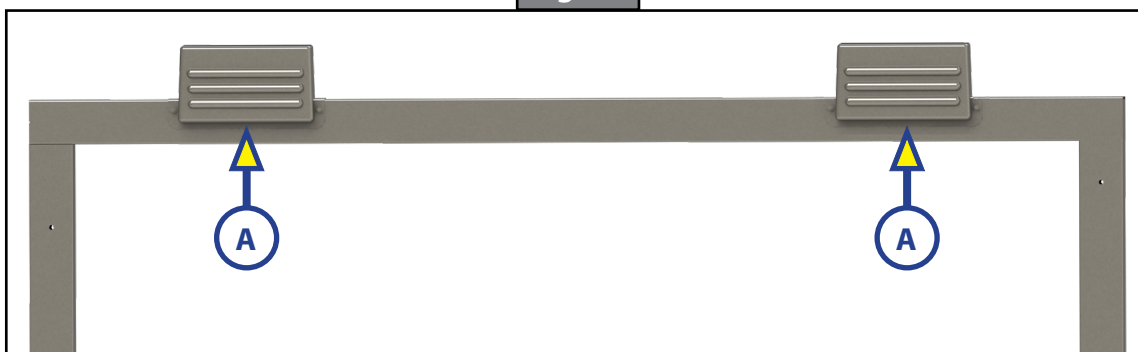


Fig. 22



Controller For One Cinch Latch

1. Mount the controller (Fig. 23A) in a clean and dry, weather-tight location that will keep it from being damaged, but is easily accessible for service. The controllers are **NOT** waterproof.

NOTE: The controller **MUST** be mounted with the face visible.

NOTE: The controller can be mounted anywhere inside the trailer. The controller should be hidden, accessible, and the wires need to reach the motor.

2. Route and attach the switch harness (Fig. 23B) from the controller to where the key switch and the LED are located on the door jamb. One red wire and one purple wire go to the key switch and one red wire and one green wire go to the LED.

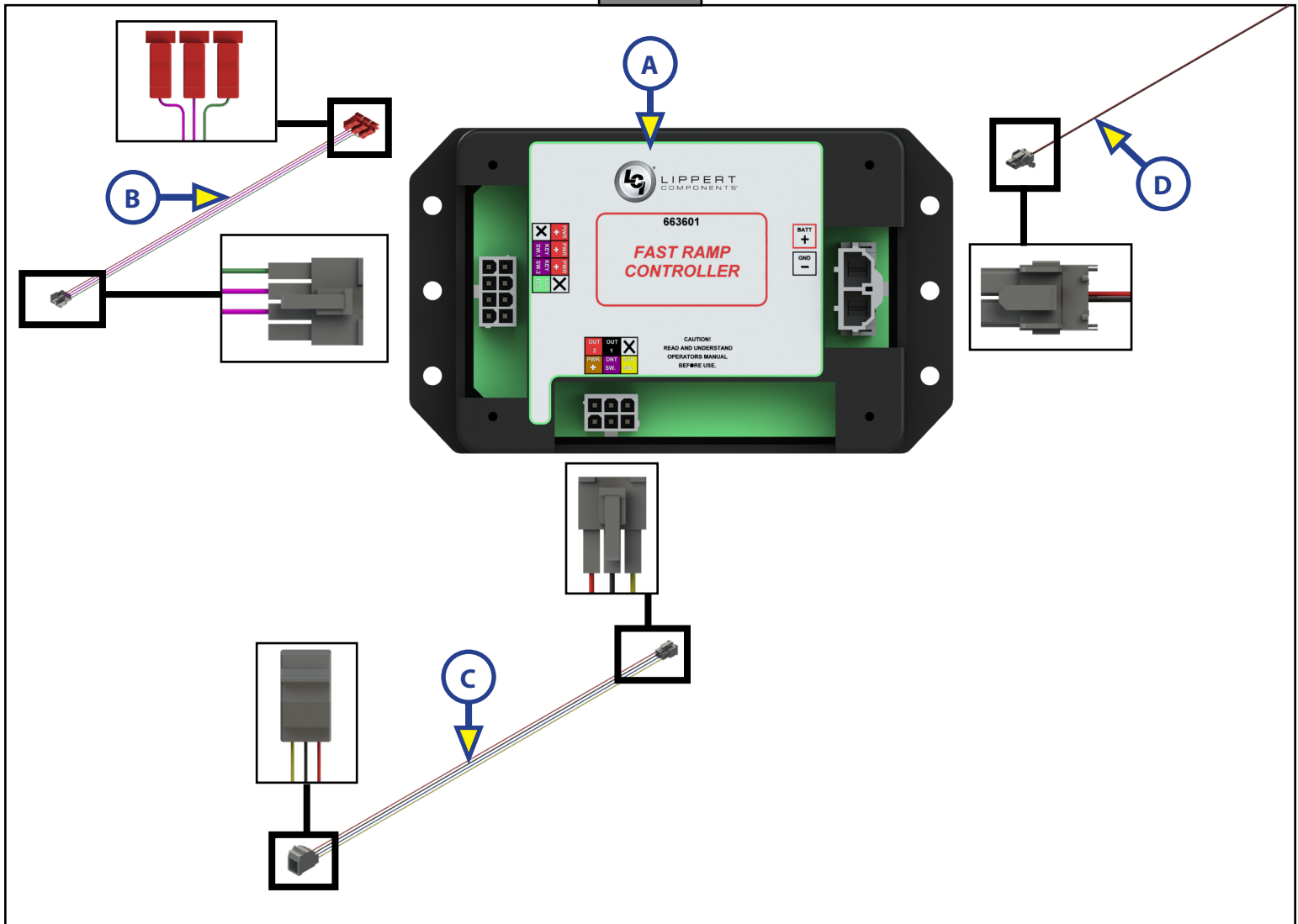
NOTE: Located on the switch harness, there is also an additional red wire and purple wire for an internal switch to open the door from the inside of the trailer (determined by OEM). This is an optional attachment but the wires are provided on the harness.

3. Route and attach the motor 1 harness (Fig. 23C) from the controller to the motor.

NOTE: It is recommended by LCI that this system be wired using a 10 gauge wire minimum and to wire all wires independently.

4. Route and attach the power wiring harness (Fig. 23D) to the controller. Use the proper gauge wire to support the 12V DC battery when connecting to the power source.

Fig. 23



Controller For Dual Cinch Latches

1. Mount the controller (Fig. 24A) in a clean and dry, weather-tight location that will keep it from being damaged, but is easily accessible for service. The controllers are **NOT** waterproof.

NOTE: The controller **MUST** be mounted with the face visible.

NOTE: The controller can be mounted anywhere inside the trailer. The controller should be hidden, accessible, and the wires need to reach the motor.

2. Route and attach the switch harness (Fig. 24B) from the controller to where the key switch and the LED are located on the door jamb. One red wire and one purple wire go to the key switch and one red wire and one green wire go to the LED.

NOTE: Located on the switch harness, there is also an additional red wire and purple wire for an internal switch to open the door from the inside of the trailer (determined by OEM). This is an optional attachment but the wires are provided on the harness.

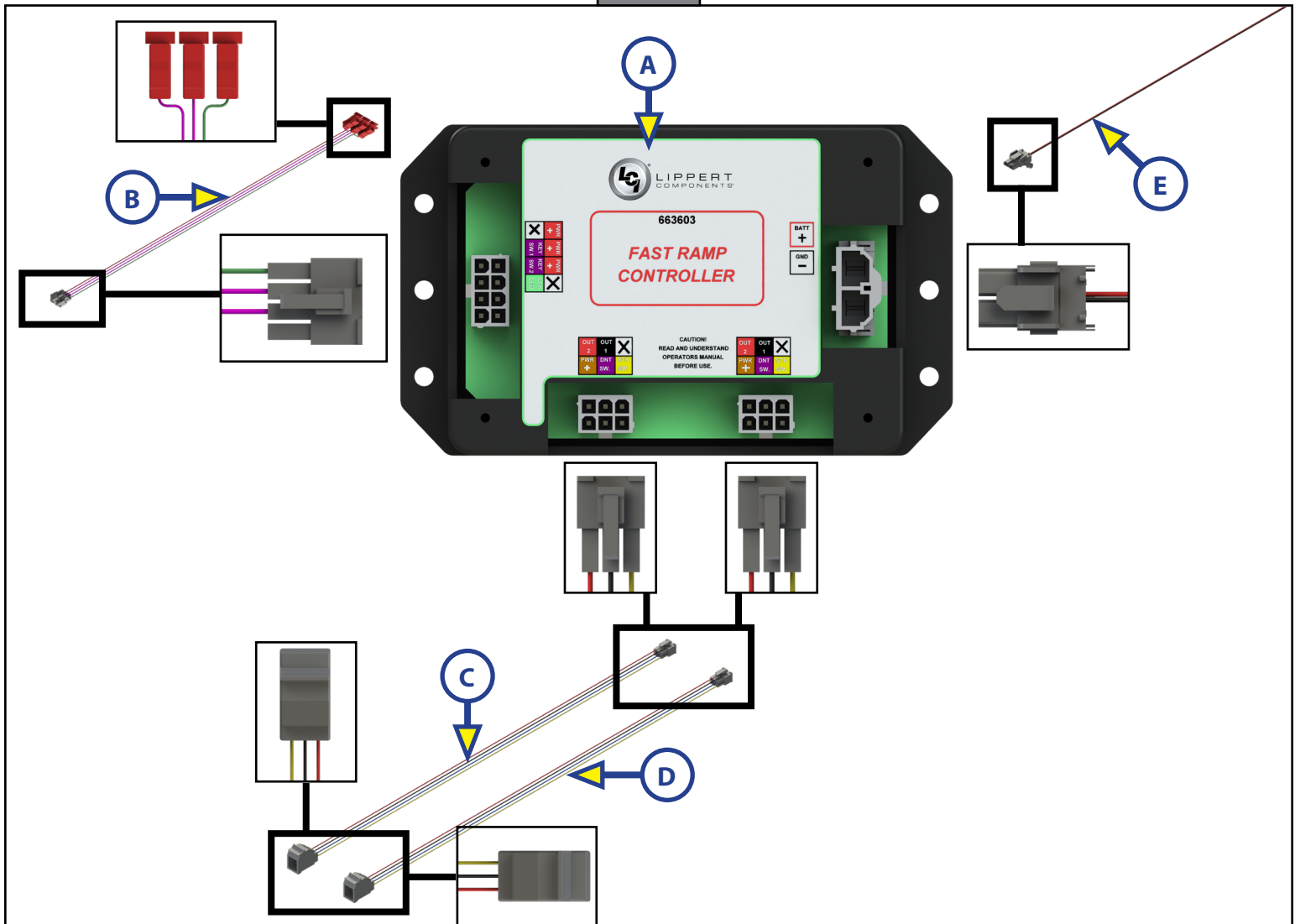
3. Route and attach the motor 1 harness (Fig. 24C) and motor 2 harness (Fig. 24D) from the controller to each motor.

NOTE: The controller has two "motor leads" which can be either motor.

NOTE: It is recommended by LCI that this system be wired using a 10 gauge wire minimum and to wire all wires independently.

4. Route and attach the power wiring harness (Fig. 24E) to the controller. Use the proper gauge wire to support the 12V DC battery when connecting to the power source.

Fig. 24



Optional Configurations

Leaf Hinge Installation

The F.A.S.T. Ramp Rear Door jamb **MUST** be installed on the trailer prior to the installation of the F.A.S.T. Ramp Rear Door assembly. There is no other acceptable installation method. The exterior side walls and roof of the trailer should already be installed.

1. Place the ramp door (Fig. 25A) on the installed ramp door jamb (Fig. 25B), ensuring that the ramp door rests on the lip of the bumper (Fig. 25C).

NOTE: A 1/4" gap spacer may be used to leverage the lower lip of the ramp door and the trailer bumper during door installation.

2. Position the door perpendicular to the ramp door jamb.
3. Support the ramp door against the trailer.
4. Using a 1/2" drill bit, drill the ramp hinge holes into the bumper (Fig. 26A). You can use the hinge holes as a guide against the bumper.

Fig. 25

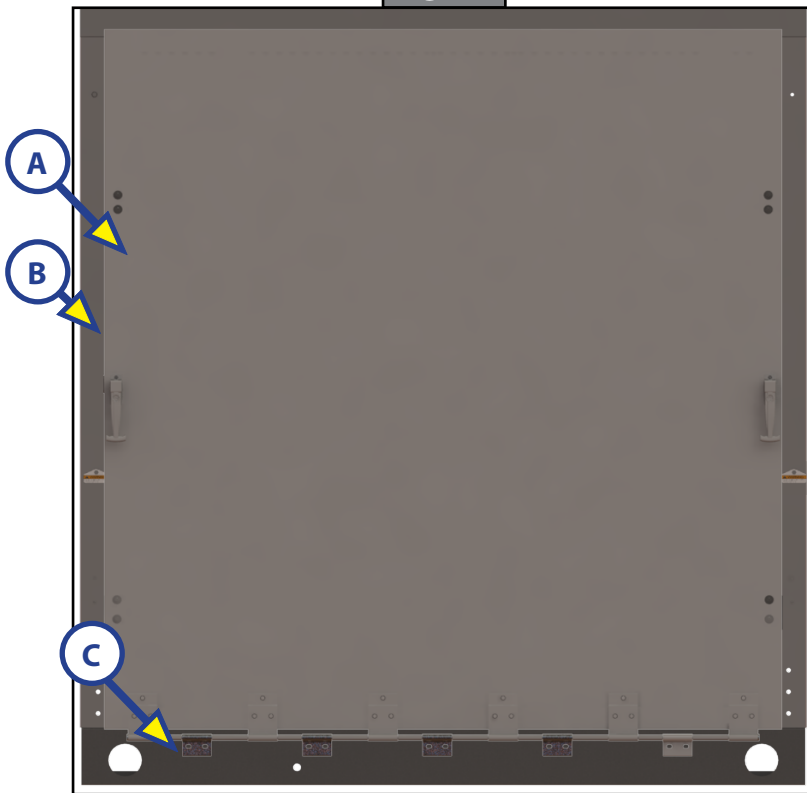
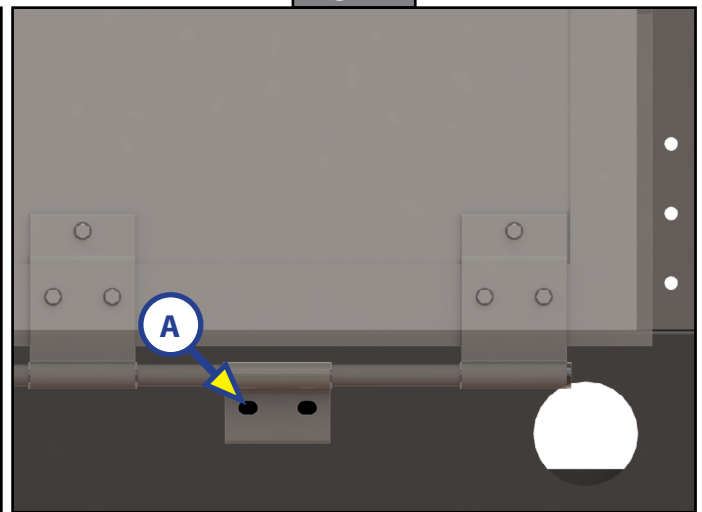


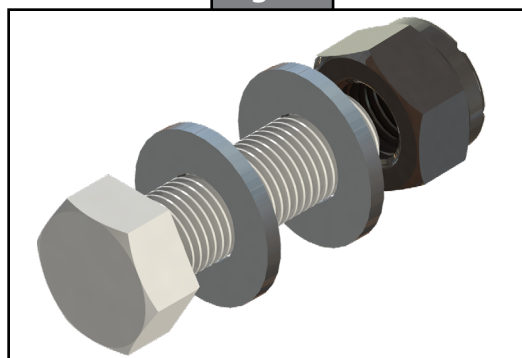
Fig. 26



NOTE: Make sure that the hinge bracket is flat against the surface of the bumper for the best possible fit.

5. To fasten the hinge bracket to the bumper, LCI recommends a minimum of one 3/8" bolt, two 3/8" washers and one 3/8" nylon insert lock nut per hinge hole (Fig. 27).

Fig. 27

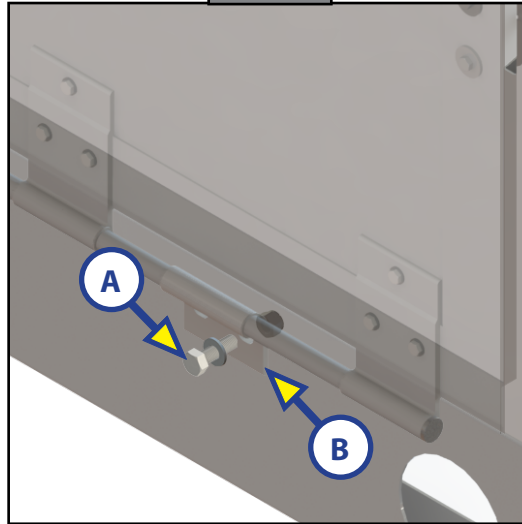


NOTE: Start with the outer brackets on each end and secure them with hardware before moving to the inner hinge brackets.

6. Insert a $\frac{3}{8}$ " bolt with a $\frac{3}{8}$ " washer (Fig. 28A) through the pre-drilled hole in the hinge bracket (Fig. 29B) and bumper.
7. Install a $\frac{3}{8}$ " washer on the bolt then thread and secure a $\frac{3}{8}$ " nylon insert lock nut.
8. Using an impact wrench and a $\frac{9}{16}$ " wrench, tighten the bolt and nut assembly.
9. Repeat steps 5-8 until all hinge brackets are secured to the bumper..

NOTE: At this point, the ramp door may be lowered parallel to the ground in order to complete the F.A.S.T. Ramp Rear Door cable system installation.

Fig. 28

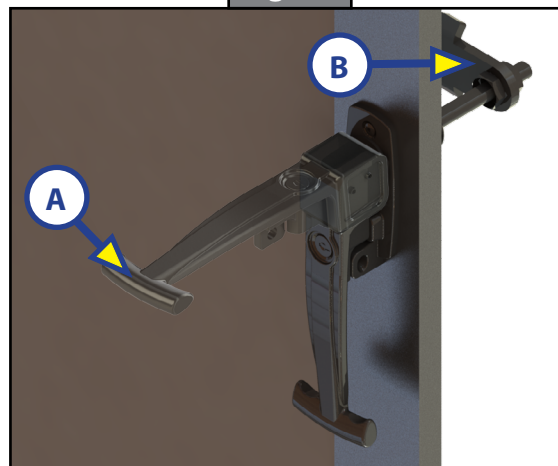


Compression Latch Mechanism

1. To release tension on the compression latch mechanism or to open the ramp door, first verify the latch is unlocked.
2. Raise the handle of the compression latch (Fig. 29A) so that it is parallel with the ground.
3. Twist the latch handle 90° in either direction. This will release the locking tab (Fig. 29B) from the door jamb, allowing the ramp door to be lowered.

NOTE: Twisting the latch handle will also adjust the amount of tension on the compression latch mechanism.

Fig. 29



Patio Rail Kit and Support Accessories

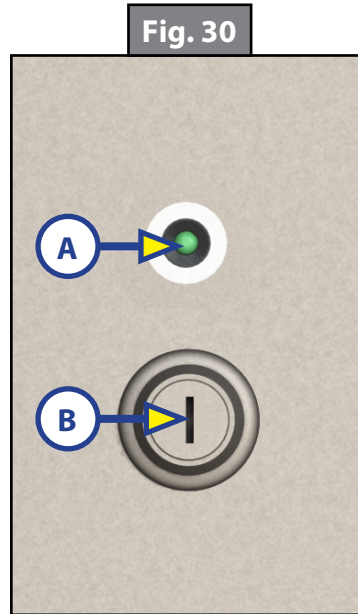
There are optional accessories that can be purchased with the door jamb. Please refer to the manuals related to those optional accessories for complete installation instructions.

Operation

Stowed Position to Extended Position

NOTE: Make sure the unit is connected to a power source.

1. Insert the key into the keyed access point located in the door jamb of the rear ramp door (Fig. 30B).



2. Turn the lock mechanism to the right. The door will visibly pop open slightly, releasing pressure on the seals.
3. Once the lock mechanisms have been released, the rear ramp door is ready to extend. Slowly extend the patio door. The F.A.S.T. technology actively counter balances the weight of the door, allowing for one handed operation of the rear ramp door.

NOTE: If the door does not visibly open try the key again. If still does not open then refer to the manual override on the latch itself inside the trailer. If applicable, the controller is designed in such a way that if one latch is cinched and the other is not it will automatically release the cinched latch. The only way this will not happen is in the event that power is failing to reach the system properly.

4. The key can now be removed.

Extended Position to Stowed Position

NOTE: The keyed access does **NOT** need the key inserted into the lock to close the door. When closing the door, do not slam or force the door closed. Slowly close the door, allowing the cinch latch to function as intended. If the door is forced closed too quickly, the door will “bounce” away from the header and the cinch latch will not latch.

1. Slowly retract the rear ramp door, when the cinch latch pin (Fig. 31A) comes in contact with the cinch latch (Fig. 32A), positive pressure must be maintained until the cinch latch has cycled and engaged the locking mechanism.
2. If the cinch latch pin properly engages into the cinch latch, the LED light (Fig. 30A) will turn green.

NOTE: If applicable, If both cinch latches do not actuate, the controller will automatically reset the closed latch and will open the door slightly. Close the door again to get both latches to engage. If both latches engage the LED next to the key access will turn green.

Fig. 31

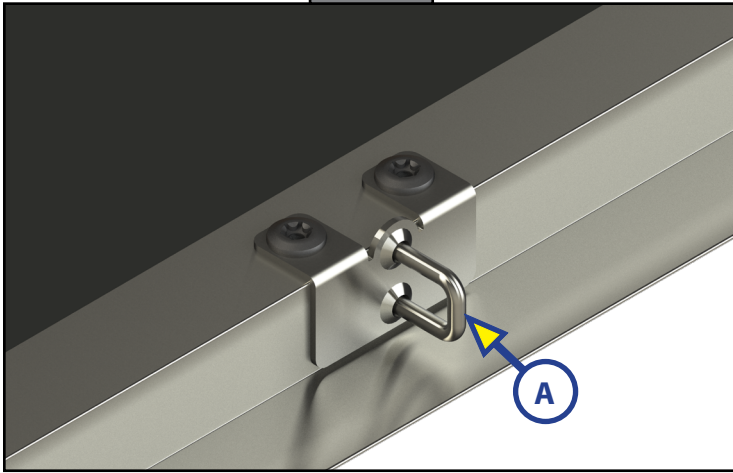
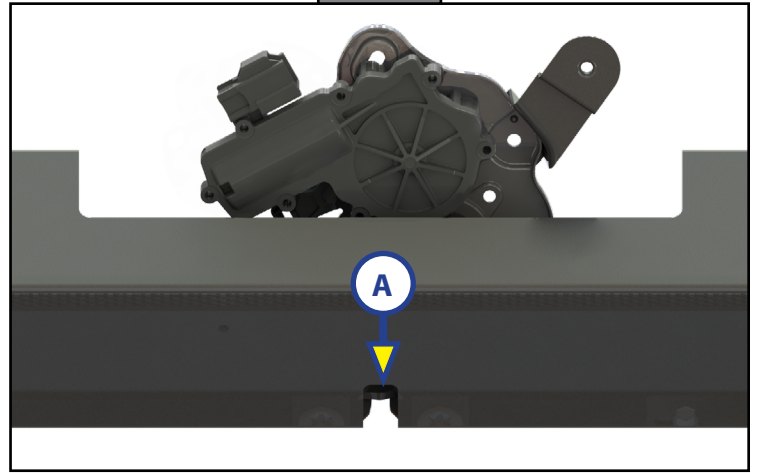


Fig. 32



Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



L I P P E R T C O M P O N E N T S[®]

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