



REAR PATIO RAIL KIT 3.0

OEM INSTALLATION MANUAL

LIPPERT
COMPONENTS®

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Safety Information

WARNING

The maximum weight rating for the door in ramp mode is 3,000 pounds. The maximum weight rating for the door in patio mode is 1,500 pounds. Exceeding the maximum weight ratings can cause death, serious injury or damage to the trailer. **DO NOT** allow the ramp door to fall while lowering into level position, as this could cause injury or damage to the trailer or door.

CAUTION

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

WARNING

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

NOTE: Cables are not 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.

Resources Required

- Cordless or Electric Drill or Screw Gun
- Appropriate Drive Bits
- Tape Measure
- Grease Pencil/Frame Marker
- Carpenters Square
- (4) C-Clamps

Preparation

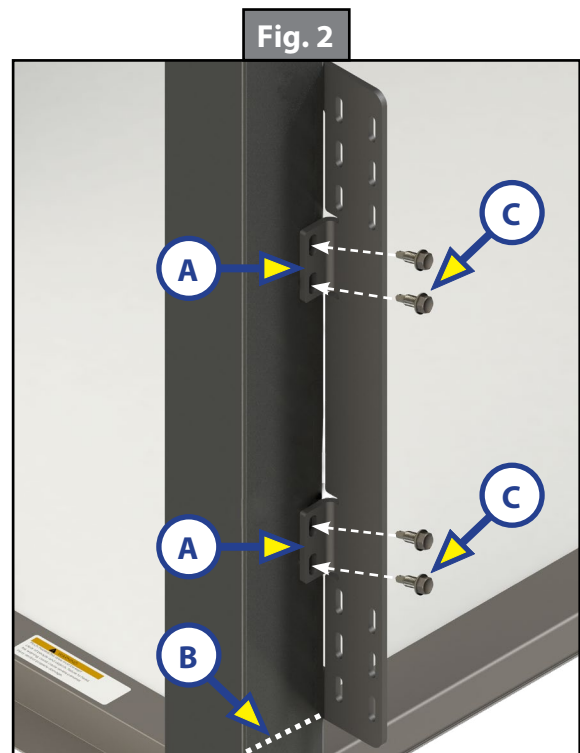
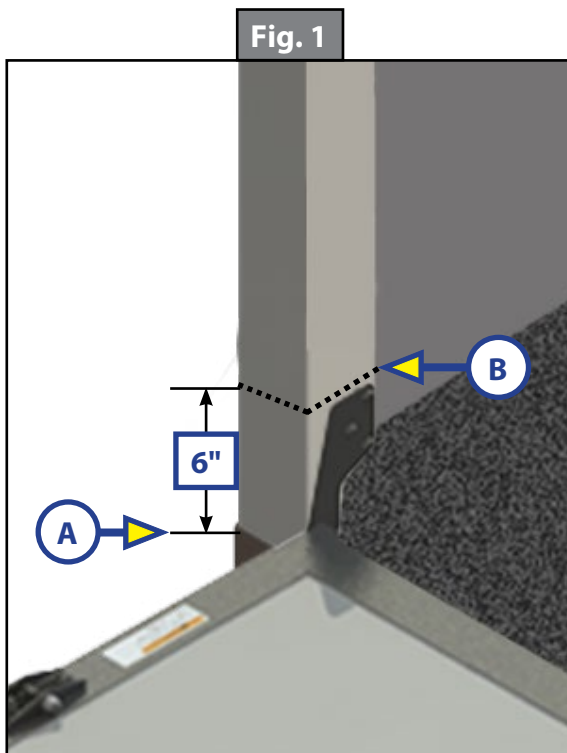
Ensure the ramp door support cables are securely in the patio position prior to starting the installation. Installation will not be possible otherwise.

Patio Railing Installation

Door Jamb Baseplate

NOTE: Standard door jams that are not Force Assisted Spring Tension (F.A.S.T.) ramp door jams may or may not have the door jamb baseplate welded on. If the door jamb baseplate is not welded to the door jamb the OEM will need to purchase a door jamb baseplate kit which consists of 2 brackets and 8 self-drilling screws. There are 2 different door jamb baseplate kits for jams that are 2" deep. Part number 670758 is a kit that is used for doors measuring less than 81 $\frac{3}{8}$ " in rough opening height and part number 644939 is the kit that mounts to a 2" deep jamb for doors measuring 81 $\frac{3}{8}$ " or greater.

1. Measure from the top of the bumper (Fig. 1A) up 6" - 7 $\frac{1}{2}$ " on the exterior face of the door jamb and mark the location. Using a carpenters square, mark the location around to the interior side of the door jamb (Fig 1B).



2. Place the door jamb baseplate hinges (Fig. 2A) flush against the edge of the interior face of the door jamb. Align the bottom edge of the door jamb baseplate at the above marked location (Fig. 2B).
3. Install the door jamb baseplate to the interior of the door jamb using four $\frac{5}{16}$ " - 12 x 1" self-drilling hex. screws (Fig. 2C) into the channeled slots of the hinges of the door jamb baseplate.
4. Repeat steps 1-3 for the opposite side of the door jamb.

Hinge Bracket

NOTE: For trailers equipped with the F.A.S.T. Ramp Door System, the door jamb baseplate is already welded to the ramp door jamb at the factory. If the door jamb baseplate is not already welded to the door jamb see Door Jamb Baseplate section.

1. Starting with the curbside rail kit, locate the door jamb baseplate (Fig.3B).
2. Insert six $\frac{5}{16}$ " - 18 x 1" carriage bolts (Fig. 3A) into the channeled slots of the door jamb baseplate (Fig. 3B) closest to the door jamb.
3. Install the hinge bracket (Fig. 3D) onto the exposed thread of the bolts, so that the hinge bracket barrel (Fig. 3C) is closest to the door jamb.

Fig. 3

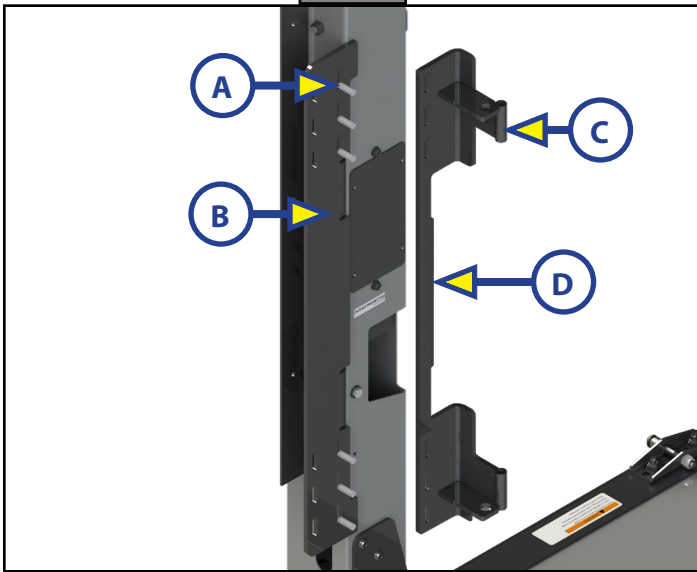
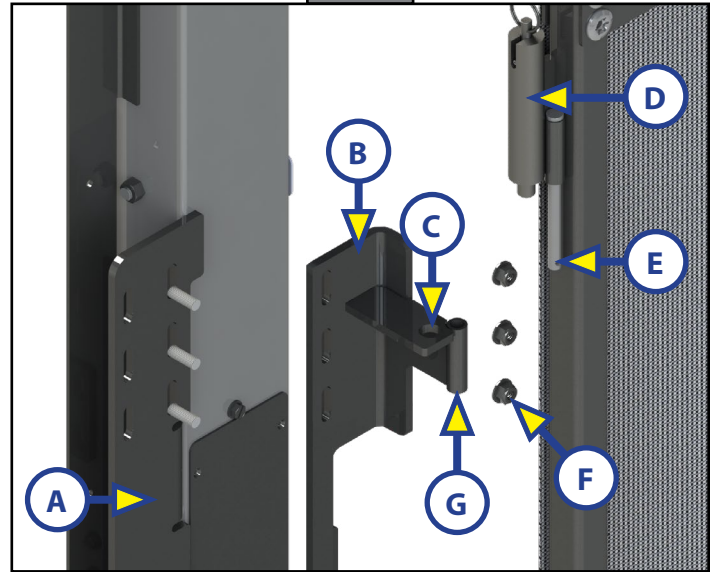


Fig. 4

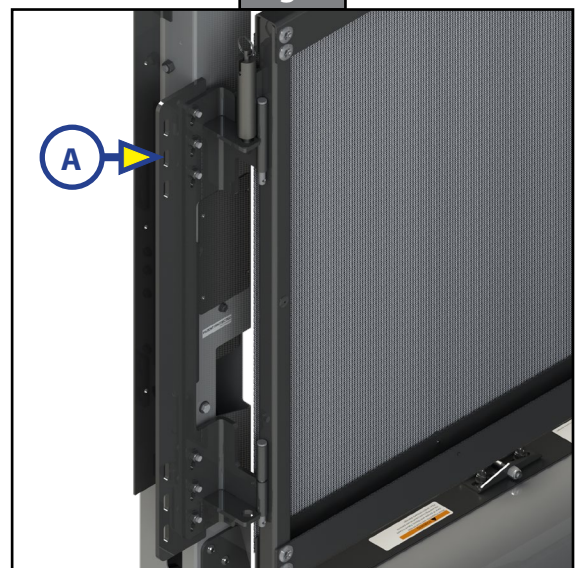


4. Install and loosely hand tighten the six $\frac{5}{16}$ " - 18 nylon locking flange nuts (Fig. 4F) onto the carriage bolts (Fig. 3A), fastening together both the door jamb baseplate (Fig. 4A) and the hinge (Fig. 4B).
5. Place the curbside patio rail hinge pin (Fig. 4E) into the hinge bracket barrel (Fig. 4G).
6. Adjust the height of the hinge bracket (Fig. 3D) so that the patio panel is aligned level with the door in the patio position.
7. Torque the nuts to 80ft-lbs.

NOTE: The rail kit spring loaded lockout mechanism (Fig. 4D), rests inside the hole (Fig. 4C) next to the hinge bracket barrel (Fig. 4G). To pivot the rail assembly in or out, pull up on the ring, twist the ring pin and let it rest on top of the hinge bracket barrel. To keep the rail assembly stationary pull up on the ring pin, twist and let the ring pin slide into the hole. Do not force the rail assembly open or closed.

8. Once the curbside rail kit has been completed (Fig. 5) repeat steps 1-5 on the roadside rail kit. For the roadside rail kit use the holes farthest away from the door jamb opening in the door jamb baseplate (Fig. 5A) so when the rail kit is closed the two sides of the rail kit are stacked. When stowing the patio rail kit, the roadside rail assembly **MUST** be collapsed first, followed by the curbside rail assembly.

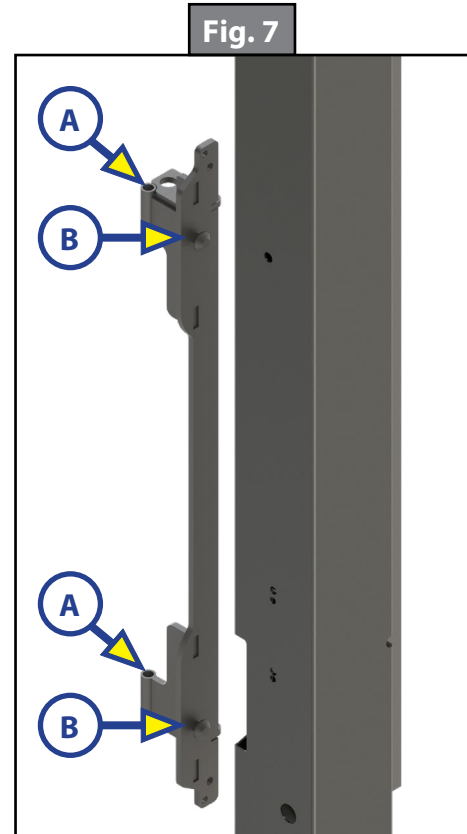
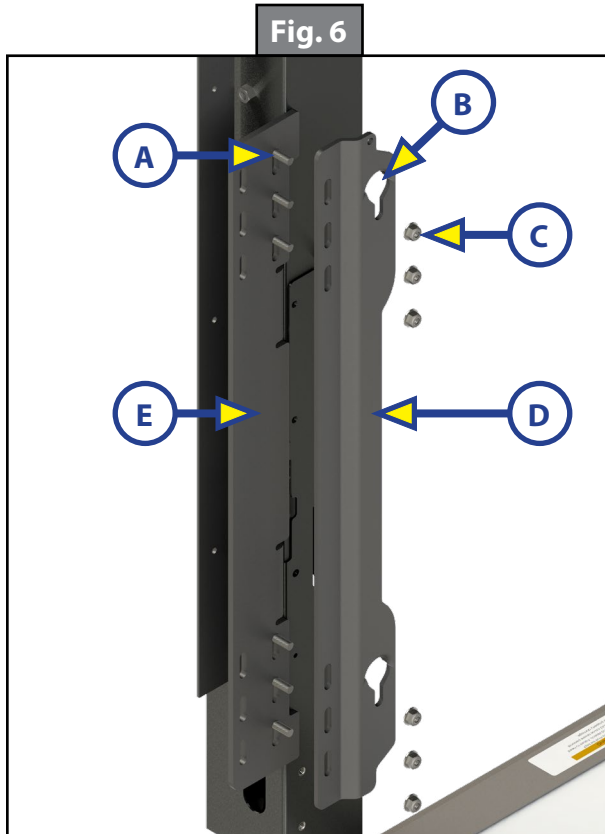
Fig. 5



Quick Disconnect Hinge Bracket (Optional)

NOTE: For trailers equipped with the F.A.S.T. Ramp Door System, the door jamb baseplate is already welded to the ramp door jamb at the factory. If the door jamb baseplate is not already welded to the door jamb see Door Jamb Baseplate section.

1. Starting with the curbside hinge bracket (Fig. 6D), locate the door jamb baseplate (Fig. 6E).
2. Align the hinge bracket door jamb holes with the holes in the door jamb baseplate. Make sure to use the holes in the door jamb baseplate closest to the door jamb.
3. Insert six $\frac{5}{16}$ " - 18 x 1" carriage bolts (Fig. 6A) through the channeled slots of the door jamb baseplate closest to the door jamb and into the hinge bracket slots.
4. Install six $\frac{5}{16}$ " - 18 nylon locking flange nuts (Fig. 6C) onto the carriage bolts, fastening together the door jamb baseplate (Fig. 6E) and the hinge bracket (Fig. 6D).



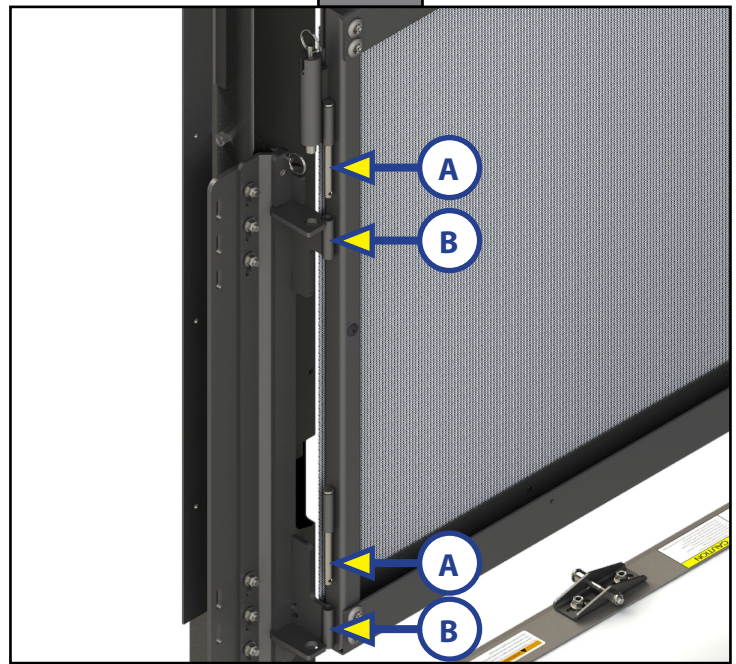
5. On the back side of the hinge bracket are two alignment pins (Fig. 7B). Align the pins with the alignment hole openings of the hinge bracket (Fig. 6B), insert alignment pins then push down so that the pins rest inside at the lower portion of the hole. Make sure the hinge bracket barrel (Fig. 7A) is closest to the door jamb opening.

6. Install the ring pin (Fig. 8A) through the ring pin alignment hole of the hinge bracket and door jamb baseplate.
7. At the top of the hinge bracket is a set screw hole just below the ring pin hole. Thread the provided $\frac{3}{8}$ " - 16 x $\frac{1}{2}$ " set screw (Fig. 8B) into the hole. This is used to force the hinge bracket from the hinge rail apart, locking them together to prevent rattling.
8. Place the curbside patio rail hinge (Fig. 9A) into the hinge bracket barrels (Fig. 9B).

Fig. 8



Fig. 9

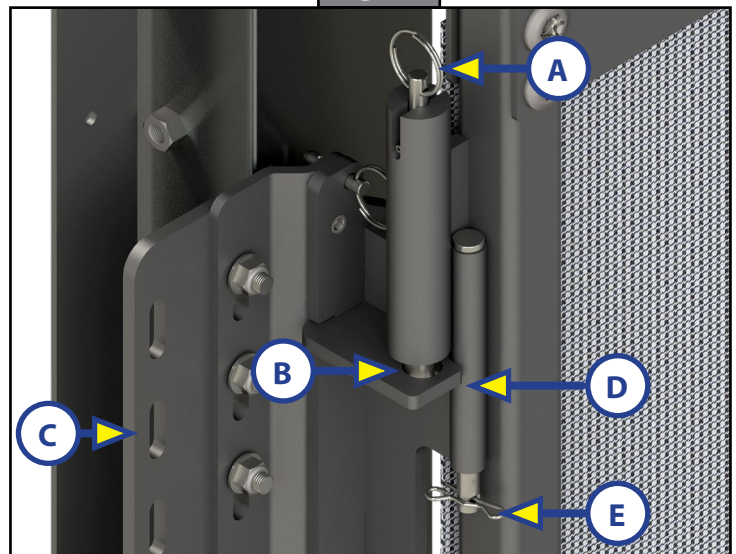


9. Secure the end of the patio rail hinge pin with the provided cotter pin (Fig. 10E)
10. Adjust the height of the hinge bracket (Fig. 3D) so that the patio panel is aligned level with the door in the patio position.
11. Torque the nuts to 80ft-lbs.

NOTE: The rail kit spring loaded lockout mechanism (Fig. 10A), rests inside the hole (Fig. 10B) next to the hinge bracket barrel (Fig. 10D). To pivot the rail assembly in or out, pull up on the ring, twist the ring pin and let it rest on top of the spring loaded lockout barrel. To keep the rail assembly stationary pull up on the ring pin, twist and let the ring pin slide into the hole. Do not force the rail assembly open or closed.

12. Once the curbside rail kit has been completed, repeat steps 1-9 on the roadside rail kit. The roadside rail kit uses the holes farthest away from the door jamb opening in the door jamb baseplate (Fig. 10C), so when the rail kit is closed the two sides of the rail kit are stacked. When stowing the patio rail kit, the roadside rail assembly **MUST** be collapsed first, followed by the curbside rail assembly.

Fig. 10



Keeper Bases

NOTE: Do not fasten the keeper bases to the ramp door until the railing is aligned.

1. Fully extend the Rear Patio Rail Kit 3.0 (Fig. 11).
2. Attach the four keeper bases (Fig. 11A-11D) to the keeper legs located on the bottom of the patio rail kit pieces.

NOTE: The keeper bases are equipped with 2 slotted holes (Fig. 12A) and 2 shallow alignment pins (Fig. 12B) that will catch the lip of the flange of the ramp door frame (Fig. 12C).

Fig. 11

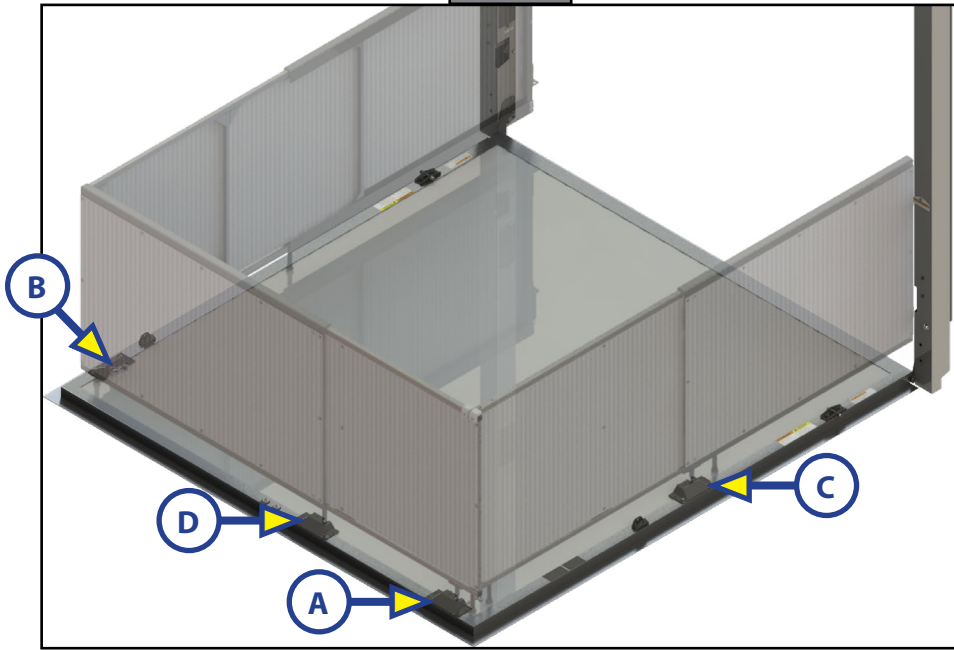
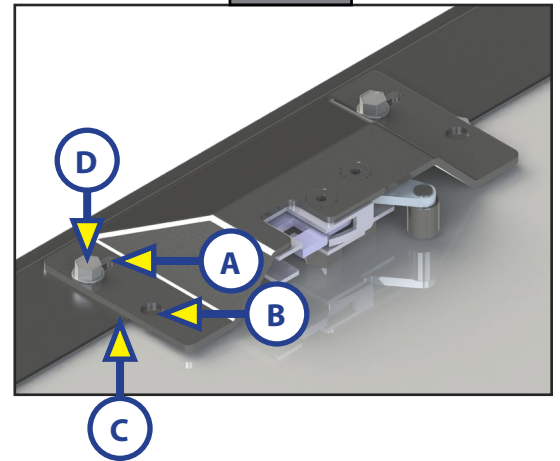
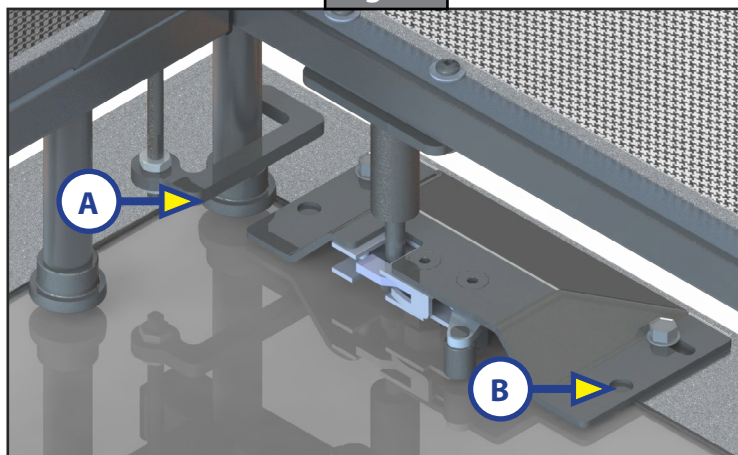


Fig. 12



3. Align the keeper bases to the frame of the ramp door so that the notched bottom of the keeper base sets flush against the inside edge of the ramp door frame.
4. Starting with keeper base A (Fig. 11A), place the patio rail leg into the corner of the flange on the ramp door (Fig. 13A).
5. Clamp the keeper base in-place.
6. Use two $\frac{1}{4}$ " - 14 x 1" hex. head screws (Fig. 12D) in the channeled slot (Fig. 12A) to fasten the keeper base to the ramp door.
7. Use the channels to make small alignments and proper fit adjustments, while making sure proper alignment is maintained along the flange lip (Fig. 13B).
8. Install keeper bases B, C and D (Fig. 11), in that order.

Fig. 13



Support Options

The LCI F.A.S.T. Ramp Door System is equipped with two support leg options, depending on how the ramp door system is installed.

Drop Leg Option

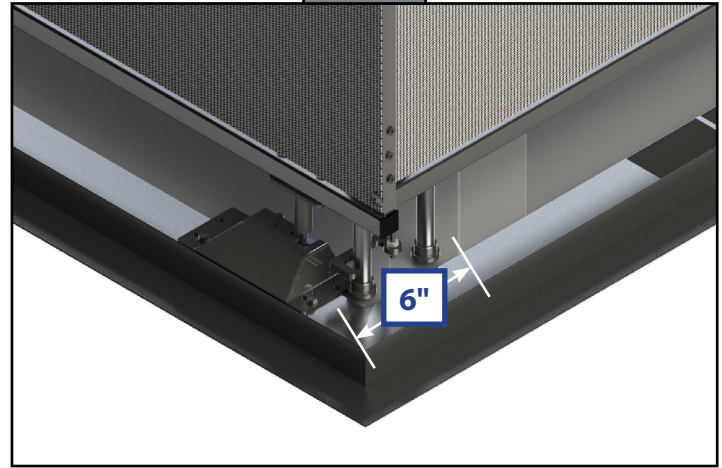
The first support option, drop leg, is used when the ramp door is installed with just the Patio Rear Rail Kit 3.0 system, or "party deck" configuration. LCI supplies a drop leg that clips onto the corner of the curbside door that works with the support cables carrying the weight of the ramp door.

1. The drop leg is inserted over the side lip of the ramp door (Fig. 14), with an attached drop leg keeper base.
2. Center the drop leg keeper base approximately 6" from the edge of the top flange lip (Fig. 15).
3. Fasten the drop leg keeper base to the ramp door flange, using two self-tapping screws.

Fig. 14



Fig. 15



Side Entry Step Option

The second support option, entry step, is when the F.A.S.T. Ramp Door System is configured with the Patio Rail Kit 3.0 system and an additional side entry step assembly.

1. The drop leg assembly (Fig. 16A) will come pre-assembled onto the step assembly (Fig. 16B).
2. The step assembly will then clip into the two pre-mounted keepers on the lip of the curbside door.

NOTE: There is also a double-step option (Fig. 17) for the side entry step assembly. Installation is identical to the triple-step procedure.

Fig. 16

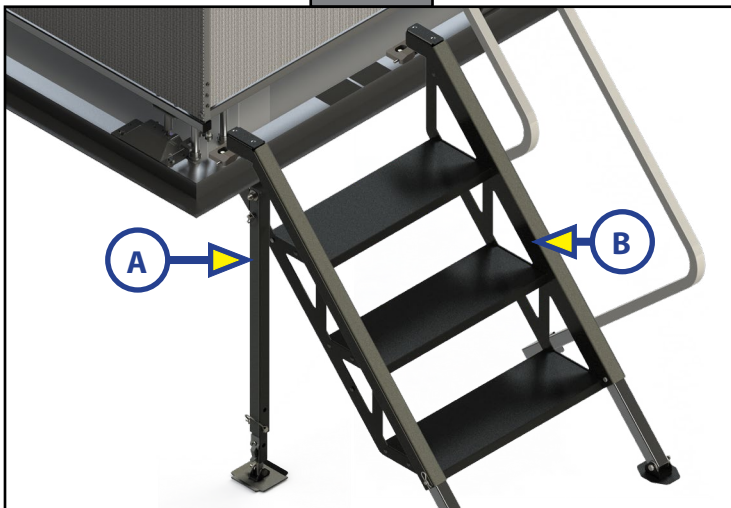


Fig. 17



Operation

⚠ WARNING

Failure to attach the ramp door support cables before operation of the rear patio deck feature may cause serious personal injury and/or damage. Do not proceed until ramp door support cables have been properly installed.

Set Up

1. Attach the ramp door support cables (Fig. 18A) to the rear ramp door assembly.
2. Open the roadside patio rail kit first, then the curbside patio rail kit of the rear patio rail kit system (Fig. 18B). Swing the rail panels outward, away from the ramp door jamb, until the keeper feet lock into the mounted keeper bases.
3. Extend the inner portion (Fig. 18C) of the roadside and curbside rail kit until they, also, lock into the mounted keeper bases.
4. Open the rear "tailgate" portion of the rear patio rail kit (Fig. 18D) by extending the inner rail kit piece (Fig. 18E) until it meets the corner curbside piece and locks into the mounted keeper base.
5. Secure the rear patio rail kit pieces together by locking them with the locking hook (Fig. 19A) and keeper (Fig. 19B) located at the top and bottom of the curbside corner, respectively.

Fig. 18

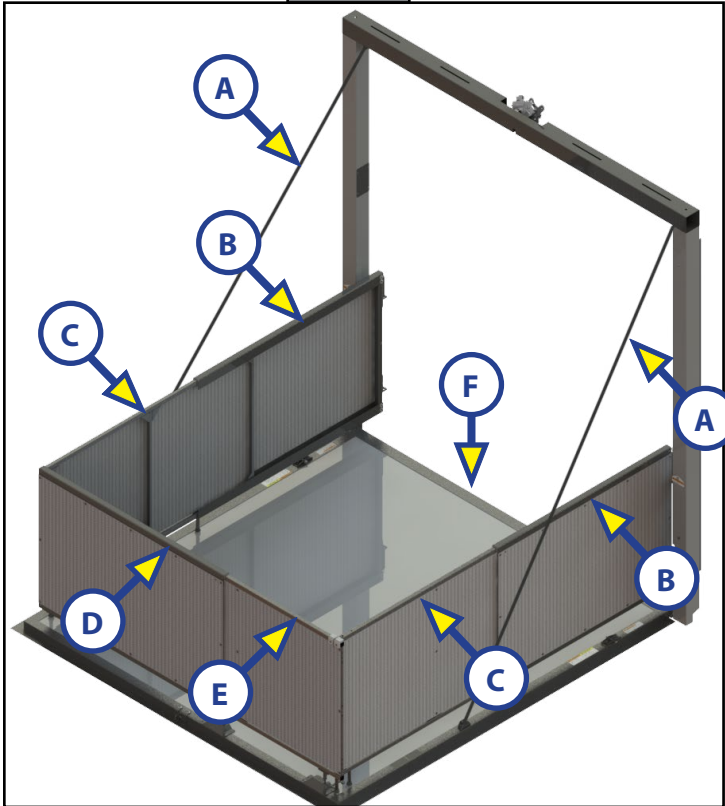
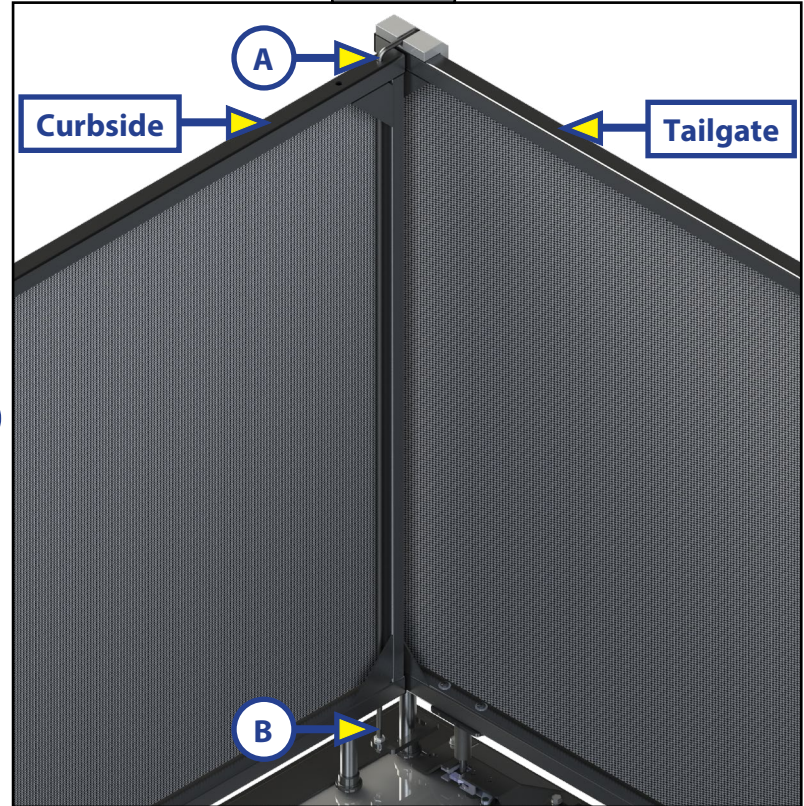


Fig. 19



Collapsing

NOTE: Prior to closing the ramp door, verify that the rear patio rail kit is not going to be damaged by the closing of the ramp door.

1. Detach the rear patio rail kit pieces by unlocking the locking hooks (Fig. 20A) and Fig. 21A), located at the top and bottom of the curbside corner, respectively.
2. Close the rear "tailgate" portion of the rear patio rail kit (Fig. 18D) by unlocking it from the mounted keeper base.
3. Retract the inner portion (Fig. 18C) of the roadside and curbside rail kit by pressing in on the toe kick of the mounted keeper base and sliding the keeper feet out.
4. Close the roadside patio rail kit first, then the curbside patio rail kit of the rear patio rail kit system (Fig. 18B) by swinging the rail panels inward, towards the door opening (Fig. 18F).

Fig. 20

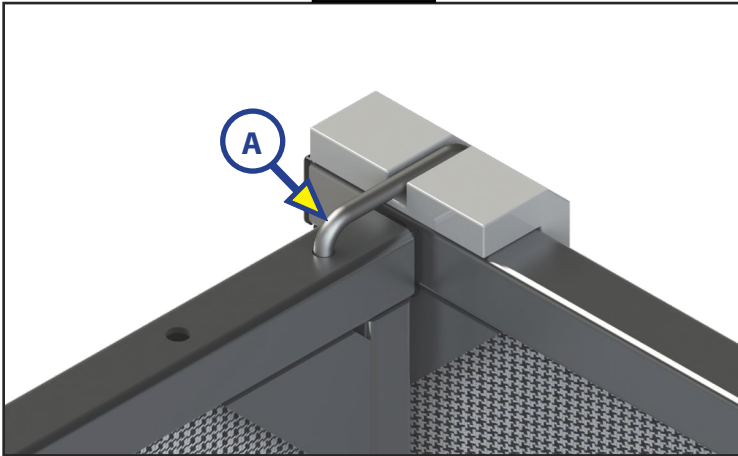
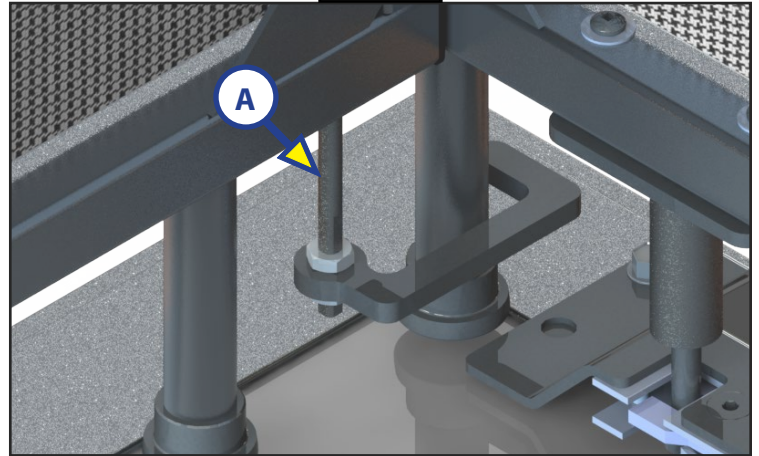


Fig. 21



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.



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