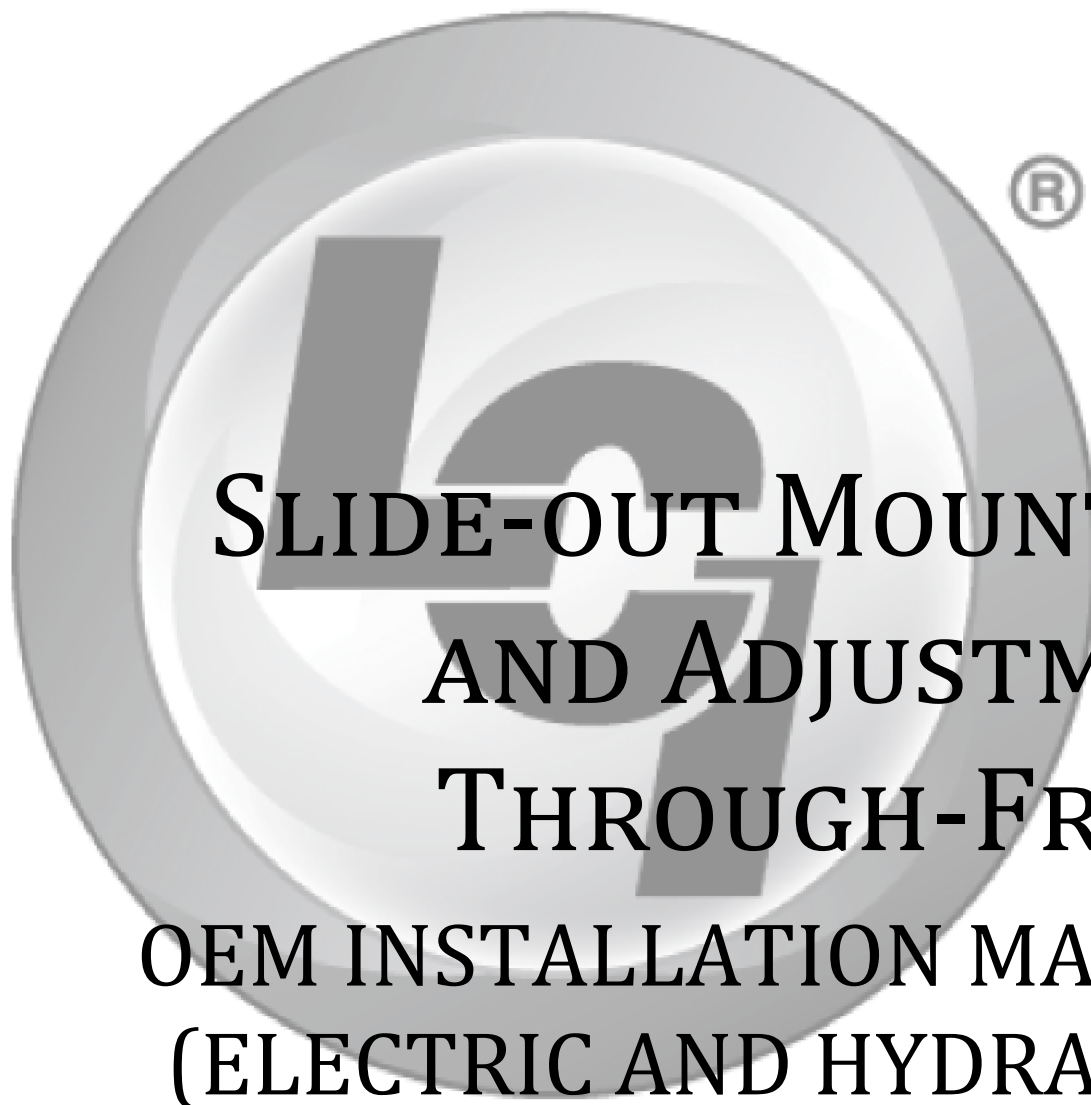




**SLIDE-OUT MOUNTING
AND ADJUSTMENT
THROUGH-FRAME
OEM INSTALLATION MANUAL
(ELECTRIC AND HYDRAULIC)**

**L I P P E R T
C O M P O N E N T S®**

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Safety Information

WARNING

The “WARNING” symbol above is a sign that an installation procedure has a safety risk involved and may cause death or serious injury if not performed safely and within the parameters set forth in this manual. Always wear eye protection when performing this installation procedure. Other safety equipment to consider would be hearing protection, gloves, and possibly a full face shield, depending on the nature of the installation procedure.

WARNING

Failure to act in accordance with the following may result in death, serious personal injury, unit or severe product or property damage.

WARNING

Always make sure that the slide-out room path is clear of people and objects before and during operation of the slide-out. Always keep away from the gear racks when the room is being operated.

⚠ WARNING

**Do not work on your slide-out system unless the battery is disconnected.
Failure to act in accordance with the following may result in death or serious
personal injury.**

⚠ WARNING

**Cover the hydraulic cylinder rods during production to avoid contamination on rods and damaging
the seals when the slide is run in and out. Failure to do so could cause permanent damage
to the component.**

⚠ CAUTION

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

Before actuating the system, please keep these things in mind:

1. Parking locations should be clear of obstructions that may cause damage when the slide-out room is actuated.
2. Be sure all persons are clear of the trailer prior to the slide-out room actuation.
3. Keep hands and other body parts away from slide-out mechanisms during actuation.
4. To optimize slide-out operation, park trailer on solid and level ground.

Resources Required

- 1 1/8" wrench
- 1 1/16" wrench
- Cordless drill or socket wrench
- 3/4" socket or wrench
- 3/8" socket or wrench
- 1/4" hex bit
- 3/8" lag screws or bolts
- Tripolymer sealant

Installing the Slide Room - Electric and Hydraulic

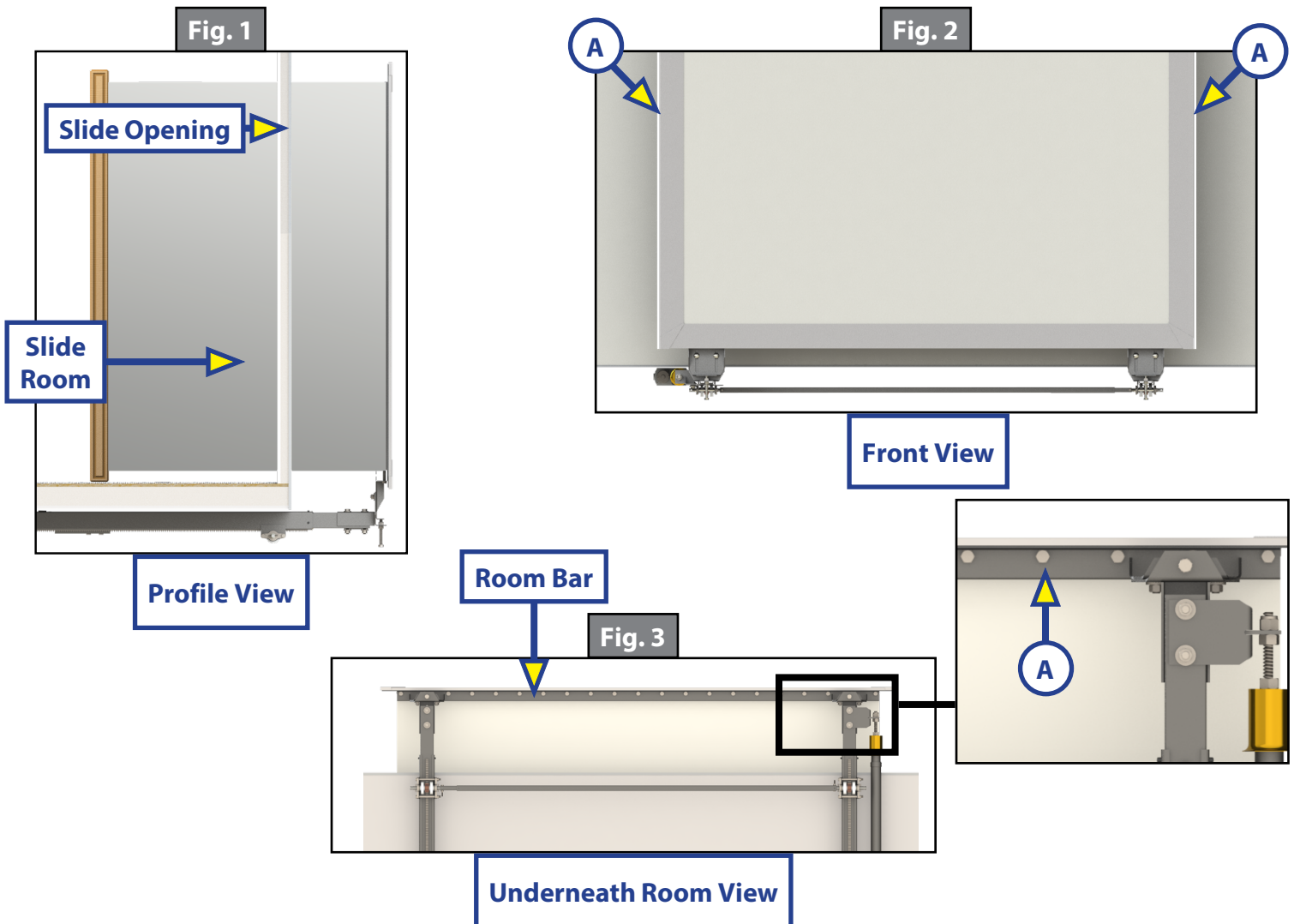
1. Place the slide room 3/4 of the way into the slide opening (Fig. 1).
2. Center the slide room in the slide opening and the head assembly on the slide-out inner arm.

NOTE: Make sure gaps on both sides are even (Fig. 2A). Gaps will vary by unit. A commonly-used wall to sidewall gap is 1½". Specific wipe and seal recommendations can be obtained from a wipe and seal vendor to ensure the gaps are correct.

3. Align the slide room on the room bar evenly prior to securing (Fig. 3).
4. Using ¾" lag screws or bolts (Fig. 3A) secure the room bar to the slide room.

⚠ CAUTION

If the slide-out room is too tight, it may damage the seals and cause excessive stress to the slide-out system.



⚠ WARNING

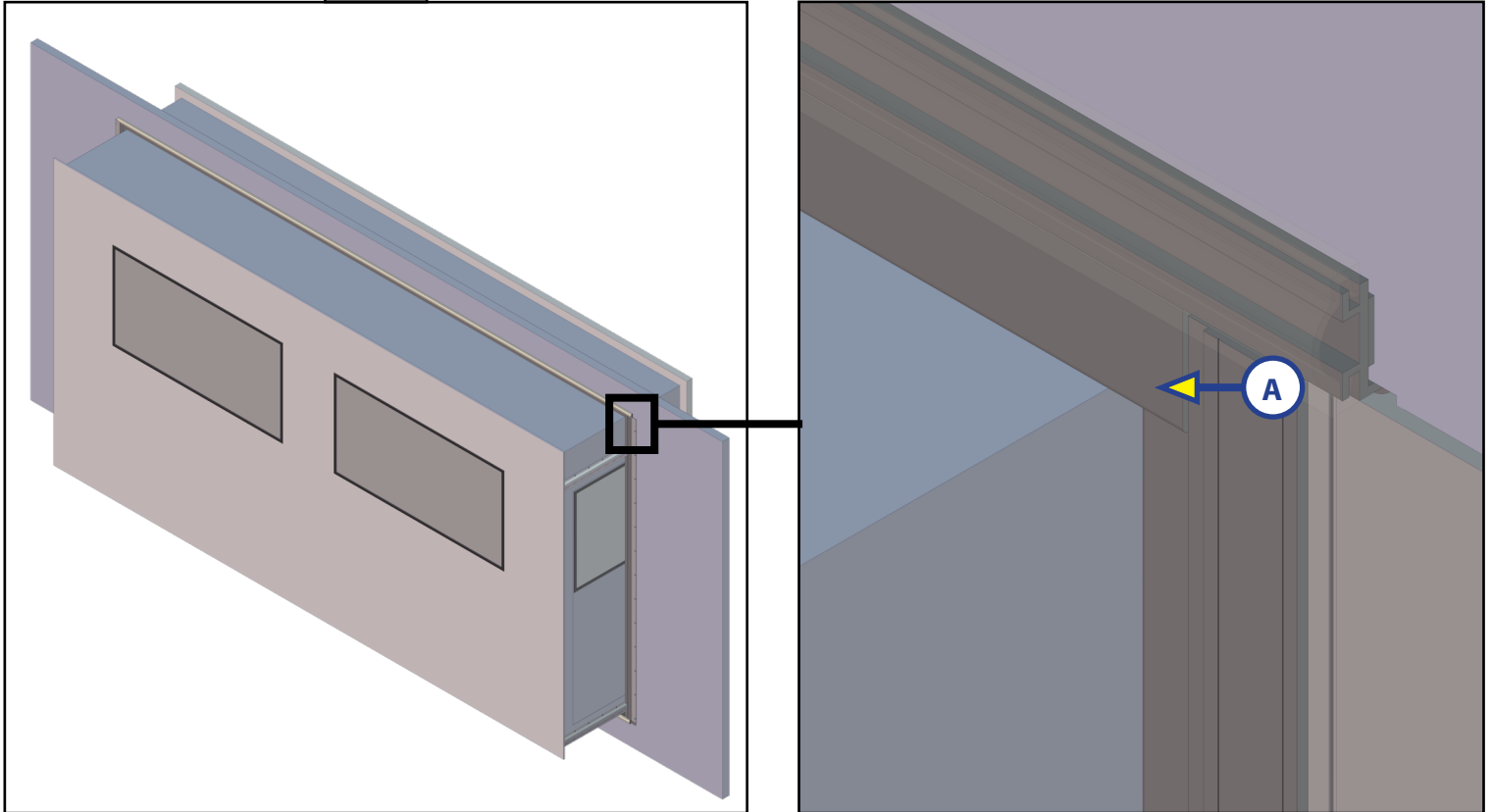
Do not attempt to operate the slide room until both the exterior T-molding and the interior fascia are attached to the slide room.

5. Attach the interior slide room fascia. Fastener spacing must be 6" to 8" apart unless using side-mounted stop angles.

NOTE: Interior slide room fascia must be attached prior to operating the slide room for safety precautions.

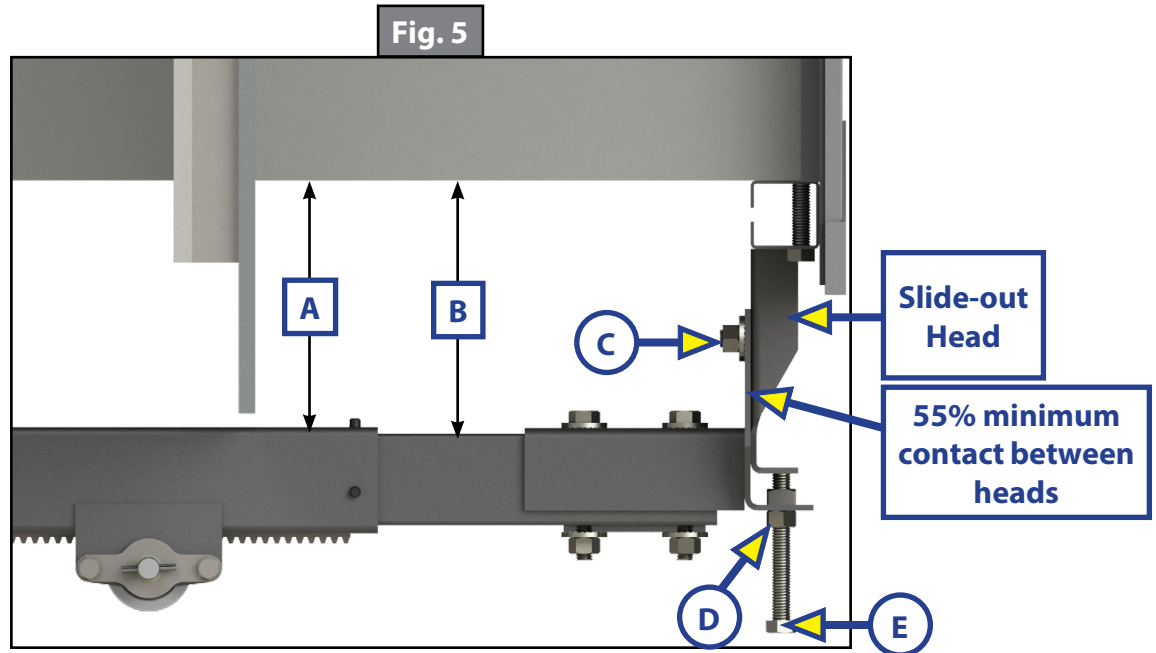
6. Apply Tripolymer sealant to the back of the upper exterior wipe seal and lay it over the top of the vertical wipe seal on the column (Fig. 4A).

Fig. 4



Setting Slide Room Height - Electric and Hydraulic

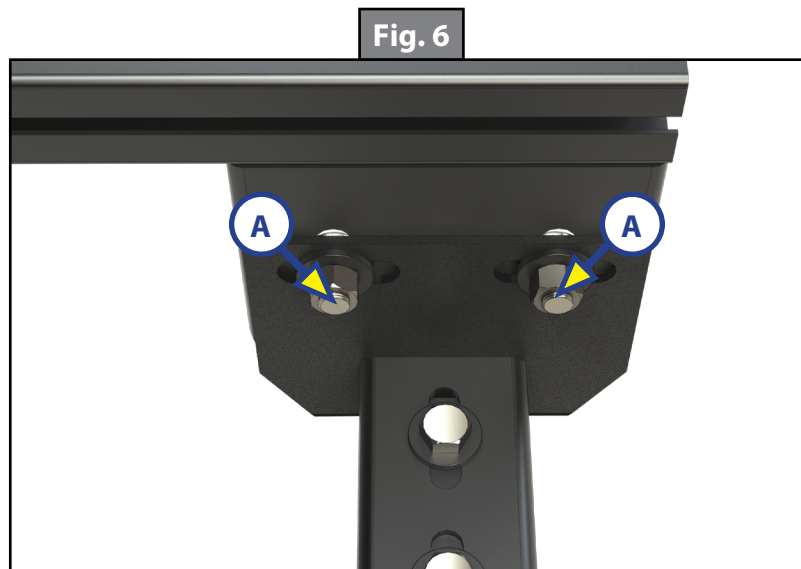
1. Measure from the top of the outer slide-out arm to the bottom of the slide room as close to the main I-beam as possible (Fig. 5A).
2. Measure from the top of the inner slide-out arm to the bottom of the slide room as close to the slide-out heads as possible (Fig. 5B).
3. Loosen the carriage bolt (Fig. 5C) on the bracket at the end of the rail using a $\frac{3}{4}$ " socket or wrench.
4. Loosen $\frac{3}{4}$ " jam nut (Fig. 5D) on the vertical adjustment bolt (Fig. 5E) using a $\frac{3}{4}$ " wrench.
5. Turn vertical adjustment bolt (Fig. 5E) up or down to position the room height using a $\frac{3}{4}$ " socket or wrench so that the measurement from step 2 (Fig. 5B) is equal to or $\frac{1}{4}$ " more than the measurement from step 1 (Fig. 5A).
6. Repeat steps 1-5 for the opposite side of the slide-out room.
7. Once room height is positioned, tighten the carriage bolts (Fig. 5C) and the jam nut (Fig. 5D) on both sides of the slide-out room.



Horizontal Adjustment - Electric and Hydraulic

NOTE: Only perform this procedure if room is **not** centered in the slide opening. The room should be centered on initial install. Room should be $\frac{3}{4}$ of the way into the slide opening.

1. Loosen two carriage bolts (Fig. 6A) on each bracket located at the end of each slide arm using a $\frac{3}{4}$ " socket or wrench.

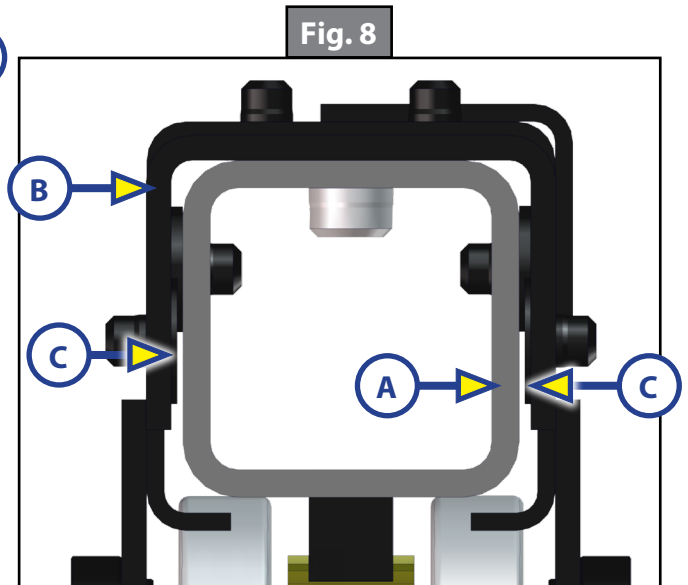
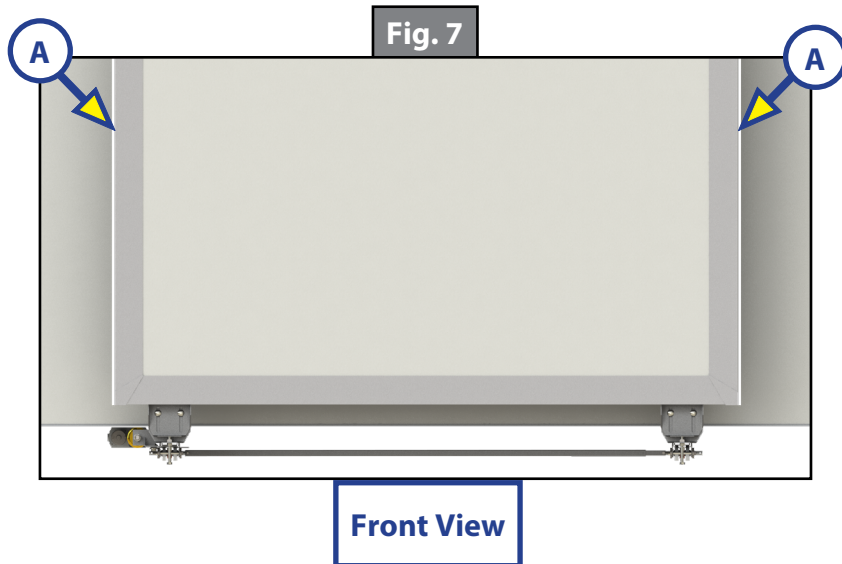


2. Position room horizontally by pushing on the outside slide box end wall to make sure the box is centered in the slide room opening (Fig. 7).

NOTE: Gap on each side should be equal (Fig. 7A).

NOTE: Make sure the inner arm (Fig. 8A) of the slide-out is centered within the outer arm (Fig. 8B) of the slide-out. The gaps (Fig. 8C) on either side of the inner arm should be equal.

3. Tighten the carriage bolts (Fig. 6A).



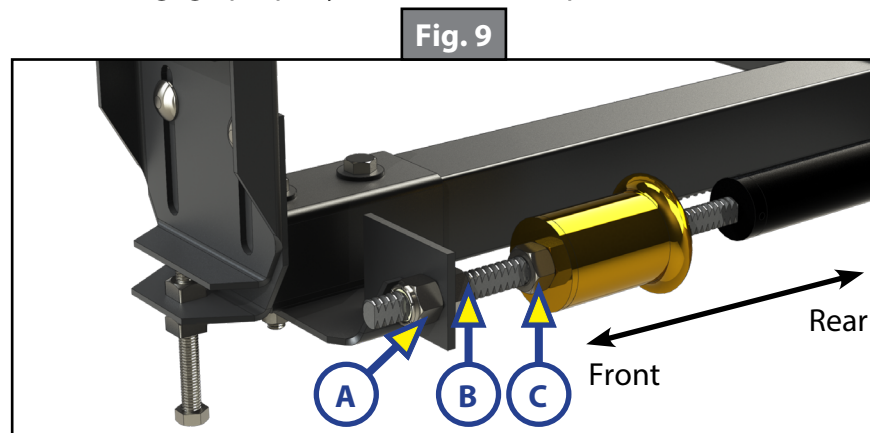
Electric Through Frame Slide-out Adjustments

Adjusting the Slide Room's Retracted Position

1. Loosen the 1 1/8" stop can jam nut (Fig. 9C) using a 1 1/8" wrench.
2. Adjust the stop can in towards the rear of the slide-out against the main rail when room is retracted and properly sealed.
3. Tighten down the 1 1/8" nut (Fig. 9C).
4. Verify the slide-out seals engage properly in the retracted position.

Adjusting the Slide Room's Extended Position

1. Loosen the 1 1/8" nut (Fig. 9B) using a 1 1/8" wrench.
2. Adjust the nylon locking nut (Fig. 9A) in or out using a 1 1/16" wrench.
 - A. Adjusting the nylon locking nut (Fig. 9A) in towards the rear of the slide-out will decrease the distance it extends.
 - B. Adjusting nut (Fig. 9B) out towards the front of the slide-out will increase the distance it extends.
3. Tighten down the 1 1/8" nut (Fig. 9B) to the bracket and nylon locking nut (Fig. 9A).
4. Verify the slide-out seals engage properly in the extended position.



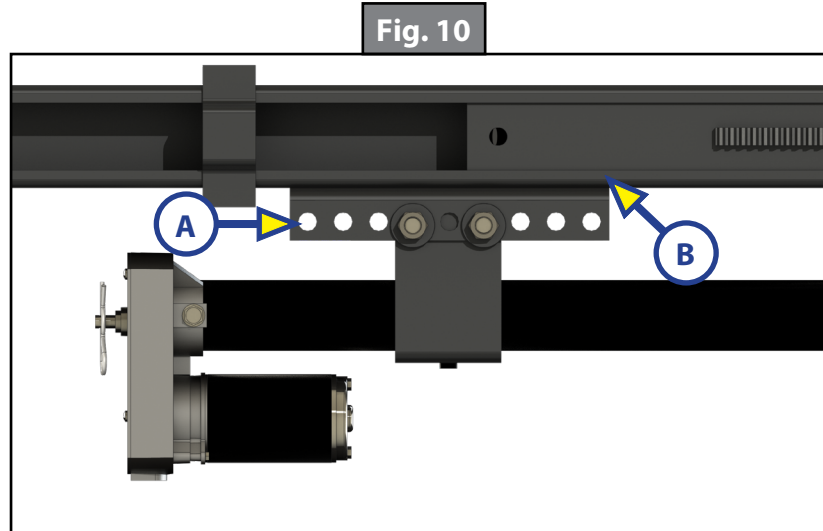
Adjusting the Electric Actuator

Only perform this procedure if the threaded rod is too short to make the adjustments in the extended and retracted positions.

1. Back nuts (Fig. 9A and 9B) away from the bracket.
2. Remove bolts from the mounting bracket and arrange the mounting bracket (Fig. 10A) and the actuator on top of the mounting flange (Fig. 10B) so that there is adequate threaded rod to make the adjustments outlined.

NOTE: Holes are spaced apart in increments of 1".

3. Fasten mounting bracket (Fig. 10A) to mounting flange (Fig. 10B) and finish making adjustments.



Manual Override

NOTE: Always disconnect battery from system prior to manually operating system. Failure to disconnect battery can cause electricity to backfeed through the motor and cause serious damage to the system as well as void the warranty.

The Lippert Electric Through Frame Slide-out comes with a Manual Override system. There are two different methods for manually extending and retracting the slide-out room. A crank handle extension can be used outside the chassis main rail at the crank extension with pin (Figs. 11-12). A socket and ratchet can be used inside the mainframe on the hex head crank extension (Figs. 13-14).

Manual Override - Outside Frame

Locate the crank extension with pin outside of the chassis main rail (Fig. 11). This is where the crank handle (standard 5th wheel landing gear crank handle or $\frac{3}{4}$ " socket and ratchet) fits on (Fig. 12) to allow the manual extension/retraction of the room. Rotate the crank handle clockwise to retract and counterclockwise to extend the slide-out. **DO NOT** disengage the motor since the actuator is already "manual ready."

Fig. 11

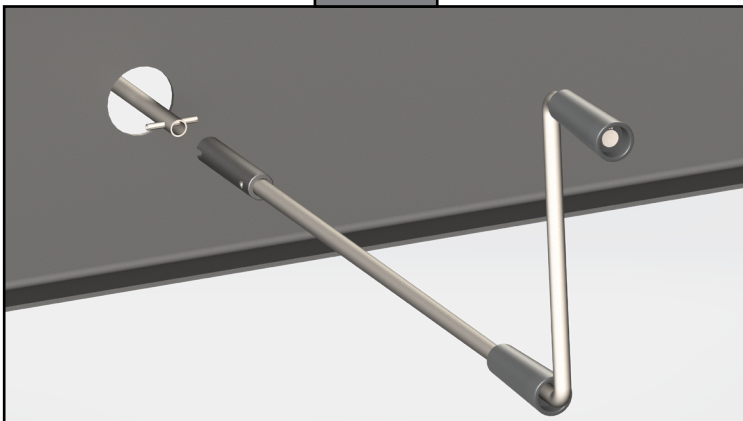
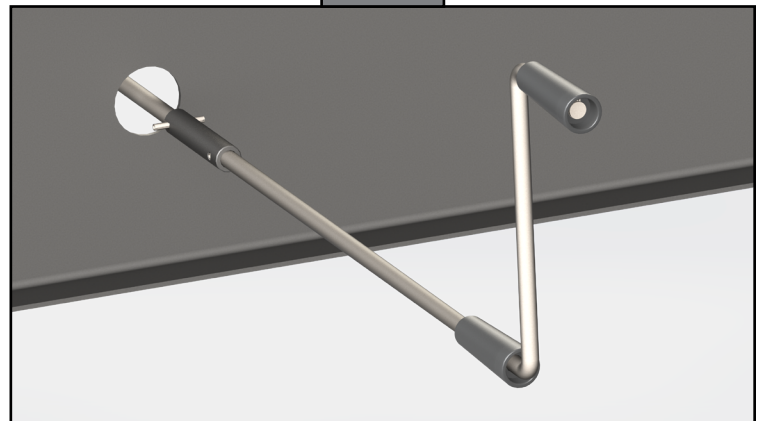


Fig. 12



Manual Override - Inside Frame

Locate the hex head crank extension at the top of the actuator inside the chassis main frame (Fig. 13A). Using a $\frac{3}{4}$ " socket and ratchet (Fig. 14A), rotate the extension clockwise to retract the slide-out and counterclockwise to extend the slide-out. **DO NOT** disengage the motor since the actuator is already "manual ready."

Fig. 13

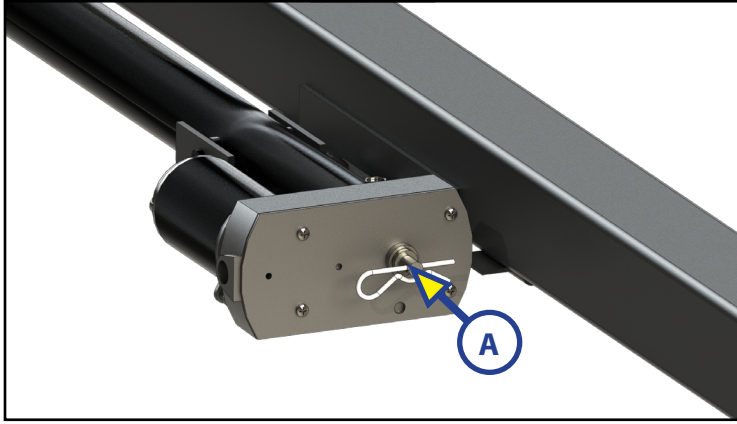
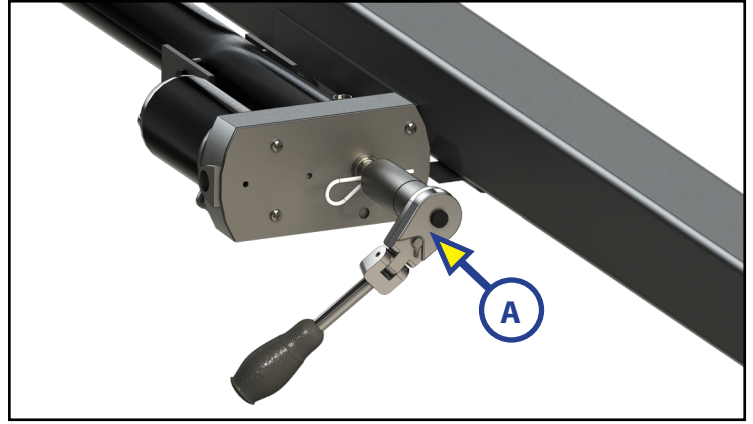
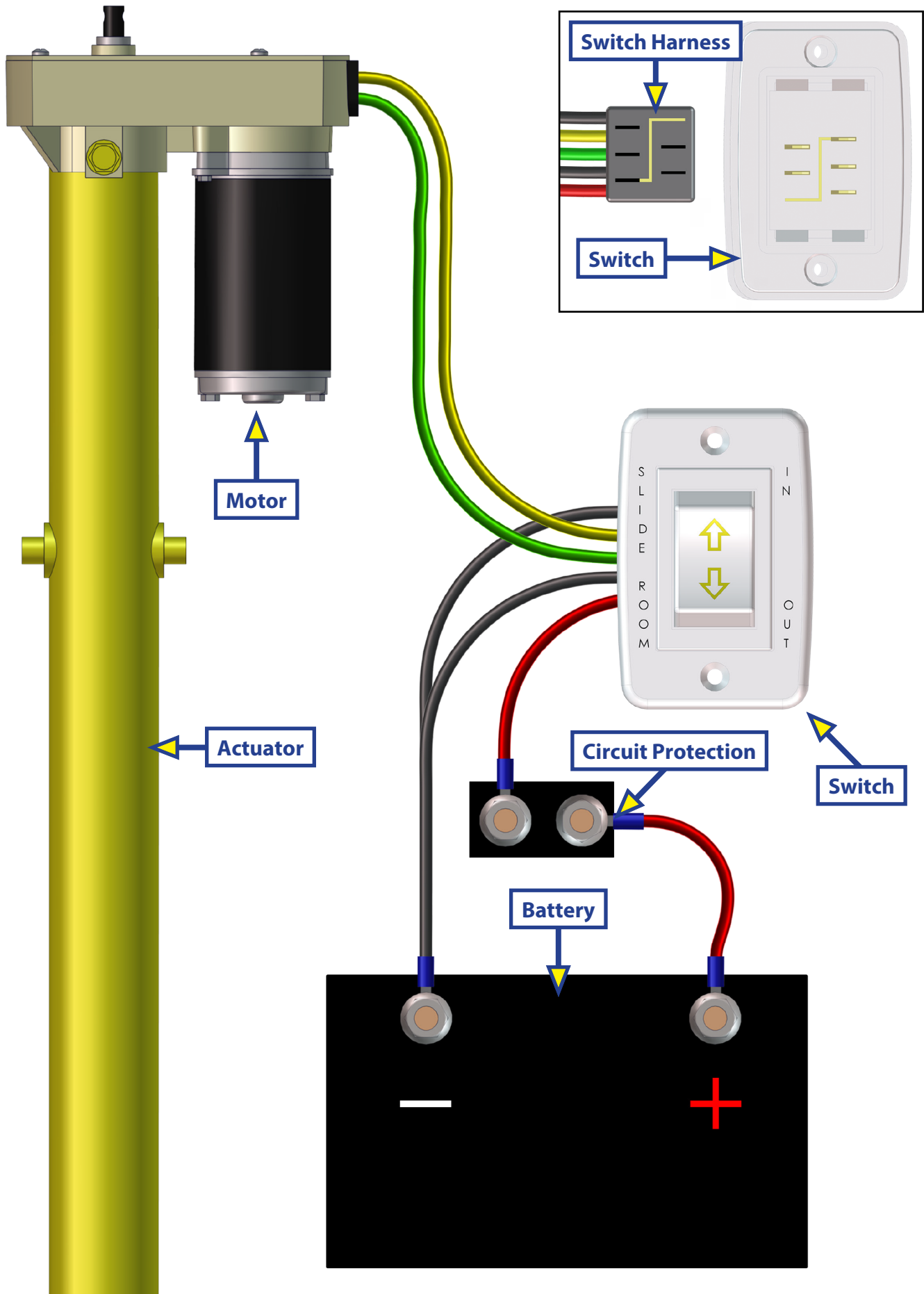


Fig. 14



Electrical Slide-Out Wiring Diagram



Hydraulic Through Frame Slide-out Adjustments

Adjusting the Slide Room's Retracted Position

1. Locate cylinder coming through the frame.
2. Run room partially out.
3. Hold jam nut (Fig. 15C) in place with wrench.
4. Adjust the nylon locking nut (Fig. 15A) towards the bracket if the room does not seal. Adjust the nylon locking nut (Fig. 15A) away from the bracket if the room is too tight and damages the fascia.

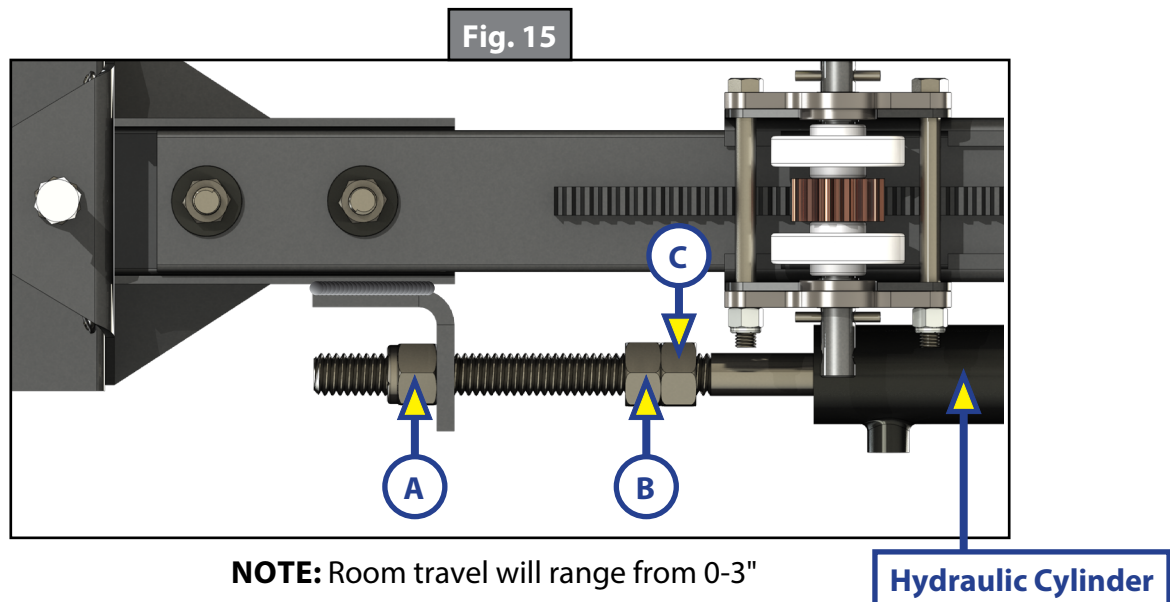
NOTE: Make small adjustments, running the room in after each adjustment until proper outside seal is achieved.

Adjusting the Slide Room's Extended Position

1. Locate cylinder coming through the frame.
2. Extend room completely out.
3. Check the inside fascia and seal positioning.
4. Partially retract room.
5. Loosen and back off jam nut (Fig. 15C) from nut (Fig. 15B) to give nut (Fig. 15B) room for adjustment.
6. Adjust nut (Fig. 15B) away from the bracket if the room extends too far and damages the inside fascia. Adjust nut (Fig. 15B) towards the bracket if the room does not seal.

NOTE: Make small adjustments, running the room out after each adjustment until proper inside seal is achieved.

7. Tighten jam nut (Fig. 15C) to nut (Fig. 15B).



Fluid Recommendation

Type "A" Automatic Transmission Fluid (ATF) is utilized and will work. ATF with Dexron III® or Mercon 5® or a blend of both is recommended by Lippert Components, Inc.

In colder temperatures (more than -12.2°C or less than 10°F the room may extend and retract slowly due to the fluid's molecular nature. For cold weather operation, fluid specially formulated for low temperatures may be desirable.

NOTE: Do not mix standard and synthetic ATF.

NOTE: Operation at air temperatures routinely below 0°C (32°F).

- A. Mobil 1 full synthetic ATF
 - B. Royal Purple full synthetic ATF
 - C. Valvoline full synthetic ATF
 - D. Amsoil full synthetic ATF
 - E. Or any ATF or hydraulic fluid with a pour point lower than -42°C (-45°F)
1. Remove breather/fill cap.
 2. Pour ATF into breather/fill opening.

NOTE: Do not allow any contamination into reservoir during fill process.

NOTE: Standard reservoir holds approximately two quarts (1.89 liters) of ATF.

3. Fill to within ½" of top of reservoir.
4. Replace breather/fill cap when finished.

NOTE: System is self-purging. By simply cycling the system 2-3 times, any air in the system will be forced back to the reservoir and out of the breather/fill cap. Once the purging process is complete, make sure the reservoir is filled ½" from the top of the reservoir when the slide-out is fully retracted.

Manual Override

The Lippert Hydraulic Through Frame Slide-out system can be run with an auxiliary power device like an electric or cordless drill. In the event of electrical or system failure, this manual method of extending and retracting the slide-out room can be used. A standard hand-held drill is all that is required. A standard 38" room will take approximately 45 seconds to retract. See the instructions below.

1. Unplug the slide-out motor.
2. Remove protective label (Fig. 16A).
3. Using a standard ¼" hex bit and auxiliary drive device (cordless or electric drill), insert hex bit into coupler found under protective label (Fig. 17A).
4. Run drill counterclockwise to extend slide-out room and clockwise to retract slide-out room.

Fig. 16

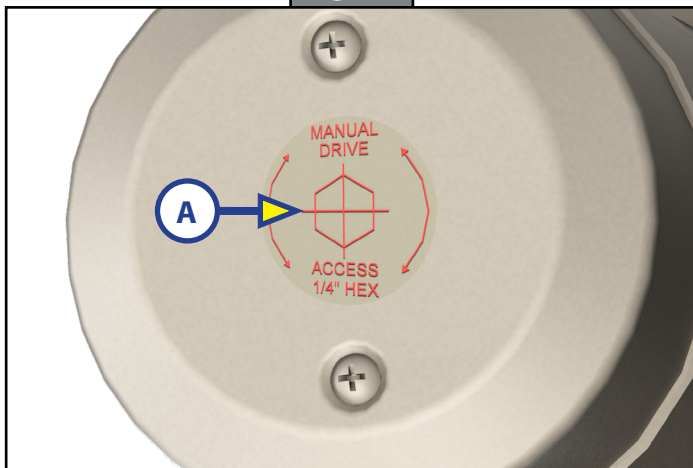
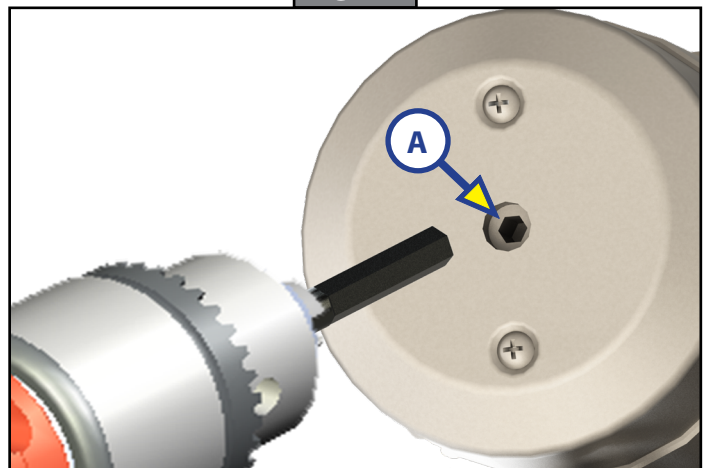


Fig. 17



Synchronizing Room Travel

The Lippert Through Frame Hydraulic Slide-out system room travel (both sides of the room traveling the same distance) can be adjusted with specially designed synchronizing bracket mounted on the follow slide tube. The follow slide tube is the one that is not powered. The drive slide tube is the one that has the cylinder attached. If one side of the room fails to seal, adjust as follows:

1. Extend the slide-out about halfway out.
2. Measure the drive side from the "T"-molding on the slide-out back to the outside wall of the unit.
3. Measure the follow side from the "T"-molding on the slide-out back to the outside wall of the unit (Fig. 18A).
4. Loosen bolts (Fig. 19B) on top of the follow slide tube (Fig. 19A).
5. Push or pull room (on follow side) to align the follow side with the drive side.
6. Tighten bolts (Fig. 19B) to secure the follow side position.
7. Retract room and run as normal.

Fig. 18

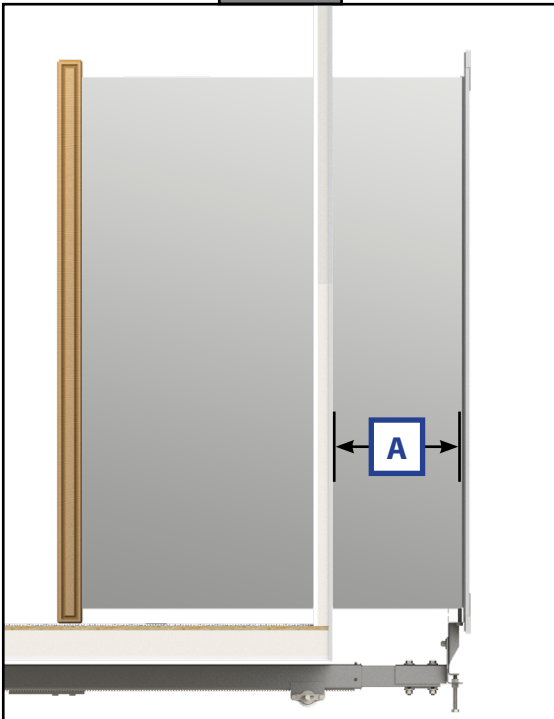
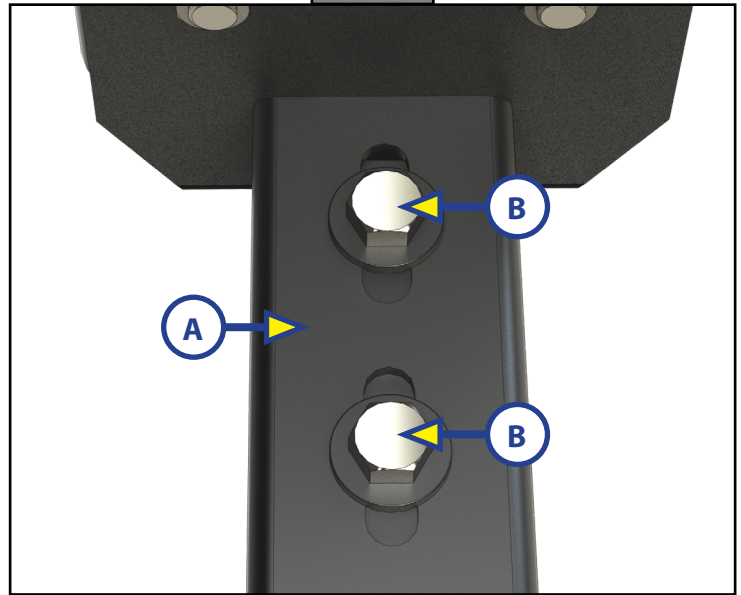
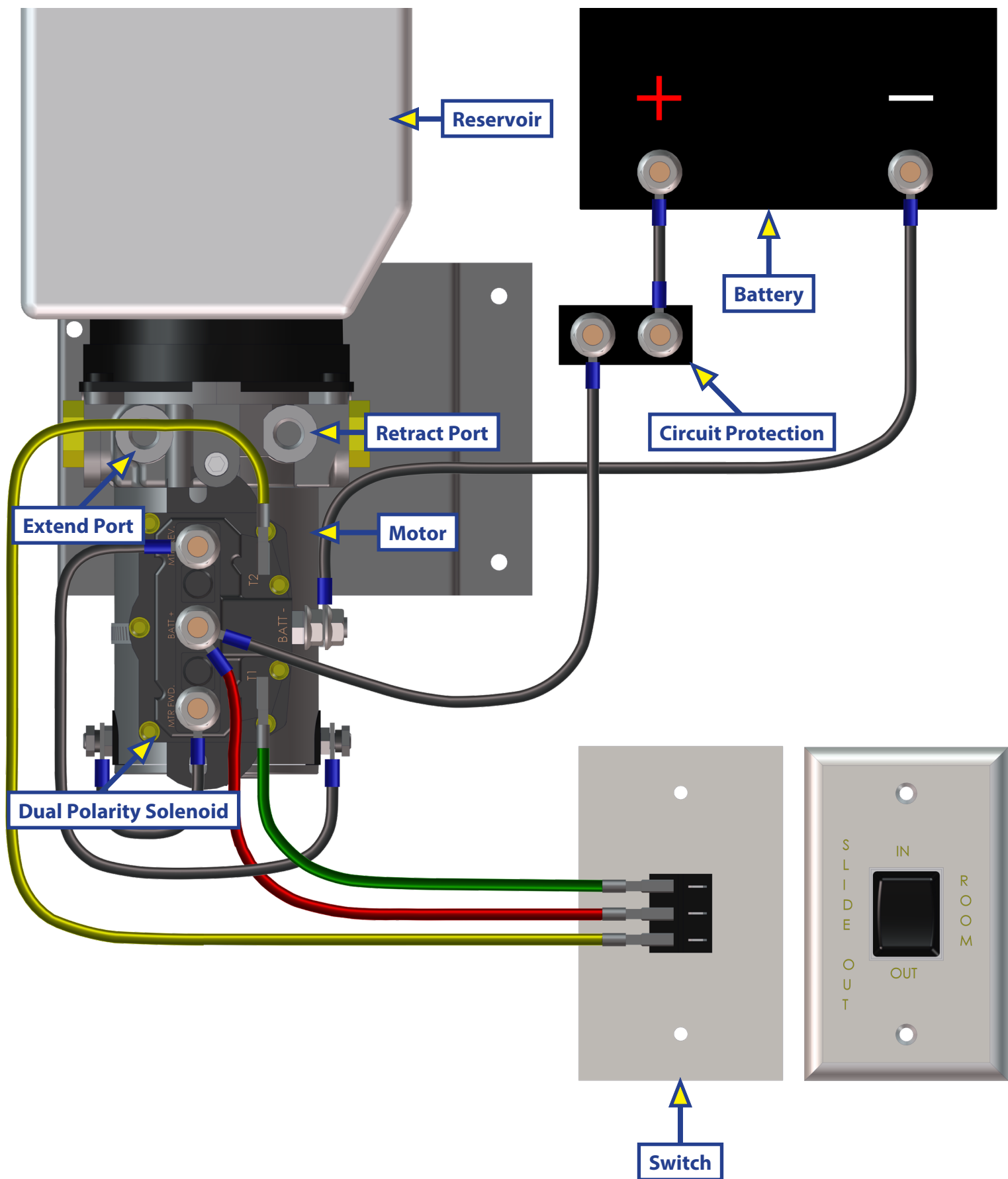


Fig. 19



Hydraulic Slide-Out Wiring Diagram



Notes

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