



HYDRAULIC THROUGH- FRAME SLIDE-OUT OWNER'S MANUAL



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Introduction

The Lippert Hydraulic Through-Frame Slide-out System is intended for the sole purpose of extending and retracting the slide-out room. Its function should not be used for any other purpose or reason than to actuate the slide-out room. To use the system for any reason other than what it is designed for may result in damage to the RV and/or cause serious injury or even death.

The Lippert Hydraulic Through-Frame Slide-out System is a rack-and-pinion guide system, utilizing a hydraulic cylinder to move the room assembly. The power RV drives the cylinder rod in a forward and backward motion to move the slide room in and out. The Lippert Hydraulic Slide-out System is designed to operate as a negative ground system.

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 RV prior to the slide-out room actuation.
3. Keep hands and other body parts away from slide-out mechanisms during actuation. Severe injury or death may result.
4. To optimize slide-out actuation, park RV on solid and level ground.

Additional information about this product can be obtained from [lci1.com/support](https://support.lci1.com/support) or by downloading the free LippertNOW app. The app is available on Apple App Store® for iPhone® and iPad® and also on Google Play™ for Android™ users.

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For information on the assembly or individual components of this product, please visit:
<https://support.lci1.com/through-frame-selections>.

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, including voiding of the Lippert limited warranty.

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

Always wear eye protection when performing service or maintenance to the vehicle. Other safety equipment to consider would be hearing protection, gloves and possibly a full face shield, depending on the nature of the service.

WARNING

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

Prior to Operation

Before operating the Lippert Hydraulic Through Frame Slide-out System, follow these guidelines:

1. Unit should be parked on the most level surface available.
2. Leveling or stabilizing system should be actuated to ensure unit will not move during operation of slide-out system.
3. Be sure battery is fully charged.
4. Be sure to keep all persons and pets clear of slide-out system during operation.

⚠ CAUTION

Always make sure that the slide-out room path is clear of people and objects before and during operation of the slide-out room. Always keep away from the slide rails when the room is being operated. The gear assembly may pinch or catch on loose clothing causing personal injury.

NOTE: Install transit bars (if so equipped) on the slide-out room during storage and transportation.

Operation

Extending Slide-Out Room

5. Level the unit.
6. Verify the battery is fully charged and hooked up to the electrical system.
7. Remove transit bars (if so equipped).
8. Press and hold the IN/OUT switch (Fig.1) in the OUT position (Fig.1B) until room is fully extended and stops moving.
9. Release switch, which will lock the room into position.

NOTE: Only hold OUT switch until room stops.

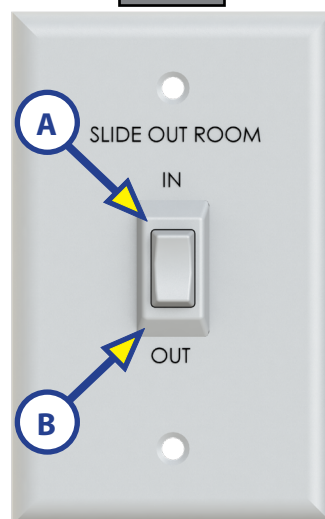
Retracting Slide-Out Room

1. Verify the battery is fully charged and hooked up to the electrical system.
2. Press and hold the IN/OUT switch (Fig.1) in the IN position (Fig.1A) until the room is fully retracted and stops moving.
3. Release the switch. This will lock the room into position.

NOTE: Only hold IN switch until room stops.

4. Install the transit bars (if so equipped).

Fig. 1



Maintenance

Inspection

After servicing the slide-out system in any way, be sure to check the following:

1. Slide-out stops are installed and adjusted properly.
2. Head assemblies are installed and adjusted properly.
3. System is mounted properly.
4. Cross shafts are mounted properly and clear all other components.
5. Gear packs function properly.
6. Manual override is accessible.
7. Outside seals compress when slide-out is retracted.
8. Inside seals compress when slide-out is extended.
9. Slide-out extends and retracts smoothly.
10. Both sides of slide-out are synchronized.
11. Any dirt or debris is cleaned from the interior or exterior of the unit.

The Lippert Through-Frame Slide-out System has been static tested to over 4,000 continuous cycles without any noticeable wear to rotating or sliding parts. It is recommended that when operating in harsh environments (road salt, ice build up, etc.) the moving parts be kept clean. They can be washed with mild soap and water. No grease or lubrication is necessary and in some situations may be detrimental to the environment and long term dependability of the system.

Electrical System

For optimum performance, the slide-out system requires full battery current and voltage. The battery must be maintained at full capacity. Other than good battery maintenance, check the terminals and other connections at the battery, the control switch, and the system for corrosion, and loose or damaged terminals. Check motor leads under the trailer chassis. Since these connections are subject to damage from road debris, be sure they are in good condition.

NOTE: The Lippert Through-Frame Slide-out System is designed to operate as a negative ground system. A negative ground system utilizes the chassis frame as a ground and an independent ground wire back to the battery is necessary. It is important that the electrical components have good wire to chassis contact. To ensure the best possible ground, a star washer should be used. Over 90% of unit electrical problems are due to bad ground connections.

Mechanical

Although the system is designed to be almost maintenance free, actuate the room once or twice a month to keep the seals and internal moving parts lubricated. Check for any visible signs of external damage after and before movement of the unit.

NOTE: For long-term storage: It is recommended that the room be closed (retracted).

Fluid Recommendation

The Lippert Hydraulic Through-Frame Slide-out System is pre-filled, primed and ready to operate direct from the manufacturer. 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.

NOTE: Do **NOT** mix standard and synthetic ATF.

In temperatures colder than -12.22 °C (10 °F) the jacks 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. For a list of approved fluid specifications, see [TI-188](#).

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

- Mobil 1 full synthetic ATF
- Royal Purple full synthetic ATF
- Valvoline full synthetic ATF
- Amsoil full synthetic ATF
- Any ATF or hydraulic fluid with a pour point lower than -42 °C (-45 °F)

1. Remove Breather/Fill Cap (Fig. 2).
2. Pour ATF into Breather/Fill opening.

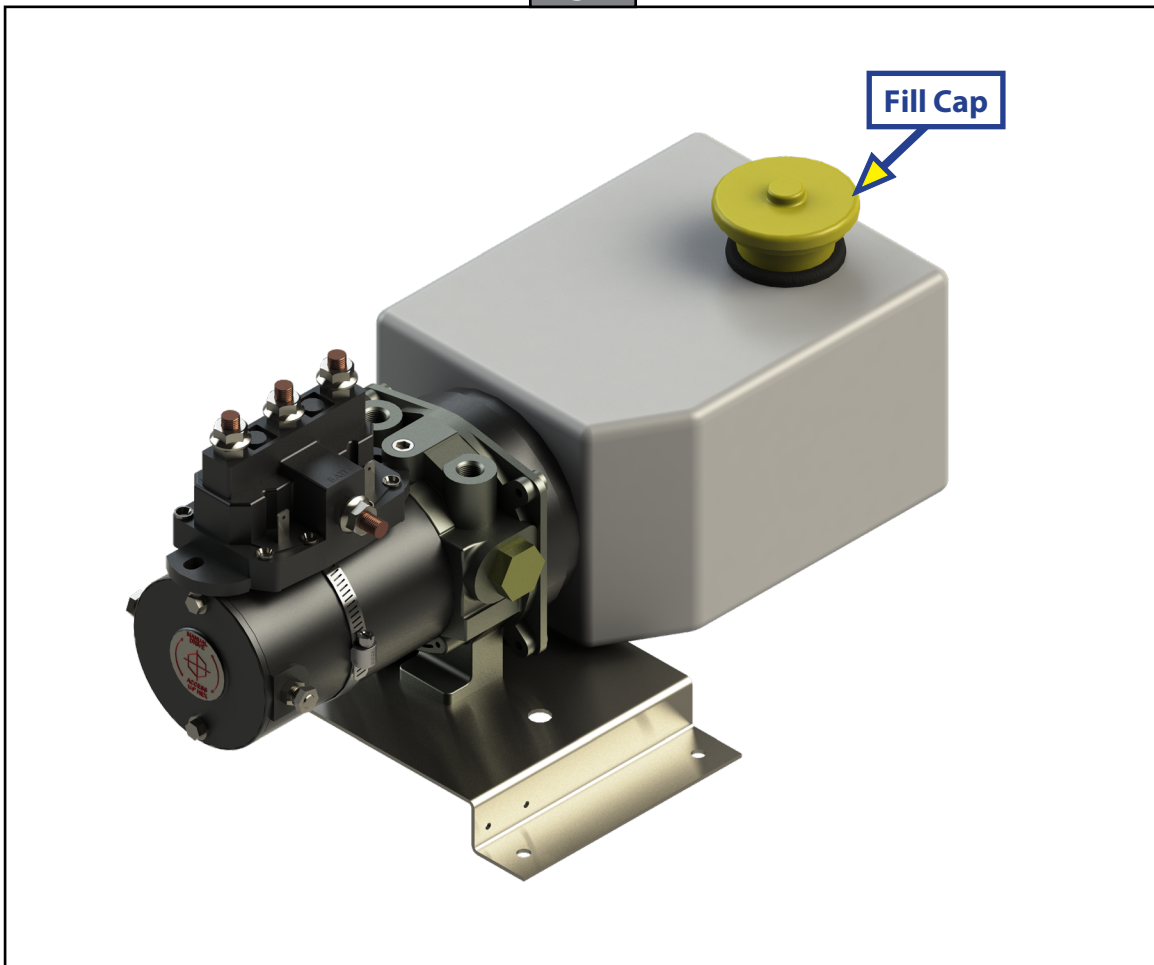
NOTE: Do **NOT** allow any contamination into reservoir during fill process.

NOTE: Standard reservoir holds approximately 2 quarts (1.89 liters) of ATF.

3. Fill to within ½" of top.
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.

Fig. 2



Adjusting room so it seals in the IN position

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

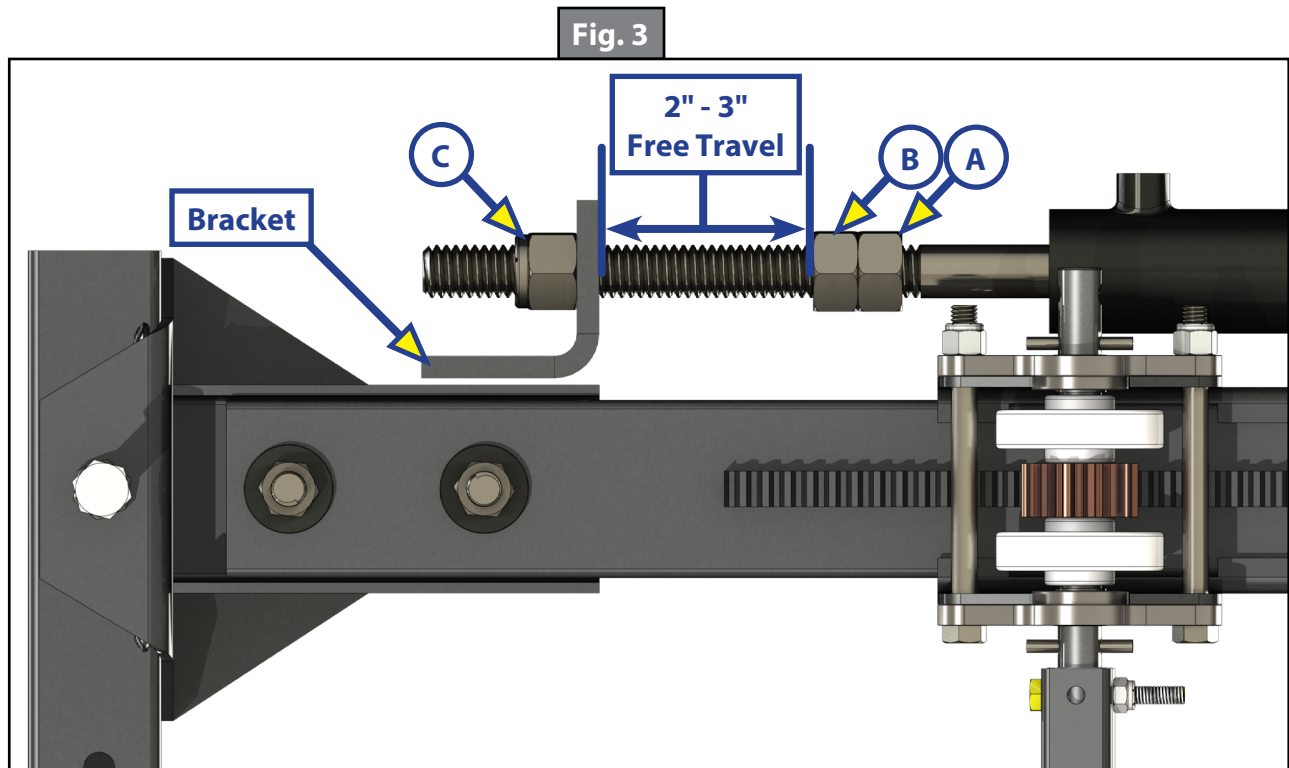
Adjusting room so it seals in the OUT position

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. 3A) from nut (Fig. 3B) to give nut (Fig. 3B) room for adjustment.
6. Adjust nut (Fig. 3B) away from the bracket if the room extends too far and damages the inside fascia. Adjust nut (Fig. 3B) towards the bracket if the room does not seal.

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

7. Tighten jam nut (Fig. 3A) to nut (Fig. 3B).

NOTE: 2" to 3" of free travel is normal.



Room Adjustment

NOTE: All slide-out room adjustments must be performed by certified service technicians. Adjustments made by non-certified persons may void any and all warranty claims.

Horizontal Adjustment

1. Loosen carriage bolts (Fig. 4A) on each bracket located at the end of each guide tube.
2. Room is ready to be positioned horizontally by pushing on the outside, sidewall or by using a prying device inserted into the opening between the room and unit.

NOTE: Use caution when using prying device so seals do not become damaged.

Vertical Adjustment

1. Loosen two carriage bolts (Fig. 4A) on each bracket located at the end of each guide tube.
2. Loosen jam nut (Fig. 5A).
3. For vertical adjustment turn vertical adjustment bolt (Fig. 5B) up or down to locate room height.
4. Once room height is located, tighten carriage bolts (Fig. 4A) and jam nut (Fig. 5A).

Fig. 4

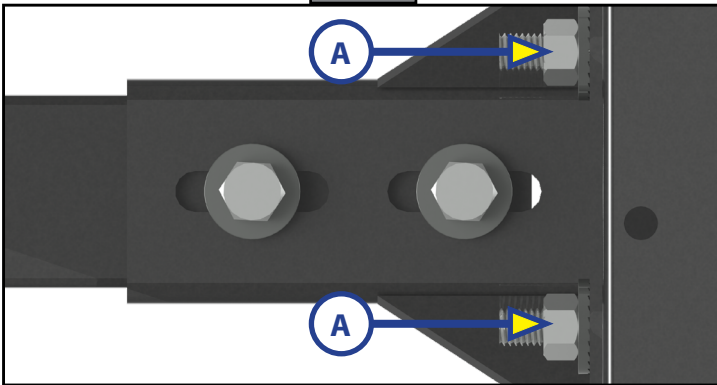
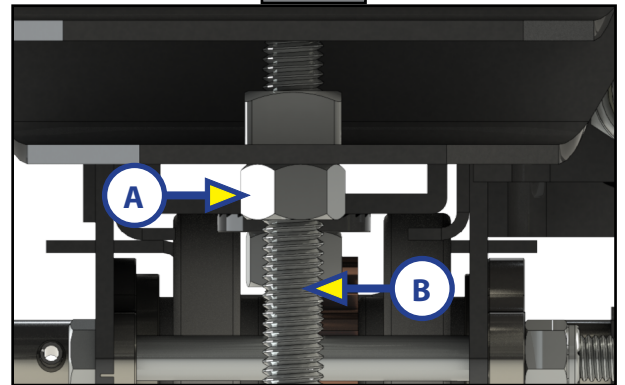


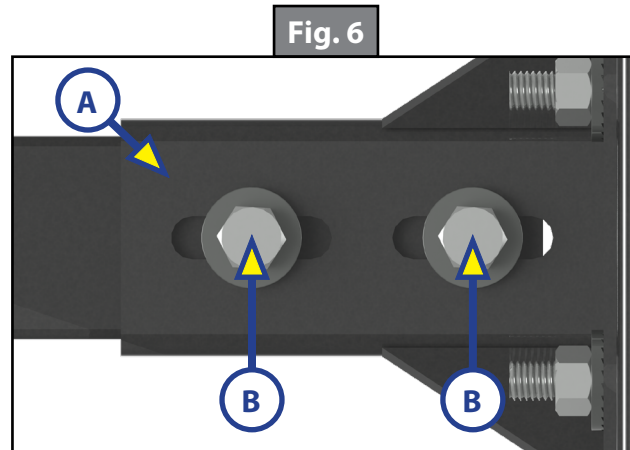
Fig. 5



Synchronizing Room Travel

The Lippert 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 passive slide tube. The passive slide tube is the one that is not powered. The active 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 active side from the "T"-molding on the slide-out back to the outside wall of the unit.
3. Then, measure the passive side in the same manner.
4. Loosen bolts (Fig. 6B) on top of the passive slide tube (Fig. 6A).
5. Push or pull room (on passive side) to align the passive side with the active side.
6. Tighten bolts (Fig. 6B) to secure the passive side position.
7. Retract room and run as normal.



Manual Override

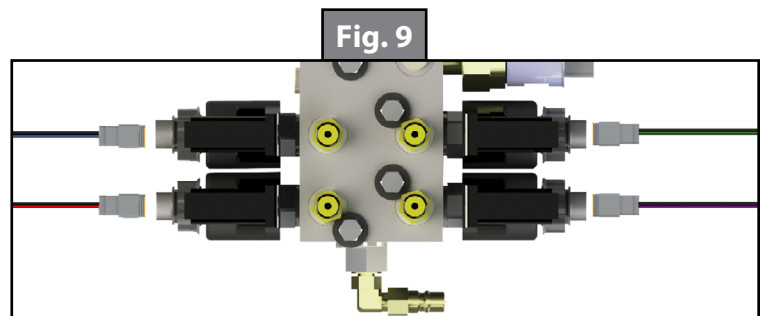
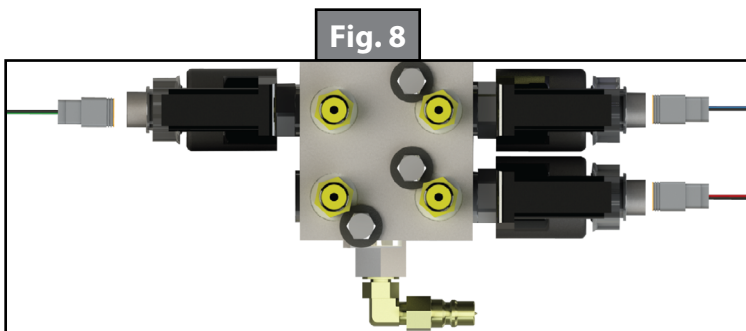
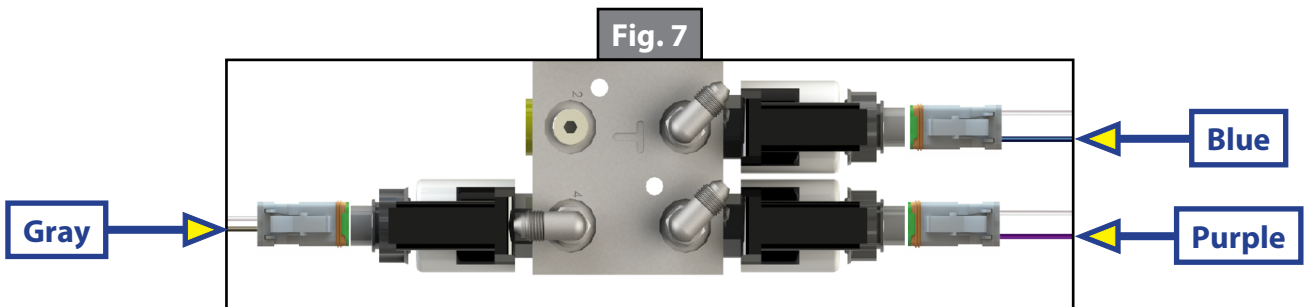
The Lippert Hydraulic Slide-out System can be run with an auxiliary power device like an electric or cordless drill. In the event of electrical or system failure, this manual method of extending and retracting the slide-out room can be used. A standard 38" room will take approximately 45 seconds to retract.

Resources Required

- Electric or cordless drill
- 1/4" hex bit
- 5/32" hex wrench

Procedure

1. Identify slide-out valves at the pump manifold.
 - A. Fifth wheels with hydraulic leveling will have three valves used for leveling (Fig. 7), one with a gray wire (front landing gear), one with a blue wire (curbside rear) and one with a purple wire (roadside rear). Slide-out valve wire colors vary. Any other valves on the manifold that are **NOT** these colors are for the slide-out room(s).
 - B. Motorized units with hydraulic leveling will have three or four valves used for leveling.
 - I. Three-valve leveling (Fig. 8) will have valves with green, red and blue wires. Slide-out valve wires vary. Any other valves on the manifold that are **NOT** these colors are for the slide-out room(s).
 - II. Four-valve leveling (Fig. 9) will have valves with green, purple, red and blue wires. Slide-out valve wire colors vary. Any other valves on the manifold that are **NOT** these colors are for the slide-out room(s).
 - C. If a manifold with valves is **NOT** present at the pump assembly (Fig. 10), skip step 2.



2. Using a 5/32" hex wrench, open the valve(s) for the slide-out by turning the manual override set screw (Fig. 11) clockwise 2 1/2-2 3/4 turns or until resistance is felt.
3. Remove protective label (Fig. 12A) from power unit motor revealing manual override coupler.

⚠ CAUTION

Turning the manual override set screw too far will damage the valve(s).

4. Using an electric drill with a 1/4" hex bit, insert the hex bit into the manual override coupler (Fig. 13) to manually operate the system.
 - A. Run the drill forward (clockwise) to retract the slide-out room.
 - B. Run the drill in reverse (counterclockwise) to extend the slide-out room.
5. Make sure to turn the manual override set screw on the valve back to the counterclockwise position after manually extending or retracting the slide room.

⚠ CAUTION

Turning the manual override set screw too far will damage the valve(s).

Fig. 10

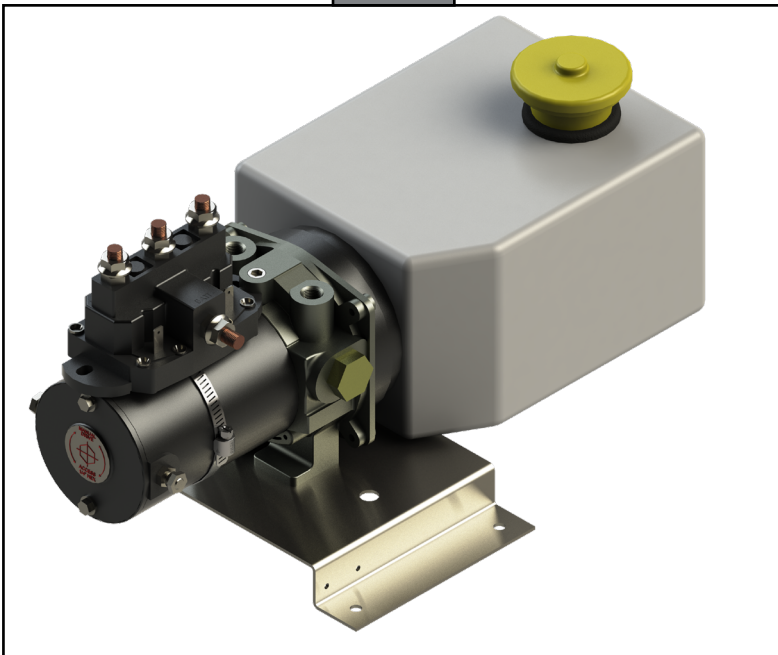


Fig. 11

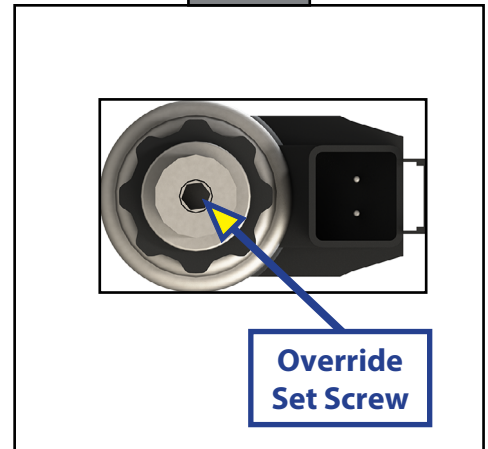


Fig. 12

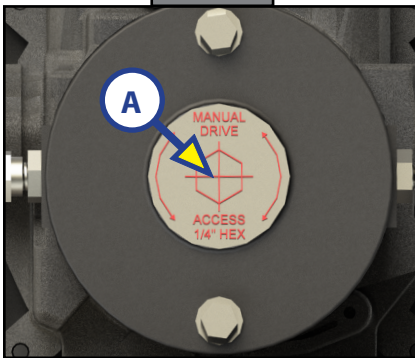
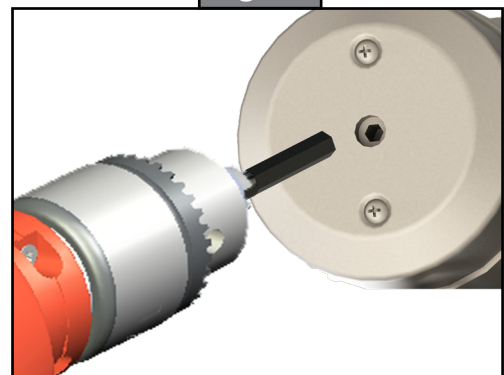
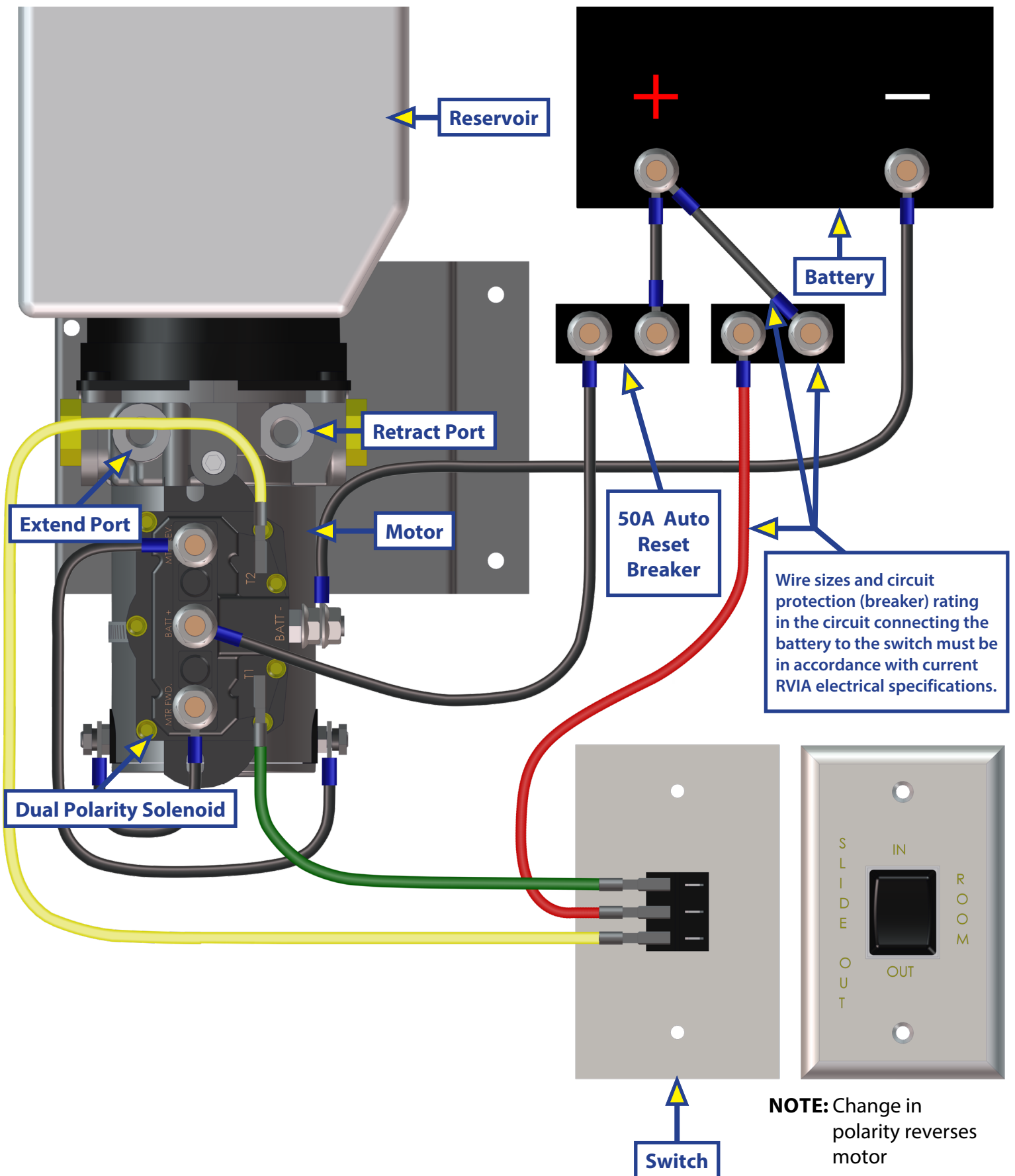


Fig. 13



Slide-out Wiring Diagram



Notes

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