



TIFFIN THROUGH-FRAME
LOW PROFILE SLIDE-OUT
OWNER'S MANUAL

TABLE OF CONTENTS

Introduction	2
Safety	3
Slide-out Prior to Operation	3
Operation	4
Extending Slide-out Room	4
Retracting Slide-out Room	4
Slide-out Room Troubleshooting	5
Hydraulic Power Unit	6
Manual Override	8
Resources Required	8
Purging the Hydraulic system	10
Fluid Recommendation	10
Purging the System	10
Maintenance	11
Inspection	11
Electrical System	11
Mechanical	11
Slide-out Wiring Diagram	12
Hydraulic Plumbing Diagram	13

Introduction

The Hydraulic Through Frame Slide-out System's purpose is to hydraulically actuate slide-out rooms. Its function should not be used for any purpose or reason other than to actuate the slide-out room. To use the system for any reason other than what it is designed for may result in death, serious injury or damage to the coach.

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

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 LCI 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

Failure to follow instructions provided in this manual may result in death, serious personal injury and/or severe product and property damage, including voiding of the component warranty.

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

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

CAUTION

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

Slide-out Prior to Operation

Prior to operating the Hydraulic Through Frame Slide-out System, follow these guidelines:

1. Coach should be parked on the most level surface available.
2. Leveling or stabilizing system should be actuated to ensure coach 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.

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

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.

Operation

Extending Slide-out Room

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

NOTE: Only hold OUT switch until the room stops.

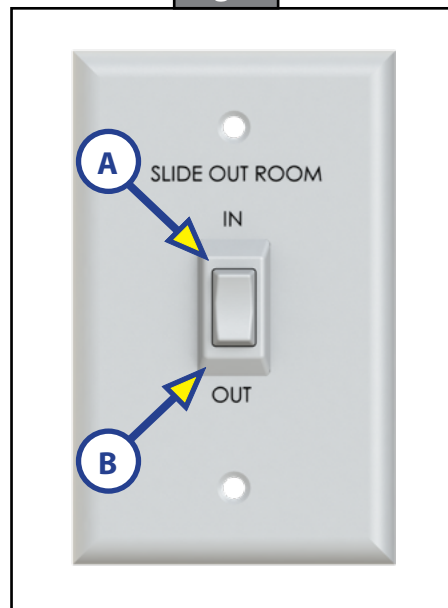
Retracting Slide-out Room

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



Slide-out Room Troubleshooting

This troubleshooting chart outlines some common concerns, their causes and possible corrective actions.

Some other troubleshooting tips are:

- If any part or serial number information is available, provide it to the customer care representative when seeking assistance.
- Every coach has its own personality and what may work to fix one may not work on another even if the symptoms appear to be the same.
- When something restricts room travel, system performance will be unpredictable. It is very important that slide tubes be free of contamination and allowed to travel full distance (stroke). Ice or mud buildup during travel is an example of some types of contamination that can occur.
- When you begin to troubleshoot the system, make sure the battery is fully charged, there are no visible signs of external damage to the system and that all connections are secure.
- During troubleshooting, remember that if you change something, that change may affect something else. Be sure any changes you make will not create a new problem.

What is Happening	Why?	What Should Be Done?
Room doesn't move when switch is pressed.	Restriction or obstruction inside or outside of unit.	Check for and clear obstruction.
	Low battery voltage, blown fuse, defective wiring.	Check battery voltage and charge if needed. Find and check fuse, replace if blown. Check battery terminals and wiring. Look for loose, disconnected or corroded connectors.
Power unit runs but room does not move.	Restrictions both inside and outside of unit.	Check for and clear restriction.
Power unit runs, room moves slowly.	Low battery, poor ground, extremely low outdoor temperature.	Charge battery and check ground wire.
Room drifts "in" or "out."	Possible external leak in the hydraulic system.	Tighten fittings.
		Inspect hoses, fittings and power unit for external leaks.
	Air in system.	After checking all connections, perform basic purge procedure, see Basic Purge Procedure for Hydraulic Pump Units section.
In the closed position, room drifts out.	Leaking cylinder seal.	See Hydraulic Cylinder Test Section.
	Fluid bypassing cylinder piston.	See Hydraulic Cylinder Test section.
	Hose from pump is leaking.	Tighten fitting or replace hose.
	Fluid bypass in cartridge valve.	Replace cartridge valve.
	Loose mounting bolts.	Tighten mounting bolts.

Hydraulic Power Unit

For this manual the hydraulic power unit is mounted to the front of the driver's side compartment. See figures 2-4 for hydraulic power unit feature identification and the following:

- Fittings - High Pressure O-Ring Face - Size 4
- Hose - 1/4" I.D. 3000PSI - W.P. Rated

Fig. 2

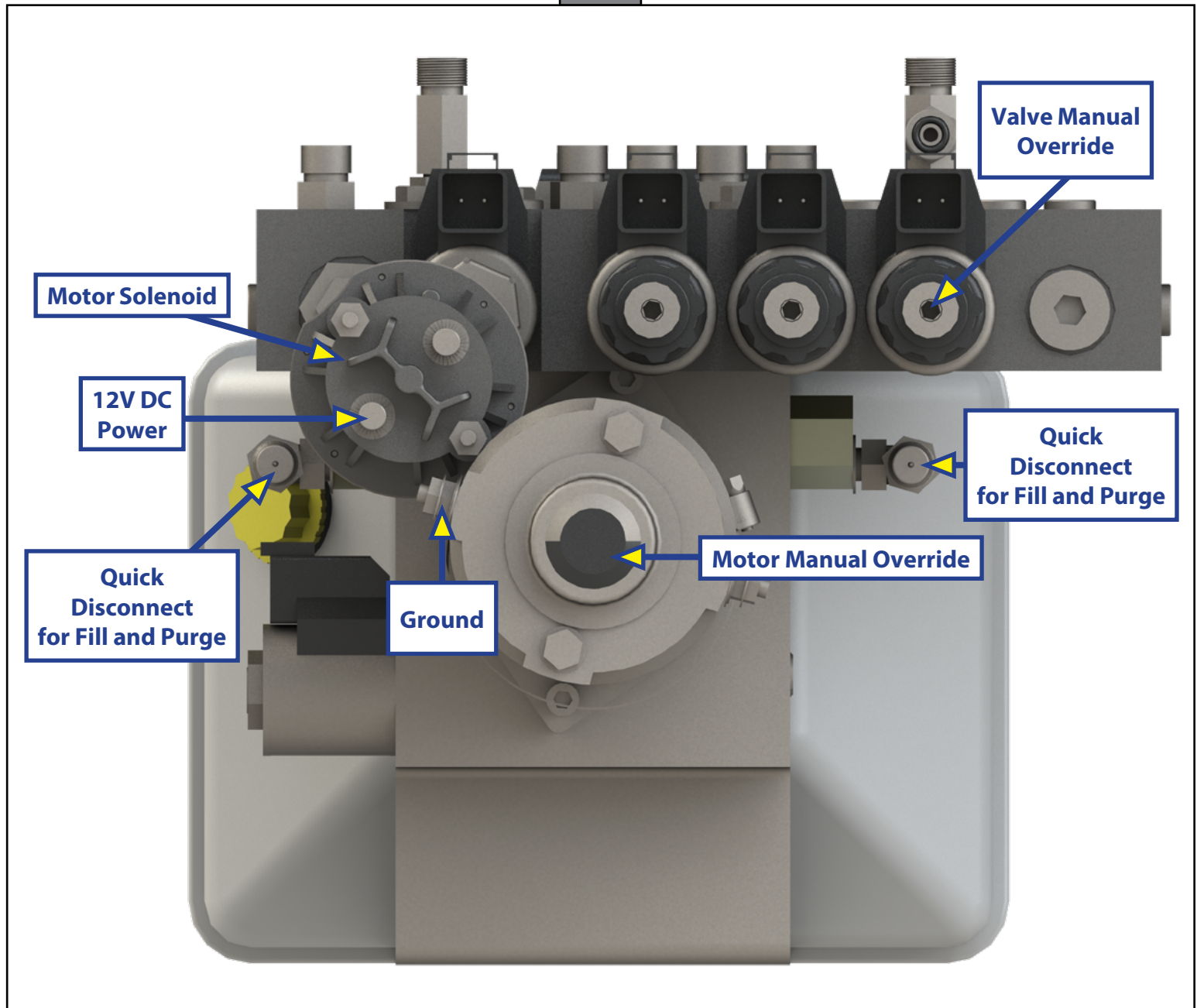


Fig. 3

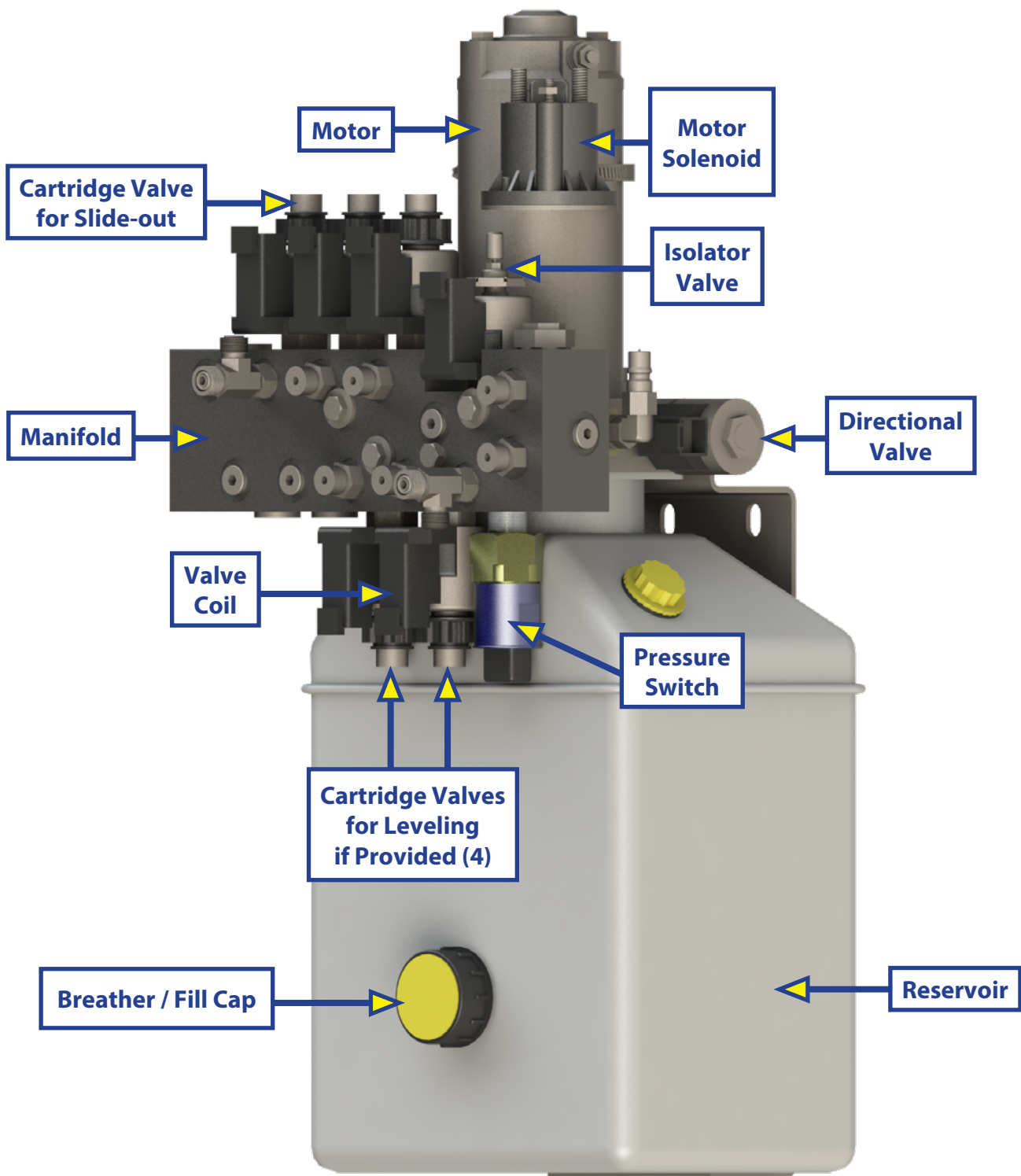
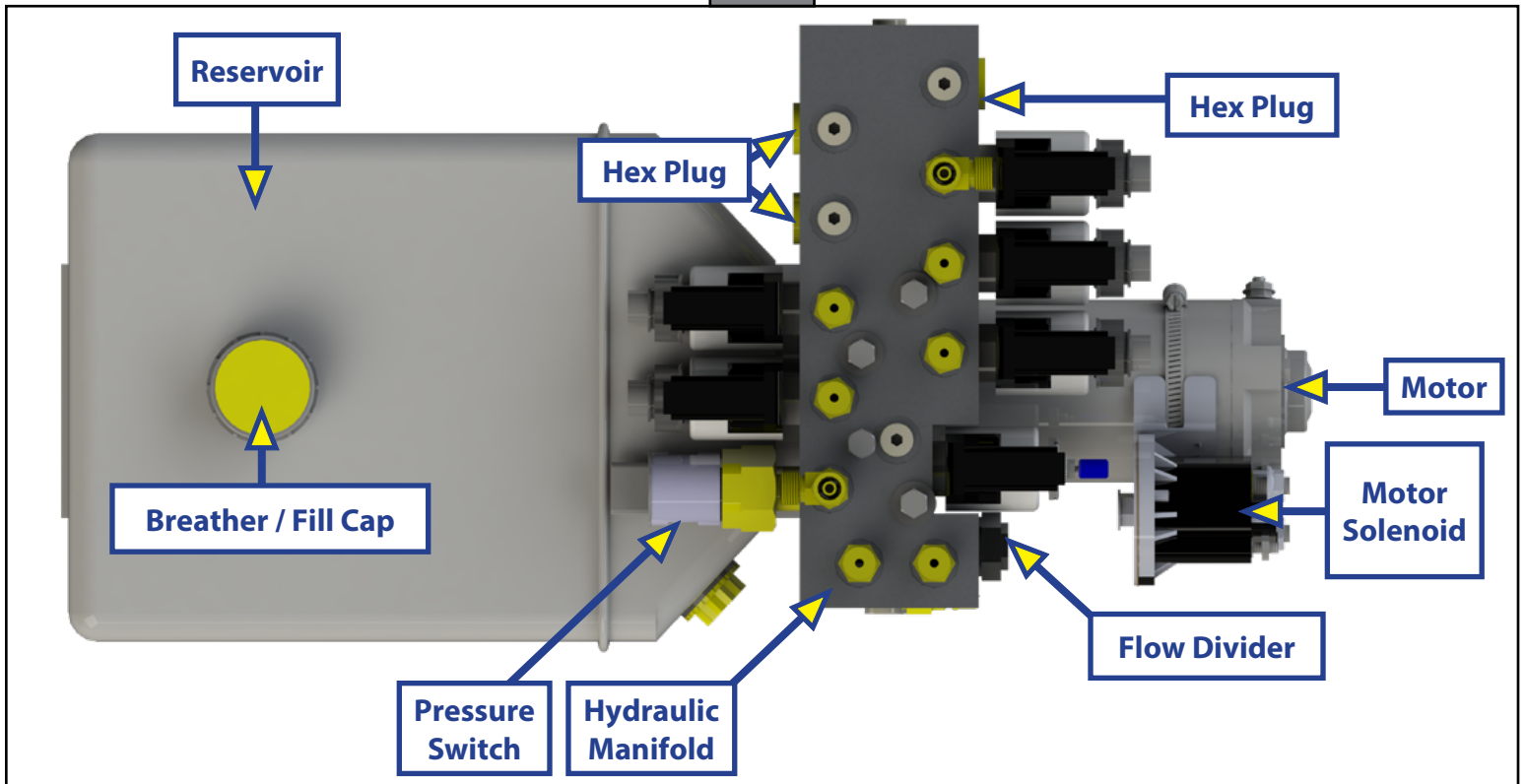


Fig. 4



Manual Override

Resources Required

- Cordless or electric drill
- 1/2" socket
- 5/32" or 5/64" hex wrench

The slide-out system can be run with auxiliary power devices like cordless or electric power drills. In the event of electrical or system failure, this manual method of retracting the cylinders can be used. A standard hand-held drill is all that is required. To manually retract the leveling or slide out cylinders, do as follows:

1. Insert a 5/32" hex wrench into the adjustment end of the valve (Fig. 5A).

NOTE: If a 5/32" hex wrench will not fit in the end of the valve, use a 5/64" hex wrench.

2. Turn the hex wrench on the valve clockwise (Fig. 5) to allow the cylinders to be retracted.

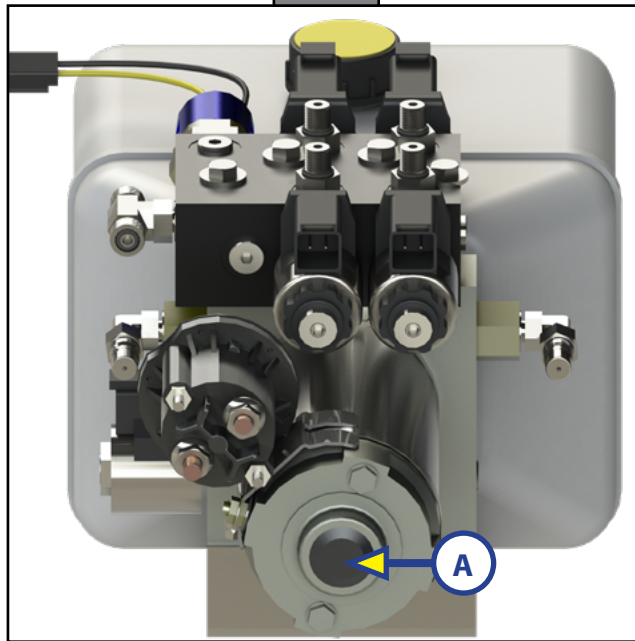
Fig. 5



Clockwise for Manual Override

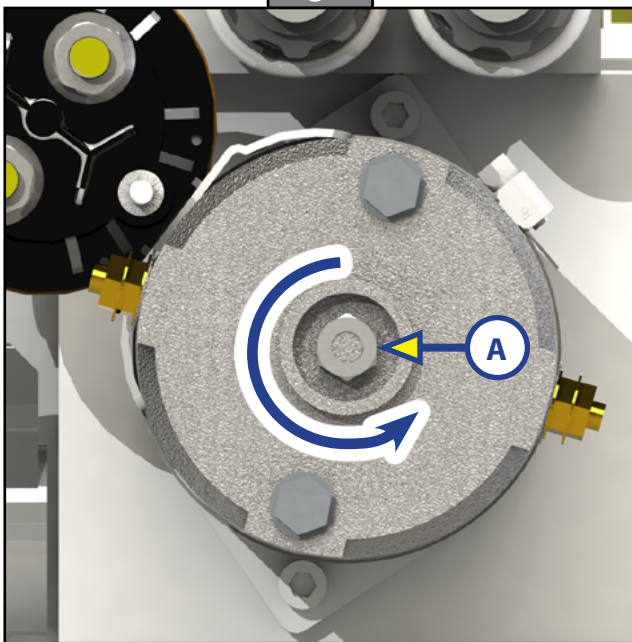
3. Remove the hex wrench from the valve. Remove the plastic cap (Fig. 6A) from the end of the motor.

Fig. 6



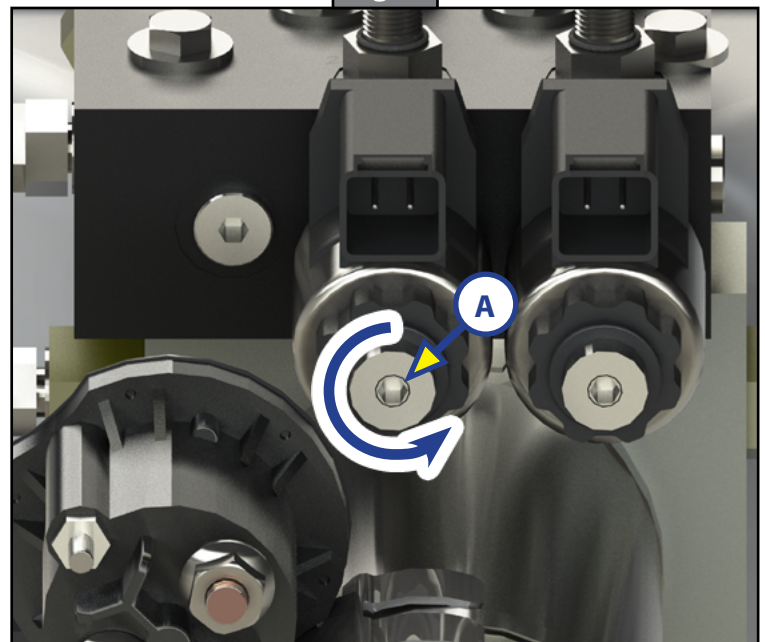
4. Disconnect or shield power cables on the motor.
5. Using a 1/2" socket and auxiliary drive device, e.g., cordless or electric drill, insert 1/2" socket onto the coupler (Fig. 5A).
6. Run drive device in reverse (counterclockwise) to retract cylinders (Fig. 7).
7. After the cylinders have been fully retracted, remove the 1/2" socket and drill from the motor's coupler.
8. Reinsert the 5/32" hex wrench into the valve's manual override adjustment (Fig. 8A).
9. Turn the valve's manual override completely counterclockwise (Fig. 8) until the adjustment no longer turns, thus completely closing the valve.
10. Do not over-tighten override set screws, as this can damage the valve.

Fig. 7



Run counterclockwise to manually retract cylinders.

Fig. 8



Counterclockwise for normal operation

Purging the Hydraulic system

NOTE: Before operating the Lippert Components, Inc. hydraulic system, make sure the system has been purged of air introduced into the hydraulic lines during installation.

Fluid Recommendation

Automatic transmission fluid (ATF) with Dexron®III or Mercon®V or a blend of both is recommended by Lippert Components, Inc. For a list of approved fluid specifications, see [TI-188](https://lci-support-doc.s3.amazonaws.com/technical-information-sheets/leveling-and-stabilization/ccd_0002088.pdf) (https://lci-support-doc.s3.amazonaws.com/technical-information-sheets/leveling-and-stabilization/ccd_0002088.pdf).

NOTE: In colder temperatures (less than 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.

Purging the System

NOTE: Make sure jacks are fully retracted prior to filling reservoir to prevent over-filling

1. Zip-tie any loose wiring or hydraulic lines.

NOTE: The basic purge procedure to bleed the LCI Hydraulic Systems can be performed without the use of any tools. The hydraulic system will purge the air from the hydraulic lines and cylinders by simply running the pump.

NOTE: It is recommended to perform a minimum of three complete cycles (steps 2-7) to ensure both proper function and adequate fluid level of the system.

2. Start with all hydraulic components in the fully retracted position, meaning all jacks and slide-outs are brought back inside the coach as if the coach were ready for travel.
3. Find the hydraulic pump location and note the amount of fluid currently in the reservoir. The fluid level should be about 1/4" from the top of the reservoir and no more than 1/2" from the top.

NOTE: When checking the fluid level after ensuring all hydraulic components are retracted, note if there are any bubbles, froth or foam on top of the fluid. This is an indication that air has been pushed back to the reservoir when the hydraulic components were retracted in the last cycle. Wait 15-20 minutes for the foam to dissipate before beginning the purge process.

4. If there is no froth or foam in the reservoir and the fluid is not within 1/2" of the top, fill the reservoir to within the level described in step 3.
5. With the fluid level full and no foam in the reservoir, begin cycling the hydraulic system.
6. Extend jacks fully, taking the coach off the tires. If the coach has hydraulic slide-outs, extend all slide-outs. Once all jacks and slide-outs are extended, immediately retract all slide-outs and then jacks.
7. Check the reservoir for foam. If foam is present, see NOTE following step 3 and then repeat steps 4-6.
8. Repeat these steps until no foam is present in the reservoir. If no foam is present, the system is purged of air.

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. Outside seals compress when slide-out is retracted.
5. Inside seals compress when slide-out is extended.
6. Slide-out extends and retracts smoothly.
7. Both sides of slide-out are synchronized.
8. Any dirt or debris is cleaned from the interior or exterior of the coach.

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 In-frame Low Profile Slide-out is designed to operate as a negative ground system.

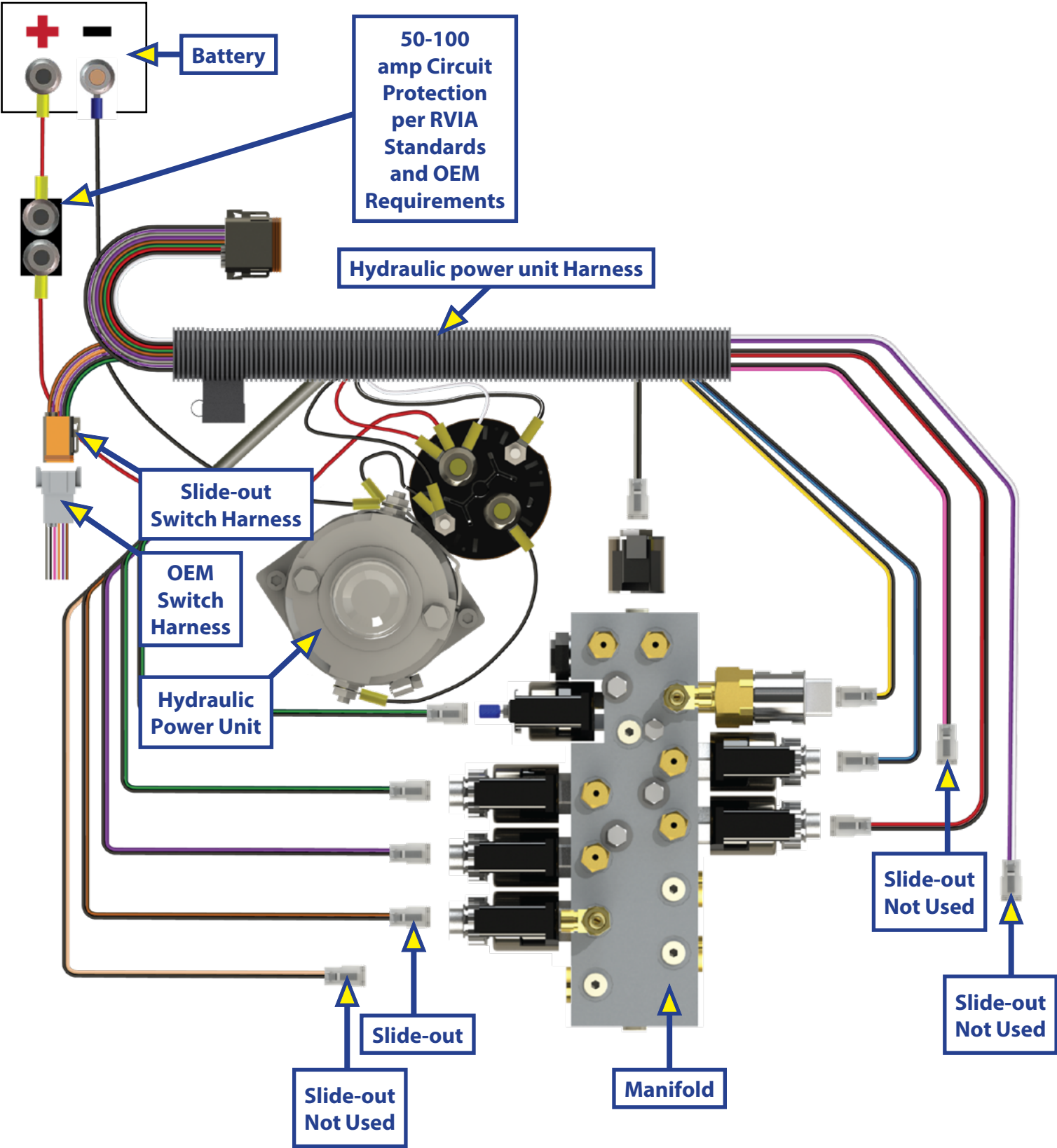
A negative ground system utilizes the chassis frame as a ground and an independent ground wire back to the battery is necessary. It is important that the electrical components have good wire to chassis contact. To ensure the best possible ground, a star washer should be used. Over 90% of unit electrical 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 travel trailer.

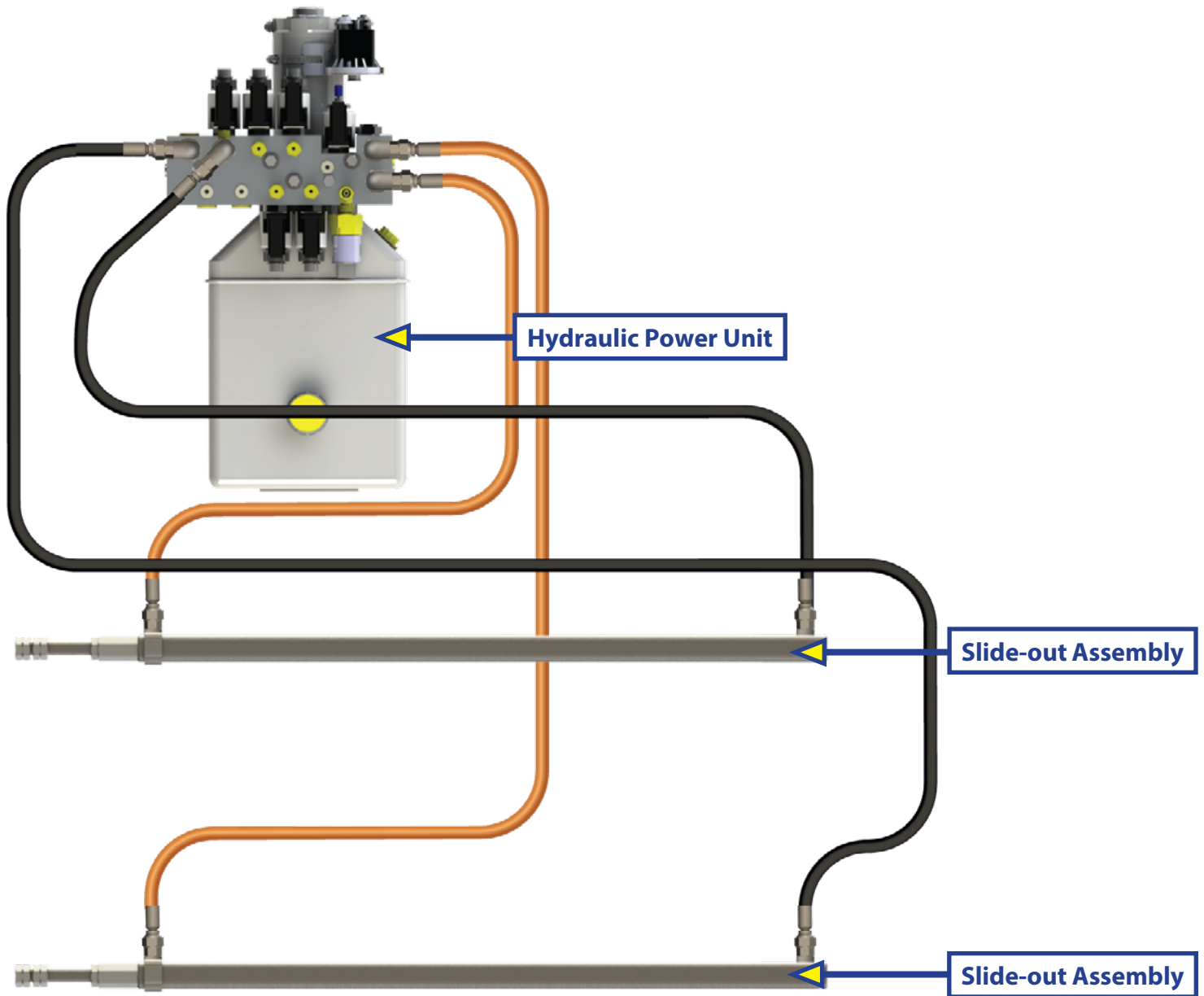
NOTE: For long-term storage: It is recommended that the room be closed (retracted).

Slide-out Wiring Diagram



Hydraulic Plumbing Diagram

Orange Hydraulic lines = Retract
Black Hydraulic lines = Extend





The contents of this manual are proprietary and copyright protected by Lippert Components, Inc. (LCI). LCI prohibits the copying or dissemination of portions of this manual unless prior written consent from an authorized LCI representative has been provided. Any unauthorized use shall void any applicable warranty. The information contained in this manual is subject to change without notice and at the sole discretion of LCI. Revised editions are available for free download from lippert.com.

Please recycle all obsolete materials.

For all concerns or questions, please contact
Lippert Components, Inc.

Ph: (574) 537-8900 | Web: lippert.com | Email: customerservice@lci1.com



This manual is provided courtesy of **RV Tech Cheat Sheet**



Professional resources for the whole RV industry — free.

We put manuals, wiring diagrams and hard-won tech knowledge in every technician's hands, so repairs get done right the first time, techs work faster, and RV owners everywhere get better service.



rvtechcheatsheet.com/manuals

Find thousands more RV manuals, wiring diagrams and parts lists

RV techs: share fixes, ask questions and learn from each other.

Join our free Facebook group →



Follow proper safety practices. If in doubt, consult a professional RV technician.