



**ABOVE FLOOR SLIDE-OUT
(VERTICAL MOTOR)
OWNER'S MANUAL**

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

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Introduction

The LCI Above Floor Slide-out (Vertical Motor) system is a rack and pinion style slide system. Utilizing a bi-directional electric motor to actuate the drive shaft, the slide-out room is extended and retracted from the same source. The actuator has a built-in automatic braking feature.

There are no serviceable parts within the electric motor. If the motor fails, it must be replaced.

Disassembly of the motor voids the warranty.

Mechanical portions of the slide-out system are replaceable. Contact Lippert Components, Inc. to obtain replacement parts.

Additional information about this product can be obtained from lci1.com/support or by downloading the free myLCI app. The app is available on iTunes® 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/slide-outs-support-above-floor-slide-outs>

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

The LCI Above Floor Slide-out (Vertical Motor) 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 unit and/or cause serious injury or even death.

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.

⚠ WARNING

Unit **MUST** be supported per manufacturer's recommendations before working underneath. Failure to do so may result in death or serious personal injury.

⚠ 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.

Prior to Operation

Before operating the LCI Above Floor Slide-out (Vertical Motor) system, do as follows:

1. Parking location should be clear of obstructions that may cause damage when the slide-out room is actuated.
2. To optimize slide-out actuation, the unit should be parked on the most solid, level surface available.
 - A. Locations should also be free of depressions.
 - B. When parking the unit on extremely soft surfaces, utilize load distribution pads under each jack.
3. For motorized units:
 - A. The battery **MUST** be fully charged.
 - B. The PARKING BRAKE **MUST** be engaged.
 - C. The coach's transmission **MUST** be in PARK.
 - D. The coach's ignition **MUST** be in the OFF position—the engine **NOT** running. (Class A and C only; Gas and Diesel)
4. Make sure all persons, pets and property are clear of the unit prior to slide-out room actuation.
5. Keep hands and other body parts away from slide-out mechanisms during actuation or severe personal injury or death may occur.

Operation

The family of LCI Above Floor Slide-out systems are controlled by a switch (Fig. 1) mounted on the unit's wall, normally located close to the entry door.

1. Make sure the slide-out path is clear of persons, pets and property before and during operation of the slide-out room.
2. 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.
3. Keep stored items in compartment clear of slide-out motor mechanisms and wiring to prevent interference of slide-out operation.

Extending Slide-Out

1. Level the unit.
2. Verify the battery is fully charged and hooked up to the electrical system.
3. If equipped, remove transit bars.
4. Press and hold the IN/OUT switch in the OUT position (Fig. 1A) until the slide-out is fully extended and stops moving.
5. Release the switch, which will lock the slide-out into position.

NOTE: Only hold the switch's OUT position until the slide-out stops.

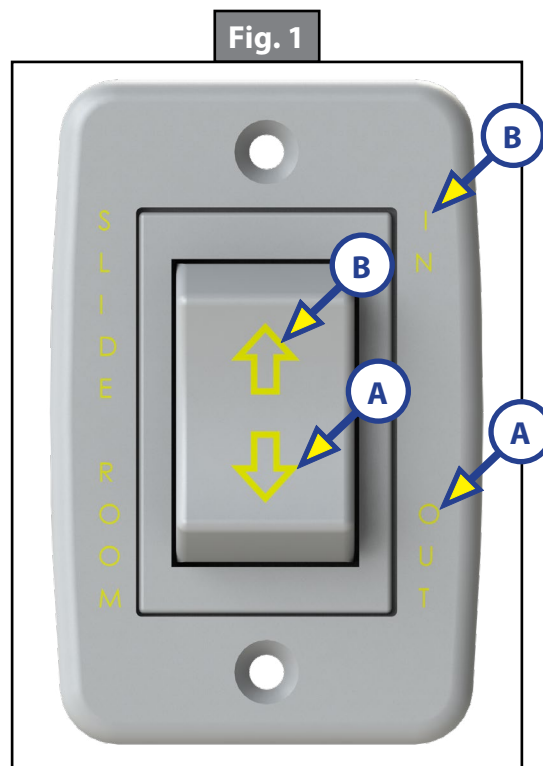
Retracting Slide-Out

1. Verify the battery is fully charged and hooked up to the electrical system.
2. Press and hold the IN/OUT switch in the IN position (Fig. 1B) until the slide-out is fully retracted and stops moving.
3. Release the switch, which will lock the slide-out into position.

NOTE: Only hold the switch's IN position until the slide-out stops.

4. If equipped, install the transit bars.

NOTE: Transit bars should only be used during storage and transportation.



Maintenance

Preventative

The LCI Above Floor Slide-out (Vertical Motor) system has been designed to require very little maintenance. The system has been static tested to over 2,500 continuous cycles without any noticeable wear to rotating or sliding parts. No grease or lubrication is necessary and, in some situations, may be detrimental to the environment and long term dependability of the system. To ensure the long life of the slide-out system, read and follow these few simple procedures.

Electric

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 electric motor for corrosion and loose or damaged terminals. Check motor leads under the motor-home chassis. Since these connections are subject to damage from road debris, be sure they are in good condition.

NOTE: The LCI Above Floor Slide-out (Vertical Motor) system is designed to operate as a negative ground system. A 12V DC system must maintain good wire connections. It is important that the electrical components have good ground connection. Over 90% of unit electrical problems are due to bad ground connections.

Mechanical Maintenance

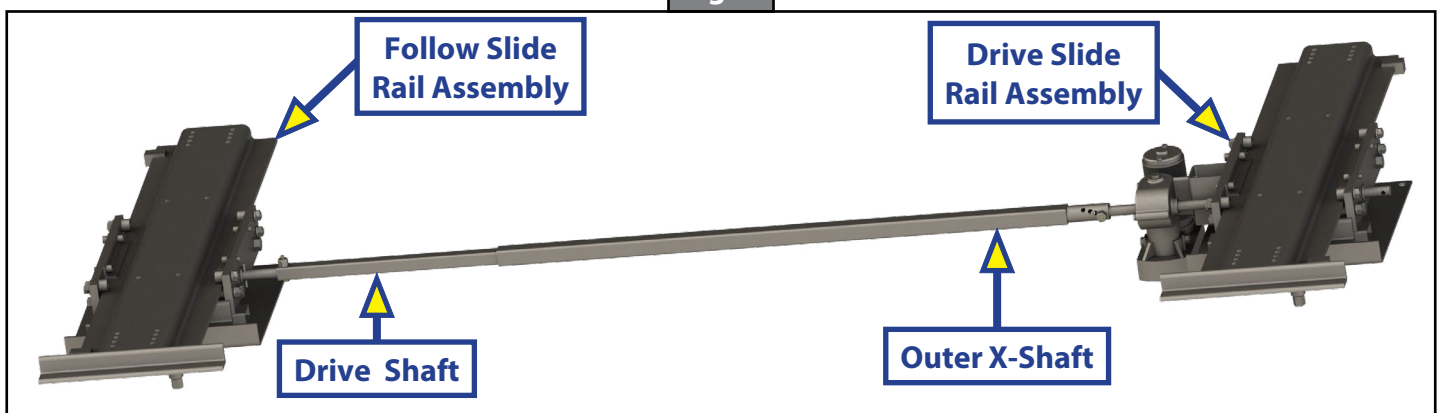
Although the LCI Above Floor Slide-out (Vertical Motor) system is designed to be almost maintenance free, inspect the slide-out for any visible signs of external damage before and after movement of the slide-out. Remember to inspect inside the unit as well as the slide-out outside the unit.

For long-term storage, it is recommended that the slide-out be closed (retracted).

Visually inspect the slide floor and drive box assemblies. Refer to figure 2 for locations of rail assemblies. Check for excess build-up of dirt or other foreign material; remove any debris that may be present.

If the system squeaks or makes any noises it is permissible to apply a coat of lightweight oil to the drive shaft and roller areas, but remove any excess oil so dirt and debris do not build-up. Do **NOT** use grease.

Fig. 2



Troubleshooting

The LCI Above Floor Slide-out (Vertical Motor) system is only one of four inter-related slide-out system components. These four components are:

- Chassis
- Slide-out room
- Unit
- LCI Above Floor Slide-out (Vertical Motor) system

Each component needs to function correctly with the others or misalignment problems will occur.

Every unit has its own unique build, or "personality," so what may work to fix one unit 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 rails, rack and pinion be free of contamination and allowed to travel freely the full distance or "STROKE." Debris build-up during travel is an example of the type of contamination that may occur.

When beginning to troubleshoot the system, make sure the battery is fully charged, there are no visible signs of external damage to the actuator, motor or rails and that the motor is wired properly and all connections are secure.

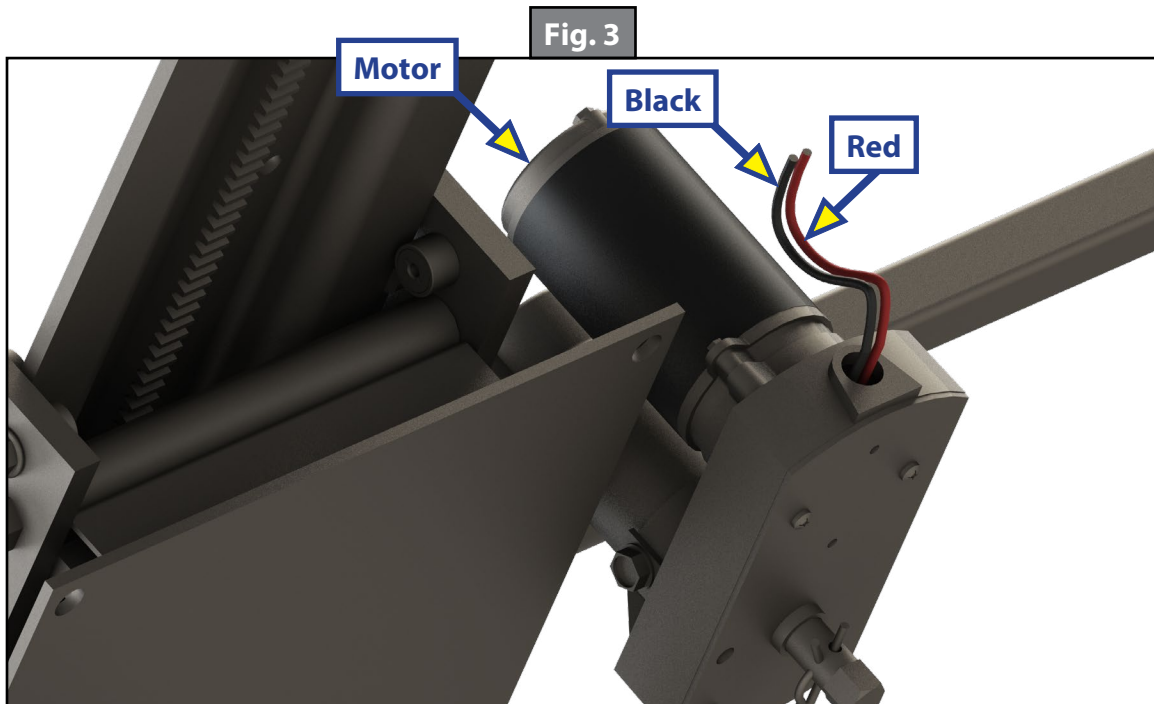
You can adjust slide-out extension by modifying the position of the rack gear on the slide floor rail to the pinion gear on the gear assembly.

During troubleshooting, changing, altering or adjusting one thing may affect something else. Make sure any changes do not create a new problem.

Troubleshooting Chart		
What is Happening	Why?	What Should Be Done?
Slide-out 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.
	Excessive slide-out drag.	Check that transit bars are removed.
Power unit runs, but slide-out does not move.	Motor turns, slide-out does not move.	Gear key is broken or lost. Replace gear drive assembly.
	Broken gear on drive shaft.	Replace gear drive assembly.
	Broken gear in gearbox.	Replace motor/gearbox assembly.
	Bad motor or gearbox.	Replace motor/gearbox assembly.
Slide-out starts to move, then stops.	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.
	Obstruction of slide-out inside or outside.	Check for and clear obstruction.
Slide-out chatters during operation.	Teeth on gear drive broken or worn.	Replace gear drive assembly.
	Teeth on inner rail broken and worn.	Replace inner rail assembly.

Switch Related Problems

1. If the slide-out moves opposite from what the switch plate indicates, reverse the red and black motor wires at the splice junction (Fig. 3). Additional wiring **MUST** use 10 AWG minimum and conform to current RVIA electrical standards.



2. If a gear is stripped, the entire gearbox must be replaced.

Motor Unit

Before attempting to troubleshoot the power unit, make sure an adequate power source is available. The unit's batteries should be fully charged or the unit should be plugged into A/C service with batteries installed. Do **NOT** attempt to troubleshoot the power unit without assuring a full 12V DC charge.

The following tests require only a DC voltmeter, or DC test light, and a jumper lead.

1. Attach voltmeter or test light leads to the negative and positive switch terminals on back of the wall switch. Does the meter indicate 12V DC?
 - A. If yes, go to step 2.
 - B. If no, go to step 3.
2. Check the incoming leads to 12V DC. Does meter indicate 12V DC?

NOTE: If necessary, disconnect leads at wire splices.

 - A. If yes, the power unit needs to be replaced.

NOTE: The motor is not field serviceable. Do **NOT** attempt to repair.

 - B. If no, inspect all wires and connections between the wall switch and the motor.
 - I. Repair connections as necessary.
 - II. Re-check voltage per step 1.
3. If meter still does not register 12V DC, then:
 - III. Inspect all connections between battery and switch.
 - IV. Inspect any and all breakers, relays and fuses.
 - V. Re-check voltage per step 1.

Electrical

Since there are no field-serviceable parts in the motor of the 12V DC motor, electrical troubleshooting and service is limited to replacing only those components as previously outlined.

NOTE: Thorough inspection of wiring and connections is the only other electrical service that can be performed.

Syncing the Slide-Out

When the two opposing sides of the slide-out are misaligned—out-of-sync—an adjustment can be made to realign—sync—the system by performing a manual adjustment of the outer x-shaft.

⚠ CAUTION

Always disconnect battery from system prior to manually operating system. Failure to disconnect battery can cause electricity to back feed through the motor and cause serious damage to the system as well as voiding the warranty.

Before accessing the power unit, make sure power to the system has been disconnected.

The slide-out adjustment for syncing the LCI Above Floor Slide-out is handled through the drive shaft (Fig. 2).

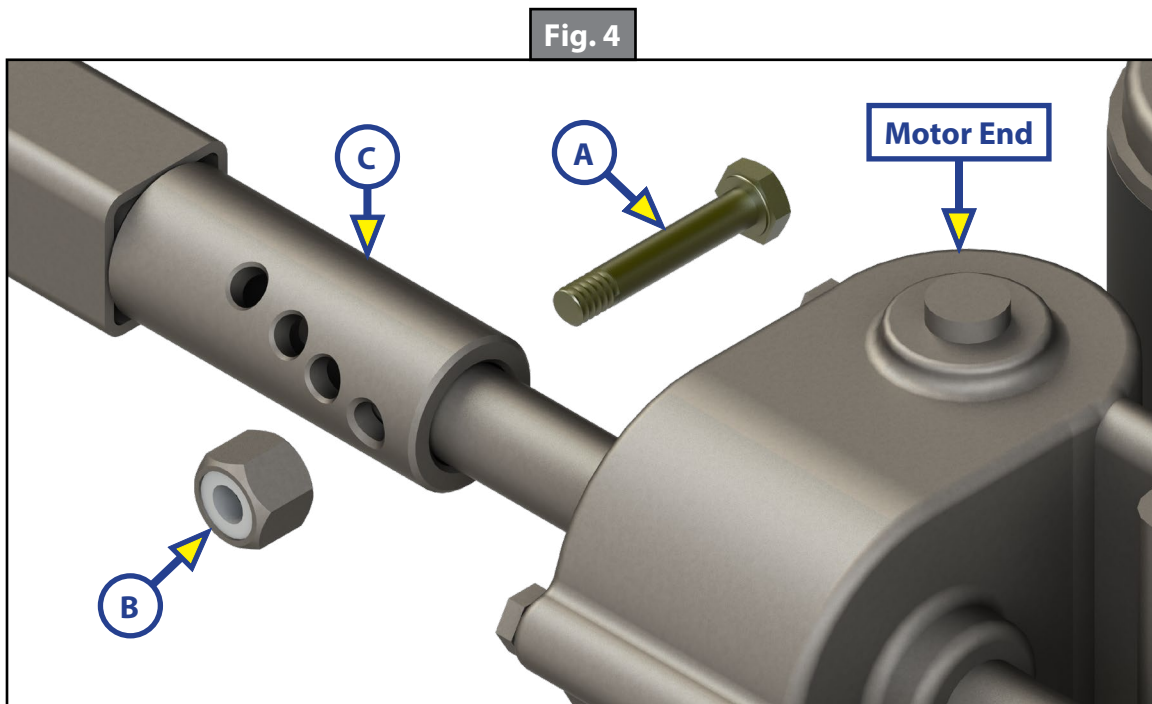
To sync the slide-out system, do as follows:

1. Access the slide-out's drive slide rail assembly (motor end) (Fig. 2).

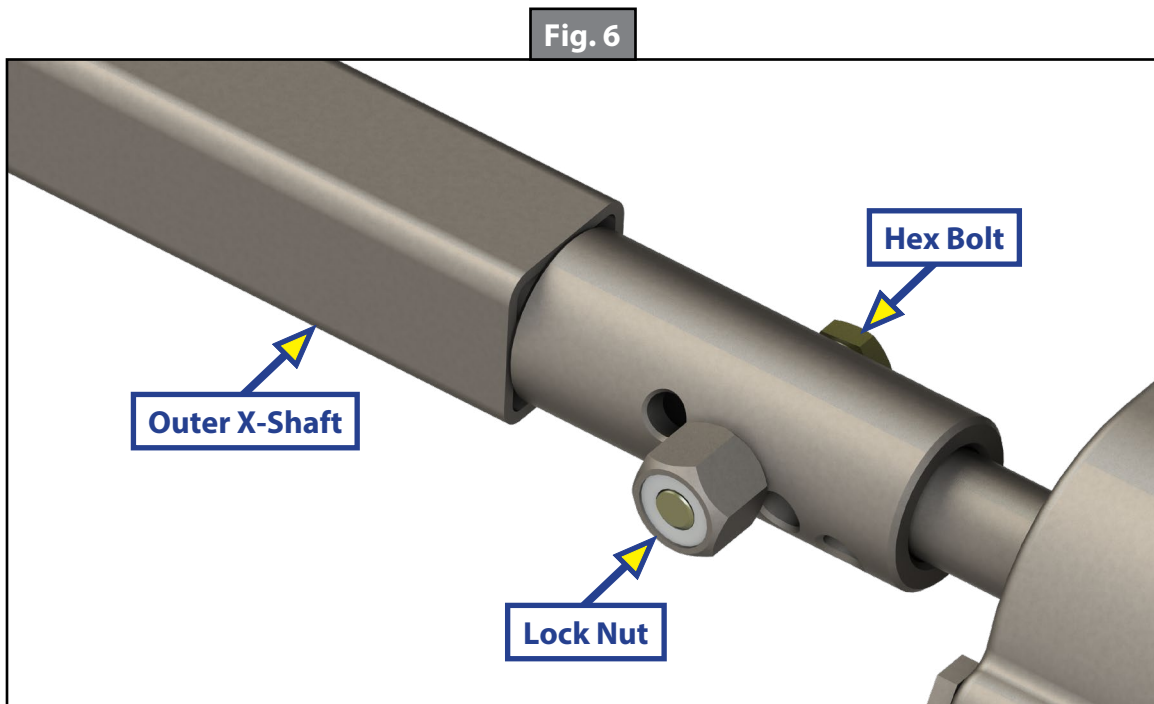
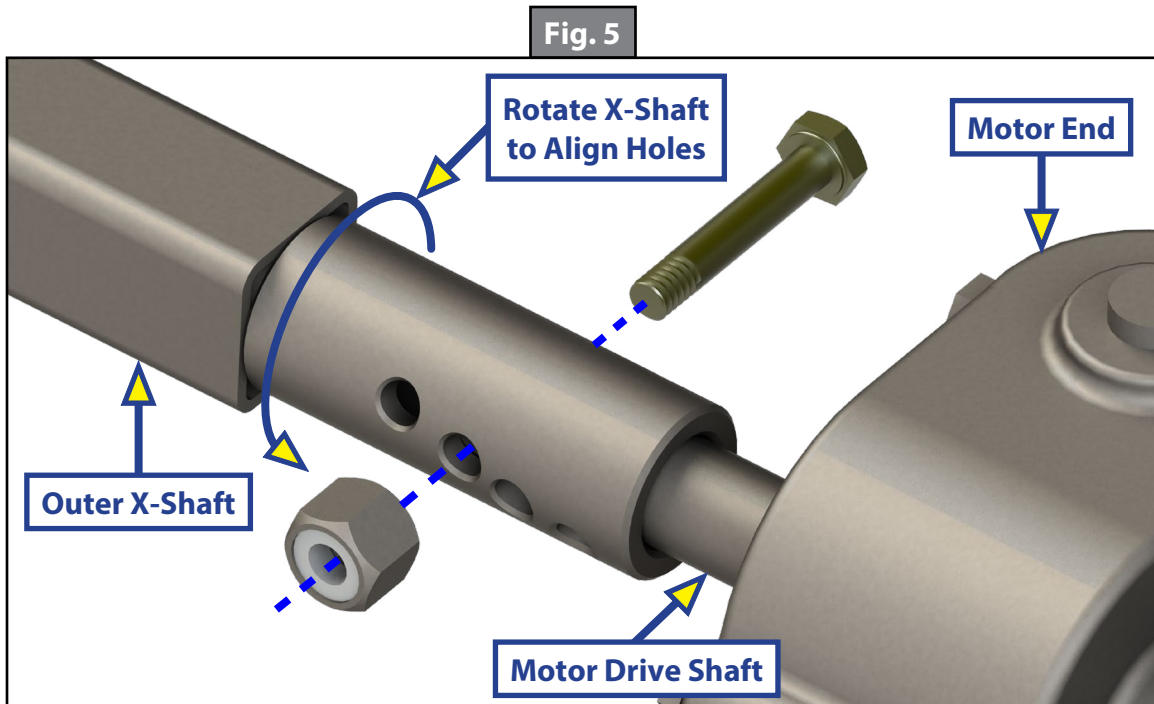
NOTE: The slide-out shaft will be accessible from the inside of the unit. The slide-out motor and mechanism are accessible from the outside.

2. At the motor end, remove the 1/4" - 20 bolt (Fig. 4A) and locking nut (Fig. 4B) from the outer x-shaft (Fig. 4C).

NOTE: This is the part that allows the follow slide to be adjusted, pulling the room closer to or further away from the wall at the follow end.



3. Turn the outer x-shaft (Fig. 5) to rotate the drive shaft until the follow slide end aligns—syncs—with the drive slide end.
4. Align the closest hole on the outer x-shaft with the through-hole on the drive shaft (Fig. 5), then reinsert the previously removed (step 2) 1/4" - 20 bolt and locking nut (Fig. 6) to secure the synced slides.



5. Reconnect internal and external power to the unit.
6. Using the switch (Fig. 1), operate the slide-out system to make sure the drive and follow slides are properly synced.
7. If slides remain out-of-sync, repeat steps 1-5 until both slides become synced and the room operates normally.

Manual Override

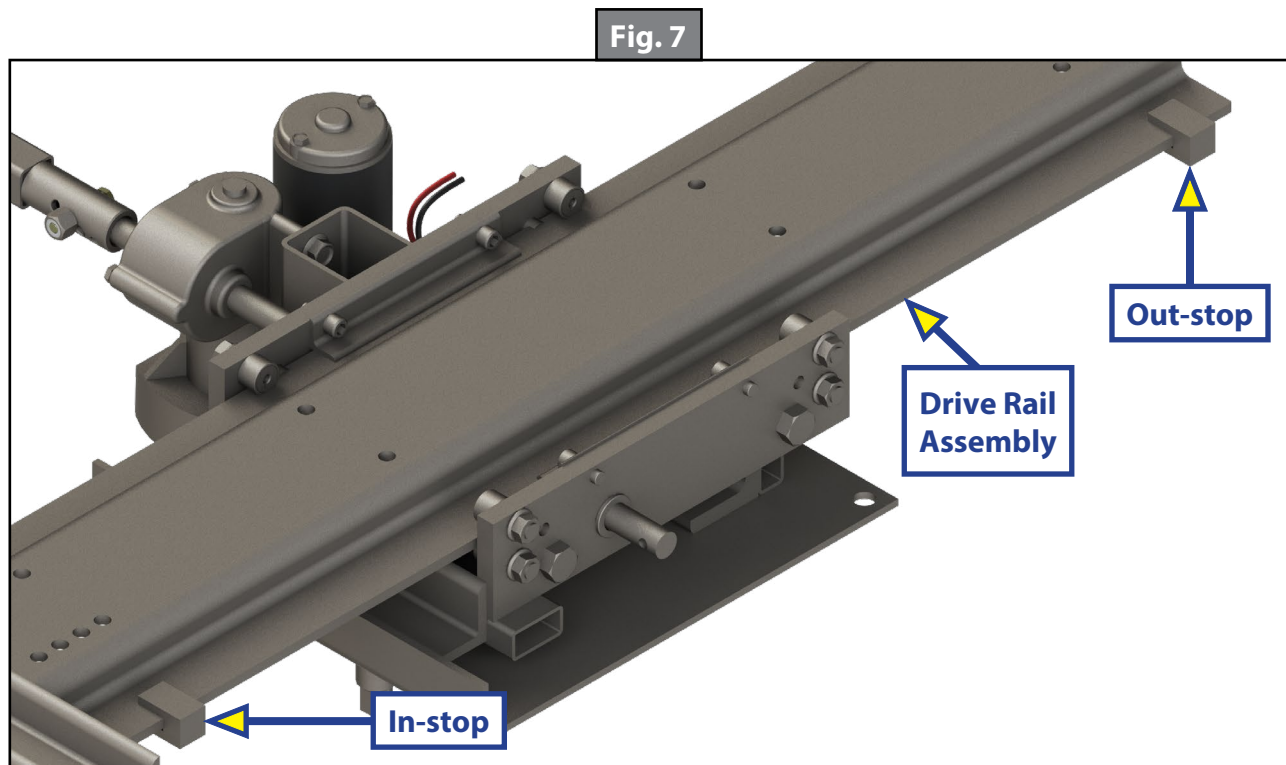
In the event of loss of power, the LCI Above Floor Slide-out (Vertical Motor) system can be manually operated as follows:

⚠ CAUTION

Always disconnect battery from system prior to manually operating system. Failure to disconnect battery can cause electricity to back feed through the motor and cause serious damage to the system as well as voiding the warranty.

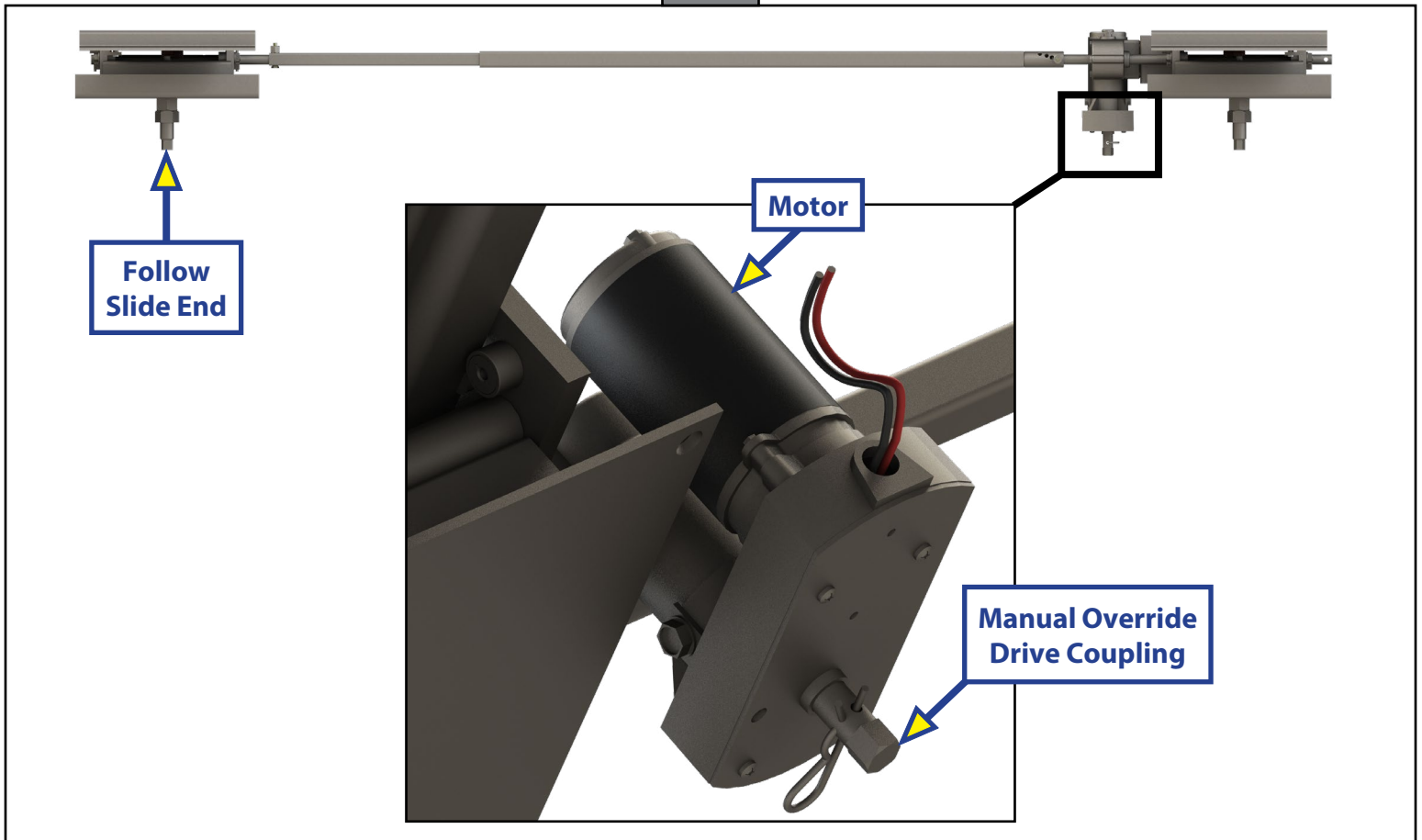
1. Before accessing the power unit, make sure power to the system has been disconnected.
2. Access the out-stop assembly (Fig. 7). Out-stops are located on the outer edge of the drive and follower rails.

NOTE: The slide-out out-stop assembly will be accessible from the inside of the unit. The slide-out motor and mechanism are accessible from the outside.



3. Using a 15/16" wrench or socket/ratchet combination, rotate the 5/8" hex head manual override (Fig. 8) to manually extend or retract the slide-out.

Fig. 8



⚠ CAUTION

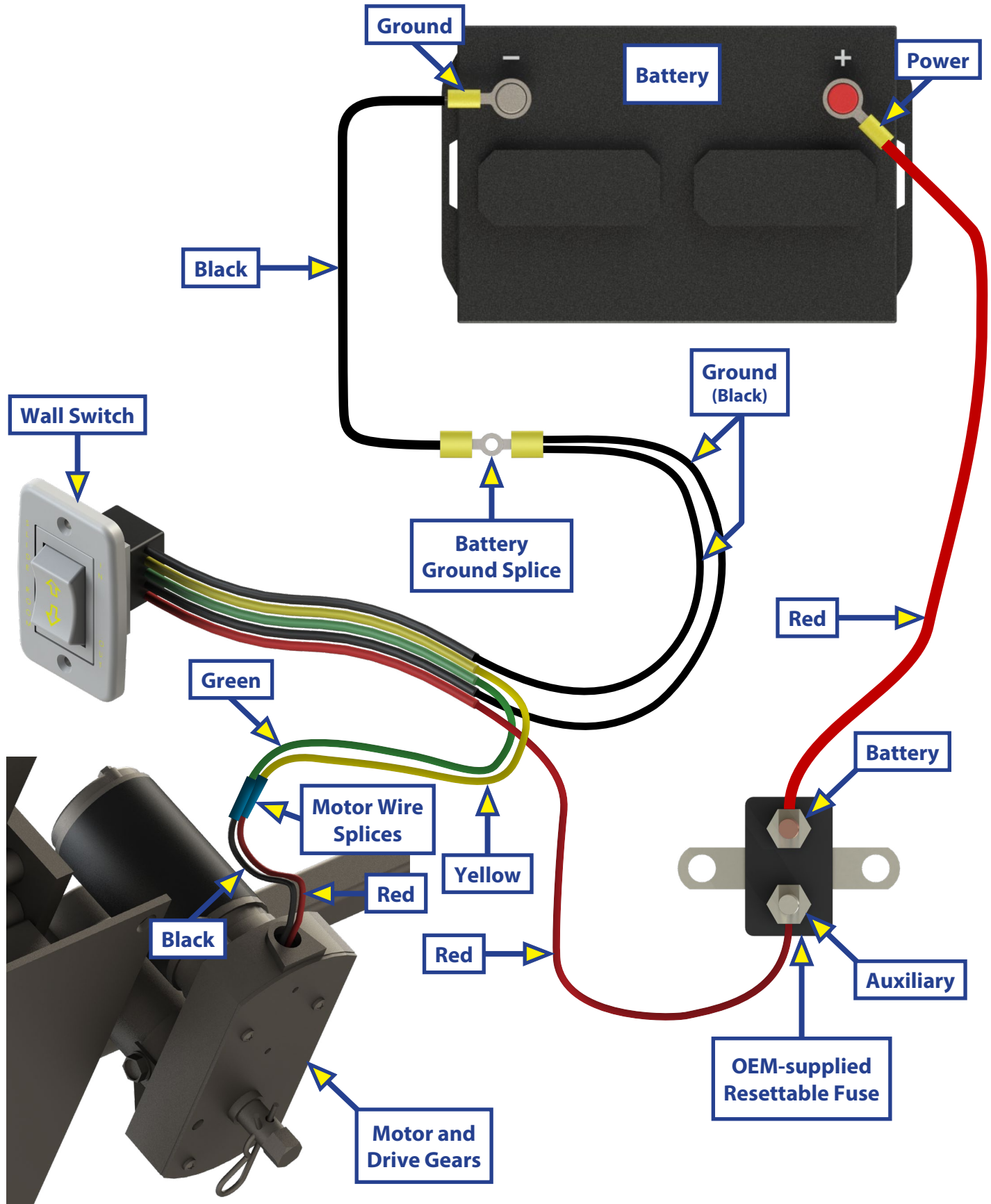
The gears can be stripped out if the slide-out is manually retracted/extended to its fullest extent and the operator continues to rotate manual override. Do NOT over extend or retract the slide-out when manually overriding the system. Damage may occur when over extending or retracting the slide-out, causing the system to fail and void the limited warranty.

4. When the slide-out reaches its stop (Fig. 7), do **NOT** continue to manually extend or retract the slide-out or damage to the system can occur.

NOTE: Stops are factory-set to optimize slide-out extension/retraction. No additional adjustment to the stops should be needed. If the retracted slide-out does not fully seal, then an adjustment to the in-stops may be required. Contact the unit's manufacturer for additional adjustment information.

Wiring Diagram

NOTE: Wire colors may differ when using a non-Lippert Components switch. Additional wiring **MUST** use 10 AWG minimum and conform to current RVIA electrical standards.





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