



**M-TEC DOUBLE RAIL ABOVE
FLOOR SLIDE-OUT
OEM INSTALLATION MANUAL**

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Introduction

The M-Tec Double Rail Above Floor Slide-out is a rack and pinion style slide-out 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 clutching 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. The M-Tec Double Rail Above Floor Slide-out system is intended for the sole purpose of extending and retracting the slide-out room.

For information on the assembly or individual components of this product, please visit:

<https://support.lci1.com/above-floor-m-tec-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

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.

The M-Tec Double Rail Above Floor 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 severe product or property damage and/or serious personal injury or death.

WARNING

The "WARNING" symbol above is a sign that a procedure has a safety risk involved and may cause death or serious personal injury and/or severe product or property damage, including voiding of the component warranty, if not performed safely and within the parameters set forth in this manual.

WARNING

The unit **MUST** be supported per manufacturer's recommendations before working underneath. Failure to do so may result in death, serious personal injury, severe product or property damage.

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

Depending on the nature of the task, always wear appropriate personal protection equipment (PPE) when performing the procedures set forth in this manual.

CAUTION

Always disconnect the battery from the system prior to installation. Failure to disconnect the battery can cause electrical feedback through the motor, causing serious damage to the system as well as voiding the warranty.

CAUTION

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

NOTICE

All electrical wiring harnesses shall be loomed and secured to prevent possible damage and installed in accordance with RVIA electrical standards.

Resources Required

- Cordless or electric drill or screw gun
- Appropriate drive bits
- Heat gun (electrical connections)
- 3/4" wrench (stop bracket and vertical brace nuts)
- Appropriate fasteners (OEM-supplied)
- Crimp butt connectors
- Crimping tool

Preparation

Prior to slide-out system installation and operation:

- Make sure the unit is appropriately supported on solid, level ground.
- If applicable, make sure the unit's parking brake is engaged.

WARNING

Do not work on the slide-out system unless the battery is disconnected. Failure to disconnect the battery may result in death or serious personal injury.

- Make sure electrical power to the unit is off.
- Make sure all persons and obstructions are clear of the unit prior to slide-out room actuation.
- Keep hands and other body parts away from slide-out mechanisms during actuation.

Installation

Prior to installation, inspect the above floor slide-out system to ensure there are no missing or damaged parts.

Slide-out Rail Assembly

1. Locate the slide-out opening (Fig. 1) per the OEM design.
2. Center the double rail slide-out system (Fig. 1A) within the slide-out opening.
3. Using the slots in the two slide rail assembly mounting plates (Fig. 2A) and the holes in the two gearbox mounting tabs, secure the mounting plates and tabs to the wall of the opening with OEM-supplied fasteners; 12 places).

Fig. 1

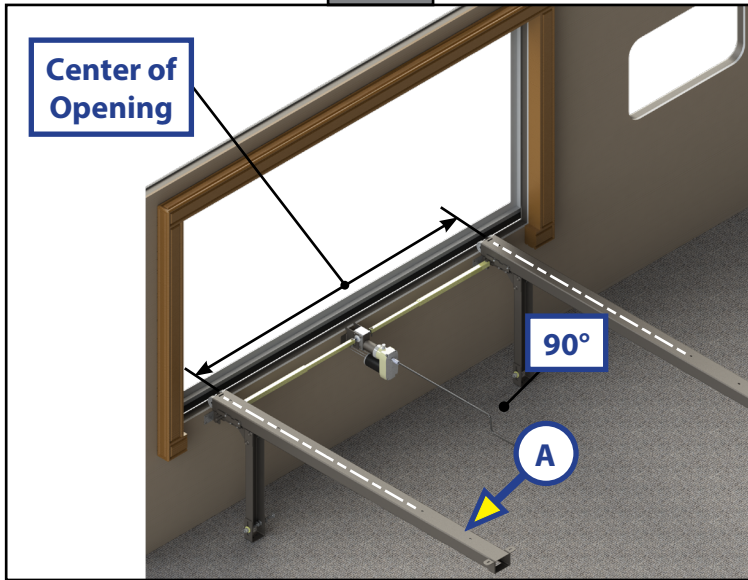
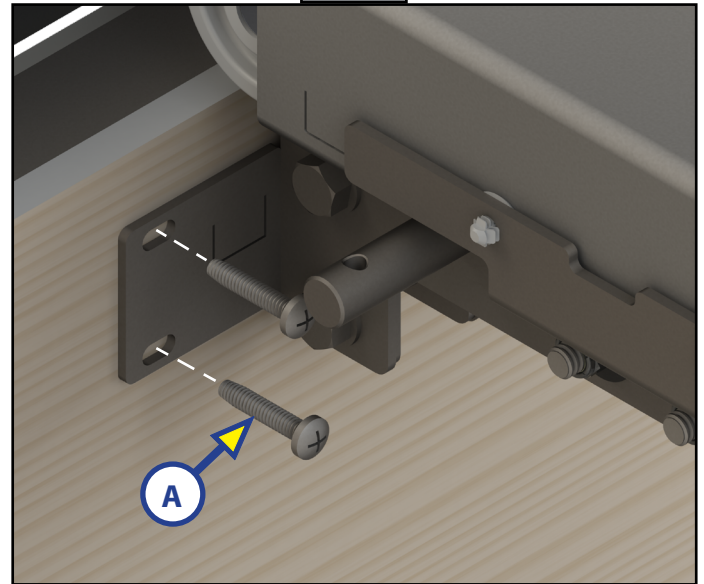


Fig. 2



4. Align each slide rail assembly vertical mounting bracket (Fig. 3A) to be at a 90-degree angle to the unit's floor.
5. Secure the vertical bracket assemblies to the floor with OEM-supplied fasteners (Fig. 4A).

Fig. 3

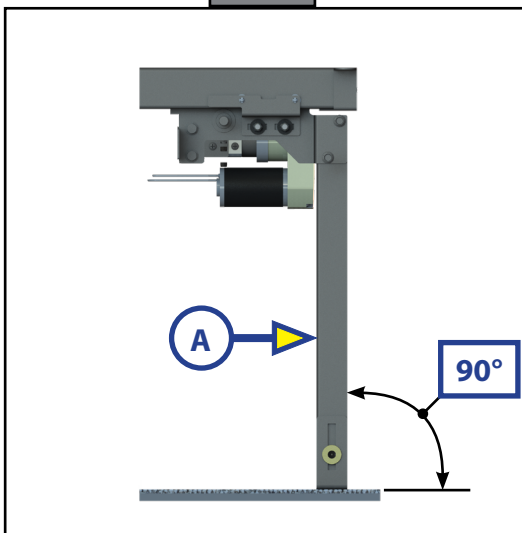
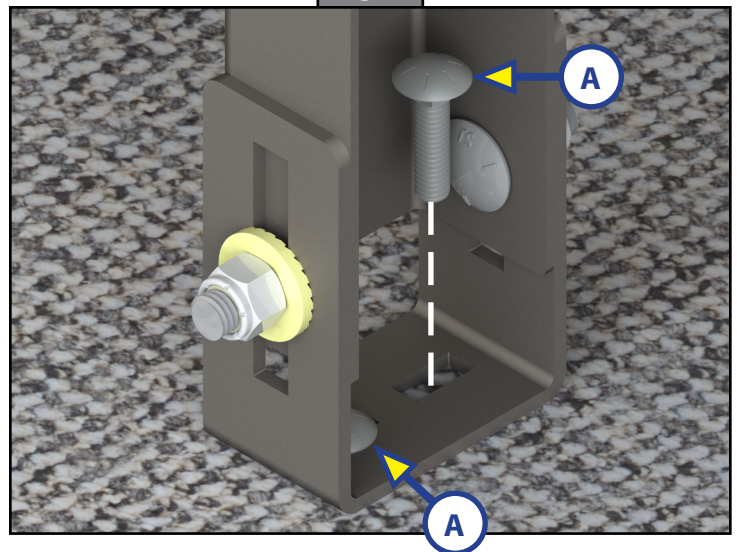
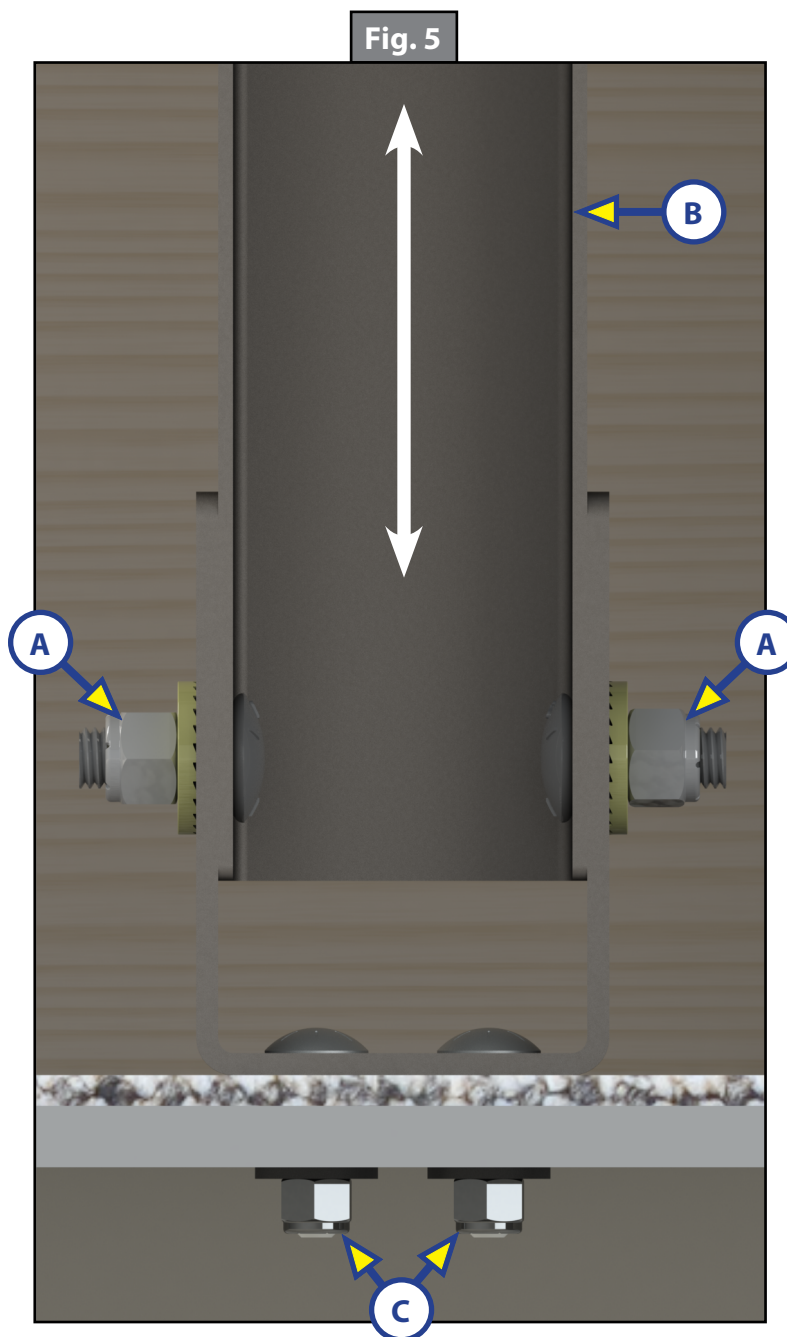


Fig. 4



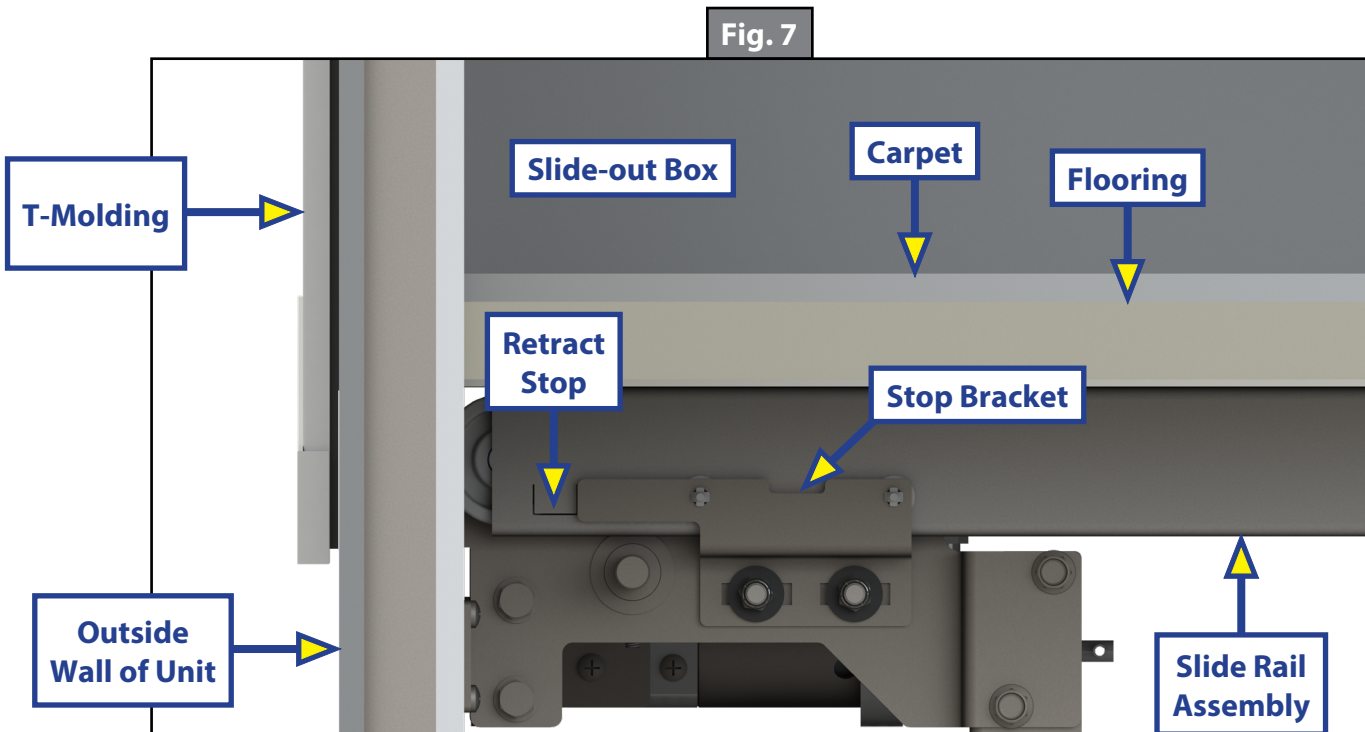
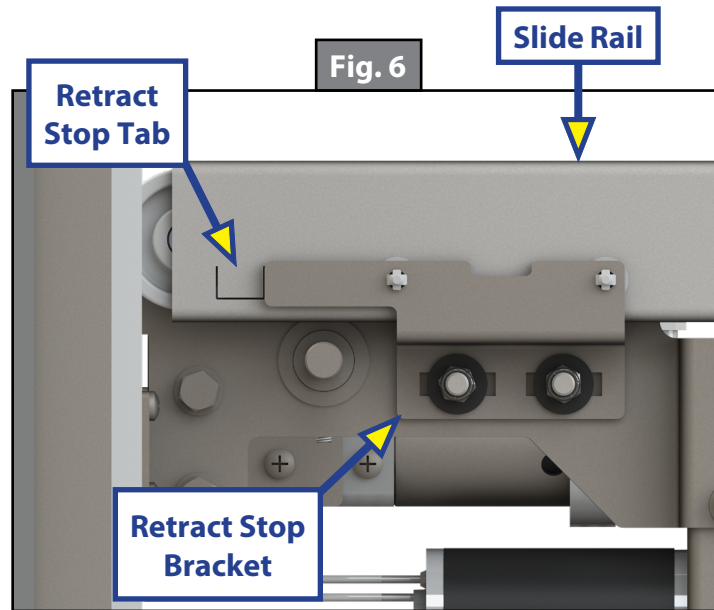
6. Make sure each slide rail assembly is level before installing the slide room.
 - A. If necessary, loosen the nuts on the vertical bracket's mounting foot (Fig. 5A) of the non-level slide rail assembly then raise or lower the vertical brace (Fig. 5B) until the slide rail assembly is level.
 - B. Tighten the nut on the vertical bracket's mounting foot.
 - C. Secure the mounting foot to the floor with OEM-supplied fasteners (Fig. 5C).
 - D. If necessary, repeat steps A-C to secure the other slide rail mounting foot.
7. Check each slide rail assembly for matching height, matching width spacing between each slide rail—take multiple measurements at points along the rail to ensure consistent parallelism—and levelness of each slide rail before installing the slide-out room. Make adjustments as necessary.



Slide-out Room

Install the slide-out room as follows:

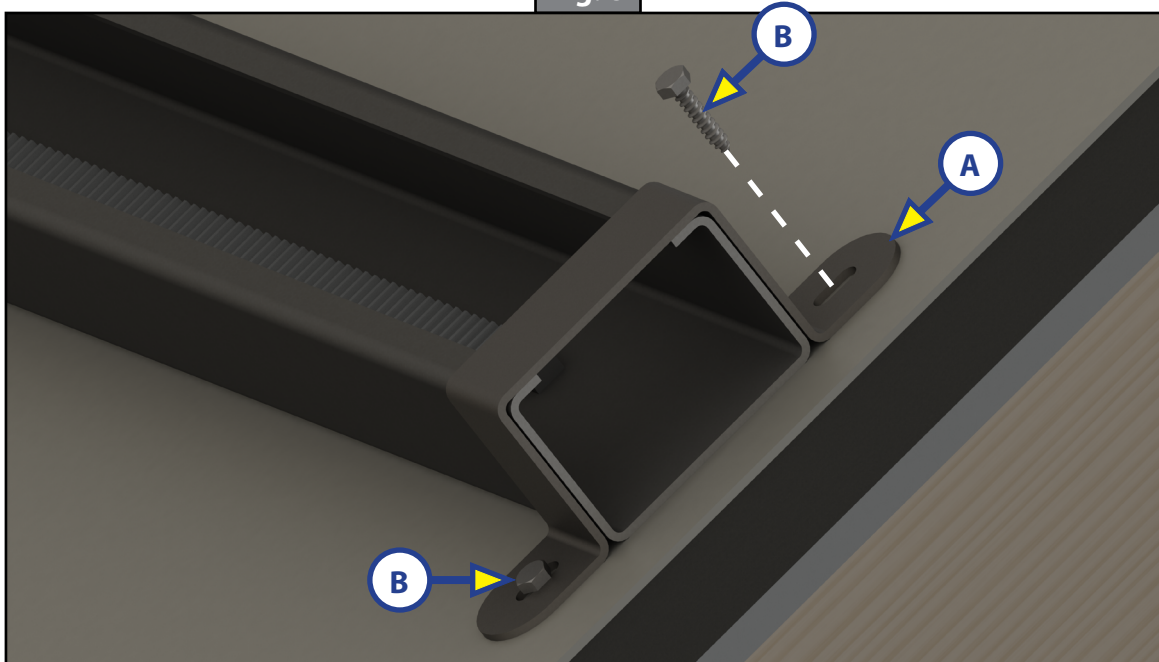
1. Place the slide rail assemblies in their fully retracted position (factory setting) (Fig. 6).
2. Place the slide-out room onto the slide rails (Fig. 7) then center the room within the slide opening (Fig. 1).
3. If the T-molding is installed, position the slide-out room so that the T-molding is flat against the outside wall (Fig. 7).
4. Make sure the slide-out room is centered within the opening before securing the room to the slide rail assemblies.
 - A. If necessary, adjust the slide rails to make sure the front and rear mounting holes have enough mating surface with the underside of the slide-out room.



- B. Locate the mounting holes at each end of each slide rail.
- C. Secure the slide-out room to the slide-out rail assemblies through the rail's rear mounting bracket slots (Fig. 8A) with OEM-supplied fasteners (Fig. 8B). Do **NOT** fully tighten the fasteners.

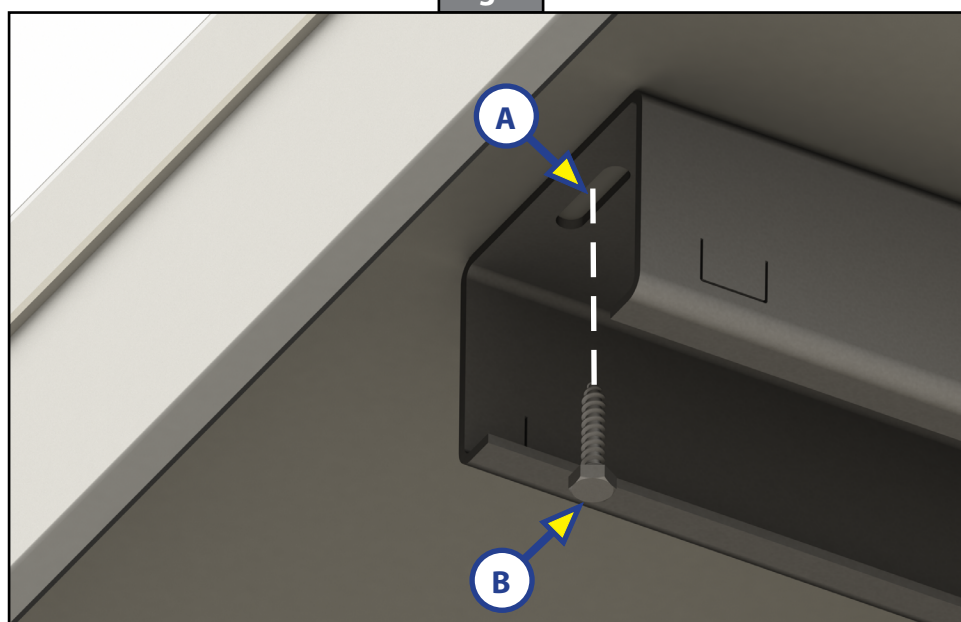
NOTE: Securing the slide-out room first through the slide rail's rear mounting slots will allow for later adjustments to make sure the slide-out room side walls are parallel to the opening.

Fig. 8



- D. Extend the slide-out to gain access to the slide-rail's front mounting slot (Fig. 9A).
 - E. Check for parallelism between the two slide rails while keeping the slide-out centered within the opening. If necessary, adjust for parallelism between the slide-rails.
 - F. After the slide-out room is properly positioned on the slide rails, secure the slide-out to the rails using the OEM supplied fasteners (Fig. 9B). Do **NOT** fully tighten the fasteners.
5. Make sure the slide-out room is level and square to the opening.
- A. Adjust the room on the slide-outs and the vertical brackets (step 6 and Fig. 5 of the Slide-out Rail Assembly section) as necessary.
 - B. Tighten all fasteners to secure the slide-out system.

Fig. 9



Mounting and Wiring the Switch

⚠ WARNING

Do not work on the slide-out system unless the battery is disconnected. Failure to disconnect the battery may result in death or serious personal injury.

⚠ CAUTION

Always disconnect the battery from the system prior to installation. Failure to disconnect the battery can cause electrical feedback through the motor, causing serious damage to the system as well as voiding the warranty.

Depending on OEM requirements, the slide-out room may be operated by a rocker switch (Fig. 10).

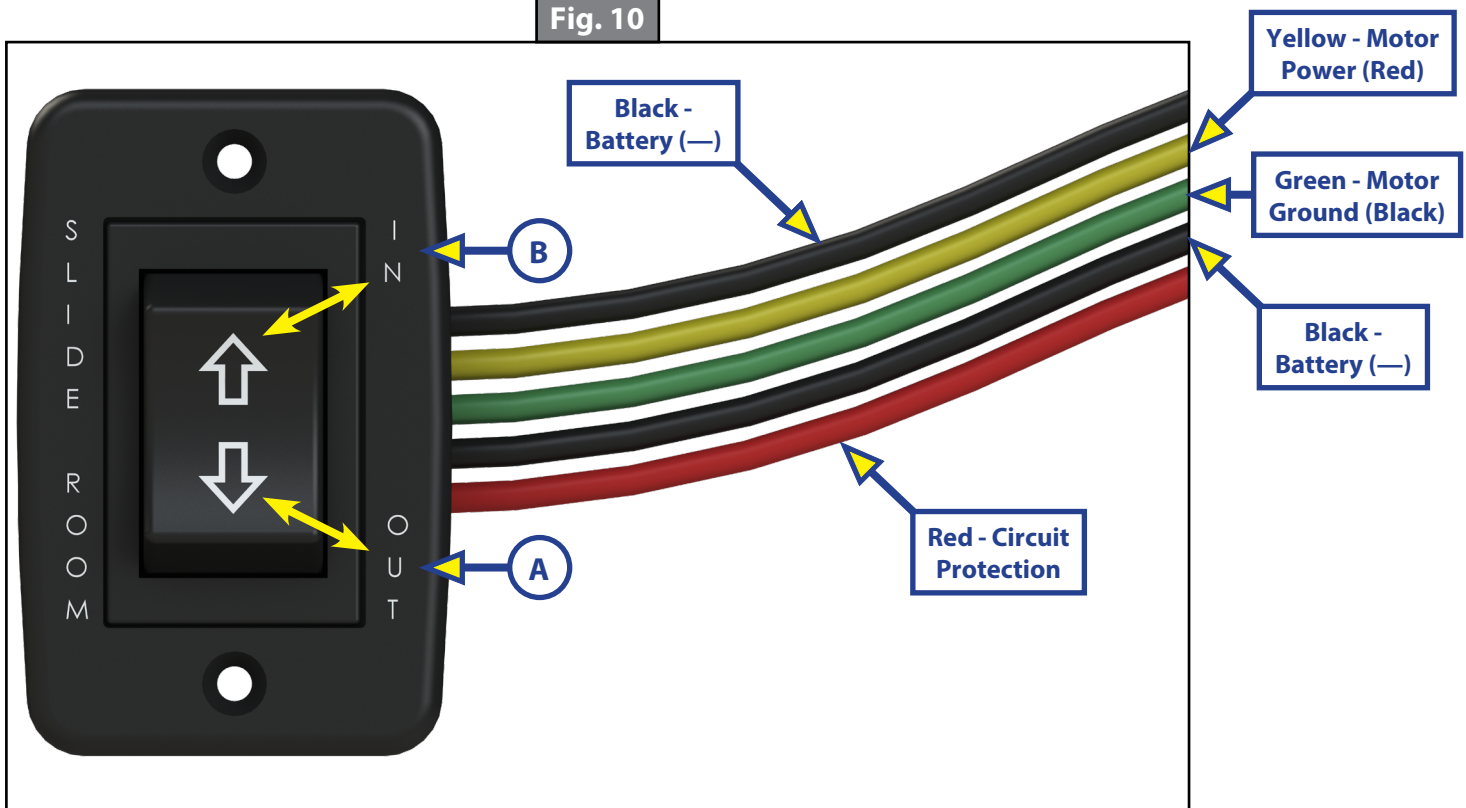
1. Determine where to mount the rocker switch. The switch can be mounted anywhere inside the unit. The switch mounting location **MUST** be watertight.
2. Install the rocker switch per OEM recommendations using OEM-supplied fasteners.

⚠ NOTICE

All electrical wiring harnesses shall be loomed and secured to prevent possible damage and installed in accordance with RVIA electrical standards.

3. See Wiring Diagram for wiring instructions.

Fig. 10



Post-Installation Check

Before operating the double rail above floor slide-out system, make sure the T-molding and fascia are installed, then do as follows:

1. Make sure the unit is level, adjust as necessary.
2. If operating a motorized coach (Class A and C; Gas and Diesel);
 - A. Make sure the PARKING BRAKE is engaged.
 - B. Make sure the transmission is in PARK.
 - C. Make sure the ignition is off.
3. Make sure the slide-out room's path is clear of people and objects before and during operation of the slide-out system.

CAUTION

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

4. Always keep away from the slide rails when the slide-out system is being operated. The slide rail assemblies may pinch or catch on loose clothing, which may result in personal injury.
5. Keep items in compartment clear of the slide-out drive mechanisms and wiring to prevent interference of operation.
6. The 12V DC battery disconnect should be in the ON position.

NOTE: Batteries **MUST** be tested under a load to get an accurate reading. Use a multimeter to ensure the battery is fully charged. The multimeter must read 12.5V - 13.7V DC for a full charge.

Slide-out Adjustment

1. Make sure the battery is fully charged and connected to the electrical system.
2. Press and hold the OUT switch (Fig. 10A) until the slide-out room is fully extended and stops moving.

NOTE: Only hold the OUT switch until the slide-out system stops.

3. Release the switch to lock the slide-out system into position.
4. Inspect all (four) internal sides of the fascia (interior molding) and all (four) exterior sides of the slide-out room for indications of rubbing and scrape marks. If such interference marks are present, adjust the slide-out.
 - A. Loosen appropriate fasteners.
 - B. Set the slide-out room sides parallel to the fascia's sides.
 - C. Make sure the slide-out room is level.
 - D. Tighten all loose fasteners.
 - E. Alternate between pressing and holding the IN (Fig. 10B) and OUT (Fig. 10A) switches to run the slide-out room in and out while inspecting for interference.
 - I. If interference still exists, repeat slide-out adjustment steps until there is no more interference.
 - II. When the slide-out room moves freely (no interference), retract the slide-out room.
 - a. Press and hold the IN switch (Fig. 10B) until the slide-out room is fully retracted and stops moving.

NOTE: Only hold the IN switch until the slide-out system stops.

- b. Release the switch to lock the slide-out room into position.

5. Inspect the exterior T-molding of the slide-out room. If the fully retracted travel of the slide-out room appears to be putting pressure on the T-molding, the retract (in) stop bracket (Fig. 11A) needs to be adjusted.

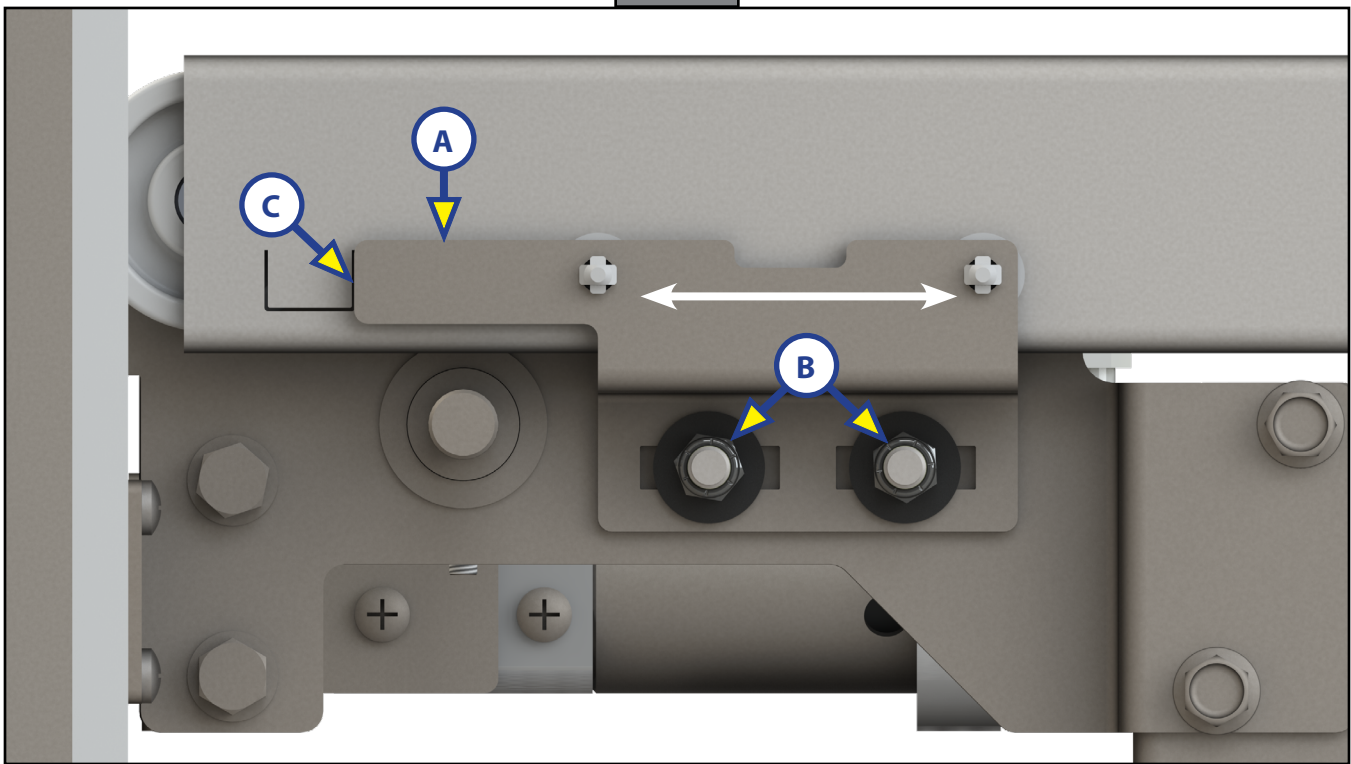
NOTE: The stops shut down the slide-out system, protecting the drive shaft, gears and shaft bolts.

⚠ CAUTION

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

- A. Extend the slide-out room just enough to relieve the T-molding's pressure while still maintaining a good seal against the unit's outside wall.
- B. Loosen the stop bracket nuts (Fig. 11B) on both sides of each slide rail assembly.
- C. Slide each stop bracket along its slots until each stop bracket touches against its rail's stop tab (Fig. 11C).
- D. Fully tighten all stop bracket nuts.

Fig. 11

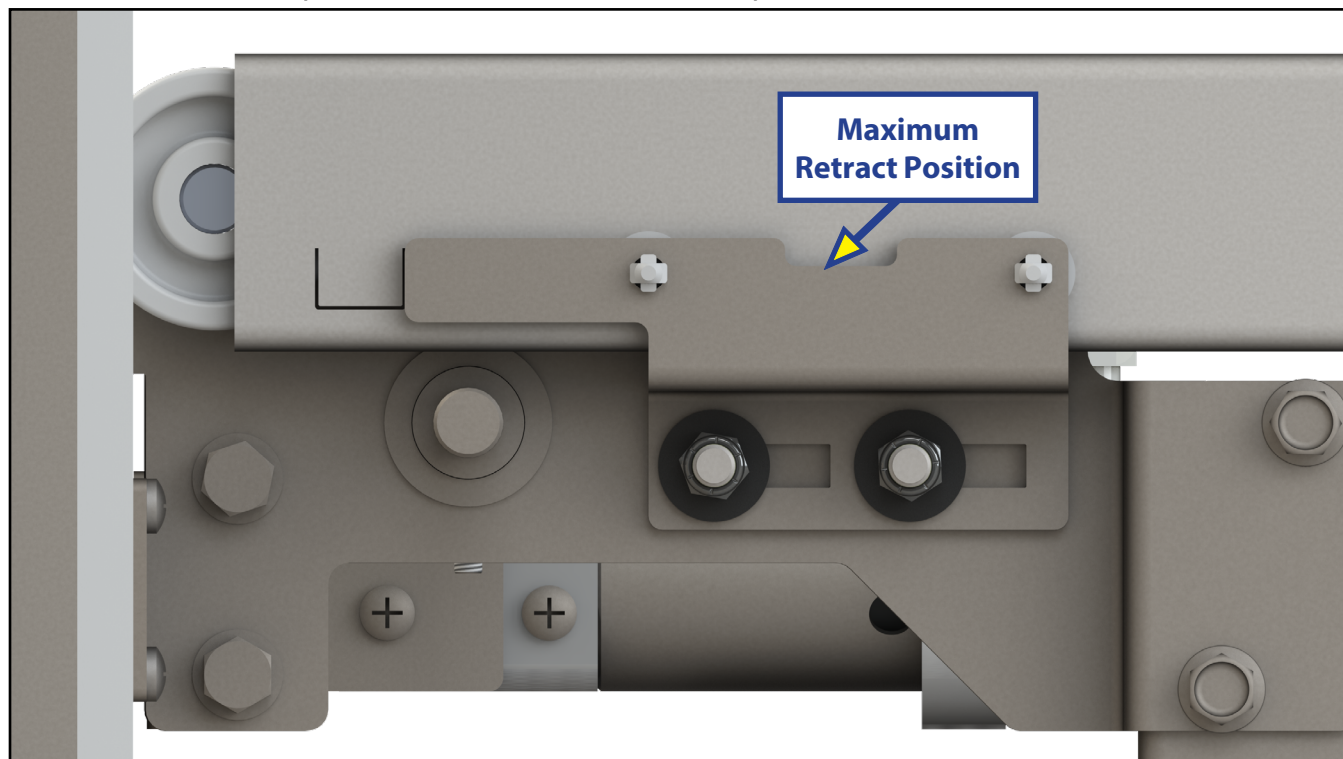


- E. Run the slide-out room in and out a couple of times to ensure the stop brackets are working properly. If necessary, repeat steps A-D until the proper stop adjustments have been made.

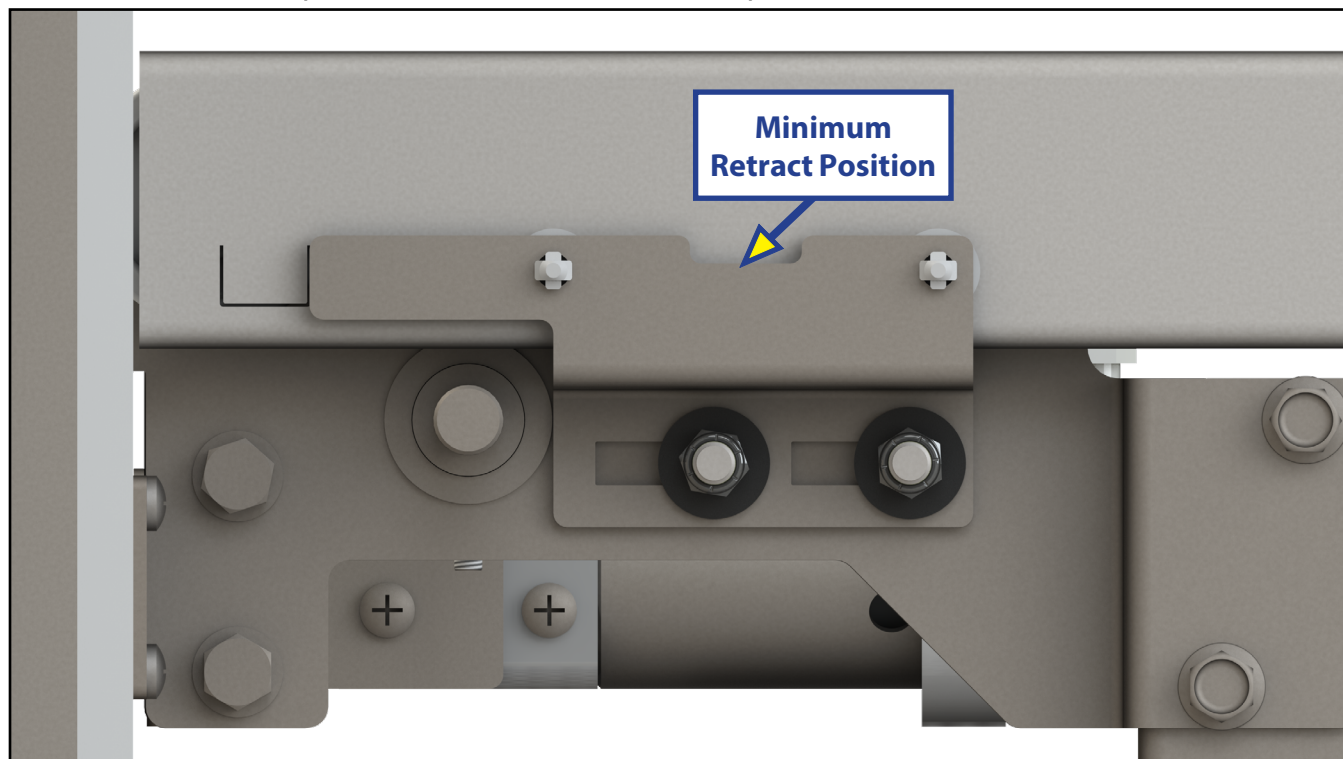
NOTE: Without properly setting the stop brackets, the fascia and T-molding become "soft" stops, which can be damaged when the motor clutch is unable to shut the system off. Additional damage to the slide mechanism may also occur.

After all slide-out adjustments have been properly made, the slide-out room should move freely and create a water-tight seal when the slide-out room is fully retracted (in).

NOTE: Retract (in) stop bracket set to maximum retract position.



NOTE: Retract (in) stop bracket set to minimum retract position.



Switch Related Concerns

If the slide-out room moves opposite from what the switch plate indicates (Fig. 10), reverse the wires from the motor (red and black) to the switch (yellow and green) . Wire size **MUST** be 10 AWG minimum. See Wiring Diagram.

- Black wire is ground.
- Yellow wire is "out" or extend.
- Green wire is "in" or retract.
- Red wire is power.

Motor Unit Concerns

Make sure an adequate power source is available. The unit batteries should be fully charged or the unit should be plugged into an AC service with batteries installed. Batteries **MUST** be tested under a load to get an accurate reading.

The following tests require a DC voltmeter and a jumper lead.

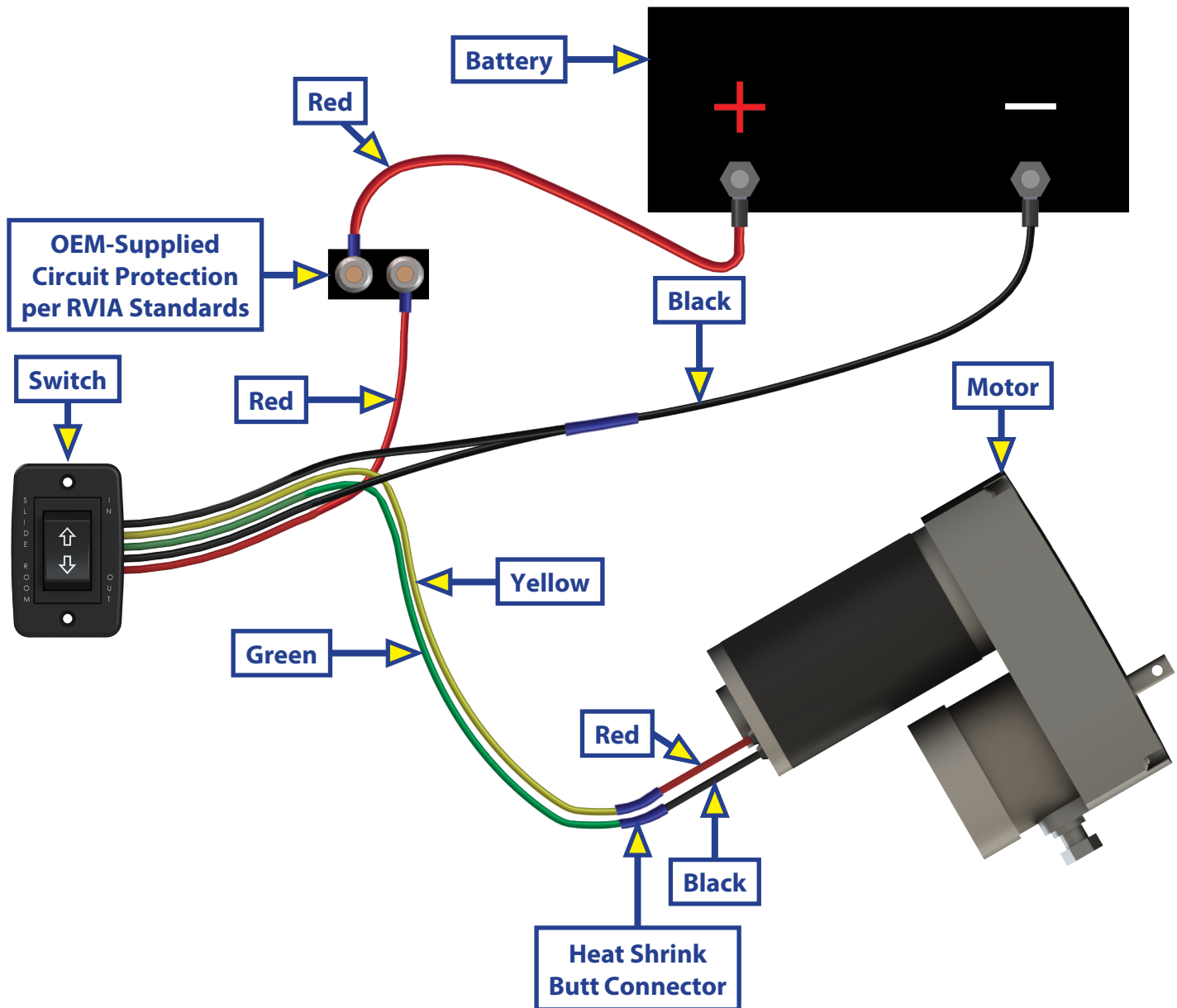
1. Attach voltmeter leads to the negative and positive switch terminals located on the back of the wall switch.
 - A. Does the meter indicate 12V DC?
 - B. If no, then inspect all connections between battery and switch.
 - I. Inspect any and all breakers, relays and fuses.
 - II. Recheck switch terminals.
 - C. If yes, at the motor, check the incoming leads to 12V DC. If necessary, disconnect leads at wire splices.
 - I. Does meter indicate 12V DC?
 - II. If yes, the power unit needs to be replaced. The motor is **NOT** field serviceable. **DO NOT ATTEMPT TO REPAIR.**

NOTE: Since there are no field serviceable parts in the 12V DC motor, electrical troubleshooting and service is limited to replacing only those components. Thorough inspection of wiring and connections is the only other electrical service that can be performed.

Wiring Diagram

10 AWG Minimum

NOTE: Make sure the OEM-supplied heat shrink butt connectors are appropriate for the gauge of wire used.



NOTE: If side-out moves opposite from what the switch plate indicates, reverse the wires from the motor on the back of the switch. Wire size **MUST** be 10 AWG minimum, see the Wiring Diagram.

- Black wire is ground.
- Yellow wire is "out" or extend.
- Green wire is "in" or retract.
- Red wire is power.



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