


# IN-WALL® SLIDE-OUT

## OWNER'S MANUAL

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## Introduction

The In-Wall® 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 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.

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 coach 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 actuation, park coach on solid and level ground.

For information on the assembly or individual components of this product, please visit: https://support.lci1.com/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.

**⚠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.**

## Operation

### Prior To Operation

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.

**NOTE:** In the case of a motorized unit, ignition **MUST** be off to operate the slide-out.

3. 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. Always keep away from the gear racks when the room is being operated.**

### Extending Slide-Out Room

1. Level the unit.

**NOTE:** In the case of a motorized unit, ignition **MUST** be off to operate the slide-out.

2. Remove the transit bars (if so equipped).
3. Press and hold the IN/OUT switch (Fig. 1B) in the OUT position until the room is fully extended and stops moving.

**NOTE:** It is important to continue to press the slide-out switch for a few seconds after the room is fully extended until the motor shuts off. The control will sense that the room has stopped and will shut off the motor after a few seconds.

4. Release the switch, which will lock the room into position.

## Retracting Slide-Out Room

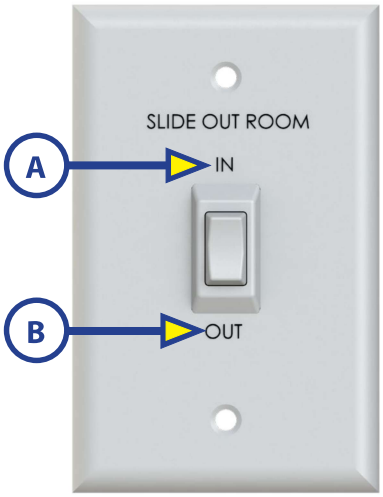
**NOTE:** In the case of a motorized unit, ignition **MUST** be off to operate the slide-out.

1. Press and hold the IN/OUT switch (Fig. 1A) in the IN position until the room is fully retracted and stops moving.

**NOTE:** It is important to continue to press the slide-out switch for a few seconds after the room is fully retracted until the motor shuts off. The control will sense that the room has stopped and will shut off the motor after a few seconds.

2. Release the switch, which will lock the room into position.
3. Install the transit bars (if so equipped).

**Fig. 1**



## Controller Overview (B Version)

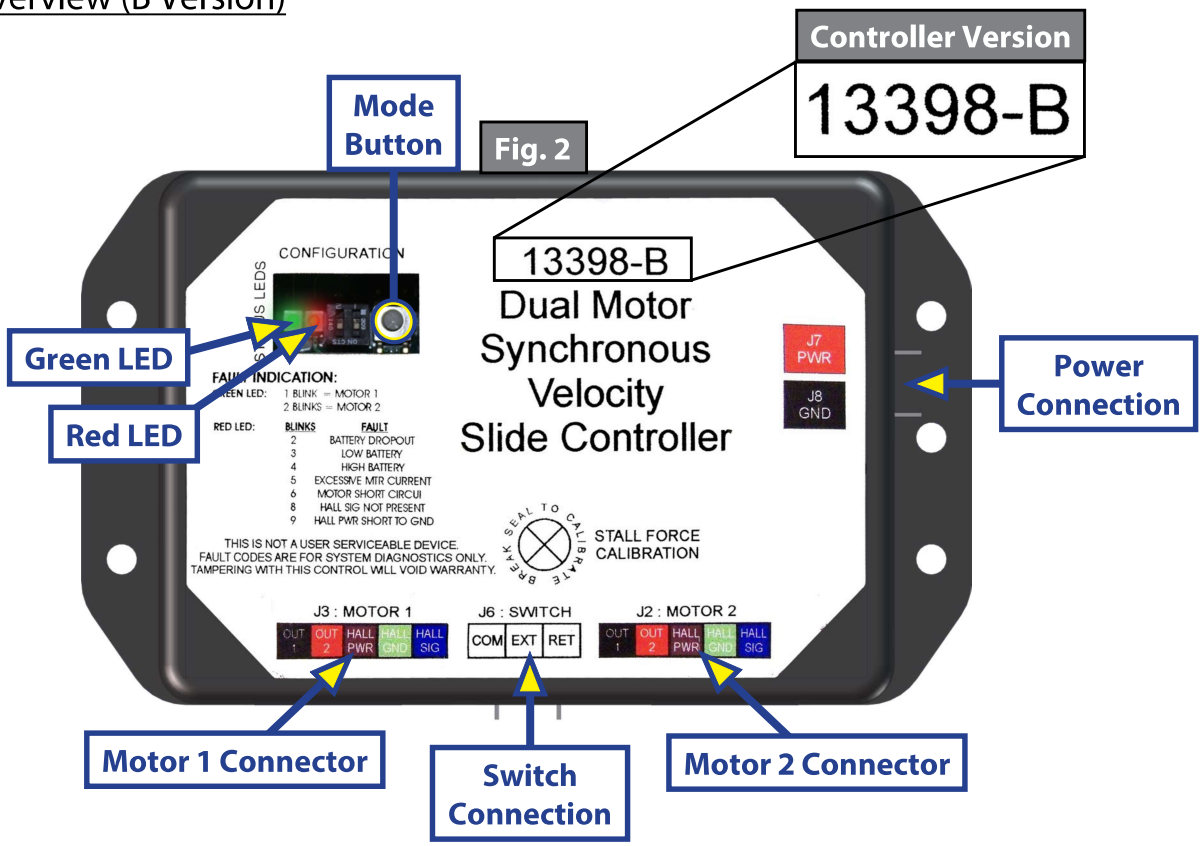



Fig. 3 - Controller Connections

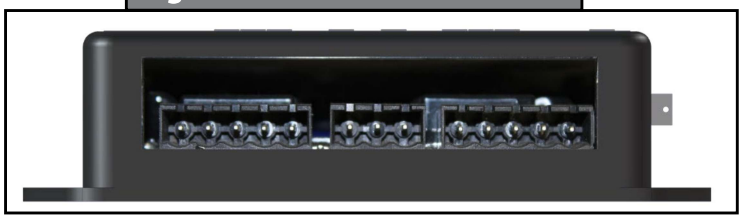
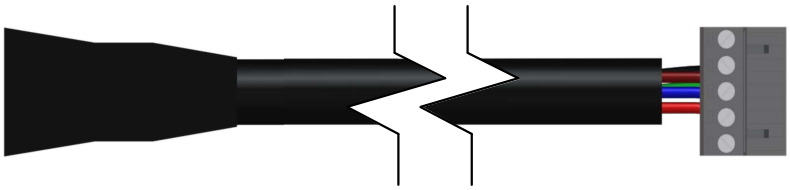


Fig. 4 - Motor Harness



**Status LEDs:** 2 LEDs, 1 green and 1 red, are provided to indicate current controller status and faults.
**Power Connection:** 12V DC input. Unit will operate from 8V DC to 18V DC.
**Switch Connection:** Spade connection for the switch wiring.
**Motor 1 Connector:** Power and encoder input for motor 1.
**Motor 2 Connector:** Power and encoder input for motor 2.

**NOTE:** Version B motor harnesses have five wire in-line connectors at the controller and the molded connector at the motor end (Figs. 3 and 4). Wire colors match with color codes on control board. It does not matter which motor is 1 or 2.

## Controller Overview (C2 Version)

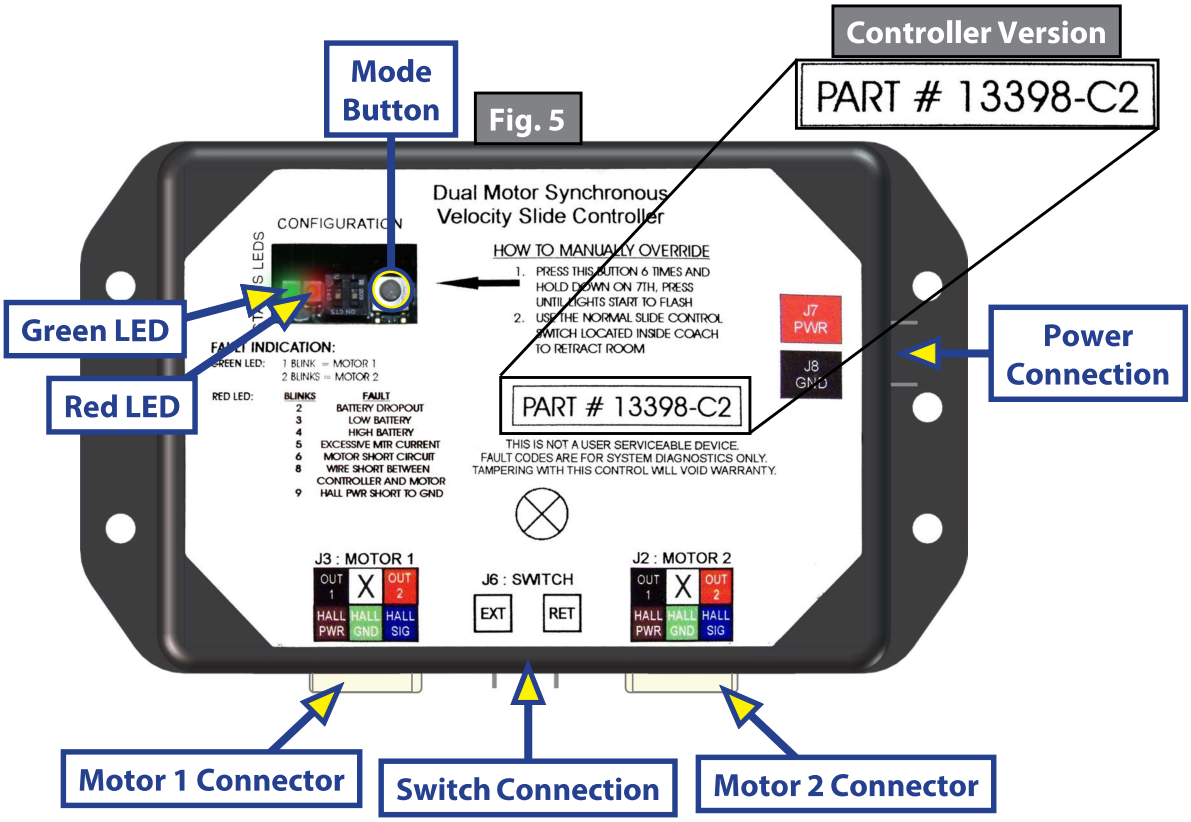
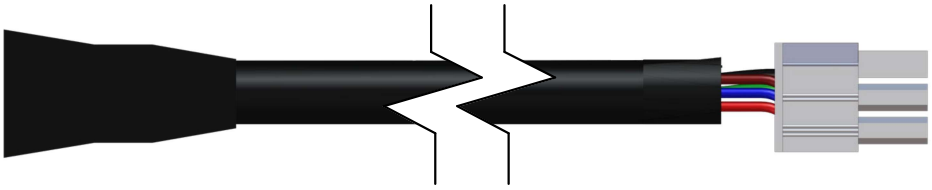



Fig. 6 - Controller Connections



Fig. 7 - Motor Harness



**Status LEDs:** 2 LEDs, 1 green and 1 red, are provided to indicate current controller status and faults.
**Mode Button:** Used to engage the electronic manual override.
**Power Connection:** 12V DC input. Unit will operate from 8V DC to 18V DC.
**Switch Connection:** Spade connection for the switch wiring.
**Motor 1 Connector:** Power and encoder input for motor 1.
**Motor 2 Connector:** Power and encoder input for motor 2.

**NOTE:** Motor harnesses have Molex® connectors at the controller and a molded connector at the motor end (Figs. 6 and 7). Wire colors match with color codes on control board. It does not matter which motor is 1 or 2.

## Motor and Controller Compatibility

| Part # | Controller Version | Controller Replacement | Motor(s) Used |
|---|---|---|---|
| 239657 | A (Daisy Chain) (Fig. 8) | A Only | Round-Square (Fig. 16), Round-Round (Fig. 17A) |
| 211852 | B (Fig. 9) | B/C2* Only | Round Square (Fig. 16) |
| | C (Fig. 10) | C/C2* Only | Round-Round (Fig. 17A, 17B), Round-Square Plate (Fig. 18) |
| | C1 (Fig.11) | C1/C2* Only | |
| | C2 (Fig. 12) | C2 | |
| | D-0 (Fig. 13) | B/C1/C2 | |
| 326876 | 8 Amp (Fig. 14) | 8 Amp Only (Fig. 15) | Round-Round (Fig.17B) |
| **NOTE:** Always replace the motor in the system with the same motor except the Round-Square Plate (Fig. 18), which is obsolete. That motor will be replaced with the Round-Round (Fig. 17A, 17B). | | | |
| **NOTE:** (*) Denotes that (2) new motor harnesses **MUST** be ordered, and re-wiring instructions **MUST** be used. See next page. | | | |

**Fig. 8**




**Fig. 9**




**Fig. 10**

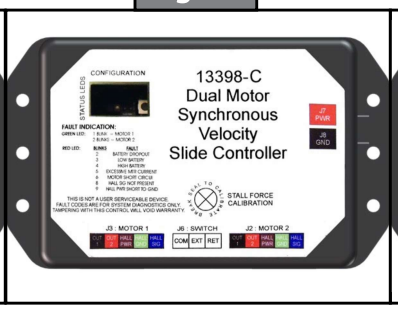



**Fig. 11**




**Fig. 12**

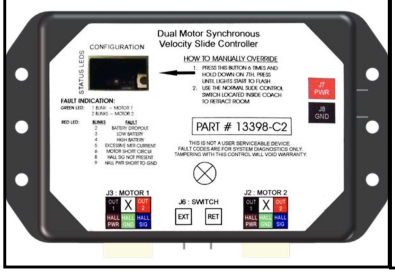



**Fig. 13**

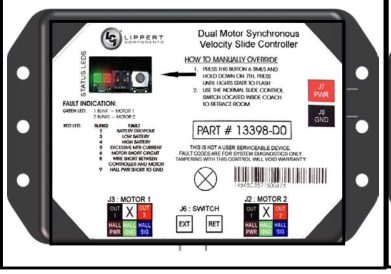



**Fig. 14 - Old**

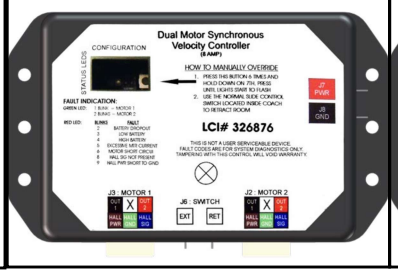



**Fig. 15 - Current**

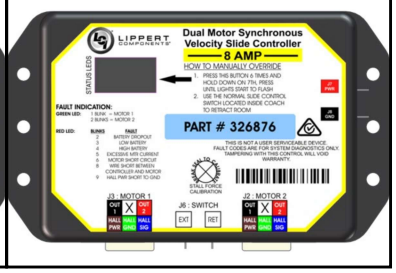



**Fig. 16 - Obsolete**



**Fig. 17A - 236575, 300:1**



**Fig. 17B - 287298, 500:1**



**Fig. 18 - Obsolete**

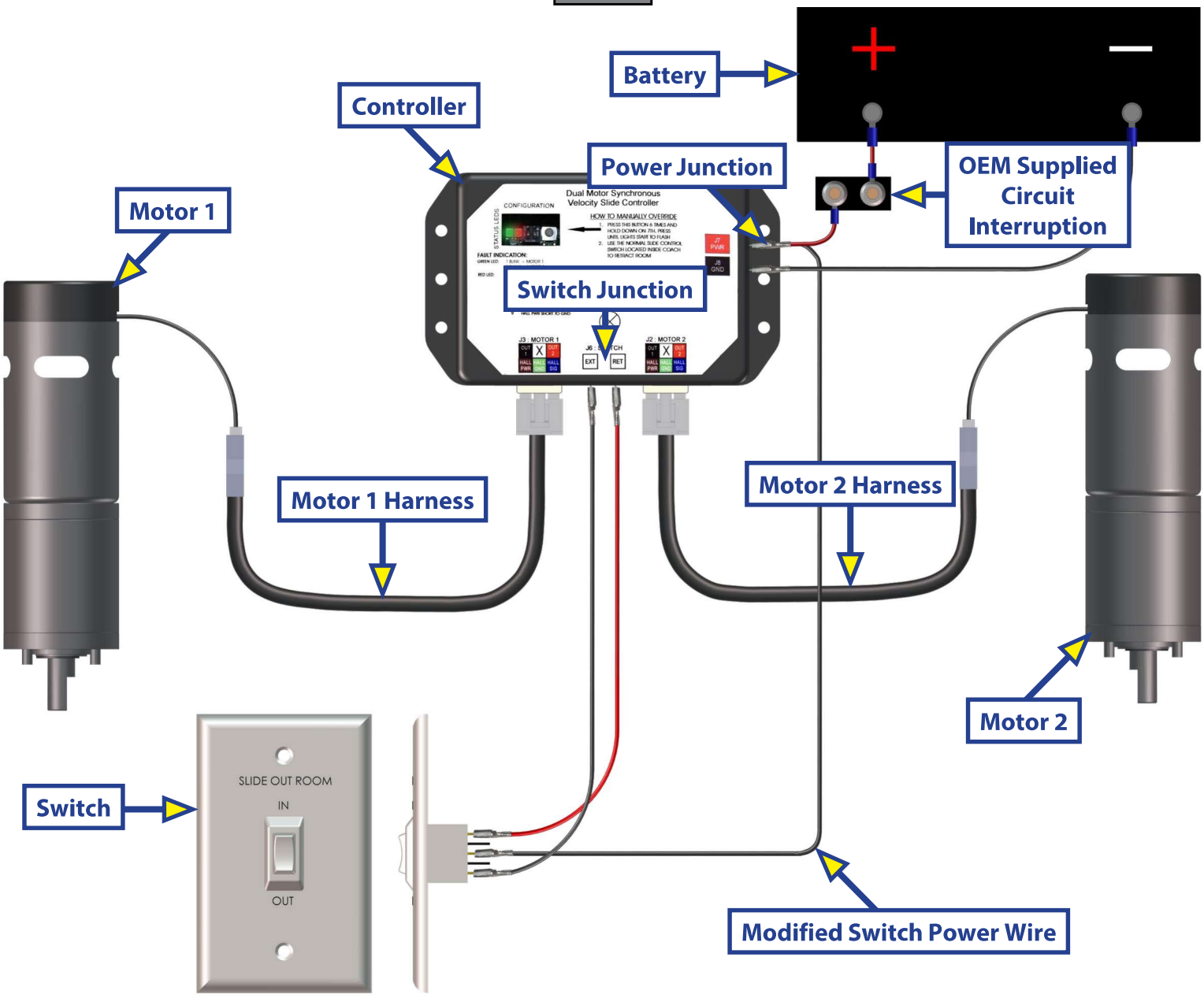


**NOTE:** Ensure that a 300:1 motor is replaced with a 300:1 motor (Fig. 17A), and that a 500:1 motor is replaced with a 500:1 motor (Fig. 17B).

## Rewiring Instructions

If it is necessary to replace a malfunctioning Rev. B, C, or C1 controller, it is recommended that the customer do so with a new Rev. D-0 controller. In order to properly rewire a Rev. B, C, or C1 controller to a new Rev. D-0 controller, the customer will need two new motor harnesses (one for each motor.) Additionally, it will be necessary to modify the power wire from the controller to the extend/retract switch by adapting the wire to piggyback the connection at the power junction. This wire comes from the positive side of the buss bar to the controller (Fig. 19).

Fig. 19

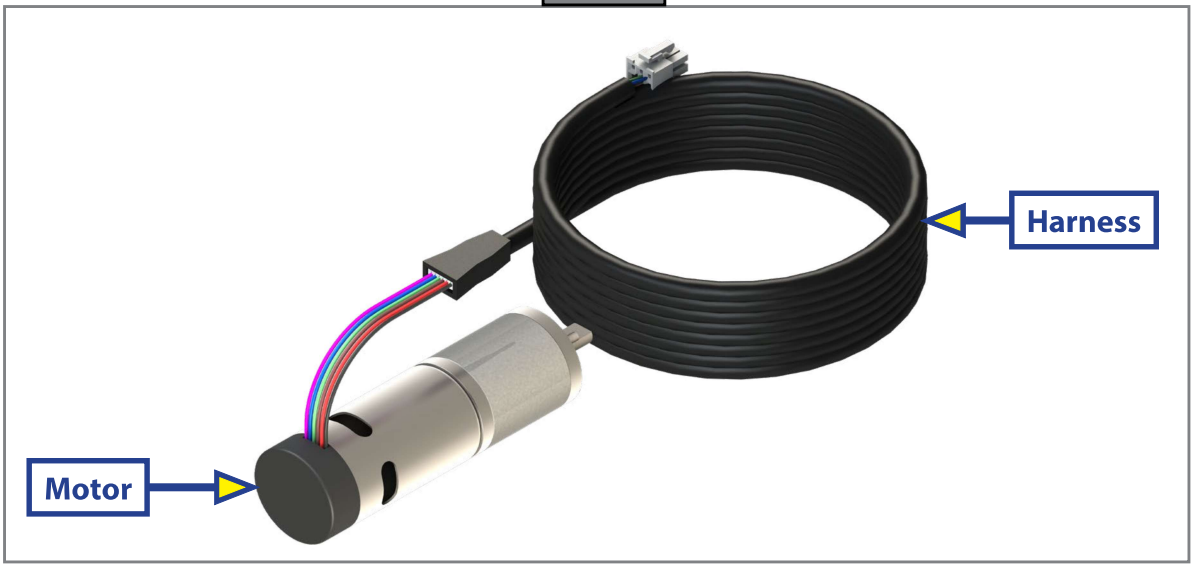



## Motors and Harnesses

1. Check for proper connections between the motors and harnesses (Fig. 20).
2. Visually inspect the exposed harnesses to ensure they are not pinched or damaged.

**NOTE:** Ribs on motor connector line up with notch inside of female connector on wiring harness. Color codes on wires also match (black to black, red to red, etc.)

Fig. 20




## Resynchronizing the Slide-Out Motors

1. Fully extend the slide room using the switch. Keep the switch engaged until the motors shut down on their own.
2. Retract the room 1-2 inches.
3. Repeat steps 1 and 2 until both motors shut down at the same time. In many cases, two or three repetitions are necessary to re-sync the system.
4. Fully extend the slide-out and keep the switch engaged until the motors shut down on their own. Fully retract the slide-out, again keeping the switch engaged until the motors shut down on their own. If both motors shut down at the same time at full extension and full retraction, the room is properly synchronized. If they do not shut down at the same time, repeat the process until they do.

## Extend and Retract Switch Connections

Rev. A - Rev. C1 Controllers: Common connection on controller goes to common connection on extend and retract switch.
Rev. C2 and 8 amp Controllers: Extend and retract connections on the controller go to the extend and retract terminals on the switch. Switch is powered by the OEM supplied 12V DC power source.

## Power and Ground Connections At the Controller

Power and ground are supplied to the controller through the spade terminals located on the right-hand side of the controller (Figs. 2 and 5 - Power Connection). 12V DC is recommended. A 10ga wire is the minimum size recommended. A 30 amp resetting or blade fuse is required (OEM supplied).

# Troubleshooting

## Checking Circuit Breakers

The In-Wall® Slide-out requires a minimum of a 30-amp circuit breaker. Check the 12-volt circuit breaker box for blown circuit breakers, and replace any if necessary. Consult the RV manufacturer's documentation for the location of the 12-volt circuit breaker box, and the location of the In-Wall® Slide-out controller's circuit breaker. If the circuit breaker blows immediately upon replacement, there is a problem with the wiring to the In-Wall® Slide-out controller. Have qualified service personnel check and repair.

## Obstructions

Check outside the RV for possible obstructions: tree, post, car, etc. Check inside the RV for any obstructions: luggage, furniture, open cabinets, etc. Also, check for smaller objects that may be wedged under the floor or in the sides of unit. Remove obstructions before proceeding.

## Debris In the Rack

Check the sides of the slide room for any dirt or debris. Small dirt clumps or metal shavings can cause the spur gear to bind up and stop the movement of the slide-out. Use compressed air or a dry brush to remove any dirt or debris from the rack before attempting to actuate the system again.

## Error Codes

During operation when an error occurs, the board will use the LEDs to indicate where the problem exists (Fig. 21). For motor-specific faults the green LED will blink 1 time for motor 1, and 2 times for motor 2. The red LED will blink from 2 to 9 times depending on the error code (Fig. 22). When an error code is present, the board needs to be reset. Energizing the extend/retract switch (Fig. 1) resets the board. Energize the extend/retract switch again for normal operation.

**Fig. 21**

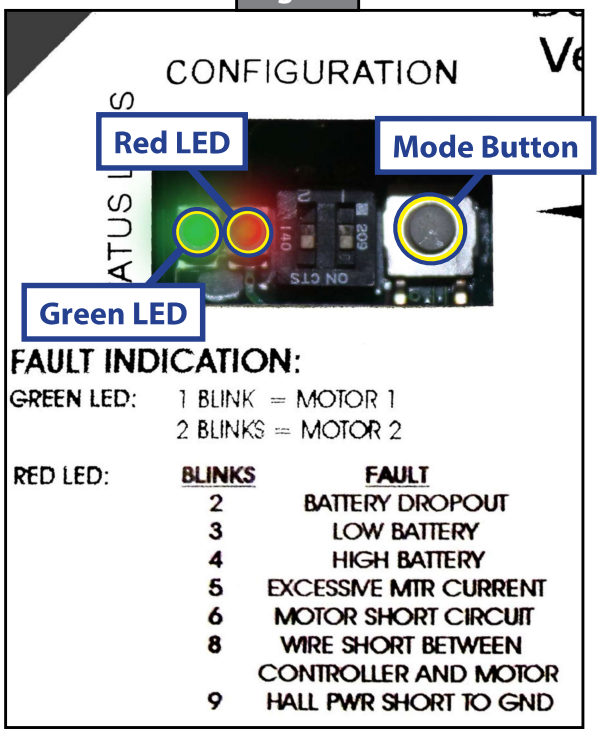



**Fig. 22 - Error Code Description**

| Error Code | Name | Description |
|---|---|---|
| 2 | Battery Drop Out | Battery capacity low enough to drop below 6 volts while running or short in switch wiring. |
| 3 | Low Battery | Voltage below 8 volts at start of cycle. |
| 4 | High Battery | Voltage greater than 18 volts. |
| 5 | Excessive Motor Current | High amperage, also indicated by 1 side of slide continually stalling. |
| 6 | Motor Short Circuit | Motor or wiring to motor has shorted out. |
| 8 | Wire Short Between Controller and Motor | Encoder is not providing a signal. This is usually a wiring problem. |
| 9 | Hall Power Short To Ground | Power to encoder has been shorted to ground. This is usually a wiring problem. |

## Electronic Manual Override (Controllers C-1, C-2 and D-0 Only)

**NOTE:** See (Fig. 23) for locations of the mode button and LEDs.

1. Press the mode button on the controller six times and hold on the seventh for five seconds to enter electronic manual override mode.
2. Use the extend/retract switch to move both motors in or out.

**NOTE:** Over-current and short circuit detection are still enabled. Electronic manual override provides 12V directly to both motors.

3. To exit the mode, push and hold the mode button until the LEDs begin to blink simultaneously. Exiting the override mode resets the motor positions (you will have to resync motors).

**NOTE:** During this override procedure the motors are not synchronized. Visually watch the room: if one side is moving significantly slower than the other (or not at all) then immediately stop and use the "Motor Disengagement Procedure" below.

## Motor Disengagement Procedure

1. Remove motor retention screws located near the top of each vertical column on the outside of the coach (under bulb seal if equipped with bulb seal on column).
2. Locate motor.
   - **A.** On units built prior to 2011: Bend back wipe seal from outside of coach.
   - **B.** On units from 2011 to current: See slot in H-column on the inside of the coach.
3. Pull motor up until disengaged (roughly ½"). A flat-head screwdriver can be used to pry the motor up.
4. Reinstall motor retention screw to hold motor in place or remove motor.

## Low Voltage

The In-Wall® Slide-out Controller is capable of operating the room with as little as 8 volts. But at these lower voltages the amperage requirement is greater. Check voltage at the controller, see Figs. 2 and 5 for the location of power connections. If the battery is low, it needs to be charged or the unit should be plugged into shore power or the generator can be run, if equipped. It may be possible to "jump" the RV's battery temporarily to extend or retract the room. Consult the RV manufacturer's owners manual.

**NOTE:** Always connect directly to the battery and never to the controller power connections.

## Motor Direction Switches

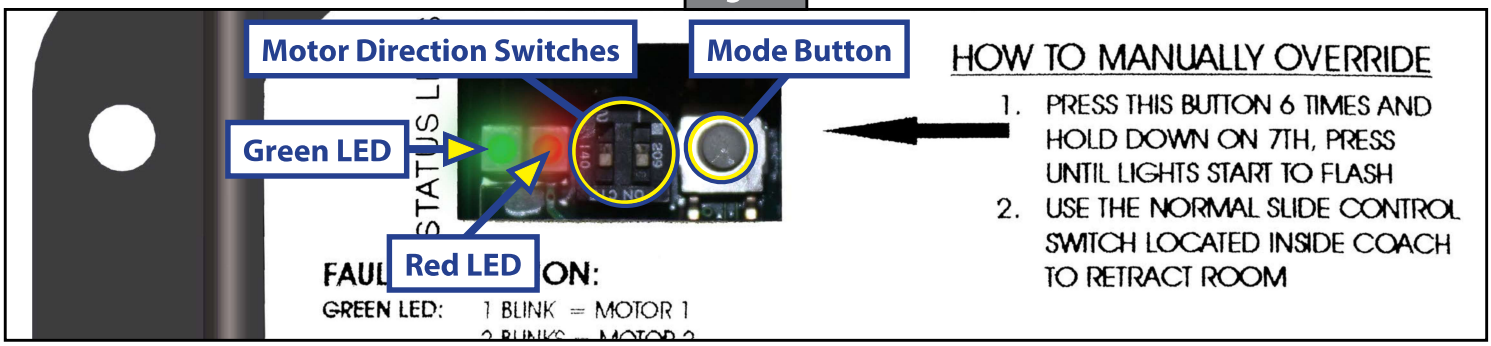
Motor direction switches (Fig. 23) are used to change the direction of individual motors. If when trying to extend or retract the room, one side goes in and the other side goes out, then there is a problem in the wiring. The motor direction switches can be used to correct this problem. The left switch controls motor 2 and the right switch controls motor 1. If motor 1 is going in the wrong direction then change switch 1's position. If motor 2 is going in the wrong direction then change switch 2's position.
The motor direction switches can also be used to change the direction of the extend/retract switch. If the room extends when the extend/retract switch is moved to the retract position, its direction can be reversed by moving both switch 1 and switch 2 to their opposite positions. This feature can be used if it is more convenient to change the motor direction switches than to rewire the extend/retract switch.

## System Maintenance

It is recommended that when operating In-Wall® Slide-out system in harsh environments (road salt, ice buildup, etc.) that the gear racks and seals be kept clean and free of debris. They can be washed with mild soap and water.

**NOTE:** No grease or lubrication is necessary, and in some situations may be detrimental to the long-term dependability of the system.

Fig. 23



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