



**SLIMRACK® Auto-  
PROGRAMMABLE SLIDE-OUT  
OEM installation Manual**

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

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## Introduction

**NOTE:** This manual outlines the installation and service for the slide-out systems utilizing auto-programmable controllers, paired with rocker switch. This document supersedes Power Gear documents 3010002588 (for controller Power Gear 1510000199 / LCI [366697](#)) Rev 0E and 3010002813 (for controller Power Gear 1510000236 / LCI [366701](#)) Rev 0G both dated December 2014.

The Lippert Components, Inc. (LCI) SlimRack Slide-Out System is a rack-and-pinion design operated by a 12V DC gear motor. Changes to weight, stroke, weight distribution, rail position, controller, power supply seals, slide toppers, ramps, rollers, etc. all have an effect on the performance of the system. In order to secure warranty coverage, each new application or changes to existing applications **MUST** be audited and approved by Lippert Components with a signed document. Audits can be arranged by contacting your account representative.

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

<https://support.lci1.com/slide-outs-support-slimrack>.

**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

### **WARNING**

**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.**

### **WARNING**

**Do not work on your slide-out system unless the battery is disconnected. Failure to act in accordance with the following may result in death or serious personal injury.**

### **WARNING**

**The In-Wall® Slide-out System is intended for the sole purpose of extending and retracting the slide-out room. It should not be used for any purpose 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 trailer.**

### **CAUTION**

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

1. To optimize slide-out operation, park trailer on solid and level ground. Parking locations should be clear of obstructions that may cause damage when the slide-out room is actuated.
2. Make sure all persons are clear of the trailer prior to the slide-out room actuation.
3. Keep hands and other body parts away from slide-out mechanisms during actuation.

## General Requirements

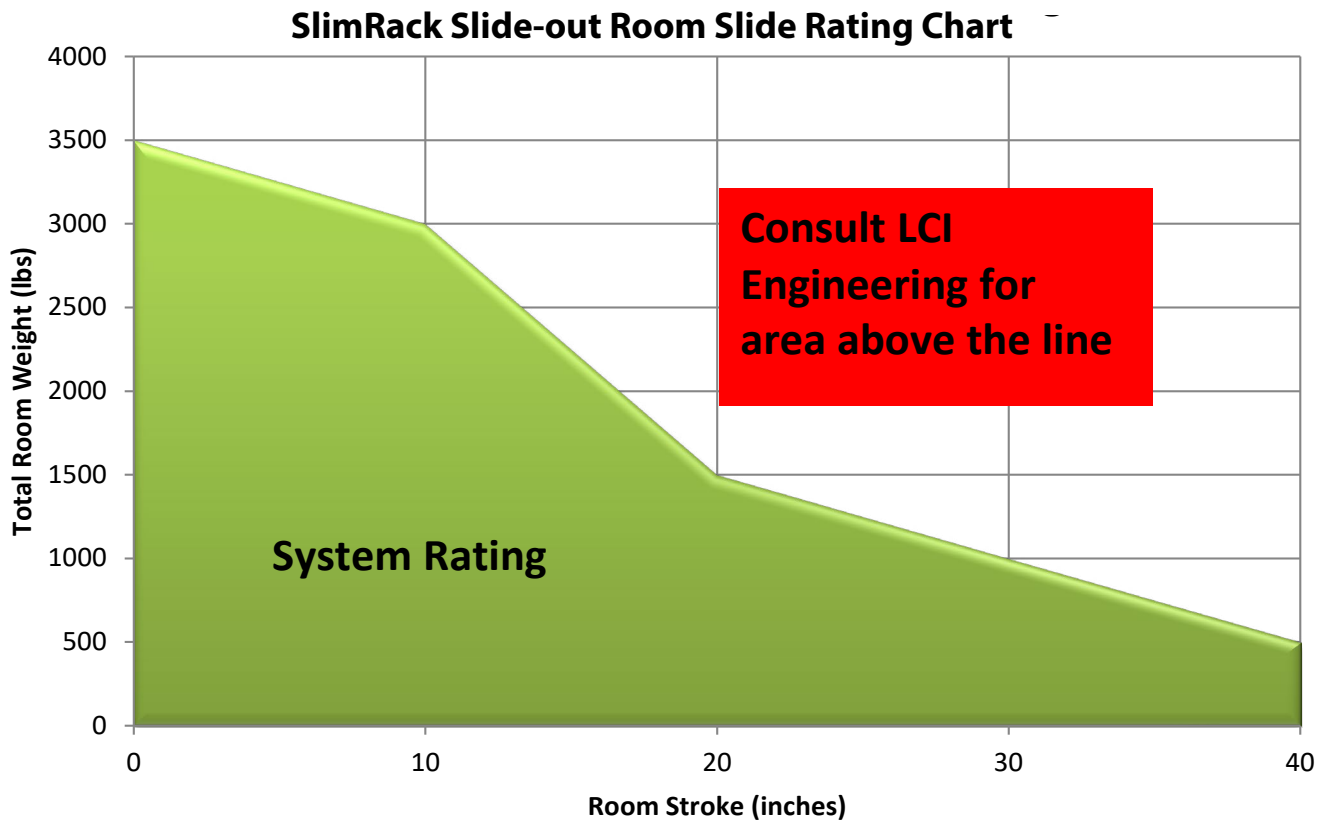
- Power and wiring **MUST** be such that there is not less than 10.5 running volts supplied at the motor leads under maximum load.
- Slide system controllers **MUST** come from Lippert Components. Controllers supplied by other companies will void warranty.
- Voltage supply **MUST** come from a 12V DC automotive/RV type battery.

## Resources Required

- 1-2 people, depending on task
- Electric or cordless drill or screw gun
- #25 Drill bit
- Assorted drill bits
- Torque wrench
- Ratchet or socket wrench
- 3" Extension for sockets
- 5/8" Deep well socket
- 1/2" 8-point star socket or 15mm 12-point star socket
- Phillips head screwdriver
- 5/16" Wrench
- #10 Button or pan head self-tapping screws
- Transit bars (slide-out locking bars)
- RTV silicone, rubber gaskets or closed-cell foam gaskets

## Component Descriptions

- Rocker switch that mounts to the wall.
- The auto-program controller has programmable stops. The set stops on the controller stop the motor when the slide-out is fully extended or retracted and have the ability to detect faults for ease in troubleshooting.
- Vertical channel with 12V DC gear motor and gear rack arms that mount into the side wall opening and slide-out.
- Harnesses to connect the rocker switch or touchpad and motors to controller.
- Floor rollers (not supplied by Lippert Components) that support the slide-out's weight while extending and retracting the slide-out. Only floor rollers approved by Lippert Components can be used with the system. Contact Lippert Components for recommended rollers.



# In-Wall Slide-out Chassis Specification

## Slide-Out Configurations

This section will show Lippert In-Wall slide system setups.

### In-Wall Slide-Outs

For laminate trailers with rollers mounted to the floor (Fig. 1 and Fig. 2), one standard outrigger is to be placed at the beginning and end of each slide room opening. A minimum of two slide outriggers will be required under each slide room. Slide outriggers should be placed under the heaviest points of the room. If the slide room is at least 144" a third slide outrigger will be required. Add an additional slide outrigger for every 48" thereafter.

Fig. 1 - Cutout Floor

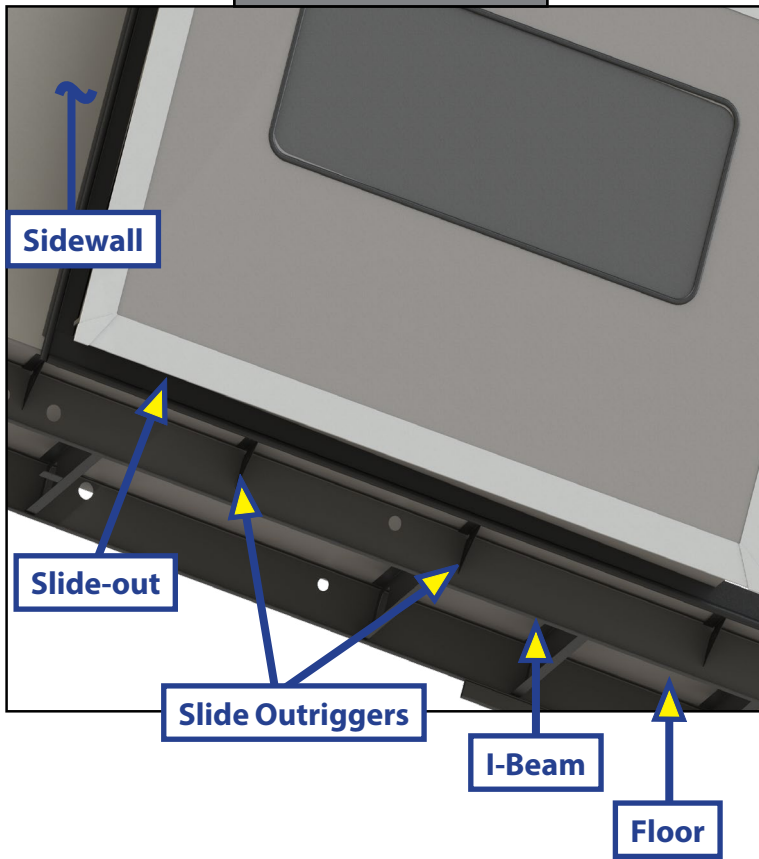
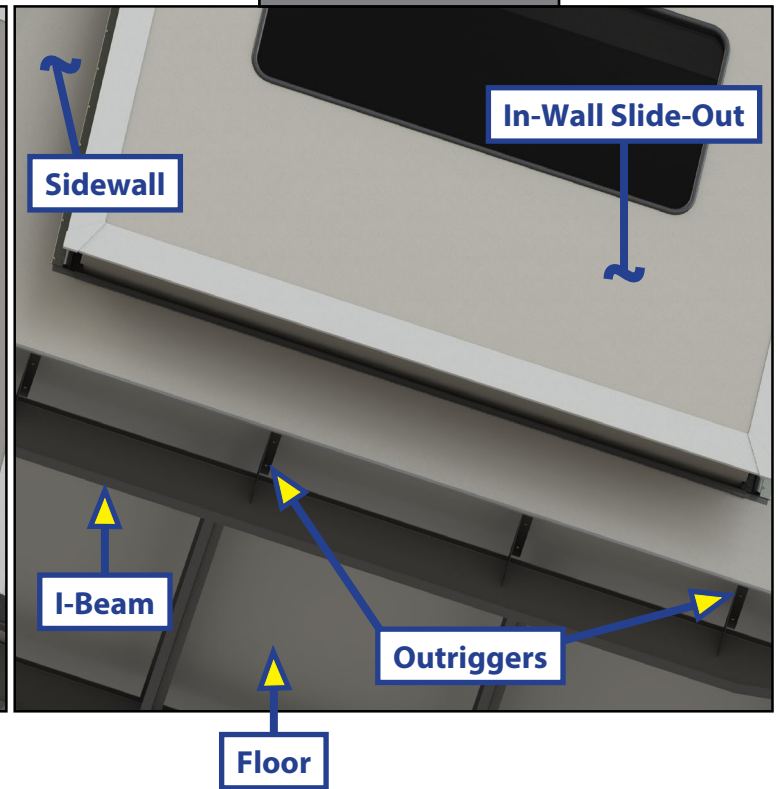


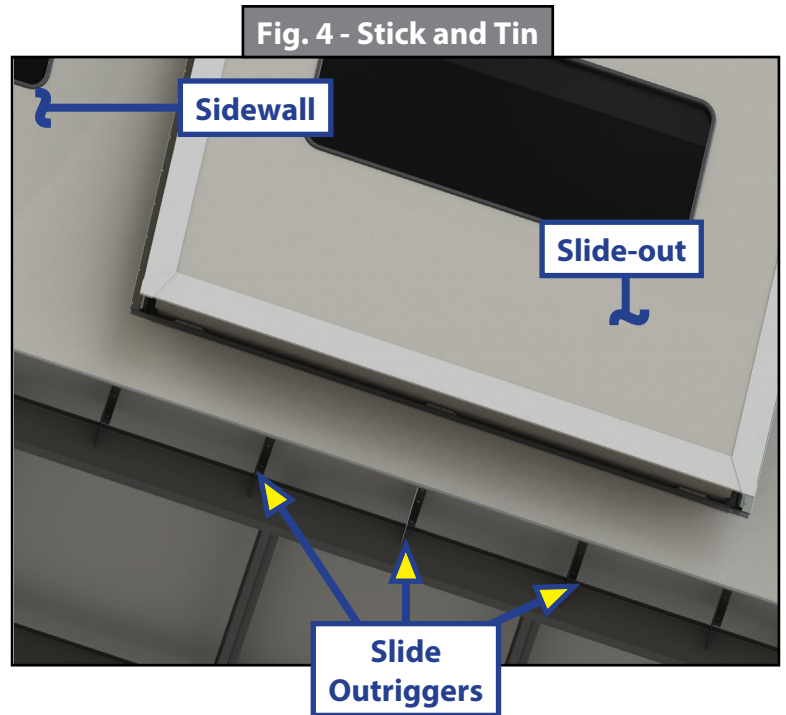
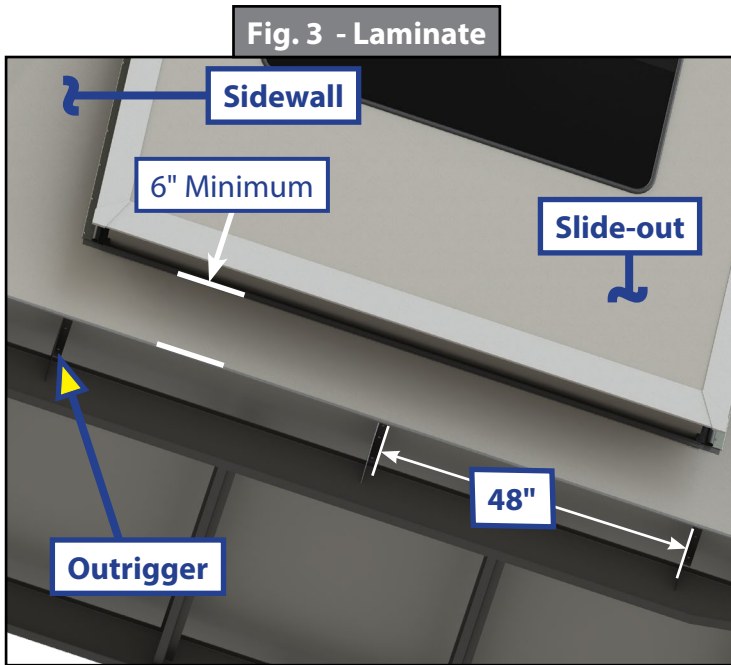
Fig. 2 - Uncut Floor



Standard outrigger placement will apply every 48" for laminate trailers with at least 6" of wall structure under the slide room floor and rollers mounted on the wall (Fig. 3).

For stick and tin trailers (Fig. 4), one standard outrigger is to be placed at the beginning and end of each slide room opening. A minimum of two slide outriggers will be required under each slide room. Slide outriggers should be placed under the heaviest points of the room. If the slide room is at least 108", a third slide outrigger will be required. Add an additional slide outrigger for every 36" thereafter.

**NOTE:** For stick and tin trailers, Lippert Components recommends that the header and footer mirror each other in size if mounting rollers on the sidewall. Please reference the supplier's span table for header size and length. See figure 16 for specific roller spacing.



## Recommended Wall Construction or Equivalent

### Travel Trailer Lippert In-Wall

Opening perimeter needs to be 1" x 3" .060" (25.4mm x 76.2mm 1.5mm) aluminum for the header and vertical uprights. The header (Fig. 5) should extend 2' (609.6mm) beyond the vertical uprights for extra support shown in (Fig. 5). The vertical uprights need to be stuffed with wood for securing. If the vertical uprights have a minimum wall thickness of .125", the uprights do not need to be stuffed with wood. If uprights are not stuffed and wall thickness is below .125", interior clamps need to be added to the system. Upright wall thickness below .055" is not acceptable.

Wall Chart	
Thickness	Structure
Greater than or equal to .125"	Non Stuffed
Less than .125" to .055"	Stuffed or Inside Clamp
Less than .055"	Not Approved

## Fifth Wheel Lippert In-Wall

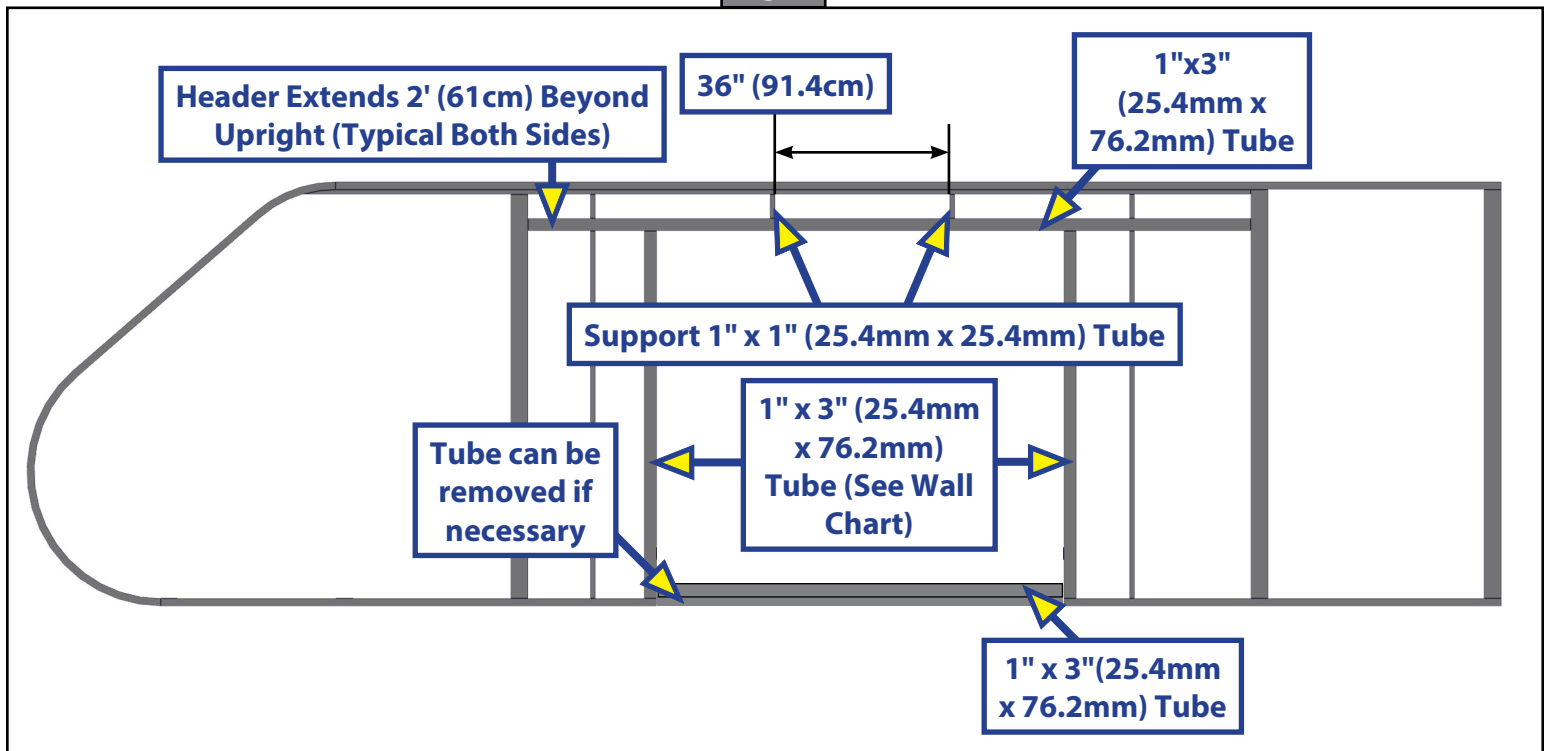
The room opening in (Fig. 5) will be the same except for using 1" x 5" .070" (25.4mm x 127mm 1.78mm) aluminum for the header and 1" x 3" .070" for the vertical uprights. Header should extend 2' (61cm) beyond the room opening. Vertical uprights should be stuffed with wood (Fig. 5). If the vertical uprights are at least .125" thick, the uprights do not need to be stuffed with wood. If uprights are not stuffed and wall thickness is below .125", interior clamps need to be added to the system. Upright wall thickness below .055" is not acceptable.

## Supports on The Top of The Slide Room on The Main Frame Only

Supports need to be at least .040" (1mm) aluminum and 1" x 1" (25.4mm x 25.4mm) aluminum tube and should extend from the header up into a cross tube. If the room size in the slide wall is less than 4' (121.9cm) in width, no vertical supports are needed above the header. Any room that is more than 4' (121.9cm) and up to under 8' (243.8cm) needs to have one support centered on the room. Every room that is over 8' (243.8cm) up to 12' (365.8cm) needs to have two vertical supports evenly spaced over the top of the room. For example, a 9' opening would have a vertical support 3' (91.4cm) in from each upright (See Fig. 5 for reference). So for every 4' (121.9cm) in room width, one additional vertical support will be needed.

**NOTE:** These instructions are based on a 1" (25.4mm) sidewall thickness. For example, a 1.5" x 3" (38.1mm x 76.2mm) tube may be used if walls are 1.5" (38.1mm) thick.

Fig. 5

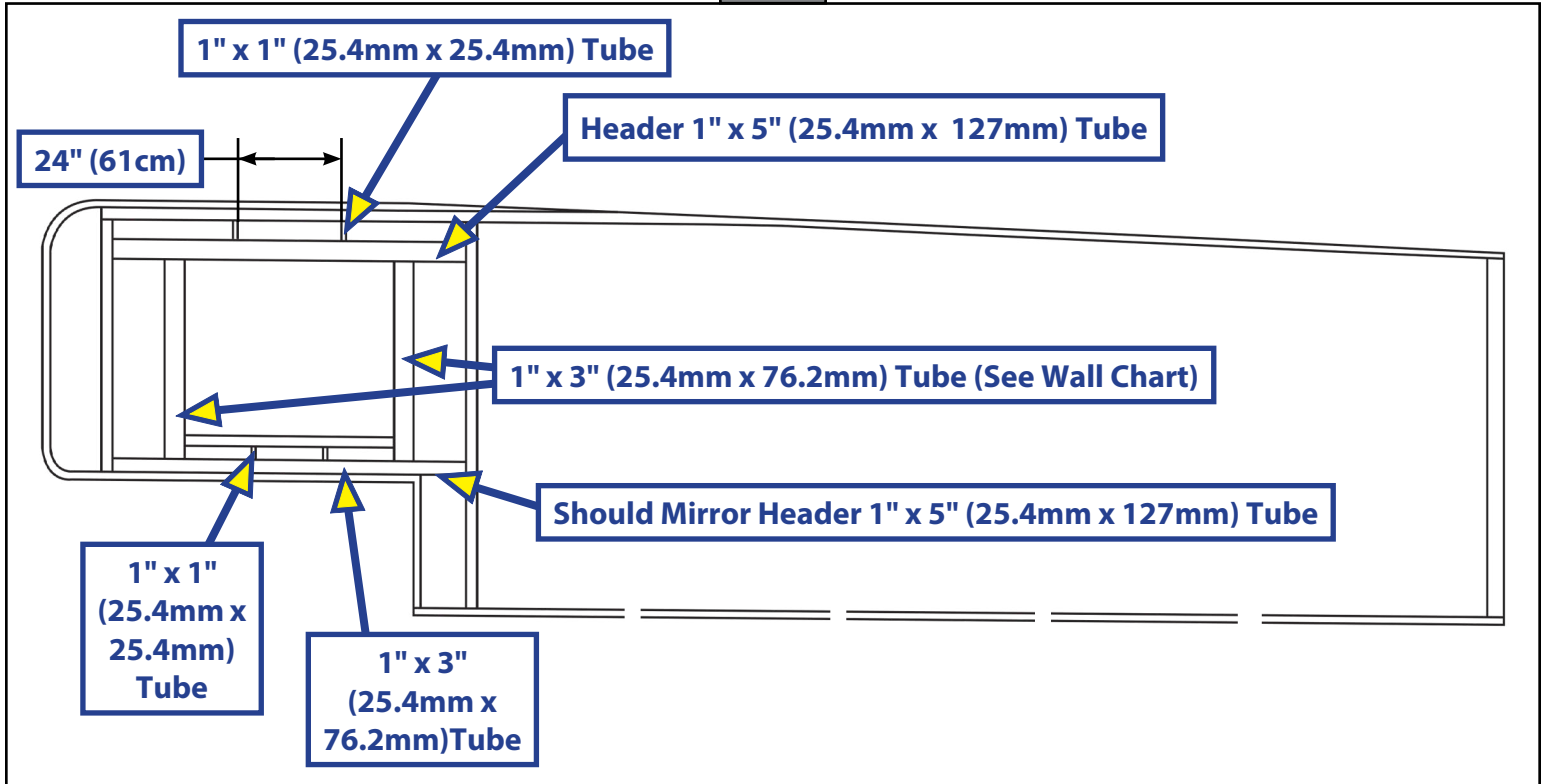


## Upper Deck Slide Room Opening

If a fifth wheel has a Lippert In-Wall slide opening in the upper deck area, the bottom cross tube should be equal to, or longer than, the header tube. If additional height is needed, the manufacturer will need to add another cross tube that is .060" (1.5mm) gauge minimum and add vertical supports for strength. The supports must be a minimum 1" x 1" (25.4mm x 25.4mm) aluminum tube and placed accordingly. This applies to top and bottom supports only in the upper deck area (Fig. 6).

- A. Room is 5' (152.4cm) and under, two vertical supports are needed spaced evenly.
- B. More than 5' (152.4cm) up to 7' (213.4cm), three supports are needed spaced evenly.
- C. More than 7' (213.4cm) up to 9' (274.32cm), four supports are needed spaced evenly and so on.
- D. Vertical supports need to be .040" (1mm) minimum gauge.

Fig. 6





## Slide Room Opening Bottom Section

The bottom tube in the slide room can be .040" (1mm) aluminum unless it falls into the wheel well or upper deck area as explained in the "Upper Deck Slide Room Opening" section. This piece is typically removed when installing the Lippert In-Wall slide, depending on how the side wall sets in relation to the floor (Fig. 7). When the bottom support tube is left in place, it is because wall openings may fall into a wheel well area that sets higher than the floor (Fig. 8). The bottom tube needs to be .060" (1.5mm) aluminum for travel trailers and .070" (1.8mm) aluminum for fifth wheels only when a tube is needed for the wheel well area.

**NOTE:** If slide room is in wheel well area, the slide wall structure should start at least 6" above the bottom of the rest of the wall (Fig. 8A). Slide outriggers will not be recommended in this case.

Fig. 7 - Slide Not in Wheel Well Area

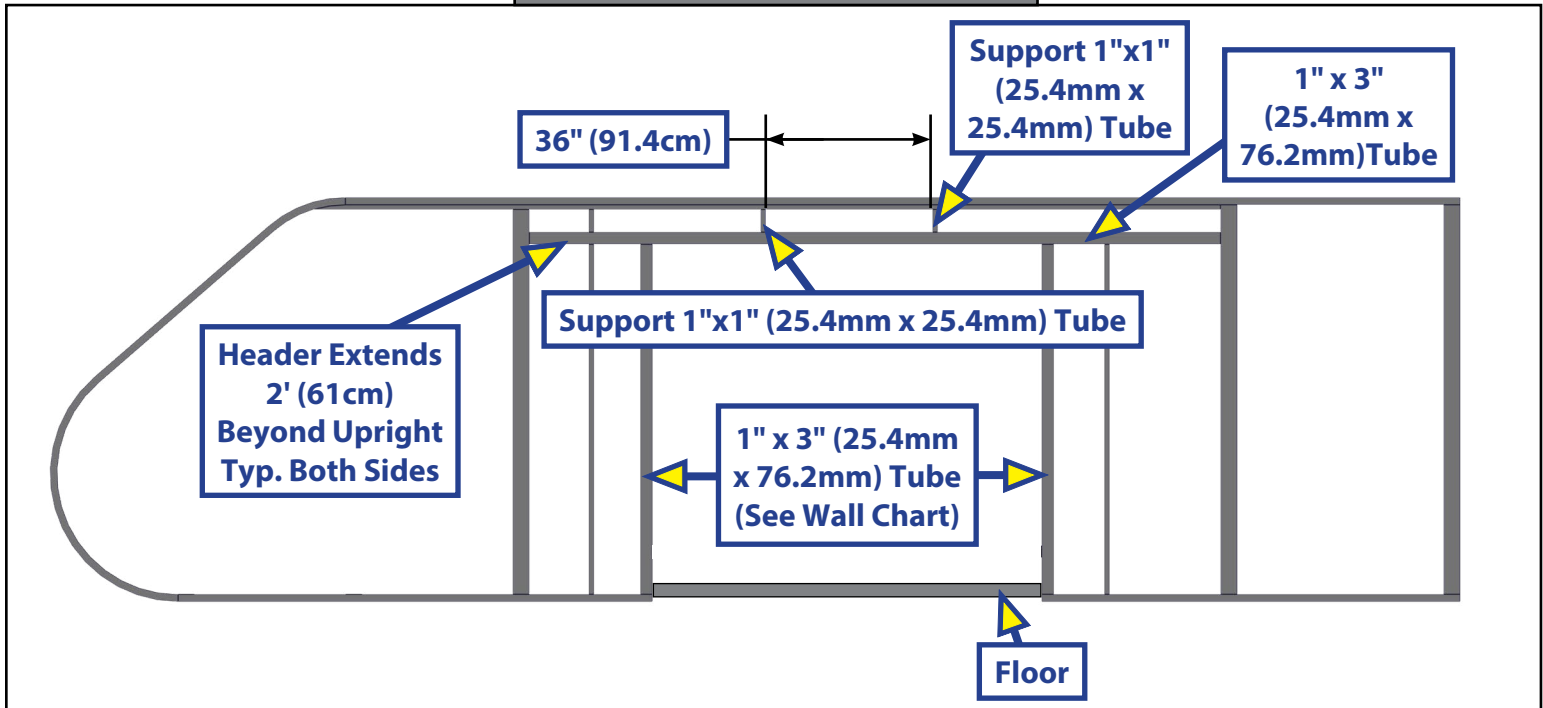
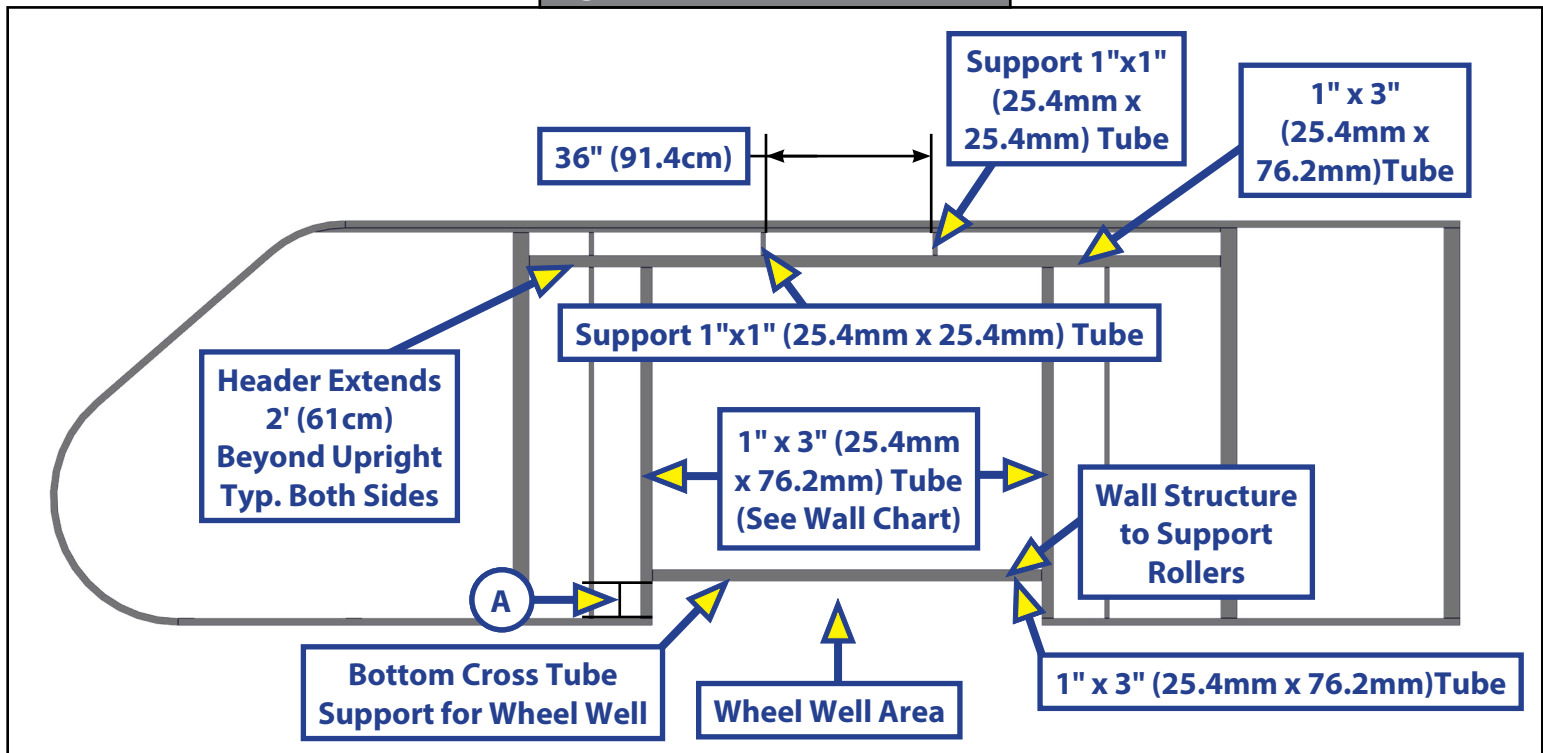


Fig. 8 - Slide in Wheel Well Area



## Square

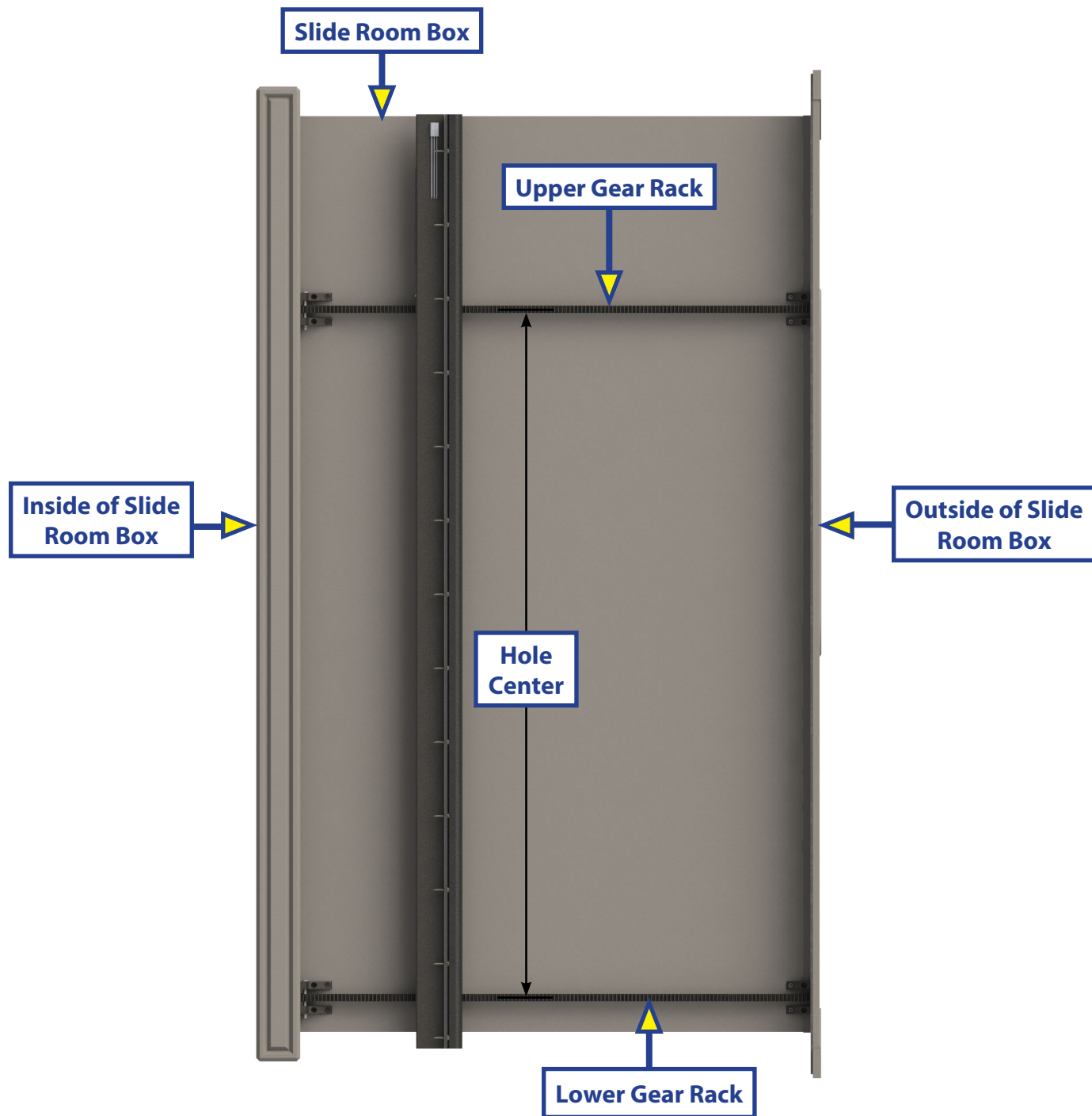
The sidewall cutout and slide box should be no more than 1/2" out of square total.

## Backers

Backers are to be incorporated into slide room construction, positioned where the In-Wall gear racks will be mounted. LCI recommends the backers be a 1" x 3" .060" (25.4mm x 76.2mm 1.5mm) aluminum that is wood stuffed. See diagram (Fig. 9) of slide room with backers. The backers do not need to be stuffed with wood if the aluminum wall thickness being used is at least .125". Backer location is determined by hole center from the slide system. Measure from the bottom of the bottom rack to the bottom of the top rack.

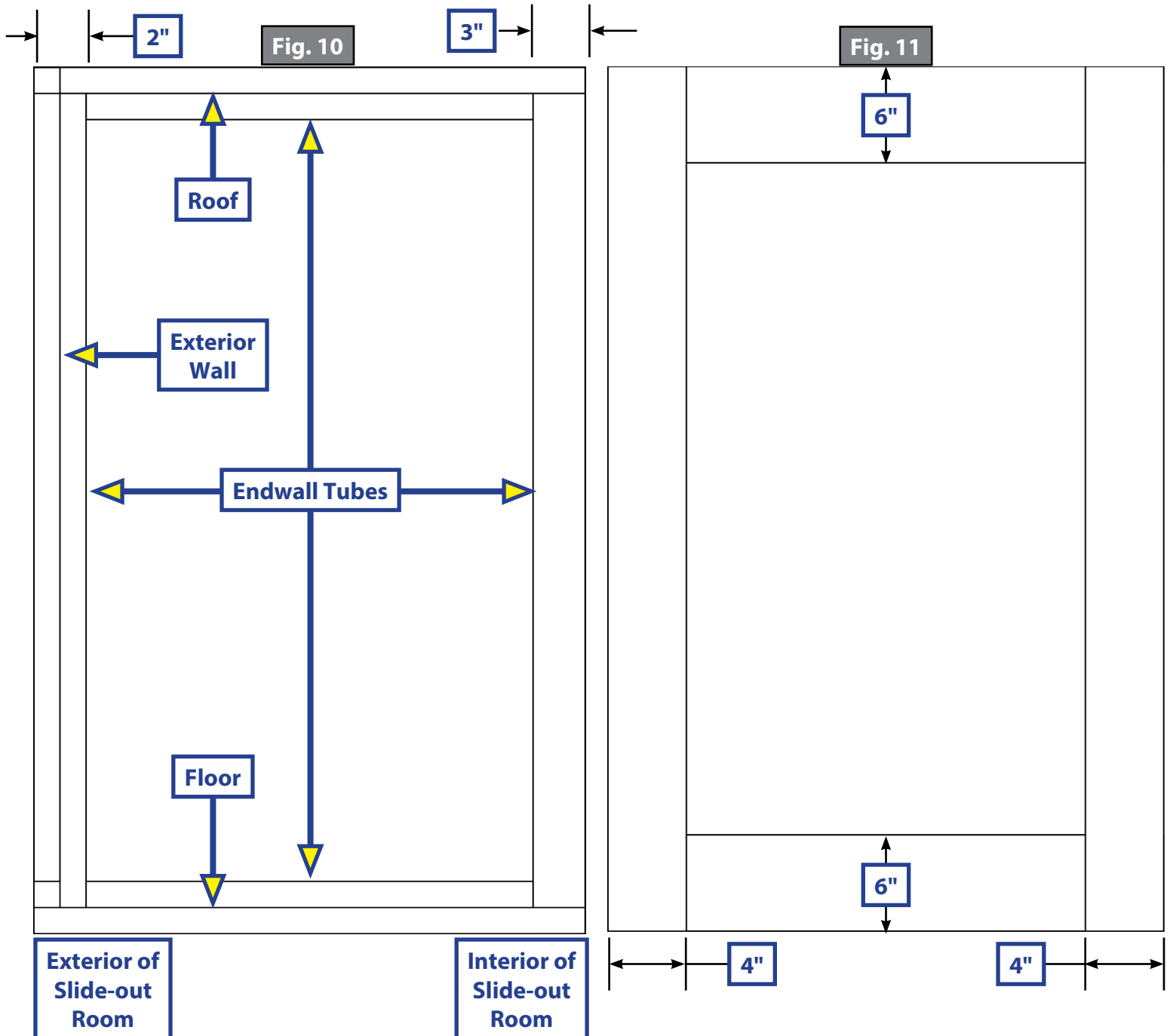
**NOTE:** The same wall opening construction principles will apply for all slide-out applications.

Fig. 9



The outside wall of the room must not be tapered.

The endwalls of the slide-out box must have a framing that will support the slide-out gear rack brackets. For laminate builds (Fig. 10), LCI requires aluminum tubes be used as backers. The dimensions of these tubes can vary; however, the exterior wall when combined with the endwall tube must be at least 2" wide. The interior tube must be a minimum of 3" wide. For stick and tin builds (Fig. 11), LCI requires a 1" x 4" laminated wood backer on the sides of the endwall and a 1" x 6" laminate wood backer for the header and footer of the endwall.



## Installation

The instructions are for a one slide-out located on either the roadside or curbside of the unit (Fig. 8). The instructions cover the configurations of controllers and user interfaces: auto-program motorized or towable controllers paired with rocker switch.

### Mechanical Components

1. Install Lippert Components-approved floor rollers. Consult roller manufacturer for proper installation procedures and location.
2. For sealing the screws used to attach end brackets, Lippert Components recommends RTV Silicone, rubber gaskets, or closed cell foam gaskets. DO NOT use any type of sealant putty as this can intrude into the mechanism and possibly cause the system to malfunction.

### Using a Drill Fixture

**NOTE:** It is recommended that the OEM create a drill fixture to aid in installation.

A drill fixture (Fig. 12) is used to pre-drill the mounting holes for the end brackets and maintain even spacing between the upper and lower gear rack arms.

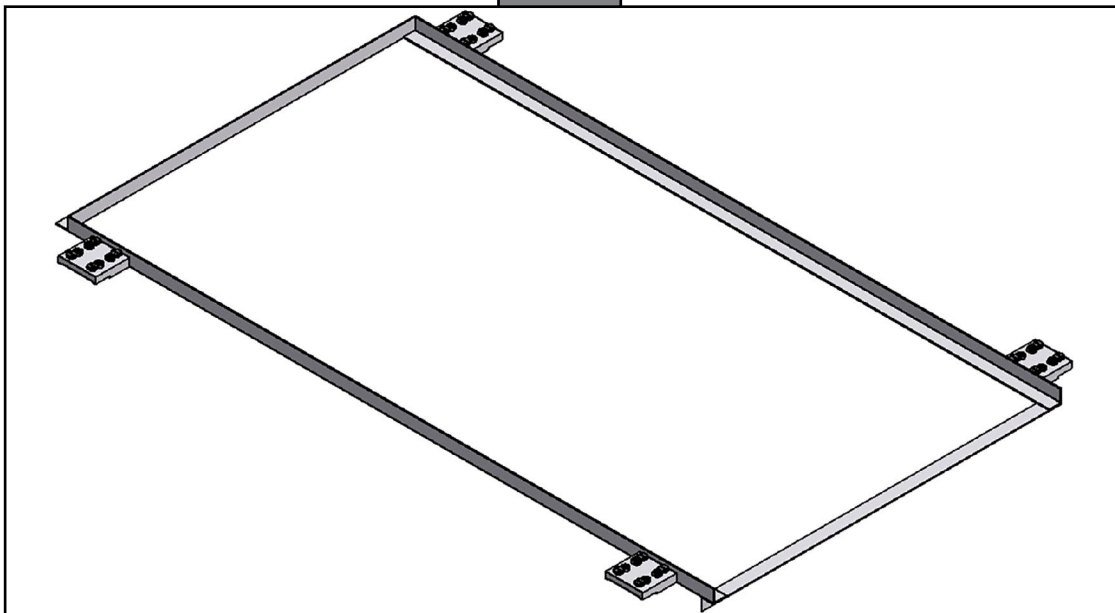
**NOTE:** Even spacing between the gear rack arms and the location of the end brackets is critical for proper operation of the slide-out. Drill fixtures are reusable from system to system. Drill fixtures are not supplied with the system and must be purchased from Lippert Components to aid in assembly and reduce installation time.

- A. Position the drill fixture so that the bottom flange of the fixture is pulled up against the bottom of the slide-out.
- B. Move the drill fixture out so that it is up flush against the outer slide-out flange.
- C. Drill all 16 holes (four per bracket) with a #25 drill bit.

**NOTE:** During normal operation of this system, there is a possibility that the gear racks could come in contact with the slide box. At manufacturer's discretion, paint protection film may be used to prevent rubbing or scratches to any slide box surface. This protective film may also be added after paint is applied.

- D. Place the slide mechanism up to the side of the slide-out and secure end brackets with #10 button or pan head screws torqued to 40-50 in-lbs.
  - E. Repeat steps A-E for the other side of the slide-out.
3. Place slide-out box into slide-out opening and push until the mounting flange meets the exterior wall.

Fig. 12



4. Verify the weight of the slide-out is supported by the floor rollers (Fig. 13) and not the slide-out mechanism.

**NOTE:** It is recommended that aluminum or hard plastic wear strips be placed between the floor rollers and the bottom of the slide room floor to prevent the weight of the room from creating drag points on soft surfaces of the underside of the room.

**NOTE:** If the slide-out is not completely supported by the floor rollers, you will hear a slight "popping" sound as the slide-out settles onto the rollers. This is normal, and there is nothing wrong with the system or the install.

5. Secure the mounting flanges to the unit's side wall with #10 button or pan head screws torqued to 40-50 in-lbs (Fig. 14A).

#### Alternate Install for Vertical Channel Assemblies with Two Flanges

Fig. 13

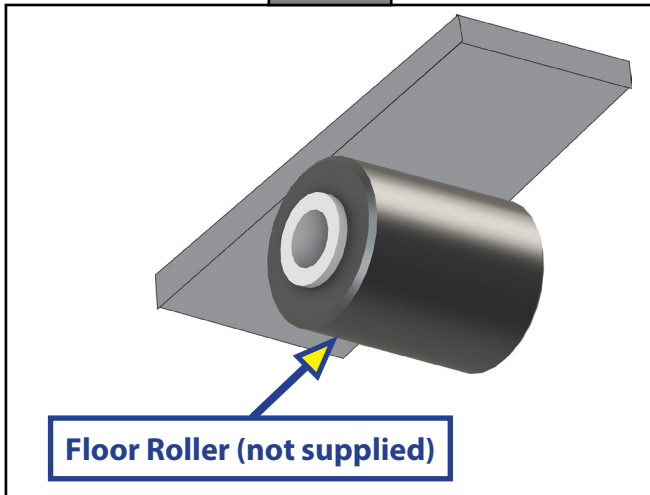
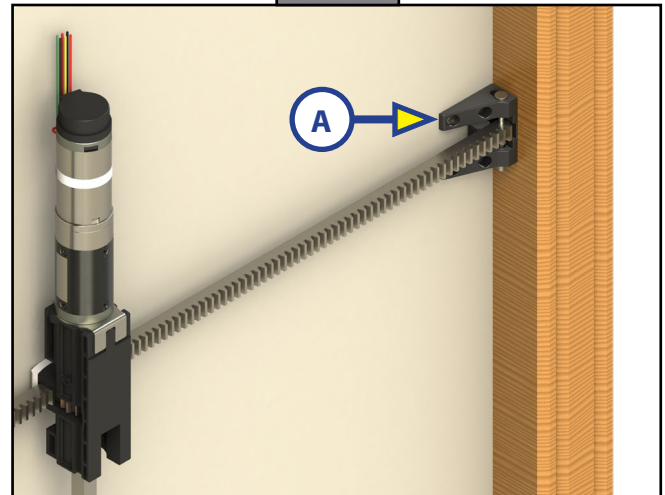


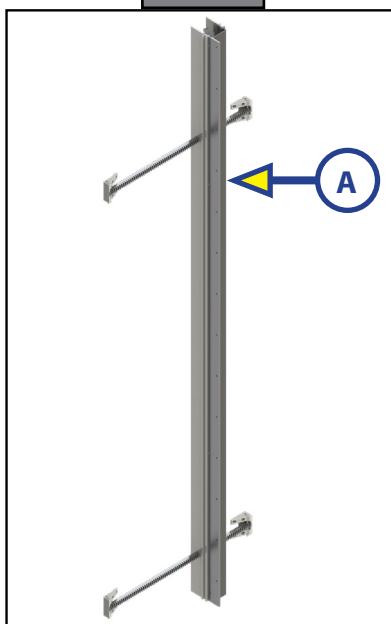
Fig. 14



After steps 1-2 are complete:

- A. Remove the inner flange (Fig. 15A) from each side of the vertical channel assemblies before lifting the slide-out into position.
- B. Once the slide-out is in position, re-install the removed flanges.
- C. Installation of the vertical channel assembly is now complete.

Fig. 15

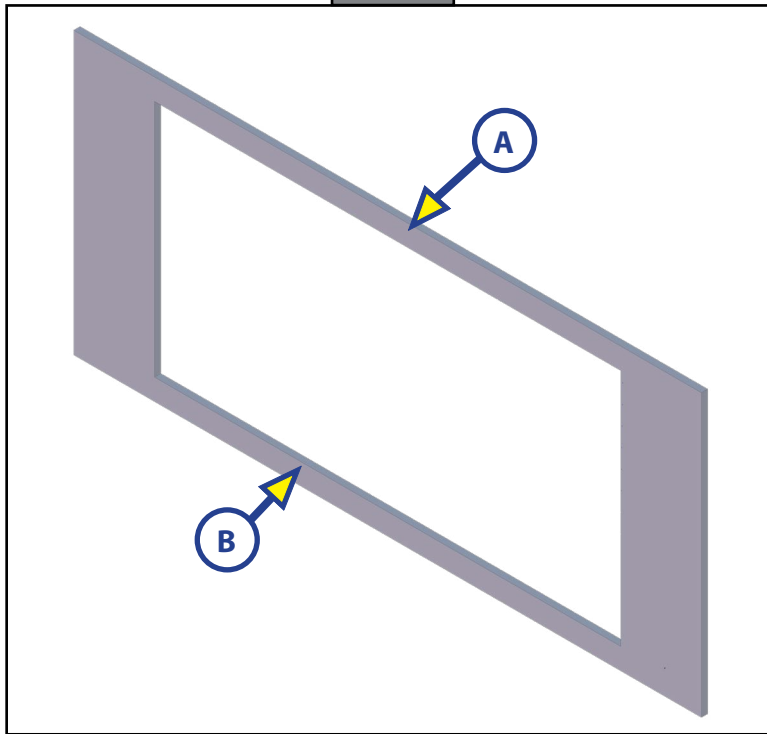


## Prepare Wall Opening for Slide Room Installation

1. Prepare upper (Fig. 16A) and lower (Fig. 16B) outer wall surfaces using adhesion promoter or 50/50 alcohol/water mix to clean and prepare the area for complete adhesion of sealant.

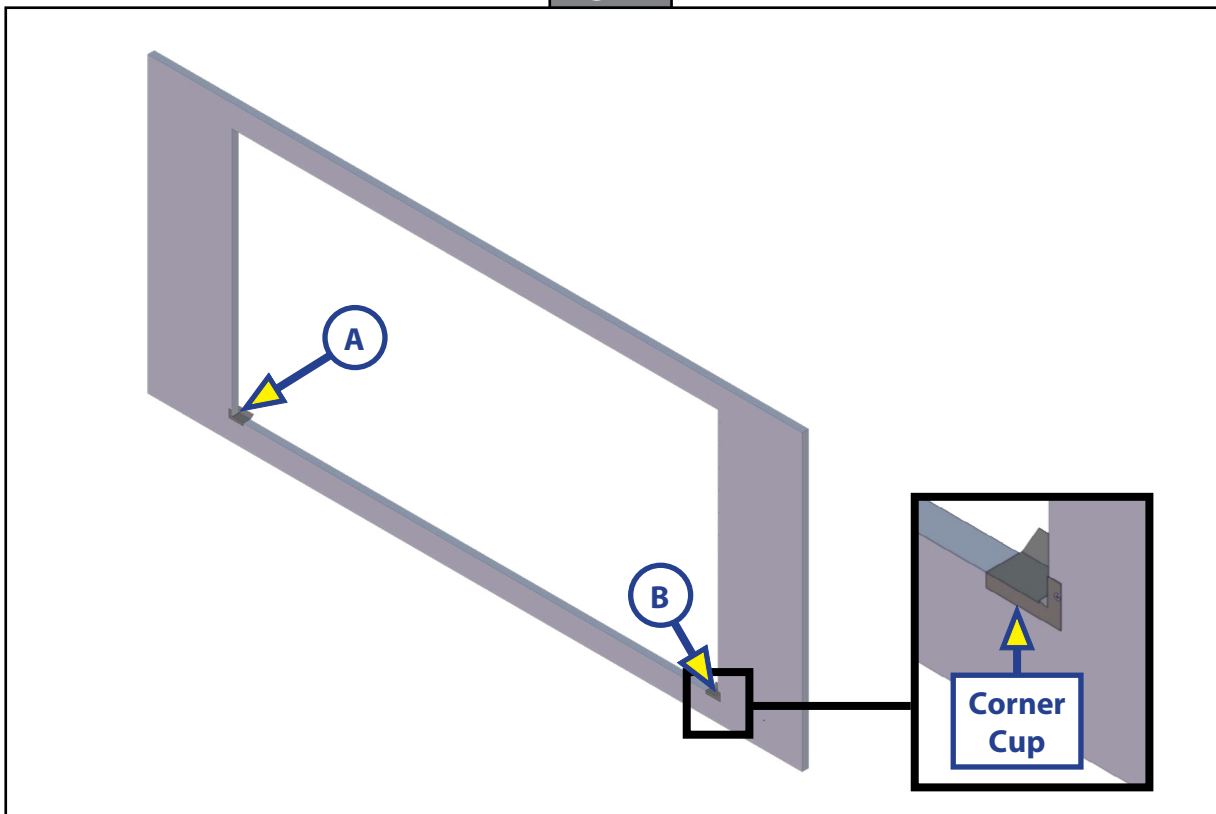
**NOTE:** Corners need to be at 90° with no obstructions.

Fig. 16



2. Set both left (Fig.17A) and right (Fig. 17B) molded corner cups. Remove liner from tape adhesive.

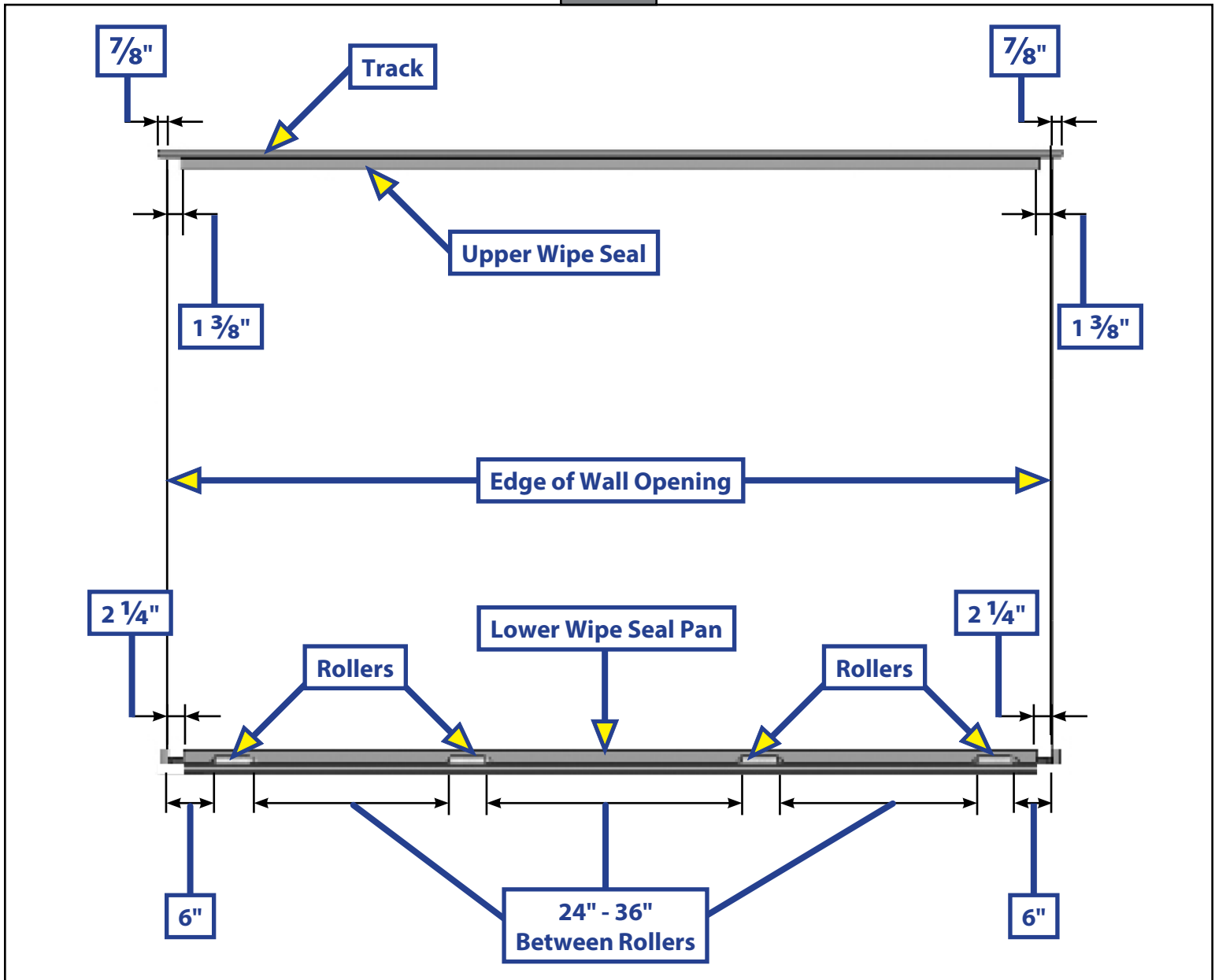
Fig. 17



Refer to Fig. 18 for steps 3 through 8:

3. Cut lower wipe seal pan to allow a  $2\frac{1}{4}$ " gap from the edge of the wall to the edge of the pan.
4. Remove the liner from adhesive tape and install as shown.
5. Cut the upper wipe seal to allow a  $1\frac{3}{8}$ " gap from the edge of the wall. Track extends  $\frac{7}{8}$ " past wall opening on both ends.
6. Remove liner from adhesive tape and install with tape to outside of wall.
7. Finish by attaching with screws or staples in the clip area for the upper and lower seals.
8. Install rollers per guidelines: End rollers  $6$ " from wall opening side wall; span rollers along the slide room sill every  $24$ " -  $36$ " between rollers to support the weight of the slide room.

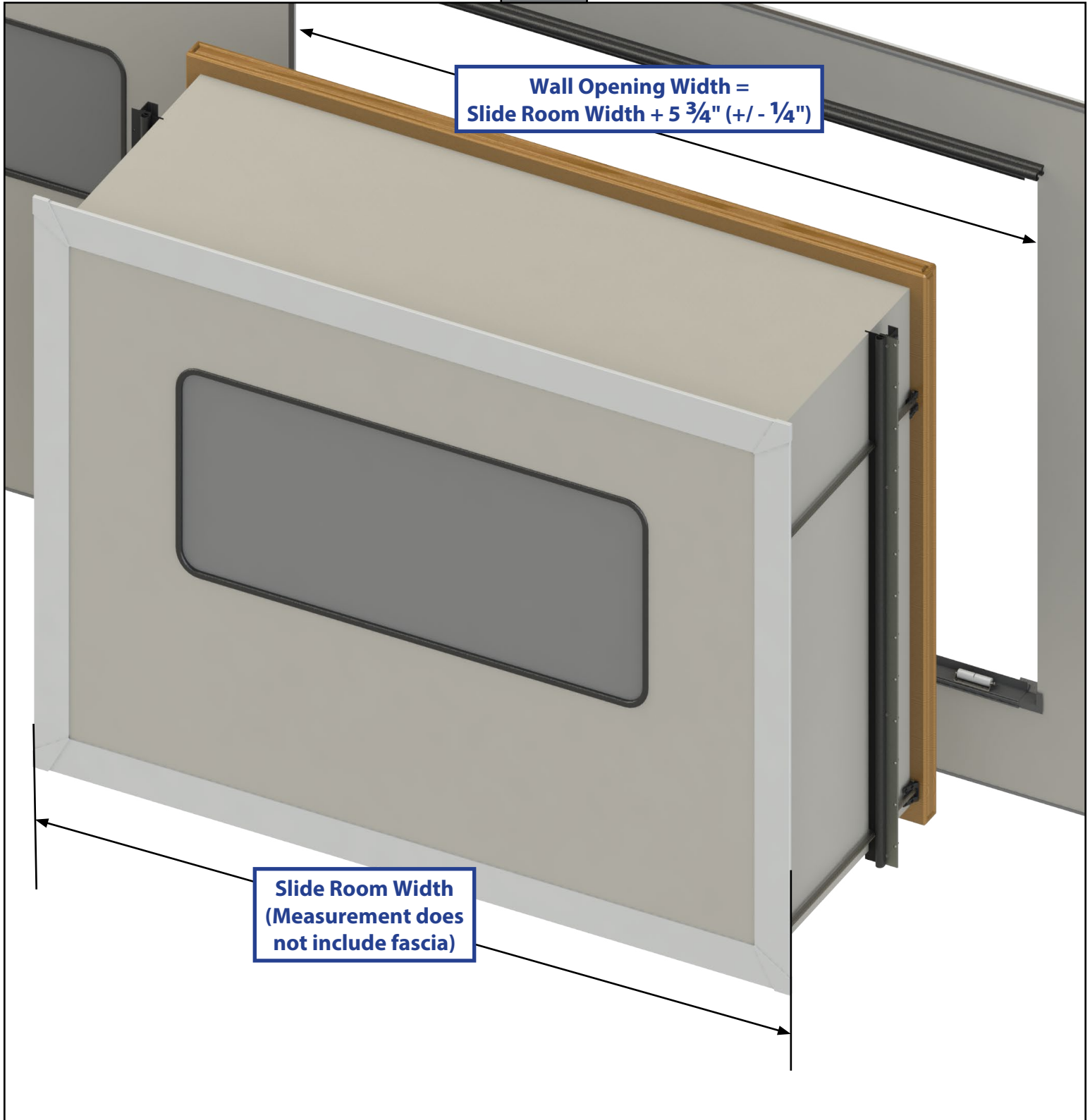
Fig. 18



## Slide Room Installation

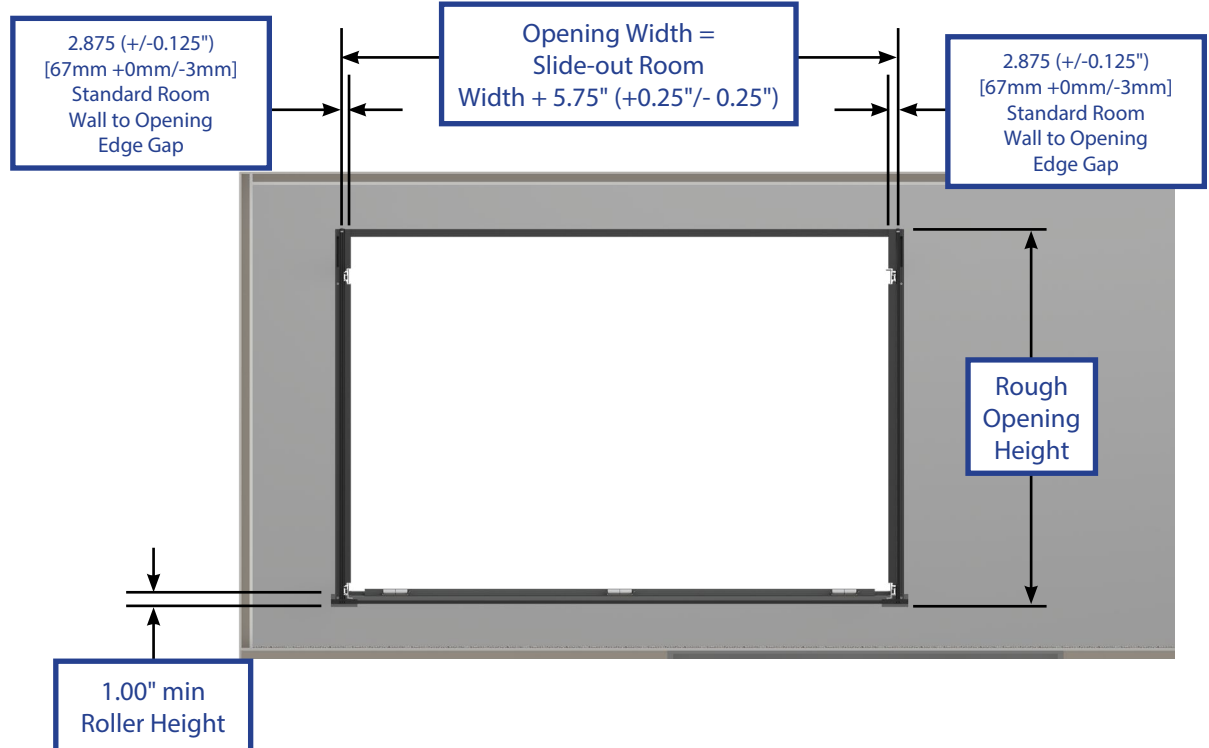
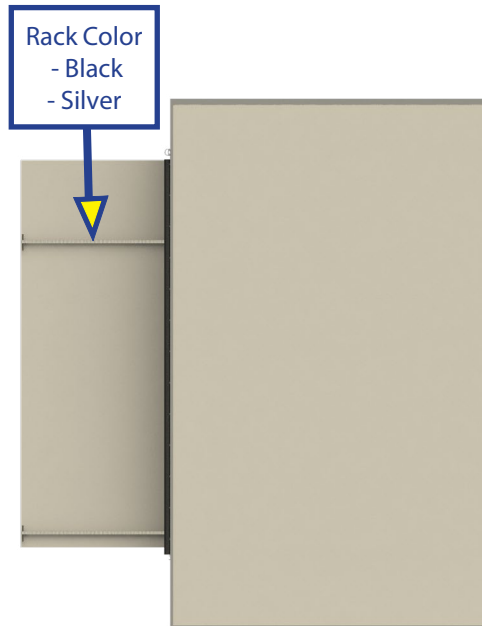
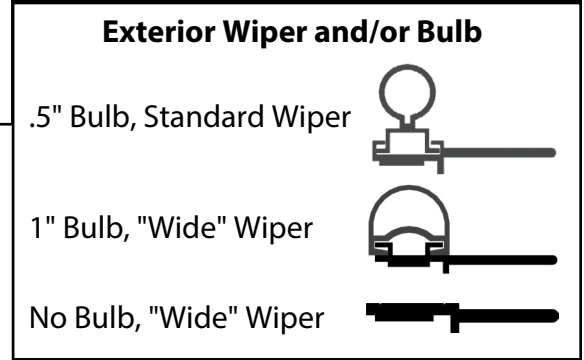
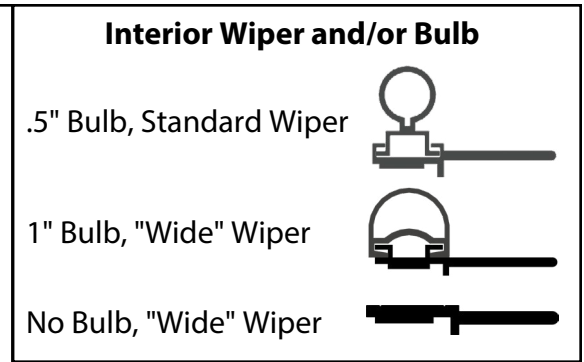
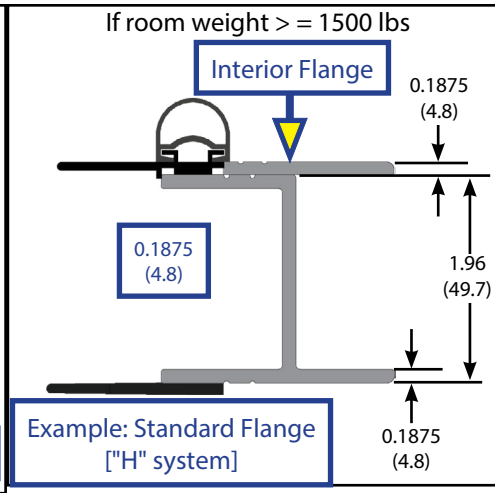
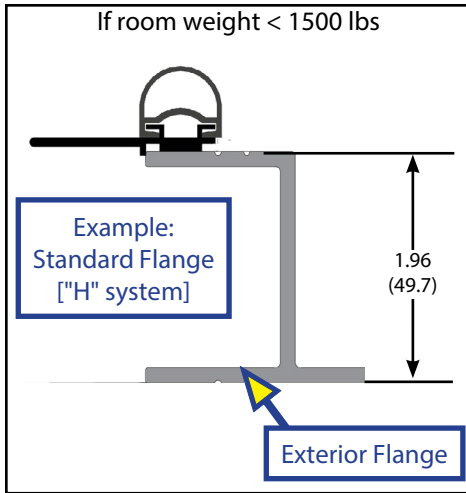
1. Measure the slide room width and the wall opening (Fig. 19). The wall opening needs to be 5 3/4" wider than the actual slide room measurement. Do not attempt to install the slide room in the trailer if this dimension is more than 6" or less than 5 1/2".

Fig. 19





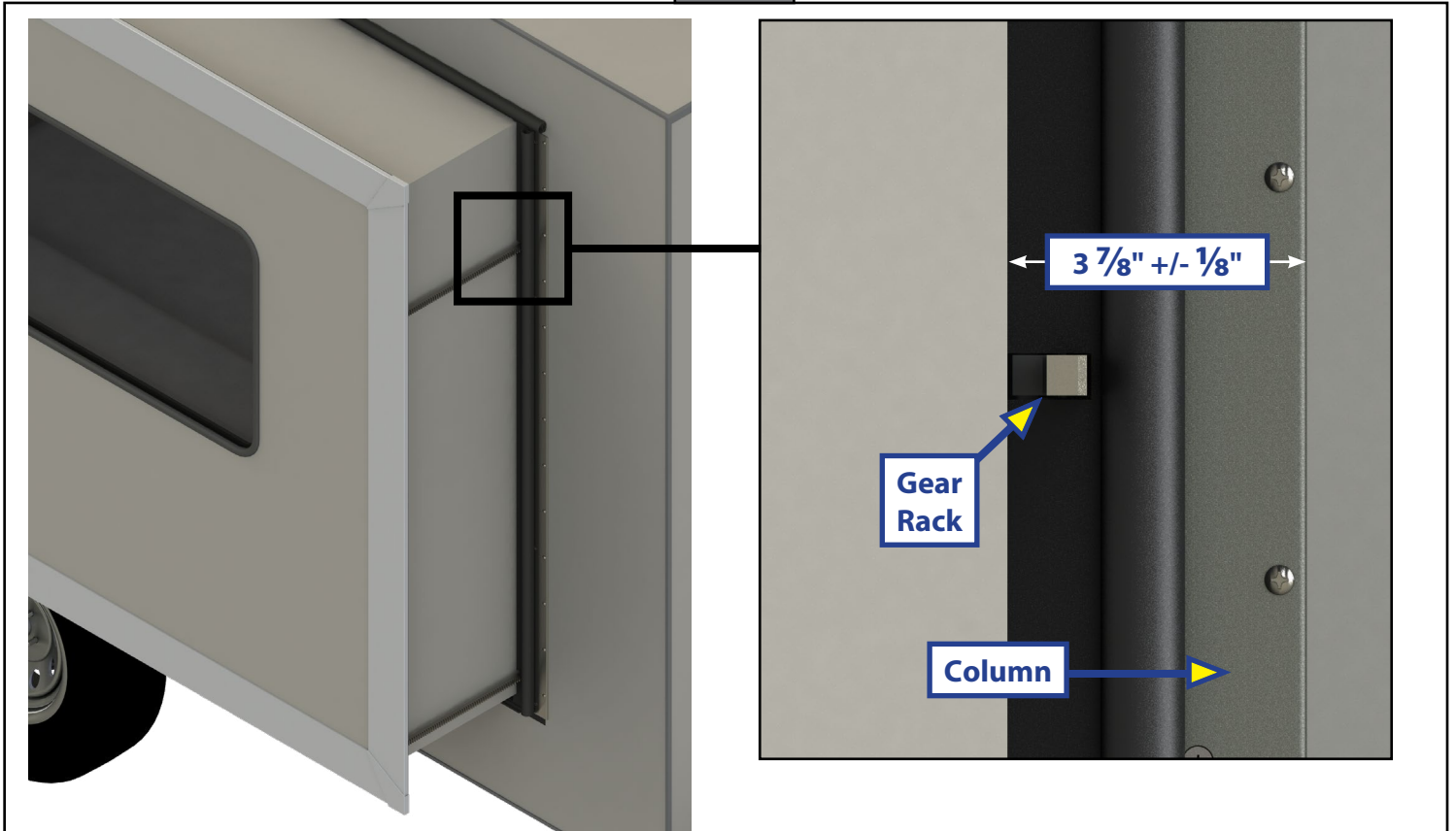
# Specifications



## Visual Inspection for Tolerances

The SlimRack should be inspected to verify the correct location and tolerance (Fig. 20) of the slide-out gap between the outside edge of the column and the slide-out end wall.

Fig. 20

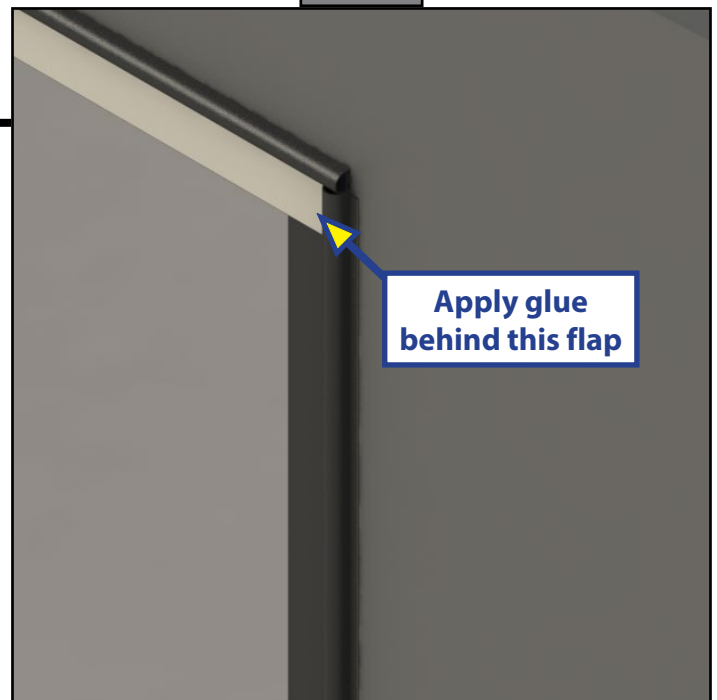


1. Apply glue to the back of the upper wipe seal and lay it over the top of the vertical wipe seal on the column (Figs. 21 and Fig. 22).

Fig. 21



Fig. 22



## Electrical Components

1. The controller is not waterproof. Mount the controller in a clean and dry, weathertight location that will keep it from being damaged, but is easily accessible for service.
2. Determine location to mount the rocker switch (Fig. 23). The location must be in view of slide-out and have a minimum depth of 1" inside the wall.
3. Route the wire harness to where the rocker switch will be mounted.
  - A. Connect the harness to the back of the switch.
  - B. Mount the switch with two screws.

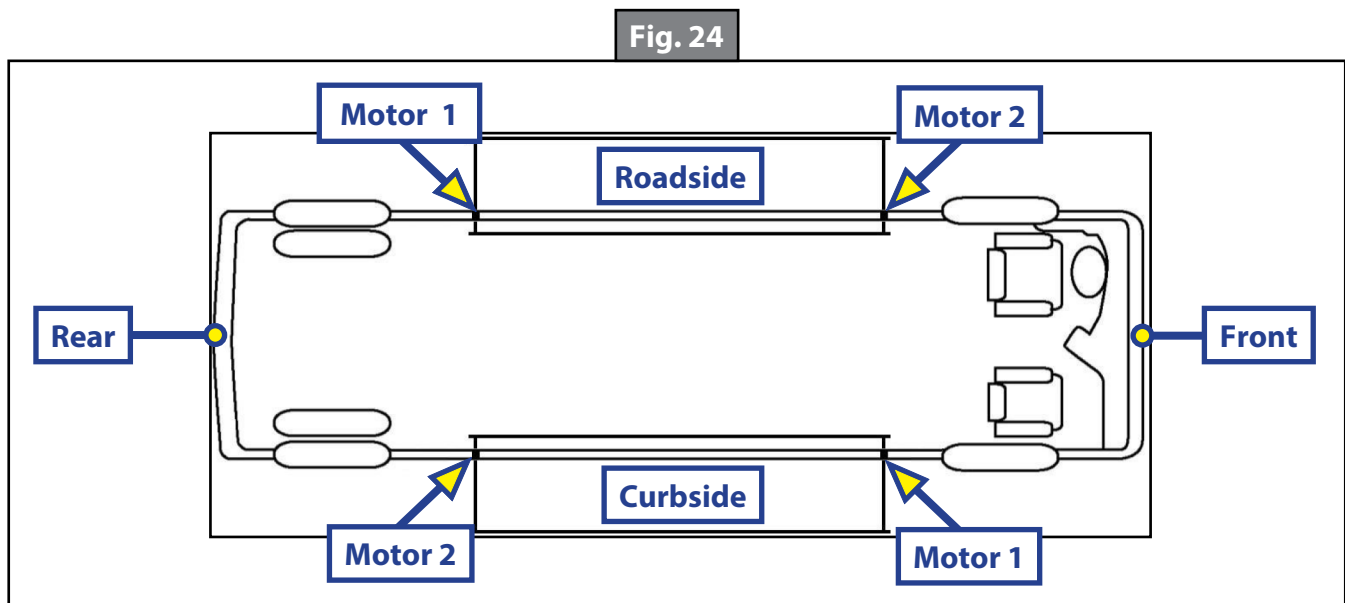


4. Label the motor leads at both ends to aid in connecting to the controller and motors. Route the motor and sensor harnesses from the slide-out motors to the controller.
5. If installing in a motorized unit, route the park brake input harness from the park brake signal source to the controller.

**NOTE:** It is important that the slide-out motors be plugged into the proper receptacle at the controller. When inside the unit and facing the slide-out, Motor 1 is always located on the left side of the slide-out. See Figure 24 for all proper slide-out motor designations.

**NOTE:** Failure to properly connect the motors to the controller will result in problems for future troubleshooting. The controller will identify the incorrect motor during a fault.

6. Route and attach the proper gauge electrical wire from the controller to the 12V DC battery. See Wiring Diagram on page 30. Lippert Components recommends that this circuit be protected with a 30 amp in-line fuse/resettable breaker (not supplied).



# Programming the Auto-Program 700156 or 697096 with Rocker Switch

## ⚠️ WARNING

Always make sure that the slide-out path is clear of people and objects before and during operation of the slide-out. Always keep away from the gear racks when the slide-out is being operated.

## ⚠️ CAUTION

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

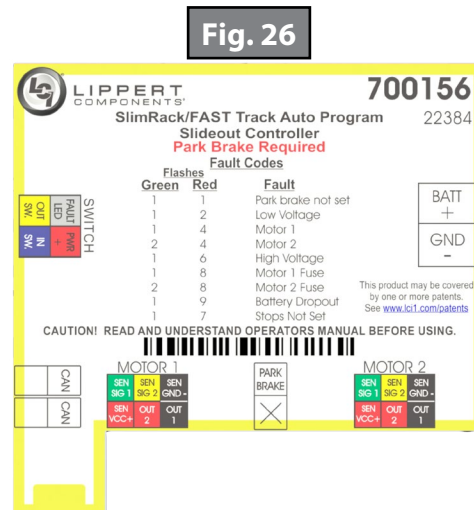
**NOTE:** When retracting or extending the slide-out, the rocker switch must be depressed and held for two seconds after the slide-out stops moving. Failure to do so will cause the stops to NOT be set.

### Setting the Retracted Stop Point

1. Press and hold the IN button on the rocker switch (Fig. 25A).
2. Move the slide-out to the fully retracted position. Press and hold the IN button for three seconds after the slide-out stops moving. Release the rocker switch.
3. Visually inspect the slide-out's seal to make certain the slide-out is fully retracted. If not, press and hold the IN button until the slide-out is fully retracted. This procedure may need to be repeated until both sides of the slide-out are fully retracted.

### Setting the Extended Stop Point

1. Press and hold the OUT button on the rocker switch (Fig. 25B).
2. Move the slide-out to the fully extended position. Press and hold the OUT switch for three seconds after the slide-out stops moving. Release the rocker switch.
3. Visually inspect the slide-out's seal to make certain the slide-out is fully extended. If not, press and hold the OUT button until fully extended. This procedure may need to be repeated until both sides of the slide-out are fully extended.



### Pre-Operation Check

The Slimrack controllers are equipped to help troubleshoot the system during installation. It is important that the slide-out motors be plugged in to the proper receptacles on the controller. See figure 26 for proper slide-out motor designations. Failure to properly connect the motors to the controller will result in problems for future troubleshooting. The controller will identify the incorrect motor during a fault. Count the number of flashes and refer to the chart in the Troubleshooting section. The controller label also provides some brief information (Fig. 26). If difficulties continue while programming the system, and prior to replacing the controller, verify that the system has been wired correctly and that the IN stop location was programmed before the OUT stop location. See Wiring Diagram for the auto-program controller (Fig. 40) for proper connection of the motors to the slide-out controller.

## Operation

### **⚠ WARNING**

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 gear racks when the slide-out is being operated.

### **⚠ CAUTION**

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

### Prior to Moving the Slide-Out Room

- Make sure the engine or generator is running to ensure ample voltage is being supplied to the slide-out room controller.
- On a tow-able unit make sure the batteries are fully charged to ensure ample voltage is being supplied to the slide-out room controller.
- Set the parking brake, if applicable.

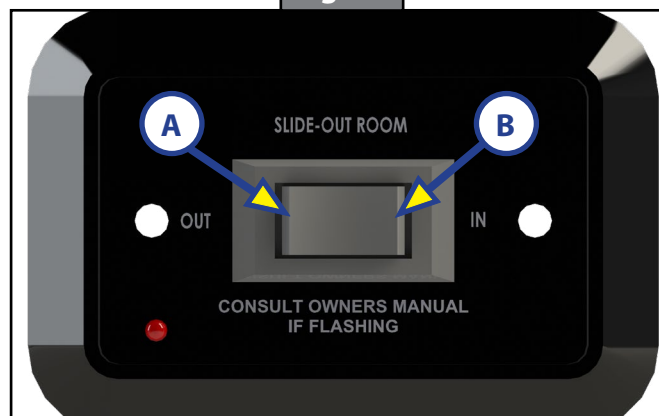
### Extending the Slide-Out Room

1. The engine or generator must be running, or unit must be plugged into shore power.
2. Transmission must be in park or neutral (if applicable).
3. Set the park brake (if applicable) and level the unit.
4. If equipped, remove the transit bars.
5. If equipped, turn "on" the on/off switch or key.
6. Press and hold the OUT button (Fig. 27A). There will be a slight delay before the slide-out room will begin to move. This is normal.
7. Release the button when the slide-out room is fully extended and stops moving.
8. If equipped, turn "off" the on/off switch or key.

### Retracting the Slide-Out Room

1. The engine or generator must be running, or the unit must be plugged into shore power.
2. Transmission must be in park or neutral (if applicable).
3. Set the park brake (if applicable) and level the unit.
4. If equipped, turn "on" the on/off switch or key.
5. Press and hold the IN button (Fig. 27B). There will be a slight delay before the slide-out room will begin to move. This is normal.
6. Release the button when the slide-out room is fully retracted and stops moving.
7. If equipped, turn "off" the on/off switch or key.
8. If equipped, install the transit bars.

Fig. 27

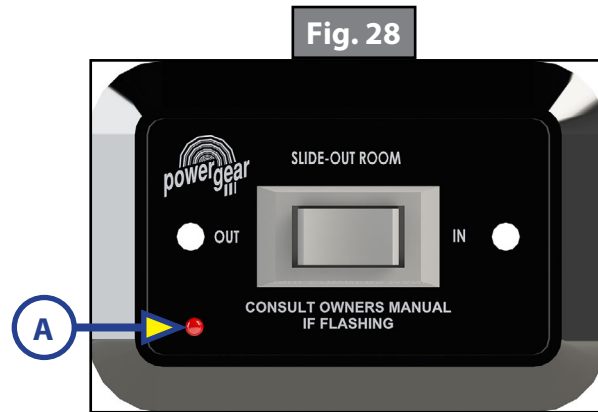


## Auto-Program Motorized or Towable Controller

This controllers have the ability to detect and display several faults. When a fault is detected, the slide-out room movement will stop and two different LEDs (Fig. 29) on the controller will flash in a pattern.

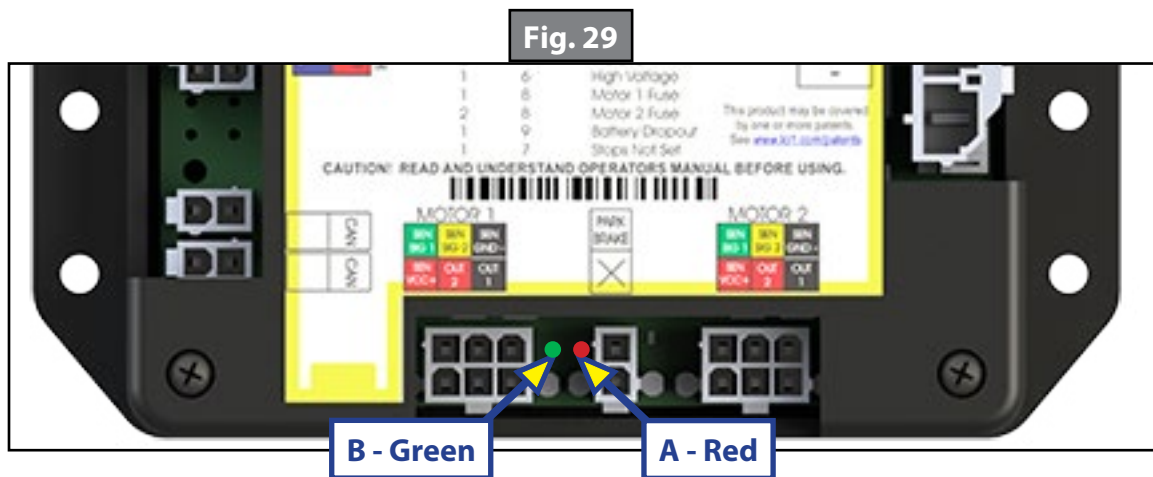
1. The Fault Code LED (Fig. 28A) on the rocker switch will flash RED a number of times corresponding to the number of red flashes on the controller (Fig. 29A). Refer to Controller Fault Codes chart to best determine what caused the fault.

**NOTE:** Not all rocker switches contain fault indicator LEDs. For best results when reading fault codes, refer to the controller's Fault Code LED scheme (Fig 29) and Controller Fault Codes chart.



2. The Motor LED (Fig. 29B) on the controller will flash GREEN a number of times corresponding to which motor had the associated fault.

**NOTE:** For example, two GREEN flashes and four RED flashes means there is a motor fault on motor 2.



Controller Fault Codes

Fault Code Flashes		Fault Type	Description	Why?	What Should Be Done?
Green	Red				
1	1	Minor	Park Brake Not Set	<ul style="list-style-type: none"> <li>• Park Brake Not Set, if applicable.</li> <li>• Ground signal lost at park brake receptacle at controller.</li> </ul>	<ul style="list-style-type: none"> <li>• Set parking brake (if applicable).</li> <li>• Check for continuity to ground on wire plugged into park brake receptacle at controller.</li> </ul>
1	2	Minor	Low Voltage	Incoming voltage to controller is below 12V DC. The slide-out will NOT move if voltage is 10.5V DC or below.	Start vehicle, generator, or make sure unit is plugged into shore power. Check 2-pin power connector at controller at BATT + and GND -. Consult manufacturer of unit's charging system for troubleshooting assistance.
1	4	Major	Motor 1 Fault	Bad wire connection	Refer to <a href="#">82-S0533</a> for troubleshooting. This Technical Information Sheet can be obtained on-line at: <a href="https://www.lci1.com/slide-outs-/support-slimrack">https://www.lci1.com/slide-outs-/support-slimrack</a> then click on the Technical Information Sheets tab and look for document <a href="#">82-S0533</a> , Troubleshooting Control Box for SlimRack® Systems.
				Bad motor	
2	4	Major	Motor 2 Fault	Bad wire connection	
				Bad motor	
1	6	Minor	High Voltage	Supply voltage to controller is 17V DC or greater.	Consult manufacturer of unit's charging system for troubleshooting assistance.
1	7	Major	Stops Not Programmed	<ul style="list-style-type: none"> <li>• Stops have not been set</li> <li>• Stops were cleared</li> <li>• Stops were improperly set</li> </ul>	Stops need to be programmed according to the programming instructions in this document.
1	8	Major	Fuse, Motor 1	Fuse for Motor 1 concern.	Contact Lippert representative.
2	8	Major	Fuse, Motor 2	Fuse for Motor 2 concern.	Contact Lippert representative.
1	9	Minor	Battery Drop Out	Battery dropped below 8.5V while extending or retracting slide.	Charge battery, start vehicle, generator, or make sure unit is plugged into shore power.

## Electrical Override Mode

### Auto-Program Motorized or Towable Controller

For major faults, the auto-program controller will automatically enter "Emergency Jog" mode when motor movement is not detected by the controller, in either direction, during slide-out activation. When in Emergency Jog mode, the controller will jog both motors in the direction the switch is pressed (IN or OUT). The switch may need to be pressed multiple times to fully retract or extend the slide-out. Take the unit to an OEM- authorized dealer for service.

**NOTE:** At any time during the override procedure, the unit will exit override mode if the slide-out has not been moved for five minutes. The controller will return to normal operation mode after five minute of inactivity or by cycling power to the controller.

### **⚠ CAUTION**

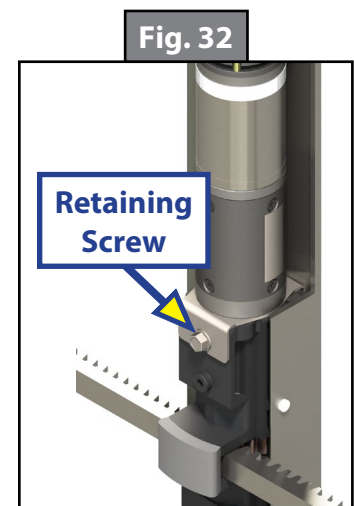
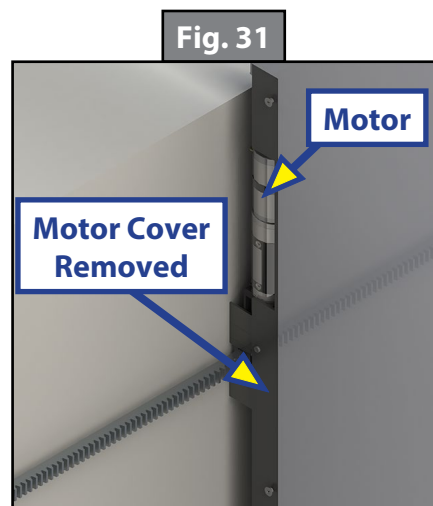
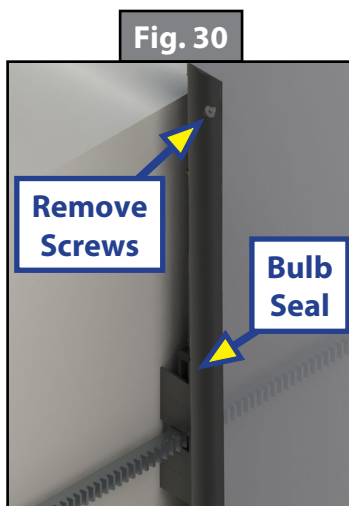
**When manually retracting the slide-out room, make sure that both sides of the slide-out room move together. Damage to the slide-out room may result if movement is not uniform.**

### Manual Override Mode - Auto-Program Controllers

In the event that power is lost to the slide-out motor(s) or when the Electrical Override Mode does not work, the slide-out room can be manually retracted by following these steps.

1. Gain access from either the inside or outside of the unit, whichever is more convenient, to the vertical channel assembly by removing the OEM trim and flange pieces on the slide-out room box. The motors are currently located at the top of the channel.
2. If applicable, use a Phillips head screwdriver to remove the top screw from the bulb seal at the top of the vertical channel (Fig. 30).
3. Pull down the bulb seal and remove the motor cover (Fig. 31). The motor cover may stick to the bulb seal.
4. Using a  $\frac{5}{16}$ " open-ended wrench or ratcheting box wrench, loosen the motor retaining screw from the block by turning  $\frac{1}{2}$  -  $\frac{3}{4}$  turn, (Fig. 32) . Do not remove the motor retaining screw.
5. Unplug the motor from the harness and remove the motor by lifting it up and out of the column.
6. Repeat steps 1-6 for the other side.
7. Push the slide-out room uniformly into the retracted position.
8. Once the slide-out room is retracted, secure the slide-out room in place by:
  - A. Re-installing the motors.

**NOTE:** Make sure the motor is properly seated on the block with no gap between the mounting bracket and block.





- B. Torquing the motor retaining screw to 40 in lbs. (Fig. 32) with the motor retainer fully engaged.
  - C. Using a transit bar (slide-out locking bar).
9. Have the slide-out room serviced by the OEM-authorized dealer as soon as possible. Do not operate slide-out room until service is complete, as damage to the slide-out room may result.

## Alternate Override Modes - Auto-Program Controllers

If none of the previous override methods retract the slide-out room, it may be possible to manually retract the slide-out room by one of the following alternate methods. Both of these procedures will only be possible if there is access to the described areas.

1. Manually retract the slide-out room using a ratchet and socket attached to the end of the coupler (Fig. 33A) to move the slide-out room.
  - A. Remove the motor. Follow steps 1-6 under the Manual Override Mode section.
  - B. Place a ratcheting wrench with a 3" extension and  $\frac{5}{8}$ " deep well socket through the motor access opening and seat the socket onto the coupler (Fig. 33A).
  - C. Using the ratcheting wrench with socket and alternating from one side to the other, turn the wrench to bring the slide-out room in.

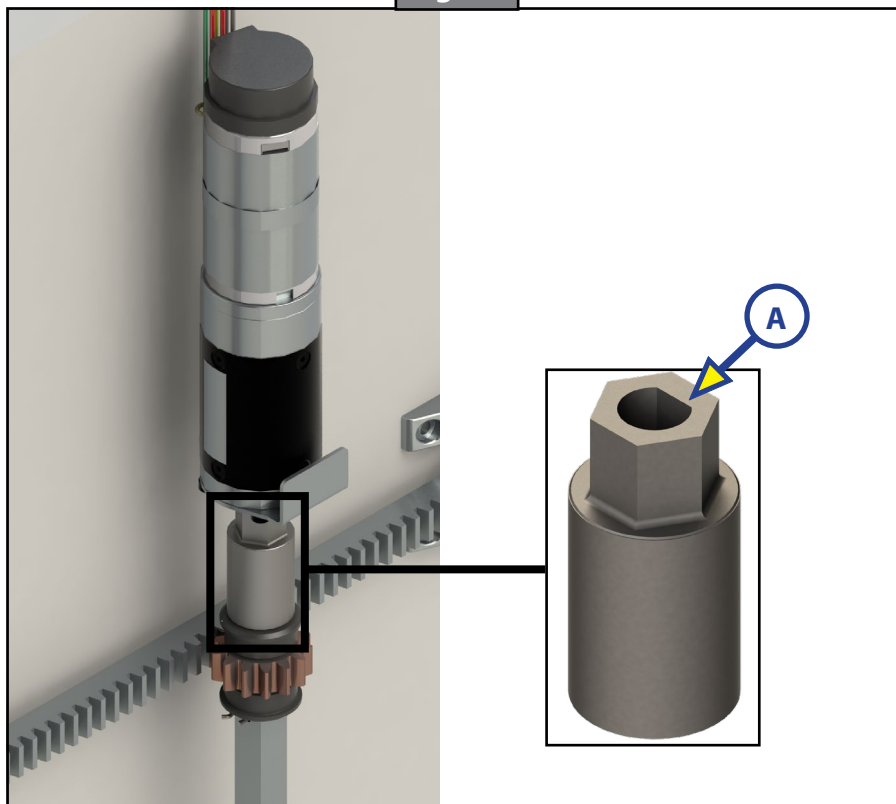
**NOTE:** One person per side of the slide-out room (two total) with ratchet and socket will expedite the process. Make sure that both sides of the slide-out room retract together uniformly. The slide-out room moves approximately  $\frac{1}{4}$ " for every 30-40 degree turn of the wrench.

- D. Once the slide-out room is retracted, secure the slide-out room in place by:
  - I. Re-installing the motors.

**NOTE:** Make sure the motor is properly seated on the block with no gap between the mounting bracket and block.

- II. Torquing the motor retaining screw to 40 in lbs. (Fig. 32) with the motor retainer fully engaged.
  - III. Using a transit bar (slide-out locking bar).
- E. Have the slide-out room serviced by an OEM-authorized dealer as soon as possible. Do not operate the slide-out room until service is complete as damage to the slide-out room may result.

Fig. 33



## ⚠ CAUTION

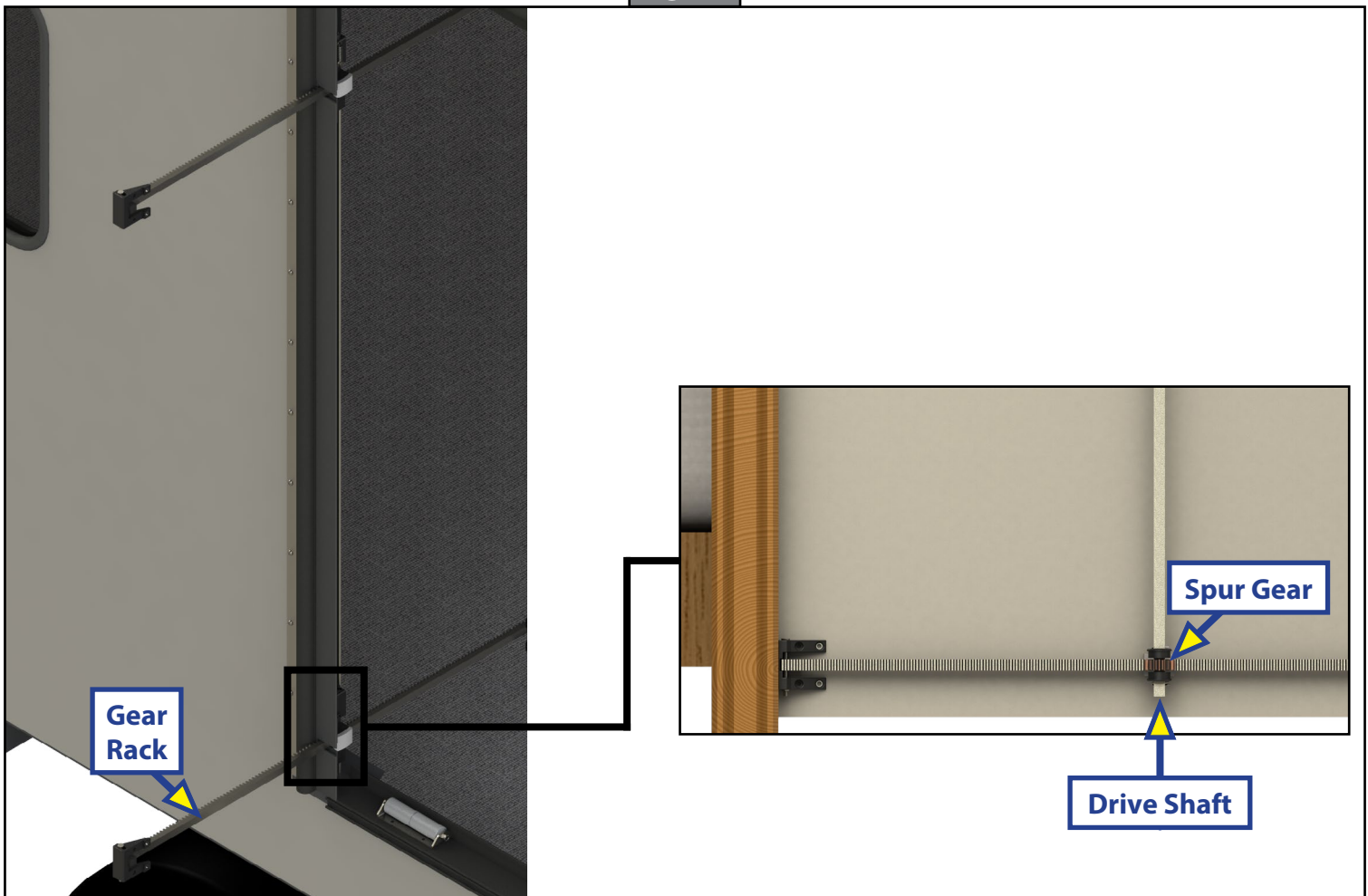
When manually retracting the slide-out room, make sure that both sides of the slide-out room move together. Damage to the slide-out room may result if movement is not uniform.

2. Manually retract the slide-out room by turning the  $\frac{1}{2}$ " square drive shaft of each vertical channel assembly.
  - A. Remove the motor. Follow steps 1-6 of the Manual Override Mode.
  - B. Access the  $\frac{1}{2}$ " square drive shaft (Fig. 34) of each vertical channel.
  - C. Using a  $\frac{1}{2}$ " 8-point star socket and alternating from one side to the other, turn the  $\frac{1}{2}$ " square drive shaft to bring the slide-out room in. A 15 mm 12-point socket is an option if the  $\frac{1}{2}$ " 8-point star socket is not available. Use caution, as the 15 mm 12-point socket does not fit as snug as the  $\frac{1}{2}$ " 8-point socket.
  - D. Once the slide-out room is retracted, secure the slide-out room in place by:
    - I. Re-installing the motors.

**NOTE:** Make sure the motor is properly seated on the block with no gap between the mounting bracket and block.

- II. Torquing the motor retaining screw to 40 in lbs. (Fig. 32) with the motor retainer fully engaged.
  - III. Using a transit bar (slide-out locking bar).
- E. Have the slide-out room serviced by the OEM-authorized dealer as soon as possible. Do not operate slide-out room until service is complete as damage to the slide-out room may result.

Fig. 34



## Harness Connections for Auto-Program Motorized and Towable Controllers

1. Route and attach the switch harness (Fig. 35A) from the controller (Fig. 35B) to where the switch will be mounted.
2. Route and attach the motor 1 harness (Fig. 35C) and motor 2 harness (Fig. 35D) from the controller to the corresponding slide-out motors.

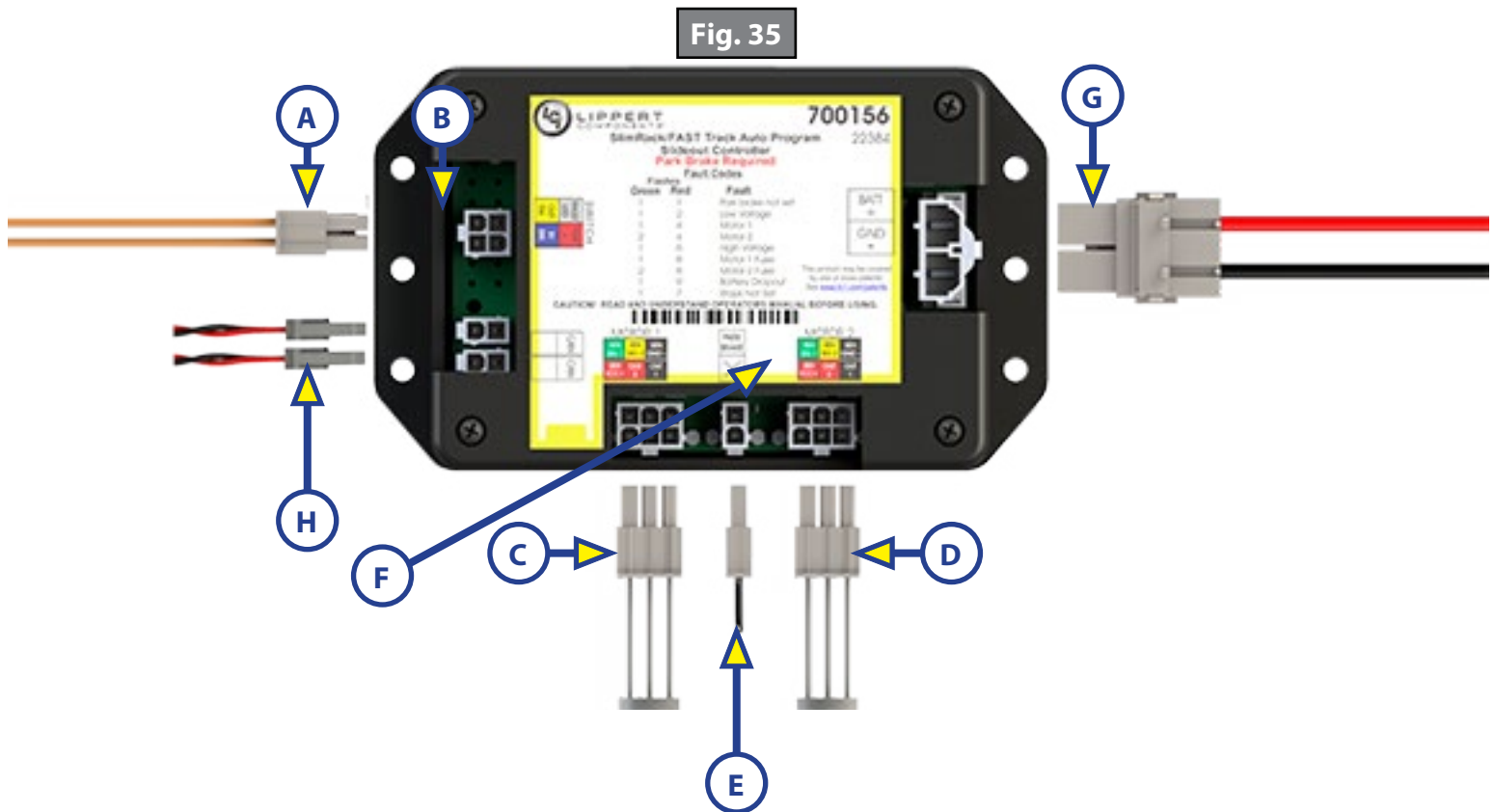
**NOTE:** When identifying motor 1 and motor 2, refer to figure 24.

3. **For Motorized units only:** Route and attach the park input harness (Fig. 35E) from the controller to the park brake signal source, if applicable.

**NOTE:** Towable control does not have the park brake receptacle and does not require signal from park brake.

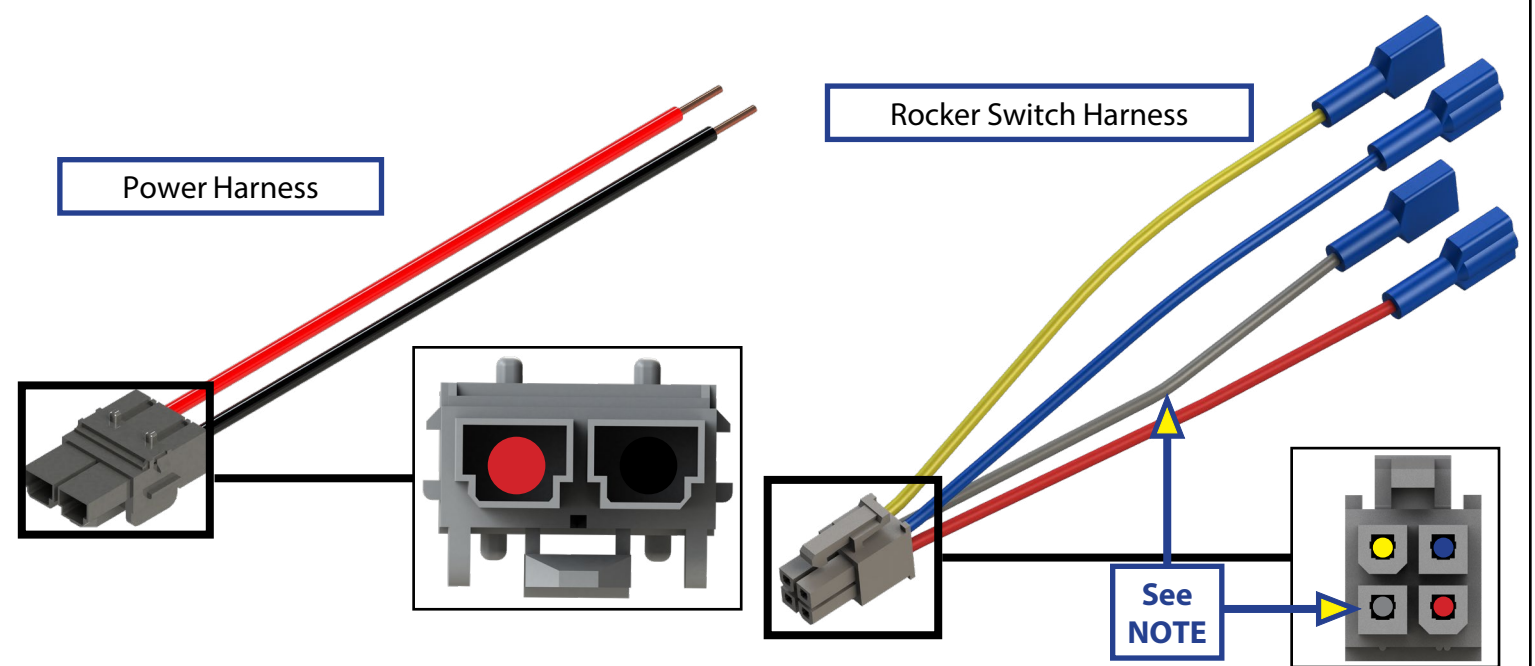
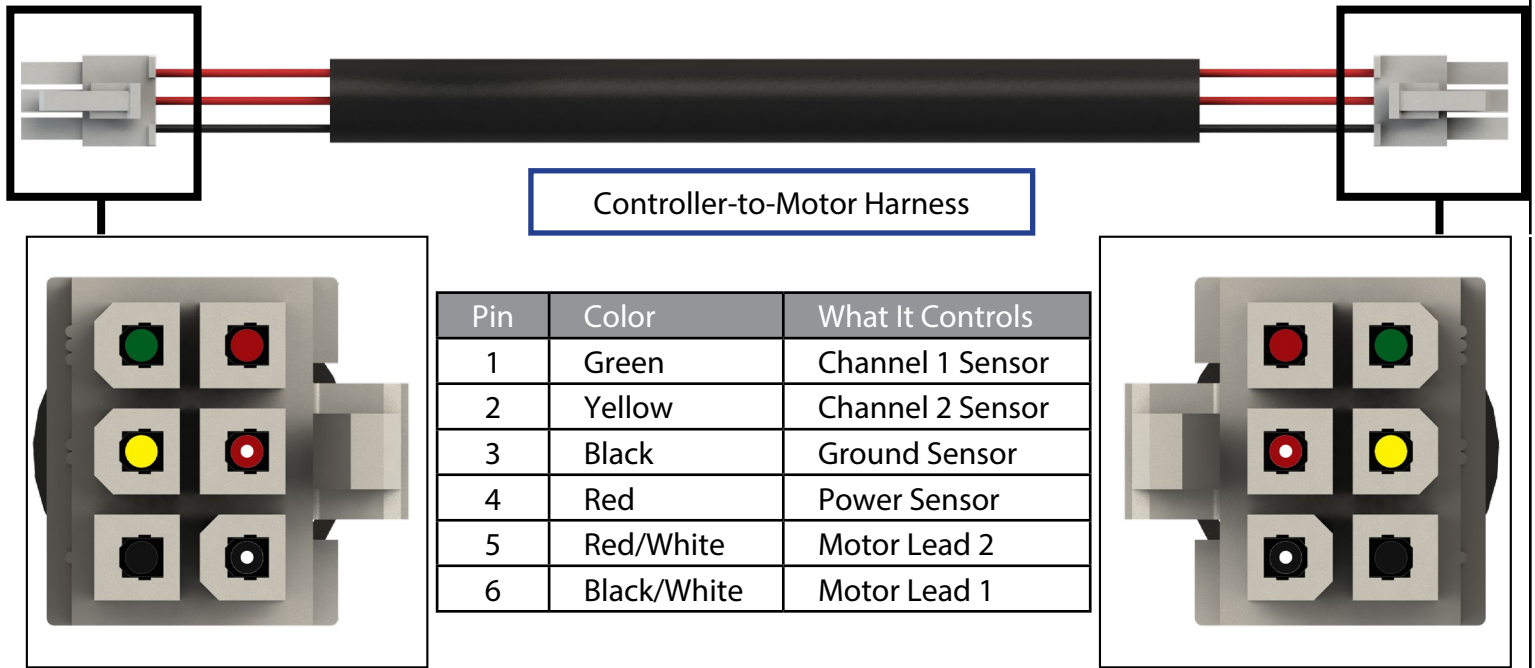
4. Route and attach the proper gauge wire (Fig. 35G) from the controller to the 12V DC battery.
5. **Optional for Lippert OneControl integration:** Attach the Canbus data harnesses to the 2 CAN receptacles (Fig. 35H).

**NOTE:** Refer to Wiring Diagram (Fig. 37) for additional system wiring information.



# Pinout Diagram for Motorized and Towable Controllers

Fig. 36



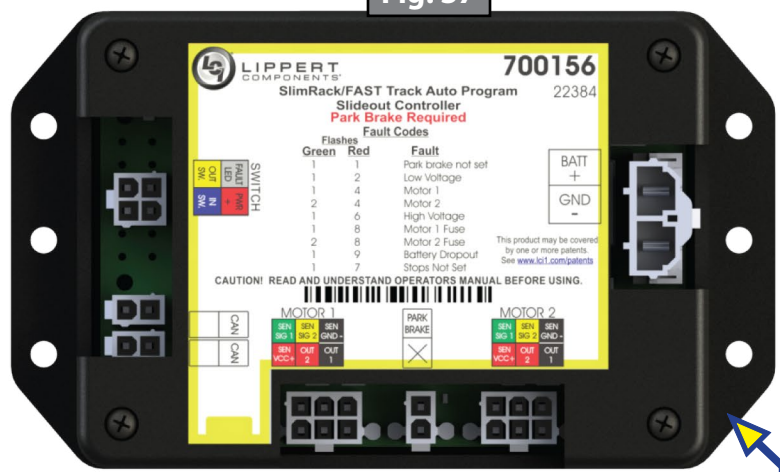
Pin	Color	What It Controls
1	Black	Ground
2	Red	Power

Pin	Color	What It Controls
1	Gray	Fault Code LED
2	Red	Switch Power
3	Yellow	Switch Out
4	Blue	Switch In

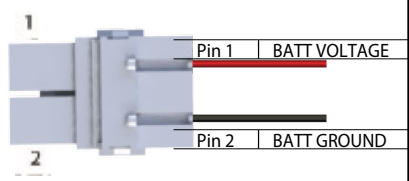
**NOTE:** If the slide-out operation rocker switch is not supplied by Lippert Components, the gray wire on the 4-wire switch harness is not used.

# Wiring Diagram for Auto-Program Motorized and Towable Controllers

Fig. 37



Power Harness



Controller

CANbus Data Harnesses (optional connections if using Lippert OneControl):

- Pin 2 CAN Low-Red
- Pin 1 CAN Hi-Black
- Pin 2 CAN Low-Red
- Pin 1 CAN Hi-Black

Motor Harness

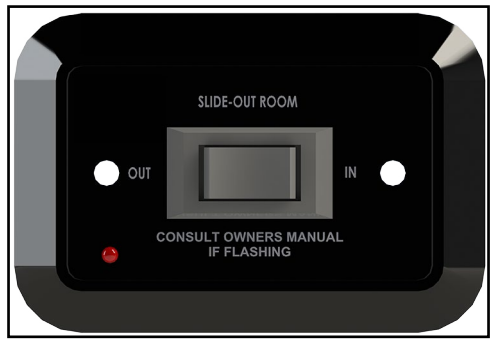
**NOTE:** Controller 697096 is for towable units and does not have the Park Brake harness receptacle. \*

- Pin 1 PARK BRAKE HARNESS-BLACK \*
- Pin 6 MOTOR 1 - BLACK
- Pin 5 MOTOR LEAD 2 - RED
- Pin 4 POWER, SENSOR - RED
- Pin 3 GROUND, SENSOR - BLACK
- Pin 2 CH2 SENSOR - YELLOW
- Pin 1 CH1 SENSOR - GREEN

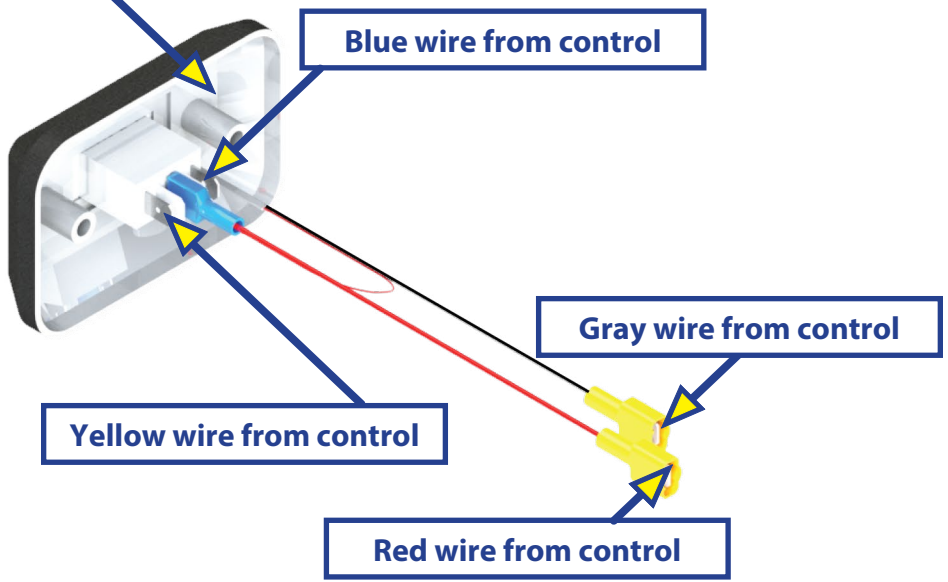
Switch Harness

- Pin 4 SWITCH IN (connects to terminal on back of switch)-Blue
- Pin 3 SWITCH OUT (connects to terminal on back of switch)-Yellow
- Pin 2 SWITCH POWER (connects to red wire on back of switch)-Red
- Pin 1 FAULT CODE LED (connects to black wire on back of switch)-Gray

Touchpad Switch



Back of Touchpad Switch







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