



Service Manual

Gulf Stream Electronic

Full Wall Slide Systems

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1217 E. 7th St.
Mishawaka IN
46544
800-334-4712
fax (574) 256-6743
www.powergearus.com
6-05-07

Before you operate the slide system

SYSTEM DESCRIPTION

Your Power Gear Slideout System is a rack and pinion design operated by a 12 Volt DC electric motor.

MAJOR COMPONENTS

- Inner rail assemblies are designed to support the room weight.
- The 12 Volt DC gearmotor will operate the room using power from the on-board unit battery.
- Slideout systems are equipped with a manual override that allows you to extend / retract the room in the event of a loss of power.
- A specially designed control that gives the user full control of room movement, in or out. The control has a load sensing capability that stops the motor when the room is fully extended or retracted.

WARNING

- ALWAYS MAKE SURE THAT THE SLIDEOUT ROOM PATH IS CLEAR OF PEOPLE AND OBJECTS BEFORE AND DURING OPERATION OF THE SLIDEOUT ROOM.
- ALWAYS KEEP AWAY FROM THE SLIDE RAILS WHEN THE ROOM IS BEING OPERATED. THE GEAR ASSEMBLY MAY PINCH OR CATCH ON LOOSE CLOTHING CAUSING PERSONAL INJURY.
- INSTALL TRANSIT BARS (IF SO EQUIPPED) ON THE SLIDEOUT ROOM DURING STORAGE AND TRANSPORTATION.

Operating Modes

EXTENDING THE ROOM

1. Level the unit.
2. Verify the battery is fully charged and hooked-up to the electrical system.
3. Remove the transit bars (if so equipped).
4. Turn 'ON' the on/off switch or key (if so equipped).
5. Press and hold the IN/OUT switch (Fig. 1) in the OUT position until the room is fully extended and stops moving.
6. Release the switch, which will lock the room into position. **NOTE:** If the slideout switch is held after the room is fully extended, the control will sense that the room has stopped and will shut off the motor after a few seconds.
7. Turn 'OFF' the on/off switch or key (if so equipped).

RETRACTING THE ROOM

1. Verify the battery is fully charged and hooked-up to the electrical system.
2. Turn 'ON' the on/off switch or key (if so equipped).
3. Press and hold the IN/OUT switch (Fig. 1) in the IN position until the room is fully retracted and stops moving.
4. Release the switch, which will lock the room into position. **NOTE:** If the slideout switch is held after the room is fully retracted, the control will sense that the room has stopped and will shut off the motor after a few seconds.
5. Turn 'OFF' the on/off switch or key (if so equipped).
6. Install the transit bars (if so equipped).

Preventative Maintenance

Your Power Gear slide-out system has been designed to require very little maintenance. To ensure the long life of your slide-out system read and follow these few simple procedures.

CAUTION: DO NOT WORK ON YOUR SLIDE-OUT SYSTEM UNLESS THE BATTERY IS DISCONNECTED.

- **When the room is out, visually inspect the inner slide rail assemblies. Check for excess build-up of dirt or other foreign material; remove any debris or items that may be present.**
- **If the system squeaks or makes any noises it is permissible to apply a light coating of silicone spray or lithium grease to the roller and bearing sleeve I.D., removing any excess lubricant so that dirt or debris do not build-up. DO NOT lubricate the slide-out drive gears, gear racks, or roller OD as this will attract dirt / debris.**

IF YOU HAVE ANY PROBLEMS OR QUESTIONS CONSULT YOUR LOCAL AUTHORIZED DEALER OR CALL US AT POWER GEAR (800-334-4712)

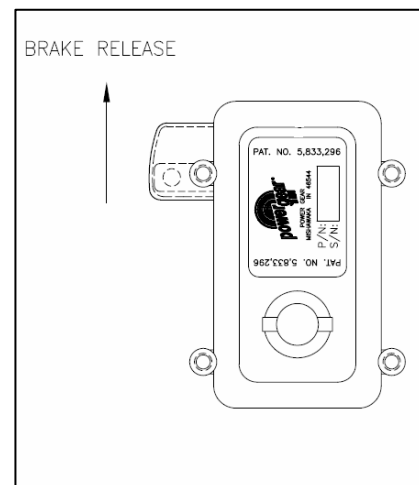
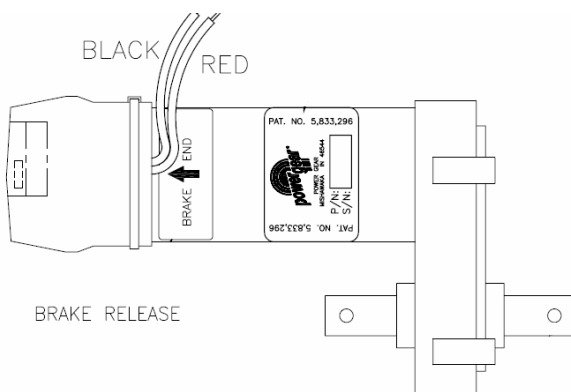
Manually Overriding your Slide-out

In the event of battery / power failure or some other loss of system power, your Full Wall Slide System can be manually operated. It has been equipped with mechanical override couplers on each keyed shaft assy. for your use. Due to the size and weight of the room, assistance will be needed and care taken during the process. Use the following steps to mechanically operate the room:

1. Unplug each motor near the motor.
2. Disengage each motor brake by pushing the rubber boots in the direction indicated on the decal to the “disengaged” position (counter clockwise as observed from the boot end of the motor). A metal lever within the boot will “pop” into position.
3. If enough people are available and wrenches for each shaft are available, the room can be moved in or out quickly as long as all shafts are turned at the same time. Use a wrench or socket and ratchet to turn each keyed shaft in the direction required.
4. **!!! WARNING !!!** After the room has been moved in the desired direction, the brake levers on each motor **MUST** be returned to the “engaged” position. When the motor brake is disengaged the slideout room **will not** lock into place; therefore, the room will not be sealed. When the room has been manually retracted, be sure to install the transit bars (if so equipped) and return the motor brake lever to its normal engaged position in order to seal and lock the room into position. Do not travel unless each motor brake is in the “engaged” position!
5. **!!! WARNING !!!** If the room has been moved while the motor sensing control harness has been unplugged, do not attempt to use the room again until a service center has re-set the computerized controller according to the service manuals instructions. Failure to reset the controller may cause damage to the system or coach.

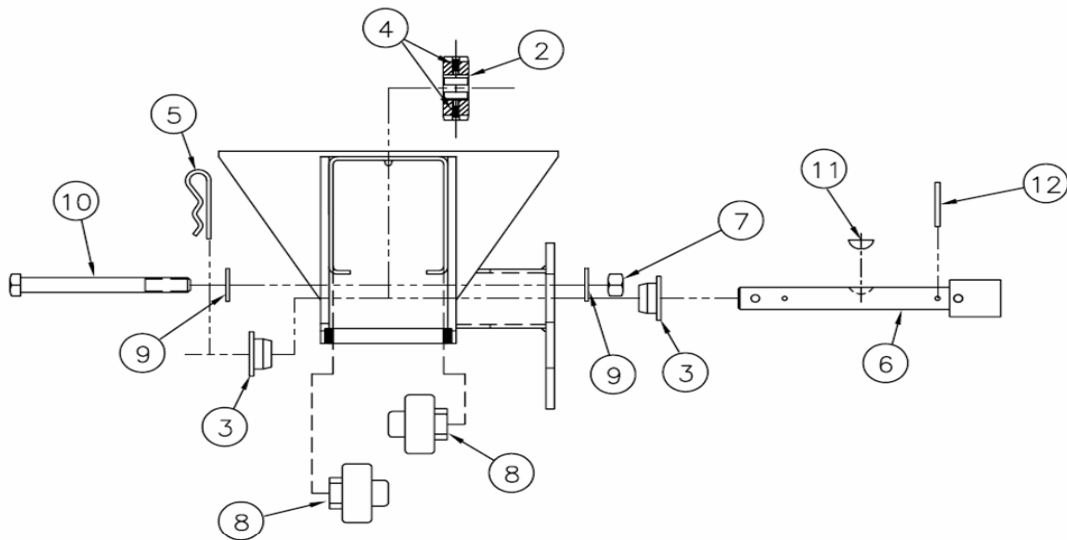
NOTE: If only one or two people are available to move the room the following procedure must be followed:

- Start at the front of the coach, release the motor brake, rotate that shaft approximately 1/8 turn, re-apply the motor brake.
- Proceed to the rear rail. Release the motor brake, rotate that shaft approximately 1/8 turn, re-apply the motor brake.
- Return to the front rail. Repeat this procedure in the above order until the room has been fully opened or closed as desired.

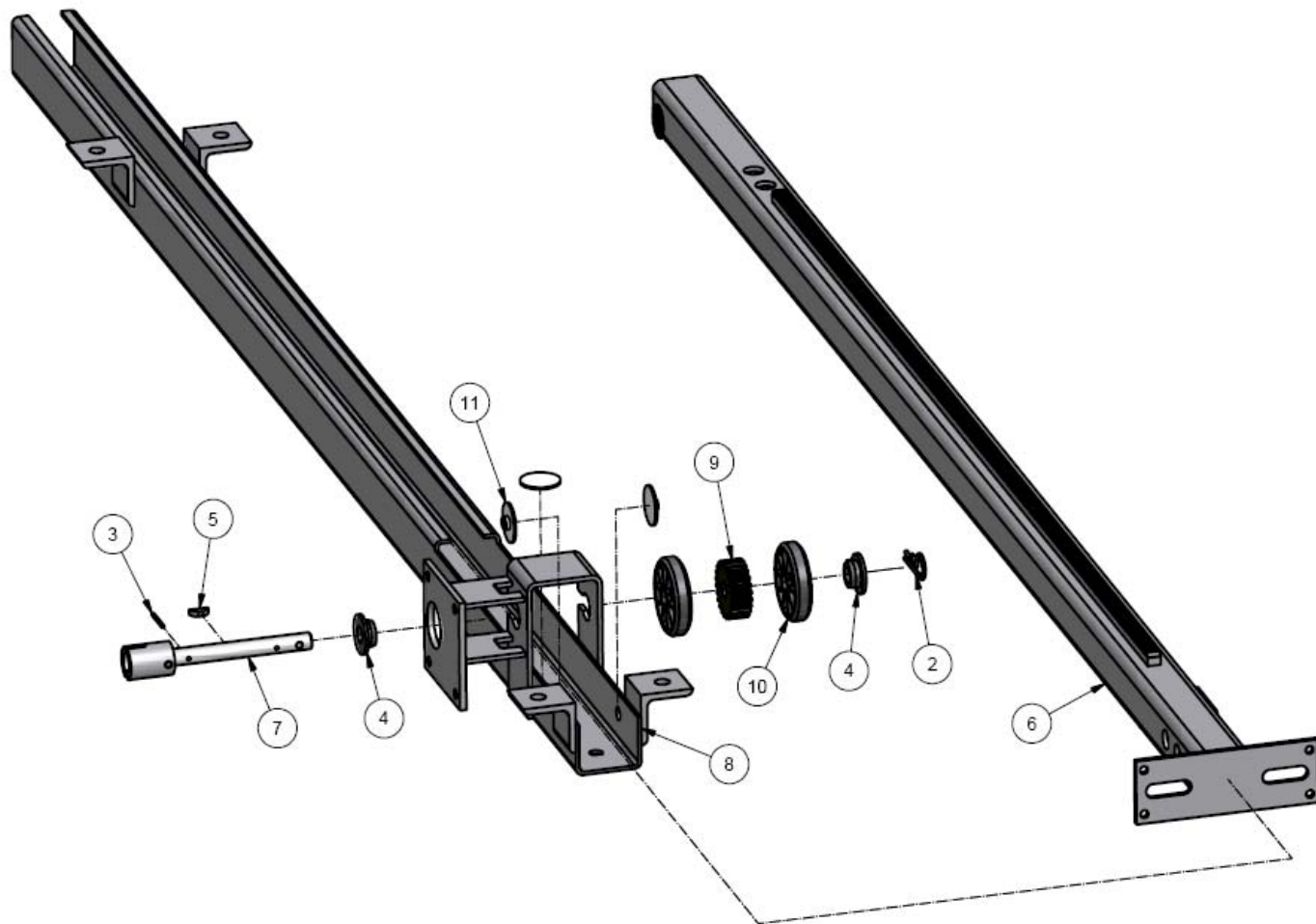


3"X3" Class A Rail Parts List

2)	250-0005	Spur Gear
3)	510036	Sleeve Bearing
4)	15-1412	Set Screw
5)	18-1032	Clip Pin
6)	524035	Keyed Shaft
7)	15-1131	Nut-1/2 13
8)	520014	Outer Roller
9)	16-1034	Washer Flat
10)	15-1130	Bolt HD 1/2 13 X5
11)	521336	Woodruff Key
12)	10-1036	Pin .014X1.25

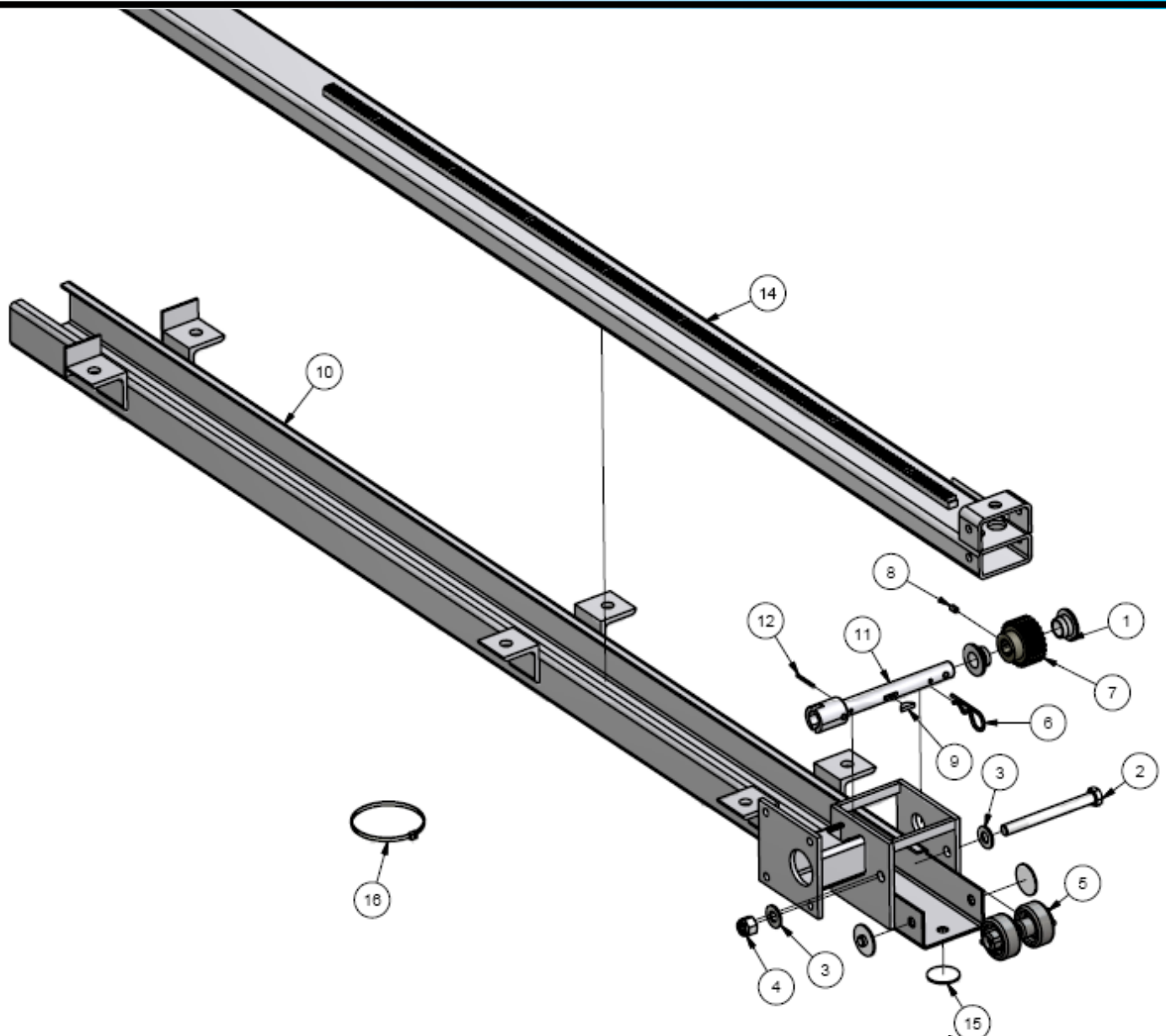


2"X2" class C Rail Parts List



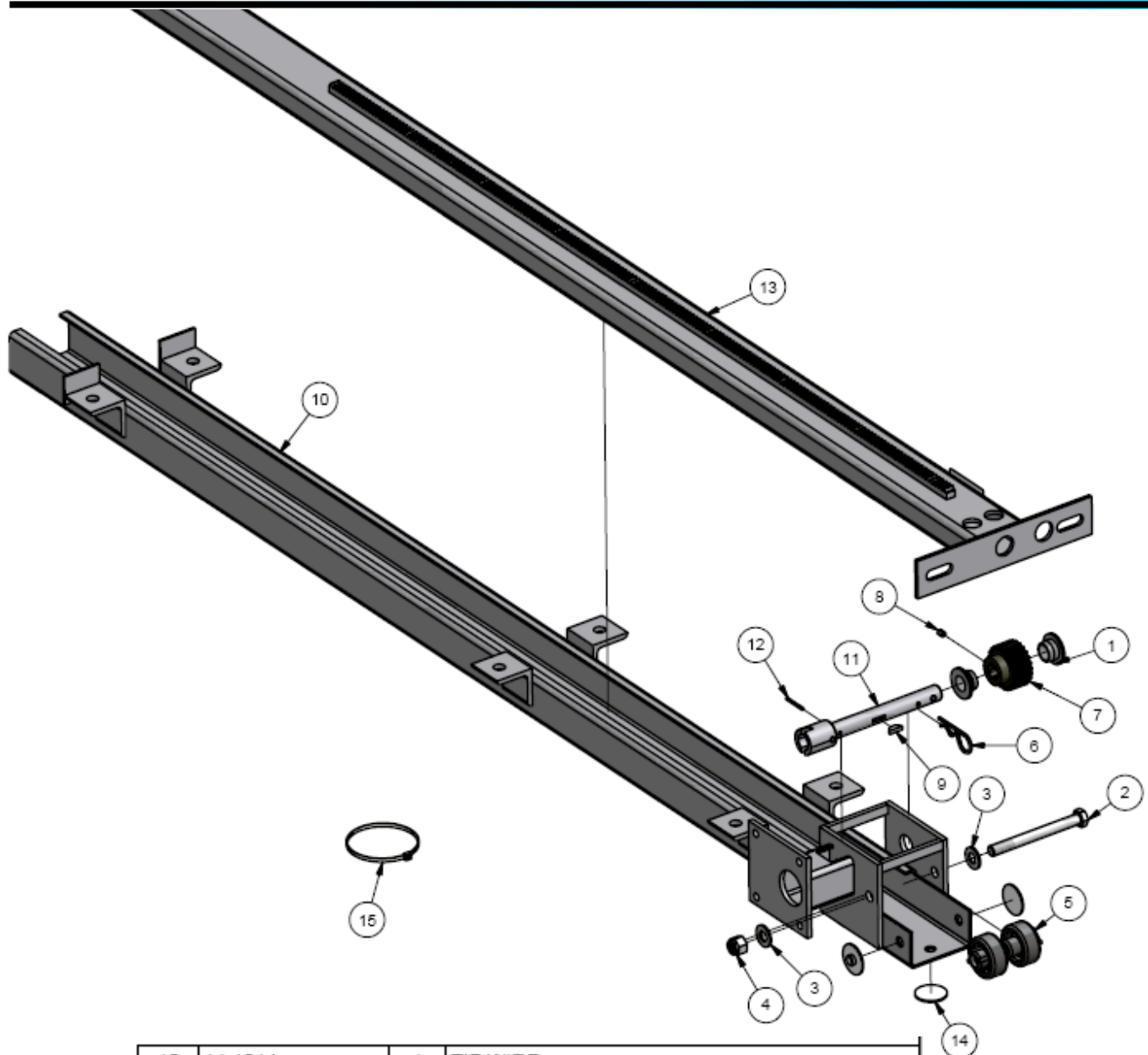
11	532037	3	WEAR PAD
10	320-0009	2	ROLLER, OUTER 2"
9	250-0001	1	GEAR, SPUR .62 ID X 2.0 OD
8	1010000075	1	RAIL OUTER 2X2 WELD DRV RH 72.0
7	523404	1	SHAFT 2X2 w/CPLR
6	1010000137	1	RAIL INNER 2X2 ASSY 70.0"
5	521338	1	KEY, WOODRUFF #608
4	190-1027	2	BEARING, SLEEVE 5/8" W/TAB
3	18-1038	1	PIN, ROLL OD 1/8 X 1.25
2	18-1032	1	CLIP, PIN 1/8
1	14-1014	1	TIE WIRE
ITEM	PART NUMBER	QTY	DESCRIPTION

3"X 1.5" Class A Rail Parts List- Bolt on Bracket Style



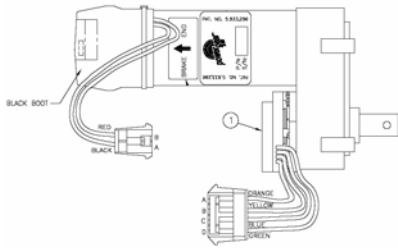
16	14-1014	1	TIE WIRE
15	532037	3	WEAR PAD
14	1010000398	1	RAIL INNER WELD 3 X 1 1/2
12	18-1036	1	PIN, ROLL OD 1/8 X 1.25
11	524035	1	SHAFT ASSY .75 OD W/CPLR
10	1010000398	1	RAIL OUTER WELD DRIVE 3 X 1 1/2 X 70.0"
9	521336	1	KEY, WOODRUFF #606
8	150-1554	1	SCREW, SET .250-28 UNF X .38
7	250-0010	1	GEAR SPUR W/ HUB 2.0 PD
6	18-1032	1	CLIP, PIN 1/8
5	520014	2	ROLLER, OUTER 3X3
4	15-1131	1	NUT LOCK HEX 1/2-13
3	16-1034	2	WASHER, FLAT 1/2"
2	15-1130	1	SCREW, HHC 1/2-13 X 5.0
1	510036	2	BEARING SLEEVE 3/4"
ITEM	PART NUMBER	QTY	DESCRIPTION

3"X 1.5" Class A Rail Parts List- Plate End Style



15	14-1014	1	TIE WIRE
14	532037	3	WEAR PAD
13	1010000804	1	RAIL INNER WELD 3 X 1 1/2 W/END PLATE
12	18-1036	1	PIN, ROLL OD 1/8 X 1.25
11	524035	1	SHAFT ASSY .75 OD W/CPLR
10	1010000396	1	RAIL OUTER WELD DRIVE 3 X 1 1/2 X 70.0"
9	521336	1	KEY, WOODRUFF #606
8	150-1554	1	SCREW, SET .250-28 UNF X .38
7	250-0010	1	GEAR SPUR W/ HUB 2.0 PD
6	18-1032	1	CLIP, PIN 1/8
5	520014	2	ROLLER, OUTER 3X3
4	15-1131	1	NUT LOCK HEX 1/2-13
3	16-1034	2	WASHER, FLAT 1/2"
2	15-1130	1	SCREW, HHC 1/2-13 X 5.0
1	510036	2	BEARING SLEEVE 3/4"
ITEM	PART NUMBER	QTY	DESCRIPTION

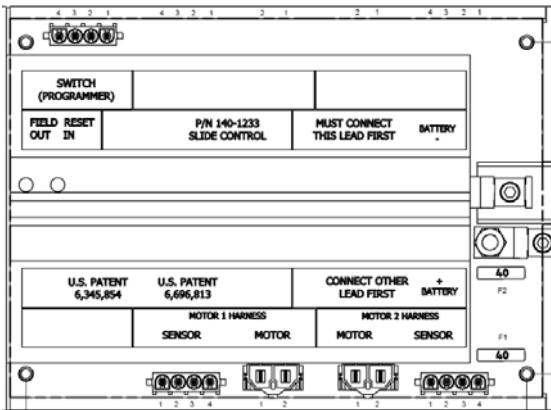
Other Parts



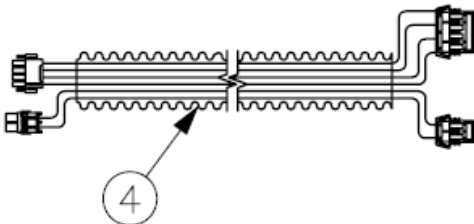
Motor = 1010000803
Encoder = 140-1189



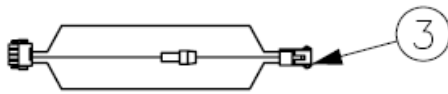
Over ride coupler = 54066



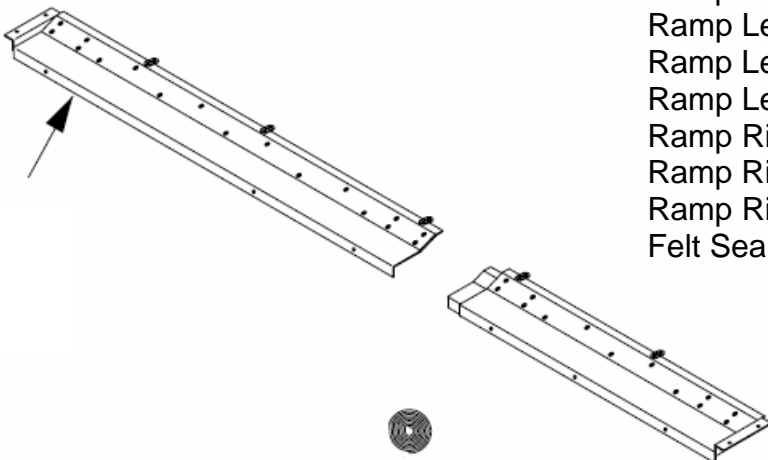
Control = 140-1233



Harness from motor to control 200"= 141-0047200
Harness from motor to control 384"= 141-0050384

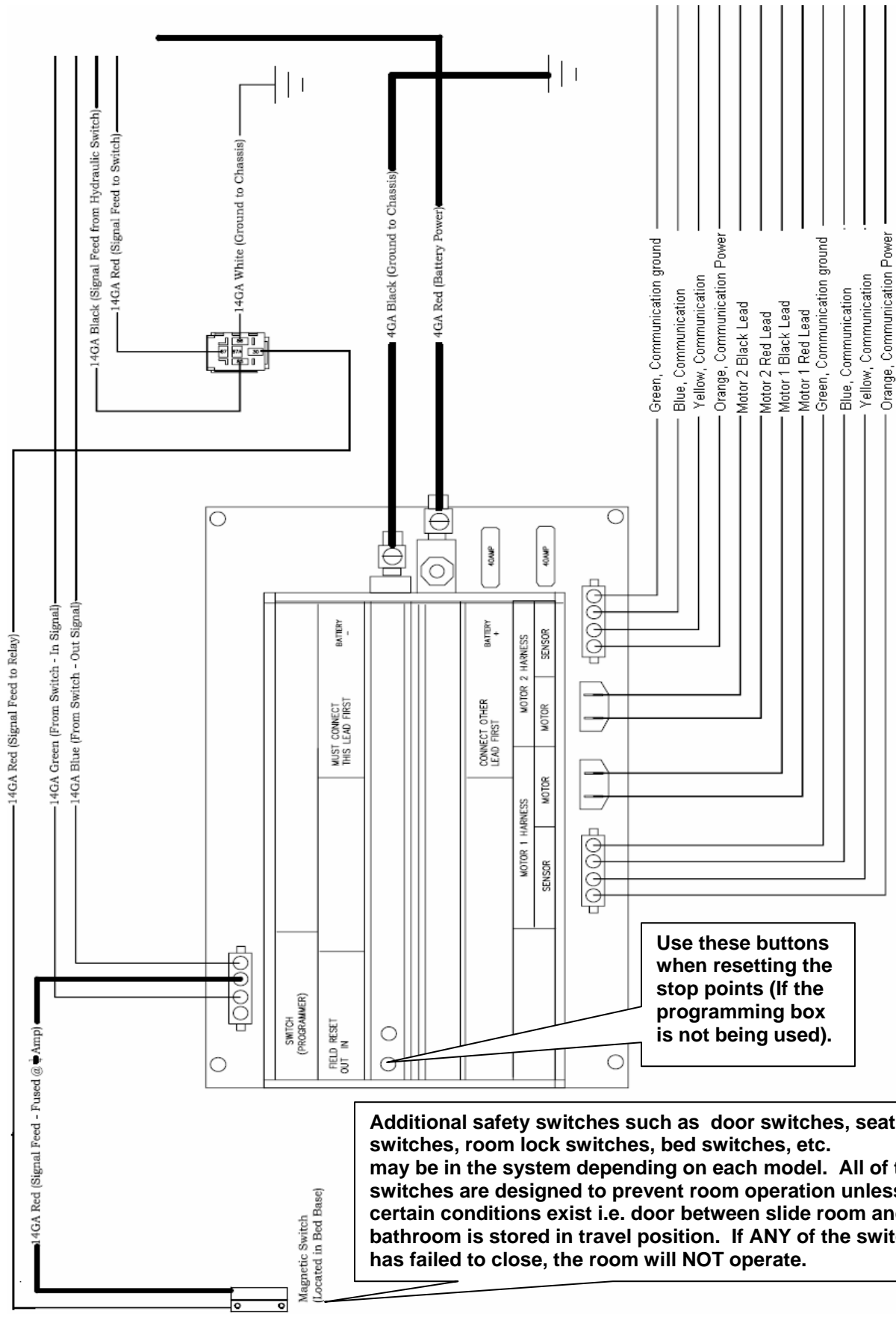


Harness from control to wall switch = 141-0004012
(Fuse (each) ¼ amp = 1510000012)



Ramp Left 88.0" = 1010000028
Ramp Left 114" = 1010000092
Ramp Left 141" = 670433
Ramp Left 162" = 1010000274
Ramp Right 91.5" = 670430
Ramp Right 116.5" = 1010000611
Ramp Right 144" = 1010000275
Felt Seal (per inch) = DN12437

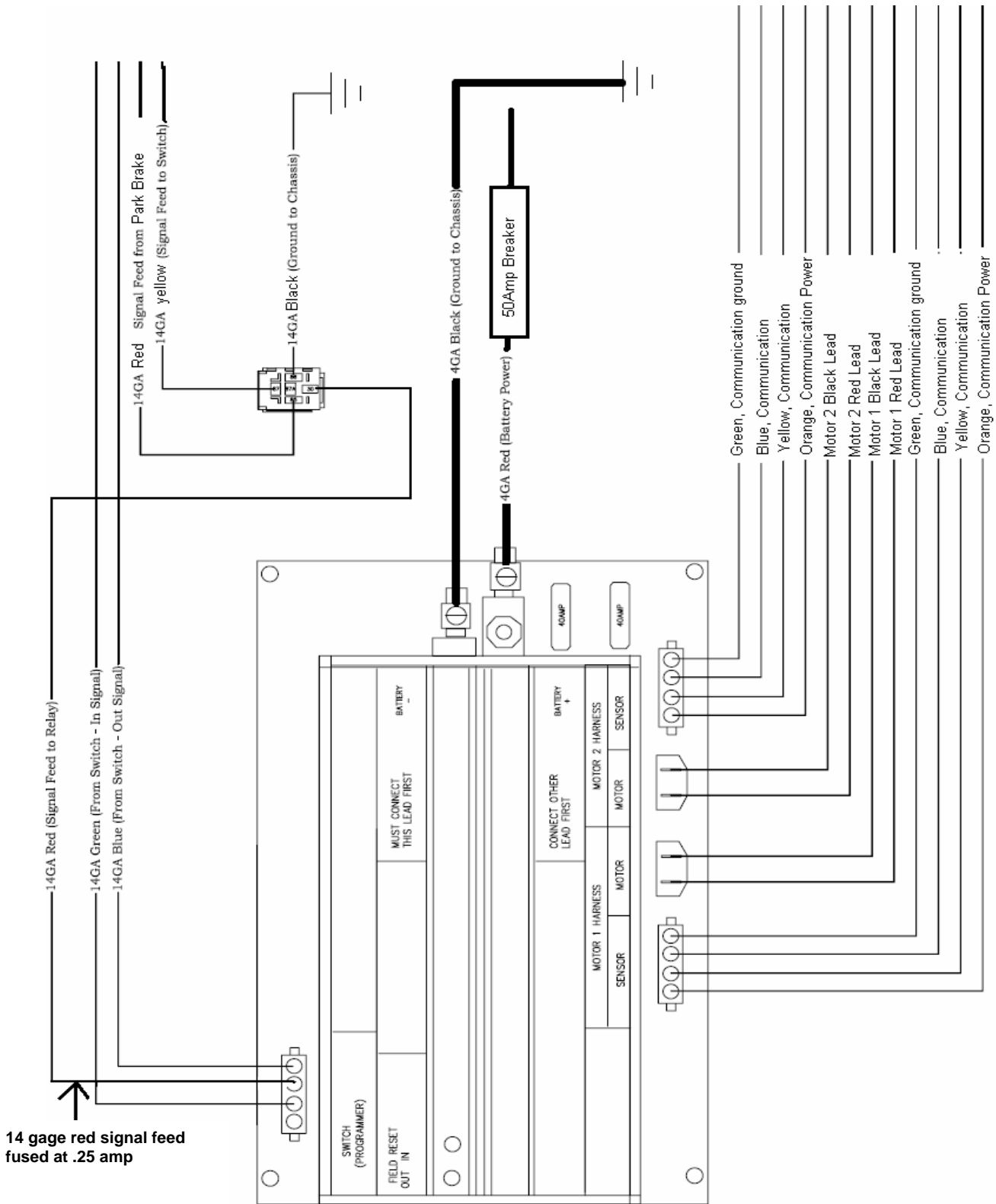
Class A Coach Wiring Diagram



Use these buttons when resetting the stop points (If the programming box is not being used).

Additional safety switches such as door switches, seat switches, room lock switches, bed switches, etc. may be in the system depending on each model. All of these switches are designed to prevent room operation unless certain conditions exist i.e. door between slide room and bathroom is stored in travel position. If ANY of the switches has failed to close, the room will NOT operate.

Class C Coach Wiring Diagram



Teaching the control

When using the 140-1176 control programmer, follow these instructions exactly. Failure to do so may result in failure to program properly.

1. Move the “Teach/Run” switch to “Run”.
2. Press the “Field Reset” IN & OUT buttons simultaneously for about 1 second.
3. Move the “Teach/Run” switch to “Teach”.
4. Make sure each motor moves IN when “IN” is pressed. This is easier to check if you do this one motor at a time.
 - Switch M2 off. Momentarily press the “IN” button to see if M1 motor moves the slide in. If not switch direction with the a-b switch under M1.
 - Check the other motor by turning M2 on and M1 off. Momentarily press the “IN” button to see if M2 motor moves the slide in. If not switch direction with the a-b switch under M2. If it is OK turn M2 and M1 both on.
5. Run all of the motors IN until they are in a fully retracted position, turning off individual motors as necessary to achieve a good seal. Press “Set In” to store the IN position.
6. Run all of the motors OUT until they are in a fully extended position, turning off individual motors as necessary to achieve a good seal. Press “Set Out” to store the OUT position. The control should no longer operate in teach mode at this point. Test this by pressing “IN” or “OUT”. **If it moves**, the control was not programmed. Start over or find out what went wrong. **If it doesn’t move everything is OK**, proceed to step 7.
7. Move the “Teach/Run” switch to the “Run” position. Cycle the room IN and OUT to verify that the control held the set stop points
8. If you need to re-teach the stop points, repeat the above steps starting at “Move the Teach/Run switch to Teach”
9. Remove the 4-way programming box harness from the control
10. Replace it with a 4-pin wall switch harness (Power Gear P/N 141-0004012) which should be hooked up to your wall switch in the coach. (Green = “IN” Blue = “OUT” Red = “12V” wire to the “center” position on the wall switch)
 - It is important that you use this red wire as the 12V source to the switch. The control will not operate properly if 12V is acquired from another source
 - If the room moves the wrong direction when using the wall switch, then you have the green IN wire and the blue OUT wires backward. Reverse these 2 wires to fix this.



Programming without using the 140-1176 control programmer

This procedure is intended as an emergency instruction list for service center personnel to use in the field. On site personnel may not have ready access to the programming box. The procedure is best handled with three people. One operating the wall switch inside the coach, one operating the reset buttons on the control, and a third person checking room seals.

1. **Align the rails.** If one or more rails are not in the correct position you must align them by unplugging the motor on the rail(s) that is the first to reach the stop point, then the person inside the coach can move the rest of the rails until another person under the slide room to advise when the rails are aligned. Then plug the motor back in. This may take a couple of tries. The object is to get all rails aligned in a row before setting the stop points on the controller.
2. **Reset the IN stop point.** The reset buttons on the controller are noted in the picture above. Press the reset button for the IN position in and hold while moving the room IN until reaching the correct stop point. When the room is in the correct IN position, release the reset button. This will set the correct position for all motors. Note: IN must be set before OUT
3. **Reset the OUT stop point.** Push in and hold the OUT stop reset button while another person operates the room switch to move the room until it is in the correct out position. Once the room is in the correct OUT position, release the OUT reset button. This completes the slide control calibration / programming.
4. **Failure to completely hold the button in until finished programming will require starting over!!!!!!!**

FLAT FLOOR ROOM HEIGHT ADJUSTMENT---FLUSH FLOOR STYLE SLIDES

Instructions for setting the room height on a flat floor full wall slide-out system utilizing angled rails.

With the room fully extended-

- Measure from the top of the first moving slide-out rail to the bottom of the slide-out room floor up close to the coach. This is dimension "A".
- Measure from the top of the first moving slide-out rail to the bottom of the slide-out room floor out near the mounting bracket. This is dimension "B".
- To calculate dimension "B" use the following formula:

$$\text{"B" (end bracket height setting)} = \text{"A"} + (\text{slide out room floor thickness}) + \frac{1}{4}"$$

EXAMPLE:

$\text{"B" (end bracket height setting)} = \text{"A"} + (\text{slide out room floor thickness}) + \frac{1}{4}"$

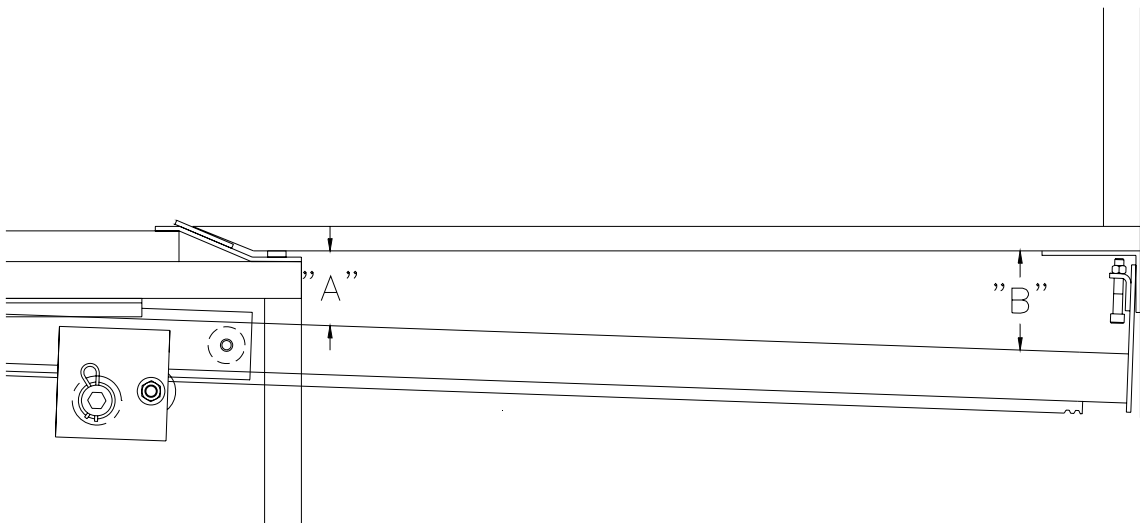
If "A" = 3-1/4"

Then $\text{"B"} = 3\text{-}1/4" + 1" + 1/4" = 4\text{-}1/2"$

- Perform this check on each slide-out rail independent of the other.

NOTE:

- 1) These figures are approximates. Each coach may be slightly different.
- 2) Refer to manufacturer of coach/trailer for correct slide out room floor thickness.



TROUBLE SHOOTING

Description of Problem	Solution
<p>Motor(s) will not run. LED lights DO NOT light up on bottom of the control when button is pushed to move the room.</p>	<p>Check all connections.</p> <p>Make sure driver seat is pulled all the way forward and switch is closed</p> <p>Make sure parking brake is set and switch is closed</p> <p>Make sure the engine is running.</p> <p>Make sure the bed has been retracted (folded up to make it shorter)</p> <p>Make sure room locks are in open position and safety switches are closed (if so equipped)</p> <p>Make sure any other safety switches such as door switches are closed.</p> <p>Make sure that 12 v signal going out on the red wire comes back on the green wire when the room switch is depressed to the "IN" position and blue wire when the switch is depressed into the "OUT" position. If no voltage check in line fuse at the control box wire labeled "14 GA. red signal feed-fused"</p> <p>Check fuse for that motor on the controller.</p> <p>Check for proper voltage to the controller while under load, (11 volts min!!)</p> <p>Check that harnesses are connected to proper plug.</p> <p>The control is not trying to move the room indicating that the program may have been erased. Try reprogramming the control with tool 140-1176 and instructions included earlier in this manual.</p>
<p>Motors do not move the room. LED lights DO light up on bottom of the control when button is pushed to move the room.</p>	<p>Measure voltage on the black and red wires going to each motor. Make sure one is positive and one is ground. If both are the same (positive or negative) the control is faulty and will need to be replaced.</p>
	<p>If you have a spare harness, hook it up outside the vehicle as a test. If you do not have a spare harness, proceed with the following tests.</p> <p>While plugged in, test for <u>AC voltage</u> on the Green and Blue wires. When the room is running they should have 2.5 volts <u>Alternating Current</u>. Also check for AC voltage between the Green and Yellow wires (should also be 2.5 volts AC when running and plugged in). Failure here indicates a bad encoder on the motor or a bad wiring harness from the motor to the control.</p> <p>While <u>UN-plugged</u> test <u>DC voltage</u> between the orange and green wires (- test lead on the Green wire and + lead on the Orange wire). Voltage should be 5.6 VDC.</p> <p>These wires supply power to the motor position sensors. They run between the motors and the control. Failure here indicates a bad encoder on the motor or a bad wiring harness from the motor to the control.</p> <p>Check for mechanical problems such as skipping teeth or pinion to rack gear alignment.</p>
<p>Motors run in opposite directions.</p>	<p>Reprogram the motor direction using the Programming harness or reverse the motor leads, AND center two sensor leads. (de-pinning tool will be required as splices are not acceptable)</p>
<p>Room does not stop coming in- or does not stop going out.</p>	<p>Need to reprogram stops with 140-1176 tool.</p>
<p>Rooms seems "weak"</p>	<p>Check voltage at each motor while the room is climbing the ramp. Repair wiring or batteries if voltage falls below 10.5 volts.</p> <p>Check for excessive weight in slide system.</p> <p>Check for proper room height setting.</p> <p>Check for proper room alignment within the seals/wall opening.</p>

WARRANTY

Power Gear warrants to the original retail purchaser that the product will be free from defects in material and workmanship for a period of (5) years following the retail sales date later than 9-1-05. Labor to repair these components will be covered for two years. Power Gear will, at its option, repair or replace any part covered by this limited warranty which, following examination by Power Gear or its authorized distributors or dealers, is found to be defective under normal use and service. No claims under this warranty will be valid unless Power Gear or its authorized distributor or dealer is notified in writing of such claim prior to the expiration of the warranty period. Warranty is transferable pending documentation of original sale date of product.

THIS WARRANTY SHALL NOT APPLY TO:

- Failure due to normal wear and tear, accident, misuse, abuse, or negligence.
- Products which are modified or altered in a manner not authorized by Power Gear in writing.
- Failure due to misapplication of product.
- Telephone or other communication expenses.
- Living or travel expenses.
- Overtime labor.
- Failures created by improper installation of the product's slideout system or slideout room to include final adjustments made at the plant for proper room extension/retraction; sealing interface between slideout rooms and side walls; synchronization of inner rails; or improper wiring or ground problems.
- Failures created by improper installation of leveling systems, including final adjustments made at the plant, or low fluid level, wiring or ground problems.
- Replacement of normal maintenance items.

There is no other express warranty other than the foregoing warranty. **THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL POWER GEAR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.** This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. Some states do not allow the limitations of implied warranties, or the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

For service contact your nearest Power Gear authorized warranty service facility or call 1-800-334-4712. Warranty service can be performed only by a Power Gear authorized service facility. This warranty will not apply to service at any other facility. At the time of requesting warranty service, evidence of original purchase date must be presented.