Introduction to Newmar Slide Outs

1. Even though there are other systems used to move slide outs, such as hydraulic, and cable driven. Newmar has chosen to use a rack and pinion operation for its slide out movement. Newmar is convinced using this system is quieter, and has less maintenance. It also provides more opportunities to use in it's variety of floor application.
2. Over the years Newmar has always been in the forefront of using the newest and latest technology available in the industry. So before you start diagnostics or hands on adjustments to any of Newmar's slide outs make sure you are familiar with and understand the system you are working with. Wrong diagnostics or adjustments will cost you valuable time, or could result in damage to the slide out operation and even to the coach itself.
3. The rack and pinion system consists of a motor, cogwell, and a shaft. (Each slide out has at least one each or more depending on the slide out size.)

"Transtorque Bushing" Function

One unique element to Newmar's design is the use of the "transtorque bushing.' This is a keyless bushing which provides infinite adjustment ability between the ends of the room, as well as providing a quick release should the motor require service in the fields. The bushing transmits high motor torque to the shaft without slipping.
It does not require the shaft to have keys, set screws, or keyways machined into the shaft. Without keys or keyways there is not an alignment problem during production. (Note: Newmar does ·use a key shaft, keyways, and set screws at other junctions of the system.

Motor Description

The motor is a twelve (12) volt electric, which generates 1/15 horse power and uses 11 amps to move the slide out into position. It is geared very low to allow for low amperage needs. So depending on the width of the slide out, the cogwheel may only complete a little over two (2) turns to fully extend or retract the slide.

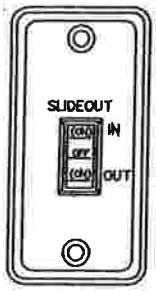
Newmar Slide-out Innovations

1. Pioneers in large slide-out rooms on park model trailers.
2. Pioneers in slide-outs in fifth wheels and travel trailers.
3. Pioneers in large (12' and larger) slide-out rooms on fifth wheel trailers.
4. Pioneers of cab-over slide-out rooms on fifth wheel trailers.
5. Originators of the rack and pinion drive method on slide out rooms.
6. Originators of the double bulb slide-out seal ("Jet Seal"), which was developed for us.
7. Originators of slide-out rooms in motor homes.
8. Originators of the concealed and self-storing slide-out travel lock arms.
9. Originators of 12V and 110V cord arms.
10. First, to request RVIA code changes to allow fuel-burning appliances (water heaters, refers, stoves) in slide-out rooms.
11. First to receive CSA (Canadian Standards Assoc.) approval on the kitchen slide-out system.
12. Innovators of kitchen slides.
13. Originators and patent holders on the flat floor slide-out room and saddle system.
14. Original users of the current sensing (adjustable amperage) self-stopping slide-out room controllers—They were developed for us.
15. New for motorized product in 2001, a five second delay built into the control including a voice message warning the user "To remove any obstruction in the way of the room's movement".

2007 Models
Panels w/Switches w/Resistors
Installed for Intellitec Controller
#94335

Front O/H White, Rear White
DP's, CA's, and Towable
Switch w/Resistor
#90926

94354



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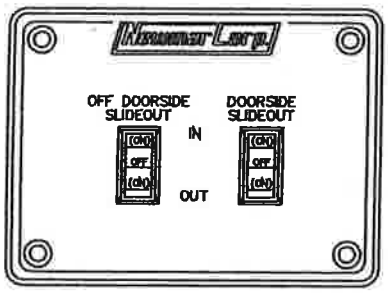

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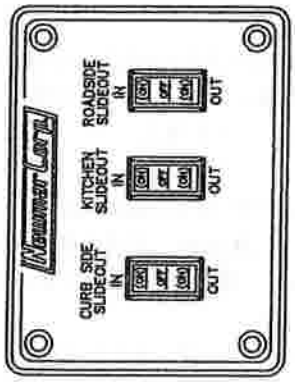
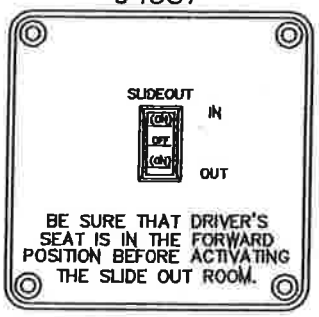


Front O/H Black
MACA, KSCA
Switch w/Resistor
#90926

94357



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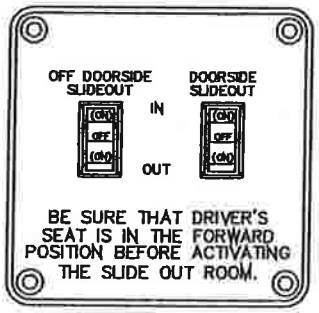
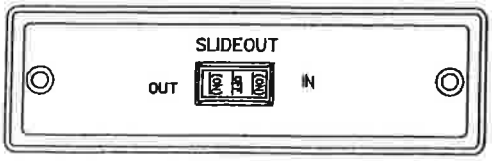


Front O/H White
KSDP, VTDP, DSDP, ATME
Switch w/Resistor
#90926

94359



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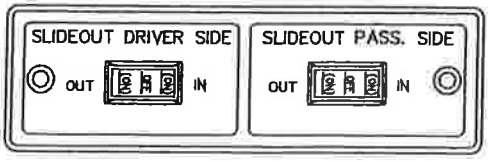


Slide Out Trouble Shooting

1. Push – release switch with light
   Manual lock arms #310 modules
   Newmar #27765
   Used 3 /21/1995 – through the 2006 model year

2. Push – release switch with light
   Power lock arms 00-737-000 module
   Newmar #44889 2006 model year

3. Push and hold switch, no light
   Manual lock arms 971-100 2007 model year
   Newmar # 94335

4. Push and hold switch, no light
   Power lock arms 719-100 module
   Newmar #78013 2007 model year

5. Towable – push and hold, no light
   Manual lock arms model #200
   00-00375-000
   Newmar #90904

6. Towable – push and hold, no light
   Power lock arms model 00-719-100
   Newmar #78013

Slide Out Trouble Shooting

Note: In 1997 and 1998 models K-2, London Aire, and Kountry Aire Diesel Pusher units only have a safety devise. The driver's seat must be in the forward position in order for the slide out to run.

1. The slide out does not run at all, and the light at the switch is not illuminated.
   A.) Make sure the engine is not running, or the ignition key is not in the "on" position.
   B.) Check the fuse in the panel.
   C.) Check the plug at the slide out module.
   D.) Check all wires going into the plug.

2. The slide out doesn't run at all, however, the light is illuminated.
   A.) Check to see if the motor is running. If not, check all wire connections at the motor: yes the motor is running.
   B.) The motor is running, check to see if the hub on the transmission is turning. If it is not turning the gears in the transmission have failed.
   C.) Yes the motor is running, the hub is turning, however, the shaft is not turning; Transtorque bushing is loose. Reset the transtorque bushing to 145#.

3. The slide runs a short distance and stops.
   A.) Make sure there is a 12 volt supply, (battery or shore power) anything less will cause the slide out module to disengage.
   B.) Check for any obstruction, check the rollers to see if anything is caught or wrapped around them. Check to see if the rubber sleeve on the roller has shifted to one side or the other.
   C.) In the last 6" to 8" of inward travel the slide out stops or makes banging noises, check the slide out topper awning to see if the cover is catching or has caught and now turned downward, in turn, catching the slide trim.
   D.) If there is no obstruction found, and a full 12 volts has been established, the module may need to be adjusted. Using a small screwdriver only, increase in small increments, and only increase the amount needed to have the room make a full travel without stopping. If the adjustment screw is maxed out, and the slide still has problems, the control box needs replacing.

4. Adjusting the Slide Out.
   Note: Transtorque Bushings have right handed threads and loosen in two stages. First loosen and continue to turn until the nut tightens. Using a hammer, with no sharp points, tap the outer portion of the hub the transtorque is in. Try to loosen again, repeat tapping again if needed. Applying to much torque will damage the transtorque nut.

5. The Slide Out is unequal to the side of the coach.
   A.) On center motor slide outs, position the slide out approximately one foot from being closed. Loosen the transtorque bushing away from the motor. This will separate the shaft into two pieces. Equal the distance so it is the same at each end. (Make sure to measure at the same points at each end.) Retighten the transtorque bushing to 145#. It is a good idea to re-measure, making sure nothing has moved.

6. Two Motor Slide Out
   Note: Some 1998 Fifth Wheel's still use the two motor system.
   A.) Position the slide approximately one foot from being closed. Loosen the transtorque bushing between the two motors, and at the motor of the end you intend to move. Equal the distance making the same at each end.
   B.) Fasten the center transtorque nut slightly. At that point measure again before tightening the transtorque bushings, center and at the motor to 145#. If the wires to either motor are easy to get to, loosen the middle transtorque and unwire one motor. Use the other motor to equal distance. Retighten the center transtorque and hook-up the wires to the motor.

7. The Slide Out is not centered side to side; motorized.
   A.) Loosen the nut in the center of the activating tube. Move the tube in the opposite direction you want the slide out to move. Move in small increments, and move both tubes (or more) the same distance to help keep them parallel with each other. Make sure to retighten the nuts after each step.

8. Fifth Wheel
   A.) First make sure the adjusting bolt is tightly in place between the slide out floor and activating tube. Mounting plates are slotted in both directions. Loosen the four bolts and make the adjustments, then retighten the bolts.

9. The Slide Out needs adjustments.
   A.) Up or down, one end or both ends. Make these adjustments with careful consideration; any adjustment will affect the opposite end of the slide out. The two bolts (one on each side of the activating tube) at each end of the slide out are the ones used to make the up or down adjustments. If the room needs to be raised, the center nut of the activating tube also needs to be loosened and retightened after the adjustments are made. Be sure to only raise the room in small increments, and do not raise it to high and have the slide out trim and the coach trim overlap.

10. Lowering the Slide Out.
    A.) If the slide out needs to be lowered, do not lower it too far. Each adjustment will directly affect the slide out fit inside and out. Lowering

too far could keep the slide out from making the proper seal to the slide out gasket. For fifth wheels follow step 9.-A.).

11. Inner Saddle Adjustment
    A.) This adjustment **only** affects the slide out in the out, or open position. This adjustment allows the top of the slide out to be closer, or brought farther away from the interior wall.

12. Stop Rods
    A.) Threaded rods beside the activating tubes are used to stop slide out travel in or out. If the room travels too far open, the stop rod needs to be shortened. Use the nuts by the end of the slide out bar, or out by the activating tube nut. Shorten the rod and retighten the nuts after the adjustment. If the in position needs to be stopped sooner, use the two jam nuts in the center of the rod to move closer to the unit. Retighten after the adjustments.

13. Manual Operation of the Slide Out/ Single Motor
    A.) Use reduction gear nut on the transmission side.
    B.) Use a 12 volt battery pack or use a fused wire from the coach battery and go directly to the wires at the motor. The motor runs either direction depending on polarity.
    C.) If the motor is faulty, loosen the transtorque nut five or six. People can retract the slide out even up the incline ramp. You may want to slightly tighten the transtorque nut to keep the slide from reopening if the coach needs to travel.

14. Two Motor System
    A.) Same as the one motor system, except if you use a battery pack. Both motors would need to be hooked together. If the room needs to be moved manually, the transtorque nut at each motor will need to be loosened for the slide to be retracted.

15. Center Motor Slide Out Replacement
    A.) The 1" shaft that travels through the slide out motor will need to be disassembled in order to remove the motor. The motor comes out in one direction only.
    B.) Use a jack and lift weight of the cogwheel in the direction the motor will be removed.
    C.) Loosen the set screws and slide the jack through the cogwheel far enough to disassemble the shaft.
    D.) Loosen the four bolts that hold the motor on. Slide off the shaft and reassemble in reverse order. Tighten the transtorque bushing to 145# at the motor.

E.) Before you torque the other transtorque bushing, measure the slide from end to end and make sure they measure the same on both sides. Then torque to 145#.

16. Two Motor Slide Out Replacement
    A.) Loosen the transtorque bushing at the motor.
    B.) Disconnect the 12 volt power.
    C.) Remove the four mounting screws.
    D.) When installing the new motor, it is important to install all of the rubber washers as they were before. Retorque the bushing to 145#.

Electrical Trouble Shooting

1. The fuse keeps blowing at the panel.
   A.) Unplug the controller wires, if the fuse keeps blowing, do continuity check on the wire to the frame. If continuity is there you have a short in the wire. Also see of you have continuity on the wire from the panel to the plug.
2. The fuse keeps blowing after the module is plugged back in.
   A.) Unhook the motor (or motors) to see if the problem continues. If the problems are still present, the module probably needs replaced. If the module is plugged in and the fuse stays good, check the continuity from the motor to the frame. If you have continuity, the motor has short and needs replacing.
3. Problems with the switch itself.
   A.) The switch may not work at all. Sends no signal or makes contact.
   B.) It may send a signal all the time by having a short in the wire.

General Slide Out Information

1. Transtorque bushing is torqued at 125# on ¾" shaft and 145# on 1" shaft.

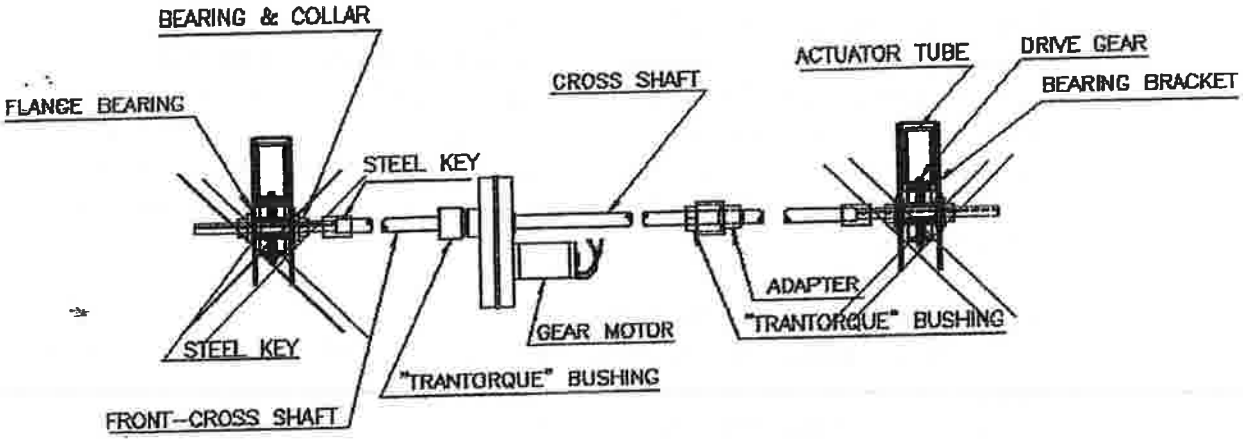
2. The two motor slide out uses a different motor than the center motor slide out. On the motor there is a tag that states the model.

3. Slide outs have a 20 amp fuse for the motor operation.

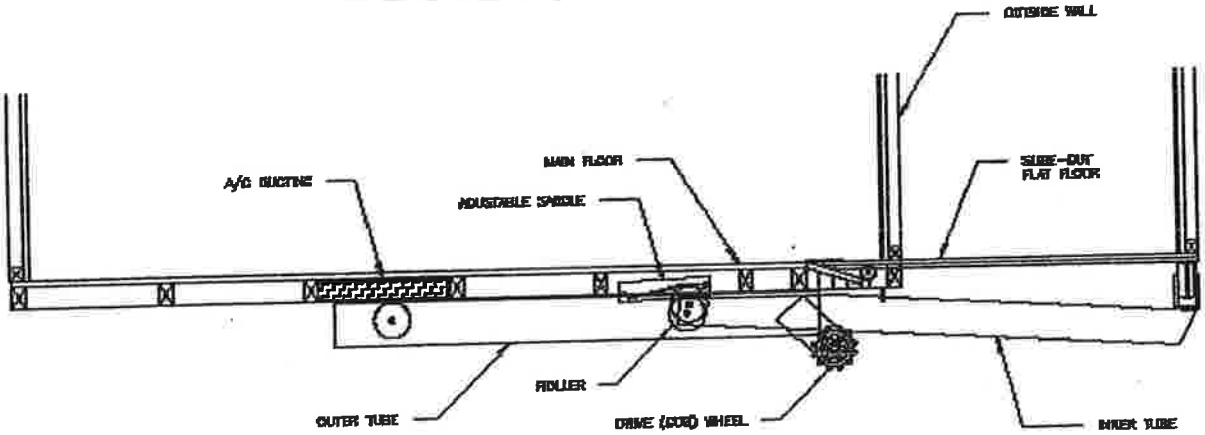
4. Carpeting can be changed in a coach without removing the slide out if you follow this procedure.
   A.) Run the slide out to within 1"- 2" from being extended.
   B.) On the outside, run a 2X6 the length of the slide out under the floor of the slide out, keeping the 2X6 close to the inner part of the slide, and jack up with two bottle jacks or floor jacks until the top of the slide out touches the slide seal on the top of the coach. This will give you room to remove and replace the carpet under the slide out. Remember going to high can damage the roof and bulb seal.

5. Water leaking in on a non flat floor slide out.
   A.) Rain water sometimes runs down the sidewall of the slide out and into the trim track.
   B.) Run the slide out out all the way.
   C.) Remove screw cover on the bottom trim up to unit sidewall. Apply sealant under screw cover on trim track, and then reinstall screw cover.

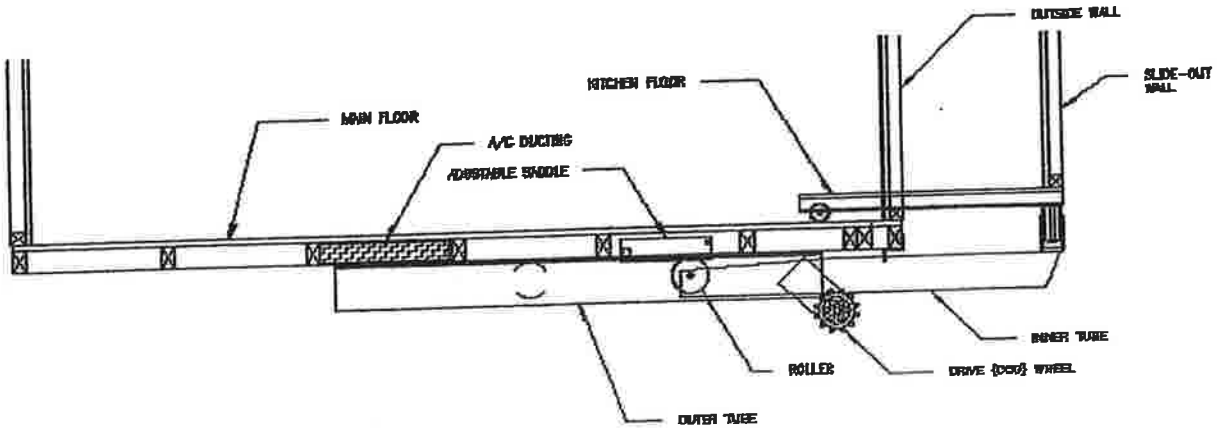
SLIDE-OUT MECHANISM



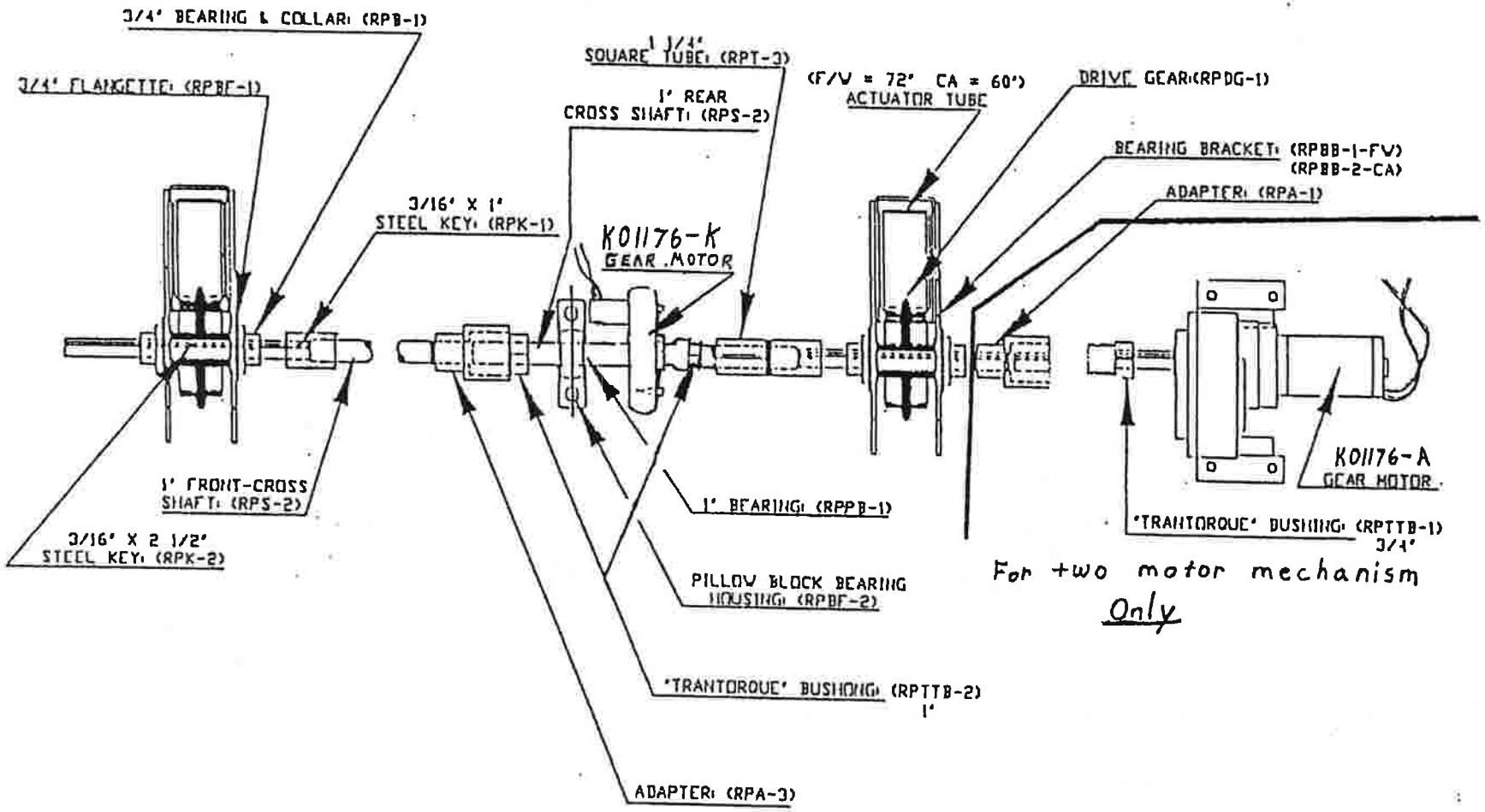
FLAT-FLOOR SLIDE-OUT

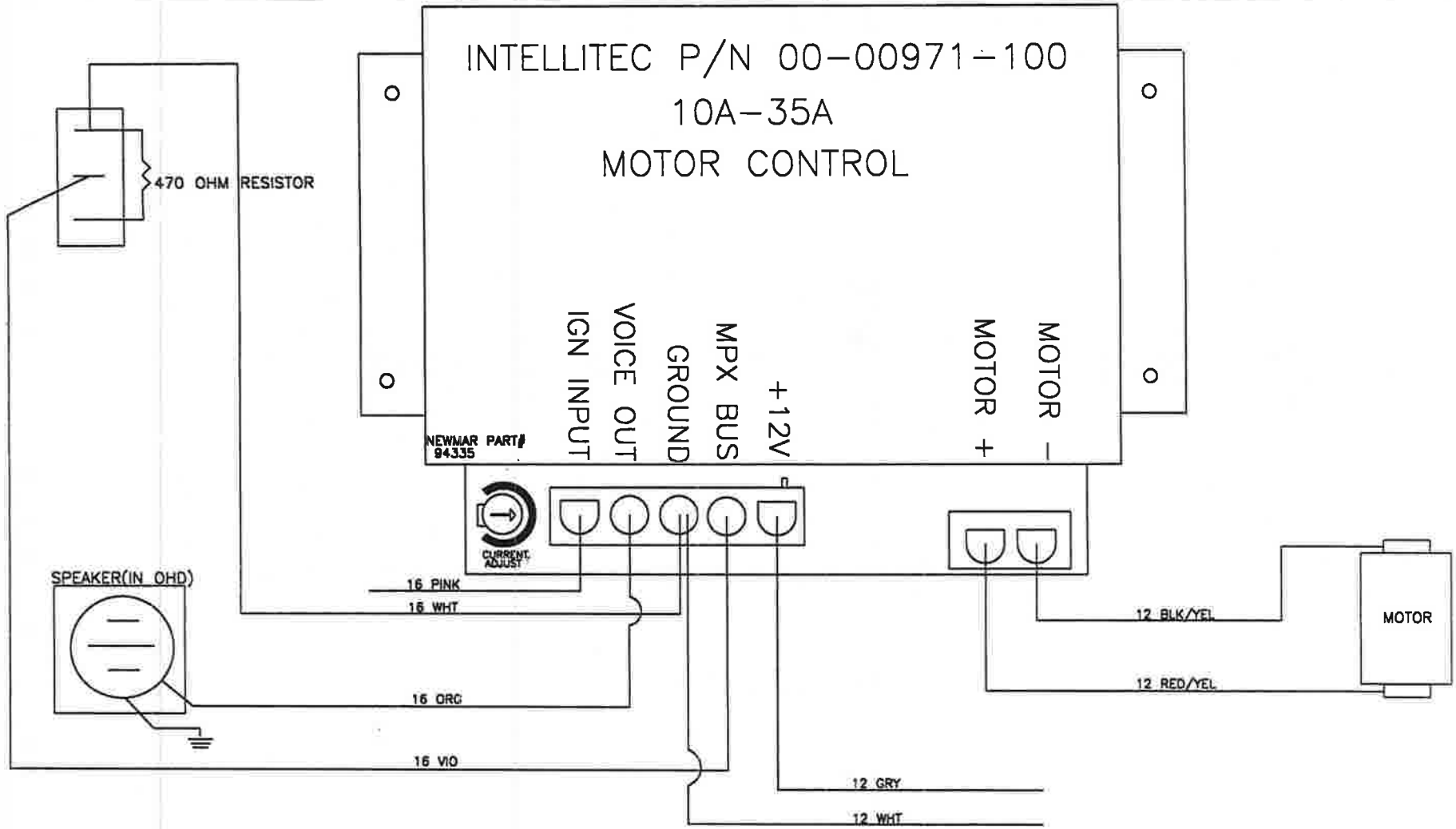


KITCHEN SLIDE-OUT



SLIDE OUT MECHANISM





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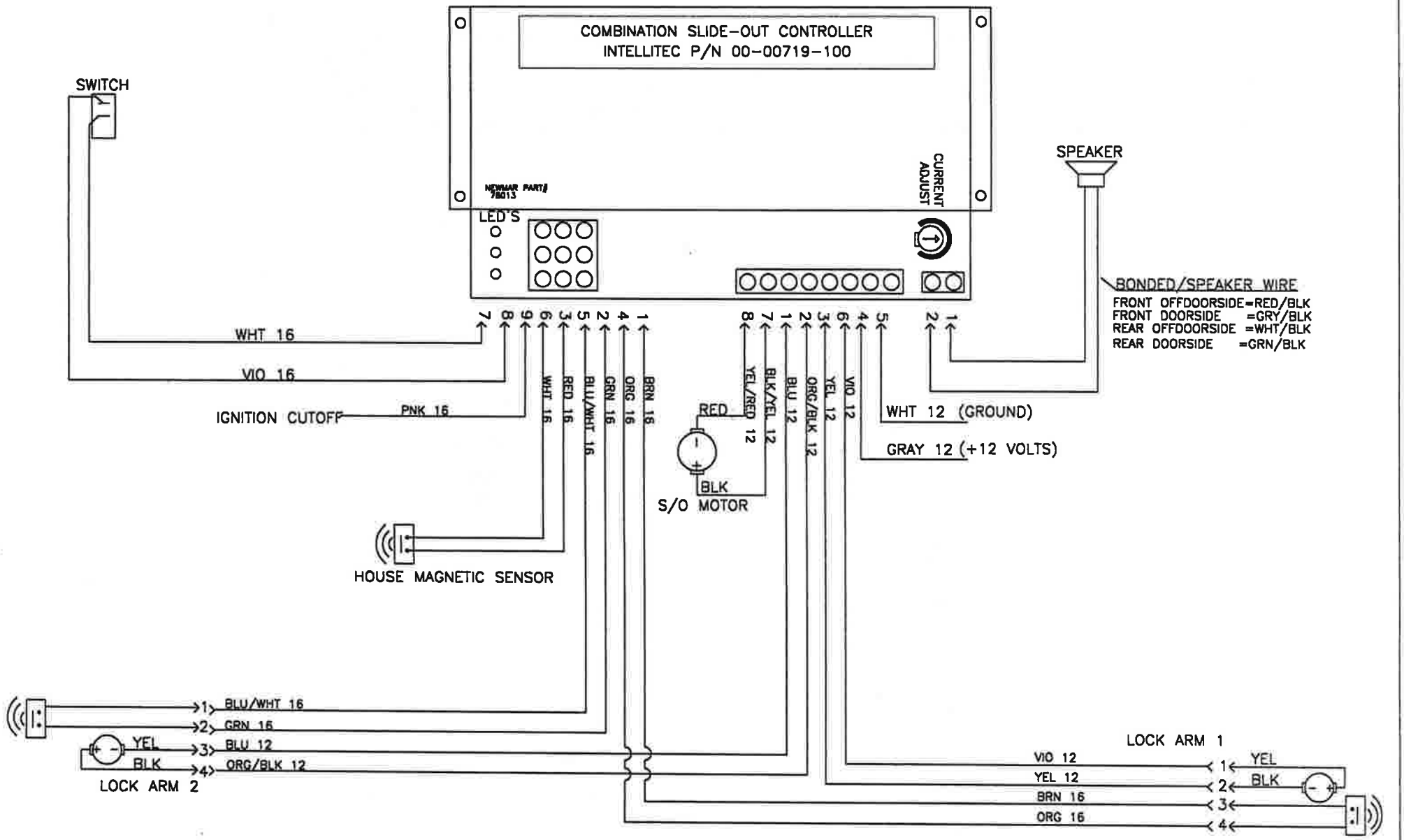

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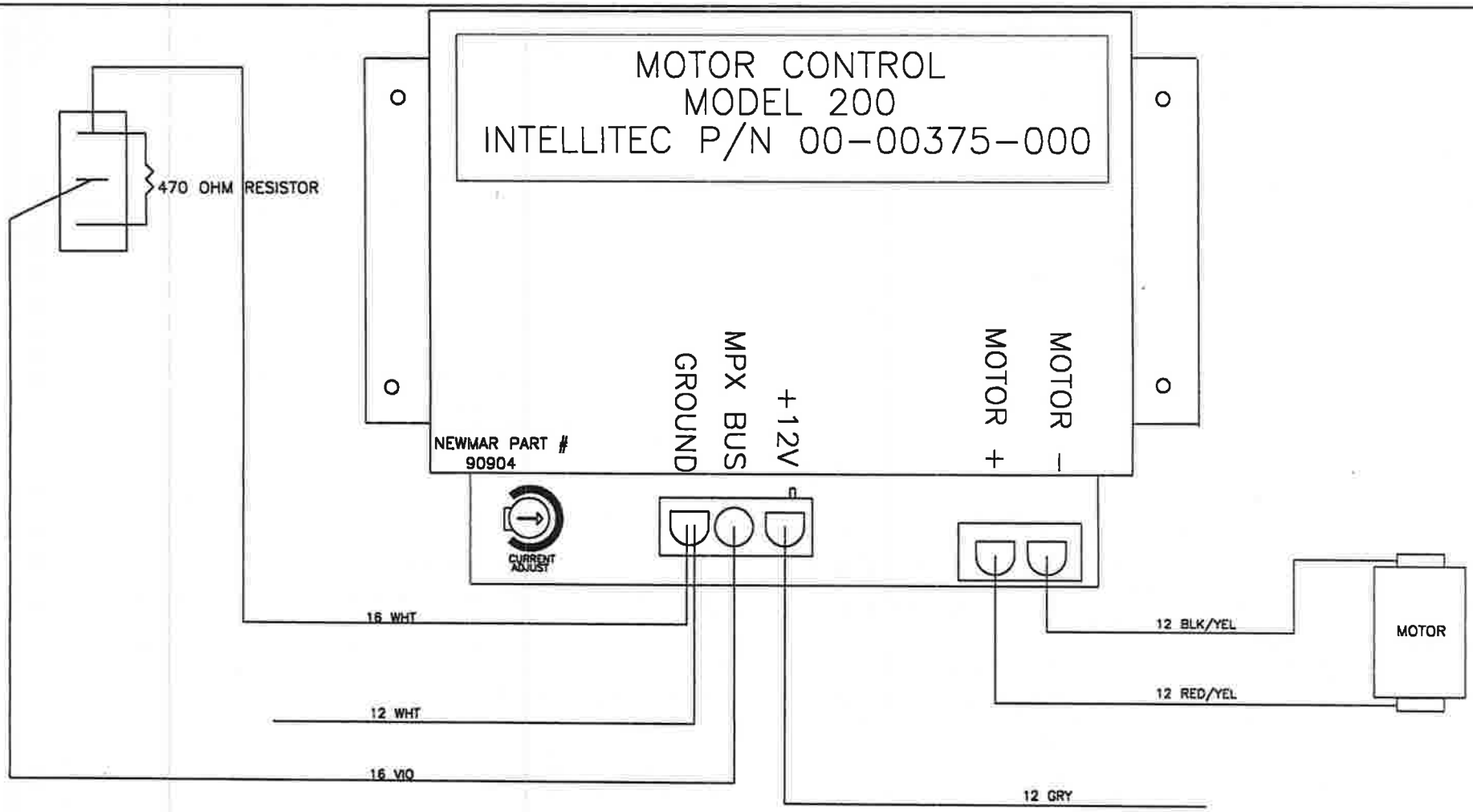

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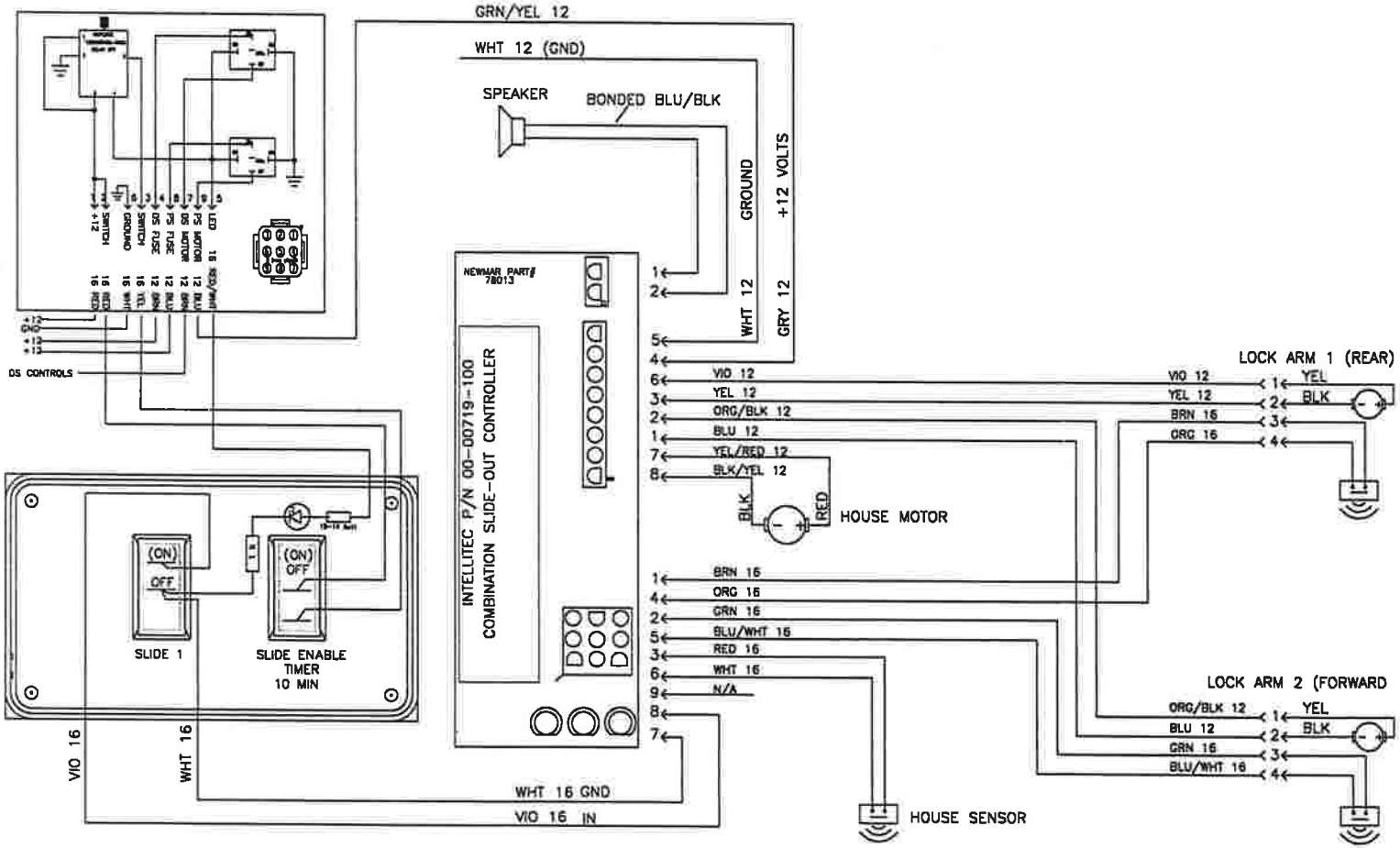

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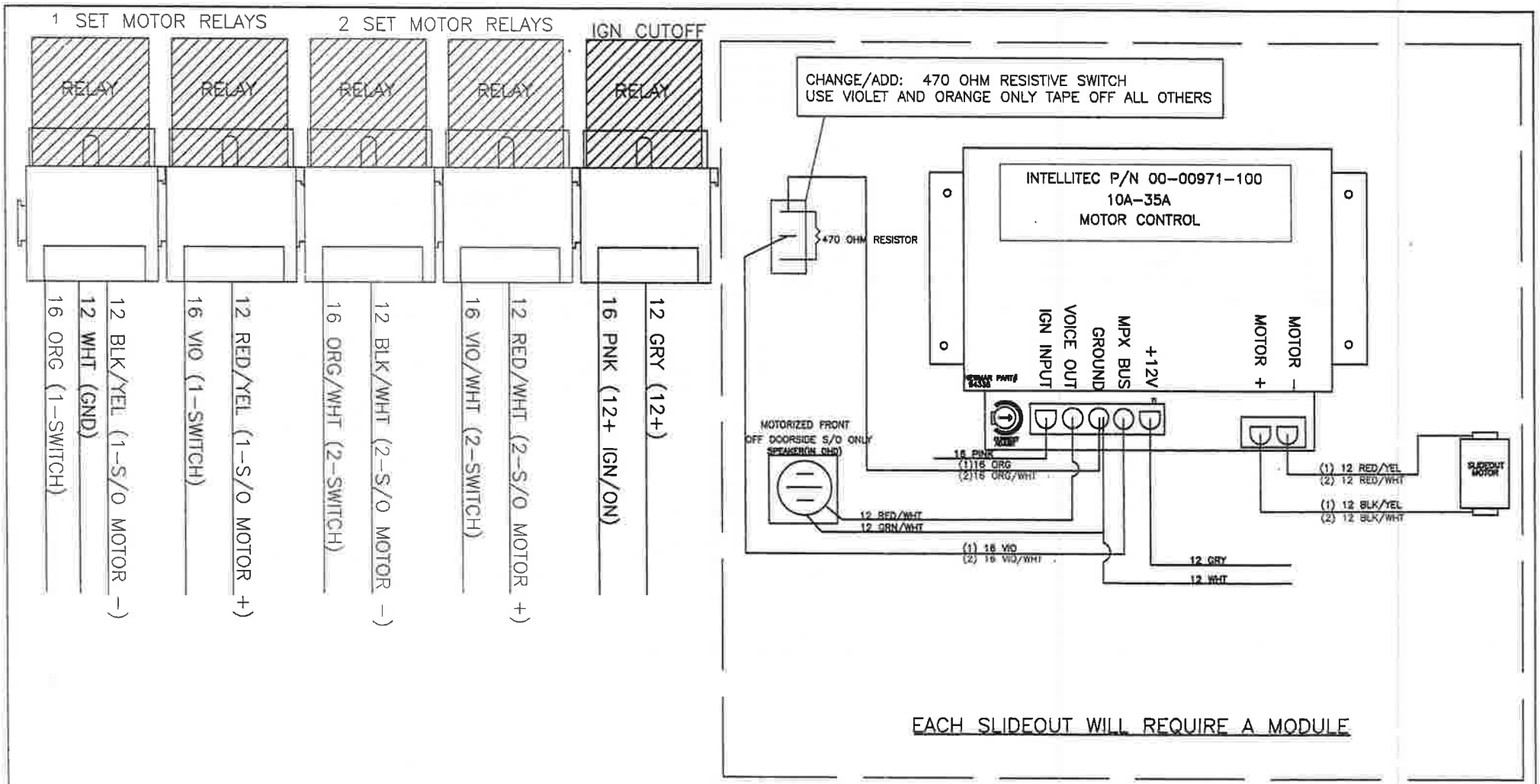

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Power Lock Arms for Slideouts

Helpful information for power lock equipped rooms.

1. In order to operate the power lock arm, the system needs a minimum of 12.4 volts.
2. There are 3 LED lights on the controller. When the 2 outside LED lights are lit, the controller receives a signal that the lock arms are unlocked. The center LED light indicates the room is in the closed position when the controller amps out to lock the arms.
3. There are 3 potentiometers on the controller. One is for the lock arm control, one is for the room movement, and one is for the voice volume. Move the potentiometers 5 minutes at a time.
   A. The one that is visible with the cover in place is for the room's slideout motor. The circuit board number is R-9. Counter clockwise movements increase the amperage to the motor.
   B. The lock arm potentiometer is located under the cover. The circuit board number for this is R-13. This will adjust the amperage to both of the lock arm motors. Increase the amperage with a clockwise movement.
   C. The voice potentiometer is also under the cover. Its number is R-59. Clockwise adds volume. Current used controllers do not have this potentiometer.

Troubleshooting

1. When the controller LED's flash, this is indicating the lock arm potentiometer is set to high. This could also indicate the wire is cut between the sensor and the controller. Check the continuity in the wire. If the operation switch has a light, it will also flash.
2. If the arms do not lock when in the stored position, check to see if the center LED is lit. If the light is not lit, the controller is not getting a signal that the room is in the stored position. The sensor is designed for a 3/16" gap or less. You could also have a bad sensor. Check the continuity at the wires. When the LED is lit and the arms do not lock you need to change the controller.
3. If the lock arms go into the lock position when the slideout is out, check to make sure there is nothing within 7/16" from the room sensor. It could also be the reverse polarity on the controller. On J 1 plug wires #7 & #8. Pin #7 should be positive when the room is extending. Another way to check is to store the slideout room. Turn the battery disconnect off, then back on.

Extend the room and if the arms unlock then lock again, #7 and #8 are reversed. Swap the two wires in the plug. If the customer has a problem with the arms extending, start the slideout back in, as soon as the arms go into unlock mode stop the slideout.

4. If the room will not extend with the arms unlocked, check to see that both outside LED's on the controller are lit. If not, check that the bolt to the sensor is close enough. It should be within 1/8".
5. If you can hear the arm wanting to go into the lock position, but it stops-
    a. The arm pin could be hung up on the opening in the lock box. Remove the screws on the external frame and wiggle it around to get it loose. Add some washers to the pin to keep it centered.
    b. The weld could be broke.

Additional Information

- All sensor switches are magnetically activated.
- Do not put any electrical charge to the sensors.
- There is only one sensor switch per slideout room designed for a 3/16" maximum gap.
- There is only 1 lock arm sensor per lock box designed to be within an 1/8" gap.
- When changing the lock box or lock arm only, be sure to check that you have the right part. There is a right and a left.
- When replacing the controller #00-00719-100 is no longer available. You will get #00-00719-100, or #00-00719-200. The #00-00719-200 has no voice.
- On towables with power lock arms, the red LED light has to be lit before the switch will activate the slideout. On coaches prior to 2006 the slideout switch has to be activated twice to get the slideout to retract. Model year 2006 and later does not need to be activated twice.
- On motorized coaches with the ignition on, the slideout will not activate.
- The new room sensor switch will have 4304 on it.
- Test tool part #81944.
- 25 feet ext. for test tool part #011072.

Power Slide Out Lock Arms

Slide Out Lock Arm Test

1. Using the Test Tool.

The test tool is configured with an operating panel that includes three (3) switches for the independent operation of two (2) lock arm motors and the one (1) slide out motor. Situated above each switch is an indicator light to confirm proper operation of the proximity sensors (PS).

The two outer indicator lights illuminate when the lock arms are in the retracted position. The center indicator light illuminates when the slide out room is in fully "IN" position. Use these indicator lights to determine if the PS is working properly. Each lock arm has a PS to tell the slide out control when it is retracted. The slide out room has a PS to tell the slide out control when the room is in the full "IN" position. When the lock arm is in the retracted position, the PS will actuate and create a closed circuit to the slide out control. If the PS is not aligned properly with the mating components, it will not close the circuit. This will be indicated on the test tool by a failure of the light to illuminate with the lock arm retracted. This will prevent the slide out controller from driving the room out. If the PS is damaged, it may show a closed circuit regardless of the position of the lock arm. This will be indicated on the test tool by observing if the lock arm indicator light remains on when the lock arm is moved into the extended position. Driving the room to the full "IN" position will cause the slide out room PS to actuate and create a closed circuit to the slide out control. The slide out control will then deploy the lock arms to the extended position. This will be indicated on the test tool with an illumination of the center indicator light, when the room is "IN". If the indicator light does not illuminate with the slide out room "IN", the lock arms will not deploy. If the center indicator light stays illuminated with the slide out room extended, the lock arms will deploy when the room is extended.

The lock arm switches are reversing switches used to extend and retract the lock arms. Use these switches to verify the operation of each lock arm independently. The center switch is a momentary "ON" switch. Press and release the switch to move the slide out room "IN" or "OUT". Press and release the switch during room movement to stop and reverse direction of travel of the room.

Lock Arm Proximity Switch Test and Adjust

1. Use test box to extend room. Extend lock arm with faulty proximity switch about ½ to ¾ of extension. Then remove lock arm pin and retract lock arm actuator completely into lock box. Inspect proximity switch for cracked mounting tabs or loose mounting screws. Replace them if they are cracked. Place a screw on magnetic part of switch. Check to see if noted lock arm light is lit on test box. If not proceed to step #3.
2. If light is lit, remove screw and place small ball of putty on switch and manually close lock arm paddle. Open to check for imprint on putty from bolt on paddle. Adjust to not more than a 1/8 "gap. Reconnect actuator arm and check to see if light is lit on test box.
3.Gain access to the lock arm electrical connector. There are 2 wires for motor, and 2 black 20 gauge wires for switch. Remove these pins and check for the correct instillation. Only the narrow crimp should be on the wire insulation. If ok, put screw on switch and check for continuity with meter. If not continuity, replace switch. If continuity is there, check wire from proximity switch to controller for continuity. Replace wire if needed.

Location of Room Switches

Pushers with Pass Main Slide Out

1. At front cog wheel.
2. Under metal cover in kitchen base under kitchen sink.
3. At rear edge of slide out floor.

Pushers with Pass Bed Slide Out

1. At rear cog wheel

All motorized Driver Bed Slide Out

1. On slide out mechanism close to tube.

All motorized Driver Main Slide Out

1. At cog wheel.

Cycle Hauler

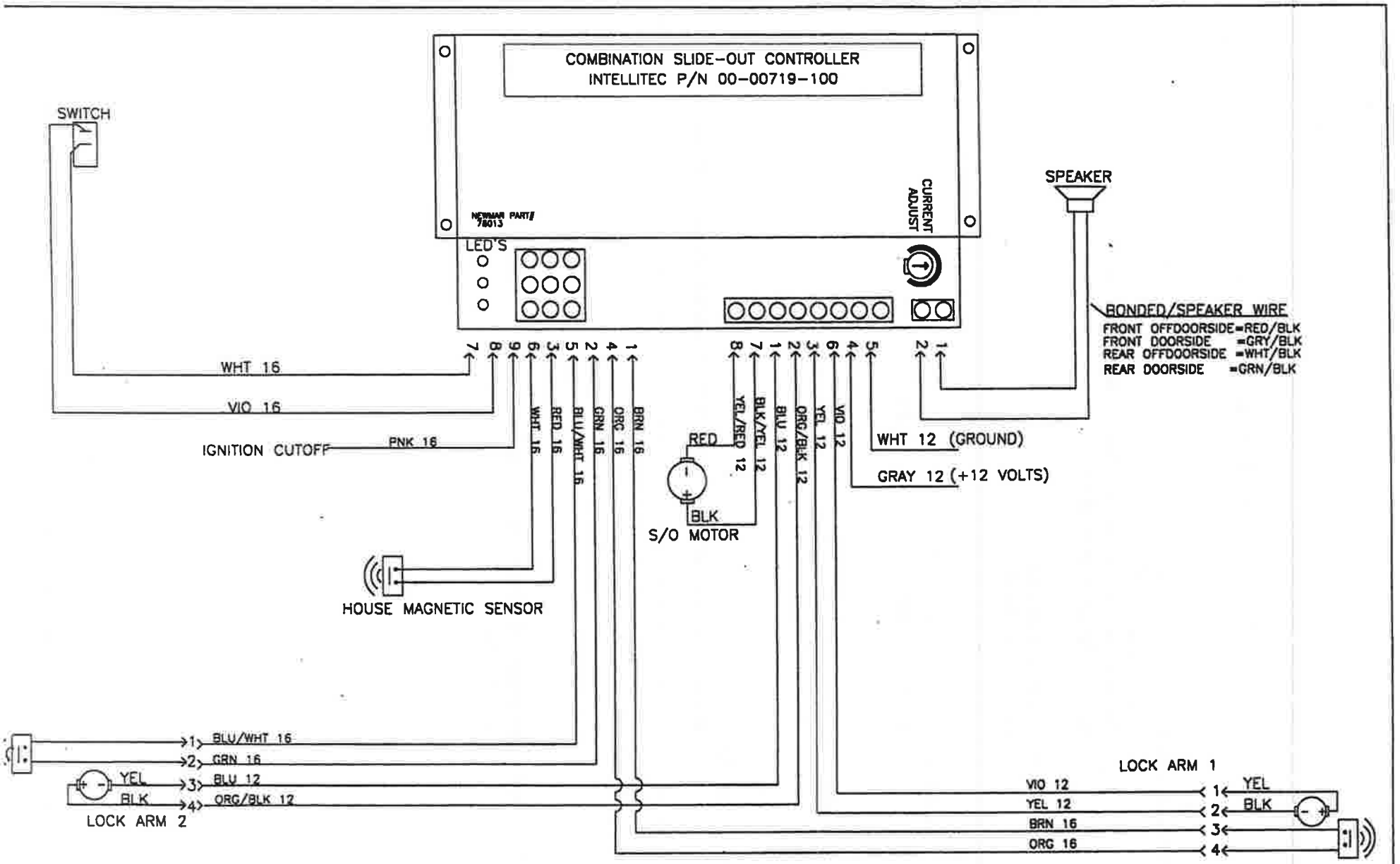
1. At cog wheel towards front of coach, both controllers are on passenger side.

All towable Bedroom Slide Outs

1. On slide out mechanism at slide out tube.

All towable Passenger and Driver Main Slide Out

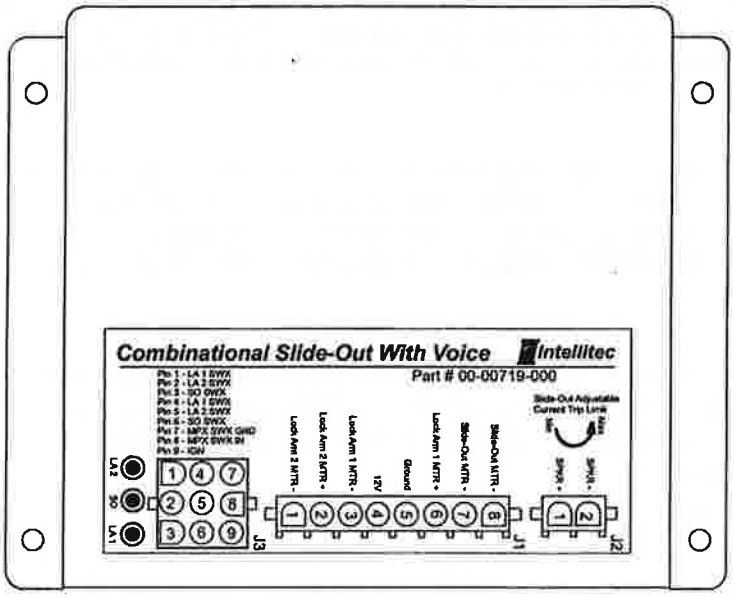
1. At cog wheel.



EWMAR CORP P.O. Box 30, -e, IN. 465	Model: ALL	Sheet	Drawn by: B. MAIN	Checked by:	Revision:	By: Date:
	Title: PWR-LOK S/O CTRL	I.D. #	Date:	Dr	Revision:	By: Date:

COMBINATION SLIDE OUT CONTROLLER W/VOICE

SERVICE MANUAL



P/N 00-00719-000

CAUTION:

The COMBINATION SLIDE OUT CONTROLLER W/VOICE is a power switching controller used to operate a slide out room in an RV. Power from the battery of the vehicle is fed to this control. Inadvertent shorts at this box could result in damage and/or injury.

All servicing of this box should be done only by a qualified Service Technician.

Tools required: Low current test light, DC voltmeter

PRODUCT DESCRIPTION

The Combination Slide-out Controller with Voice functions as three controllers. It independently controls two lock arm motors and a slide-out motor. The controller depends on several inputs: Lock Arm 1 Switch, Lock Arm 2 Switch, Slide-out Switch, MPX Switch, and an Ignition Input Signal, which is used to lock out control module.

THE MPX SWITCH

The MPX Switch is a momentary rocker switch used to allow the user to select a run/stop mode of the Controller. The MPX switch is connected to the Controller through connector J3 pins 8 (MPX IN) and 7 (MPX GROUND)

Intellitec

131 Eisenhower Lane North
Lombard, IL 60148
630.268.0010 / 1.800.251.2408

LED INDICATORS

Three LED's are supplied for indication of three input switches. When a run condition exists, the LED's will indicate the position of the selected switch. The LA 1 LED will be *ON* if lock arm 1 is in the unlock position (closed switch). The LA 2 LED will be *ON* if lock arm 2 is in the unlock position (closed switch). The slide-out LED will be *ON* if Slide-out is flush with the RV (closed switch). The indicating LED's will turn *OFF* when the following conditions have been satisfied: the Controller is in a stop mode and no motor is energized.

VOICE MESSAGE

Upon every run requested by the user, (pressing the MPX switch) a voice message will start to play to an external 8 ohm speaker, through connector J2, where pin 1 is speaker + and pin 2 is speaker -. A volume control pot (R59) is on the Controller to initially set the sound level of the voice message. The voice message is as follows: "Your lock arms are unlocking. Please be certain all persons seats, chairs and other obstacles are clear of the slide-out area. There will be a 5 second delay for any necessary adjustments".

LOCK ARM MOTORS

During the voice message the Controller will start energizing the lock arm motors. The lock arm motors will stay energized until one of the following conditions are met: Both lock arm motors reach current trip level of 2A-8A (adjustable with R13), or 30 second time limit (if reached the following LED's will flash ON/OFF: MPX switch, LA1 & LA2).

SLIDE-OUT MOTOR CONTROL

The Slide-out Controller has two modes, extend out and return in. To initiate a change from one mode to another certain criteria have to be satisfied.

TO EXTEND SLIDE ROOM OUT

Extending the Slide-out will occur when the following criteria have been satisfied:

(A) Ignition signal OFF
(B) lock arm 1 switch in the CLOSED state (indicates lock arm unlocked)
(C) lock arm 2 switch in the CLOSED state (indicates lock arm unlocked)
(D) Slide-out switch in the CLOSED state (indicates slide-out is flush with RV)
(E) No lock arm motors energized

After all the criteria have been met, then the Slide-out motor is energized with relay K1. The Slide-out motor is connected to J1 pins 7 and 8. The polarity in this state is the following: pin 7 is + and pin 8 is -.

The Slide-out motor stays energized until *one of the following conditions* are met:

(A) Slide-out motor reaches the adjustable current trip level of 4-21A can be adjusted with R9
(B) The user pushes the MPX switch to manually stop mode
(C) Ignition signal is turned ON

RETURN SLIDE ROOM IN

Returning the Slide-out will occur when the following criteria have been satisfied:

(A) Ignition signal OFF
(B) Lock arm 1 switch in the CLOSED state (indicates lock arm unlocked)
(C) Lock arm 2 switch in the CLOSED state (indicates lock arm unlocked)
(D) Slide-out switch in the OPEN state (indicates Slide-out is not flush with RV)
(E) No lock arm motors energized

After all criteria have been met, then the Slide-out motor is energized with relay K1. The Slide-out motor is connected to J1 pins 7 and 8. The polarity in this state is the following: pin 7 is - and pin 8 is +.

The Slide-out motor stays energized until one of the following conditions are met:

(A) Slide-out motor reaches the adjustable current trip level of 4-21A (current limit adjusted using R9)
(B) Ignition signal is turned *ON*

The Slide-out Controller measures motor current to sense when the mechanism reaches the end of its travel. When the current exceeds a pre-set level the Controller will shut *OFF*. This current level is adjustable by a potentiometer, which is mounted on the unit. If the current is set too low, the mechanism will stop before it reaches the end of travel or during start-up. If it is set too high, it may damage the mechanism or loosen the trim of the room.

NOTE

The current adjustment pot only turns 270 degrees. ATTEMPTS TO FORCE IT FURTHER WILL DAMAGE IT.

1. USING A SMALL SCREWDRIVER, CENTER THE POT.
2. OPERATE THE ROOM IN BOTH DIRECTIONS TO CHECK OPERATION.
   A) If the Controller stops before the room reaches its normal stop, adjust the pot counter-clockwise about 20 degrees and try again. Repeat if necessary within the limits of the pot.
   B) If the room hits its stop too hard, adjust the pot clockwise about 20 degrees and try again. Repeat if necessary within the limits of the pot.
   C) Repeat steps A and B with finer adjustments if desired.

THE CONTROLLER IS NOW ADJUSTED FOR NORMAL OPERATION.

SLIDE-OUT CONTROL MODULE PLUGS, PINS AND FUNCTIONS

J1 = 8 Pin Mate-N-Lok connector (Power and Motor Control)

Pin	Function
1	Lock ARM 2 Motor (polarity to unlock lock arm)
2	Lock Arm 2 Motor + (polarity to unlock lock arm)
3	Lock Arm 1 Motor (polarity to unlock lock arm)
4	+ 12V Battery Fused
5	Chassis Ground
6	Lock Arm 1 Motor + (polarity to unlock lock arm)
7	Slide-Out Motor + (polarity to extend slide room out)
8	Slide-Out Motor (polarity to extend slide room out)

J2 = 2 Pin Mate-N- Lok Connector (Speaker Output)

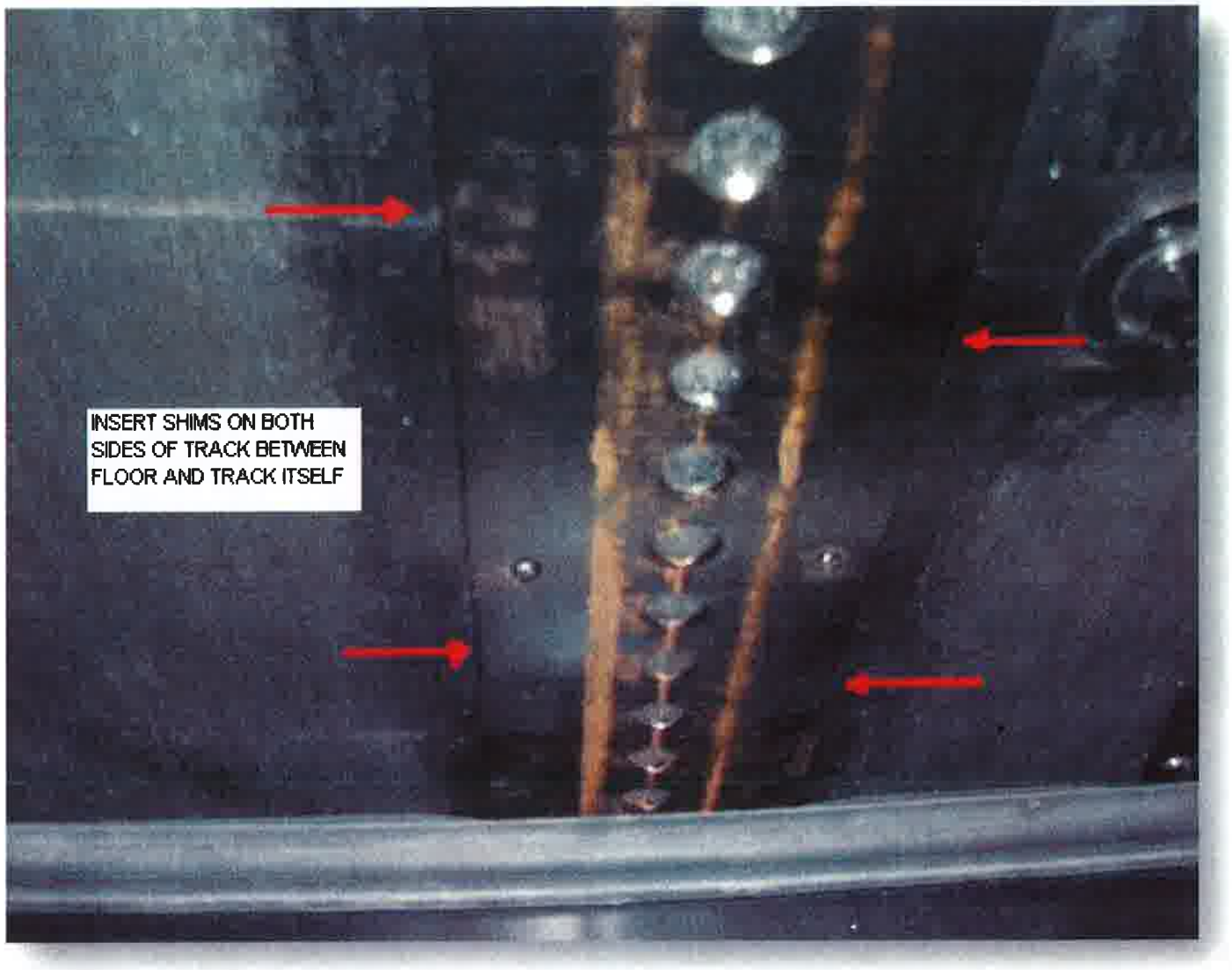
Pin	Functions
1	Speaker + Output
2	Speaker - Output

J3 = 9 Pin Mate-N-Lok connector (Switch Signal Inputs)

Pin	Functions
1	Lock Arm1 Switch Input (LA1 SWX)
2	Lock Arm 2 Switch Input (LA2 SWX)
3	Slide Out Switch Input (SO SWX)
4	Lock Arm 1 Switch Input (LA1 SWX)
5	Lock Arm 2 Switch Input (LA2 SWX)
6	Slide Out Switch Input (SO SWX)
7	MPX Switch GND
8	MPX Switch Input
9	Ignition Signal Input

IF SLIDE OUT IS ADJUSTED TOO HIGH AND COG WHEEL TEETH ARE NOT PROPERLY IN TRACK

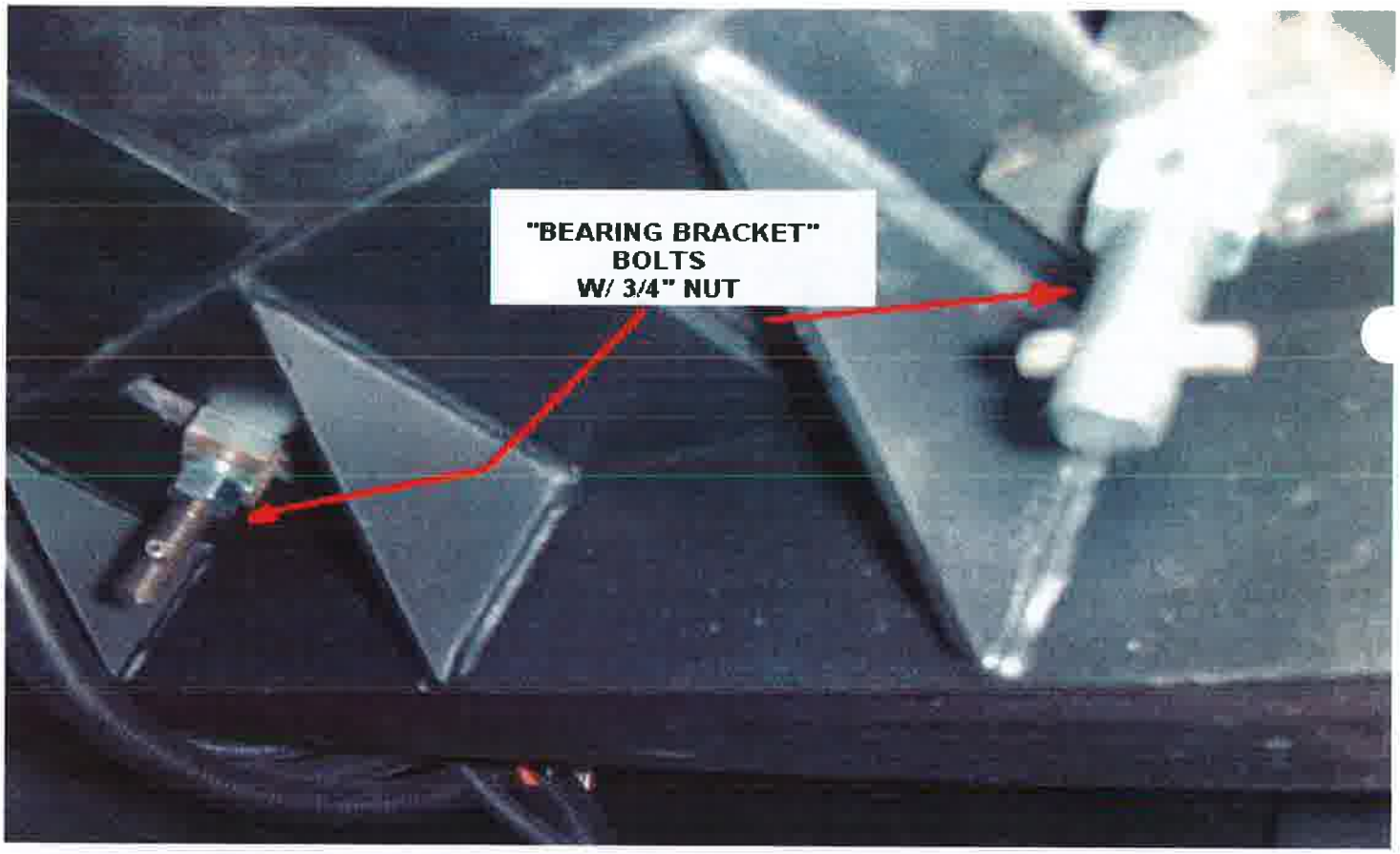
1. Cog tracks on bottom side of slide out (see picture) need to be adjusted down by adding shims, between bottom of slide out floor and cog track, so that the teeth on the cog wheel fit properly into the track during slide out operation. If teeth are not set into track properly, there can be too much pressure on the teeth, to the point that they break off.



IF TOP OF SLIDE OUT IS TIPPED OUT AT TOP

1. Locate the front and rear "bearing bracket" and loosen ¾" nut (see picture). Adjust outside bolt, w/ pin, up in order to move top of slide out "in". Most of the adjustment is done with the rear "bearing bracket". The front bracket may also need some adjustment.

NOTE: Make sure slide out rollers are still on tile/interior floor. If not adjust inside bolt (of bearing bracket) w/ pin, down so that roller sets on tile/interior floor.



IF BACK END OF SLIDE OUT IS NOT GOING OUT FAR ENOUGH OR GOING OUT TOO FAR

1. Remove wood panel in rear of kit base (see picture). Locate steel bracket w/ slide out proximity switch and adjustment bolt. Adjust bolt to correspond with desired stopping position (stop slide out sooner, or allow it to travel out farther before stopping).

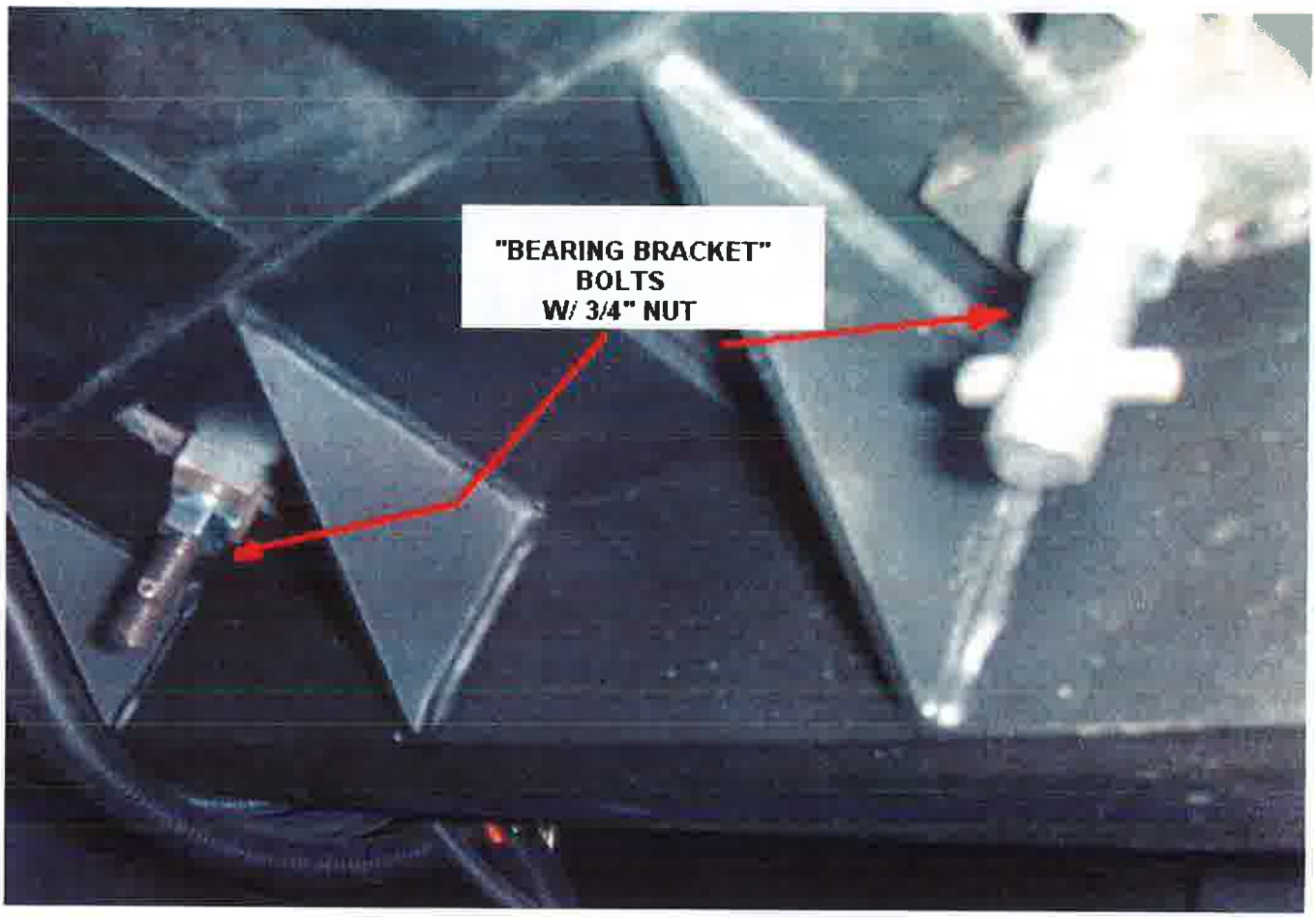
TO CHANGE TILE UNDER SLIDE OUT(pan slide out)

1. Remove top pc of slide out opening trim. (NOTE: In order to save slide out bulb seal, remov side pcs. also.)

2. Remove ABS pcs. covering slide out drive mechanism. Loosen nuts on frt and rear bearing brackets (loosen nuts till they come down against pins. NOTE: DO NOT TURN BOLTS WITH PINS, THIS WILL AFFECT SLIDEOUT ADJUSTMENT WHEN REASSEMBLING SLIDEOUT.

3. DEPLETE/DUMP AIR IN COACH SUSPENSION. Then jack up front and rear of slide out until roof is almost against top of slide out opening. Then proceed to change tile or carpet under slide out.

NOTE: MAKE SURE "T" NUT IS SEATED IN SLOT OF PAN BEFORE RETIGHTENING NUTS.



PAN SLIDE OUT, IF SLIDE OUT IS COMING IN TOO FAR OR NOT COMING IN FAR ENOUGH

1. Run slide out, remove exterior brush track cover on frt. track. Adjust bolt in outer end of track (see picture). Turn bolt in to allow slide out to go in farther, and turn bolt out to keep slideout out farther.

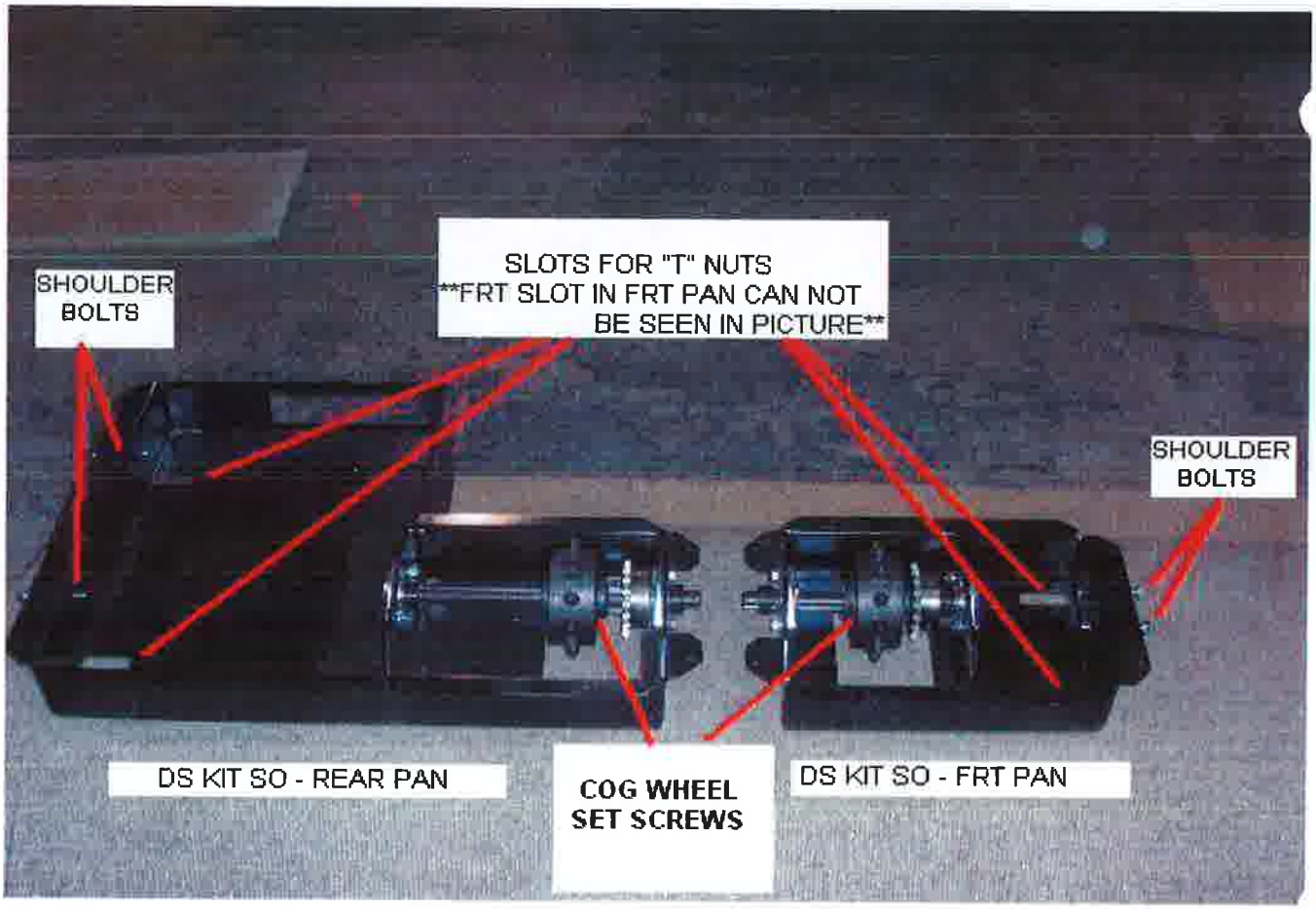
2. If back end of slide out needs adjustment. Repeat process described in job #1 on rear track.

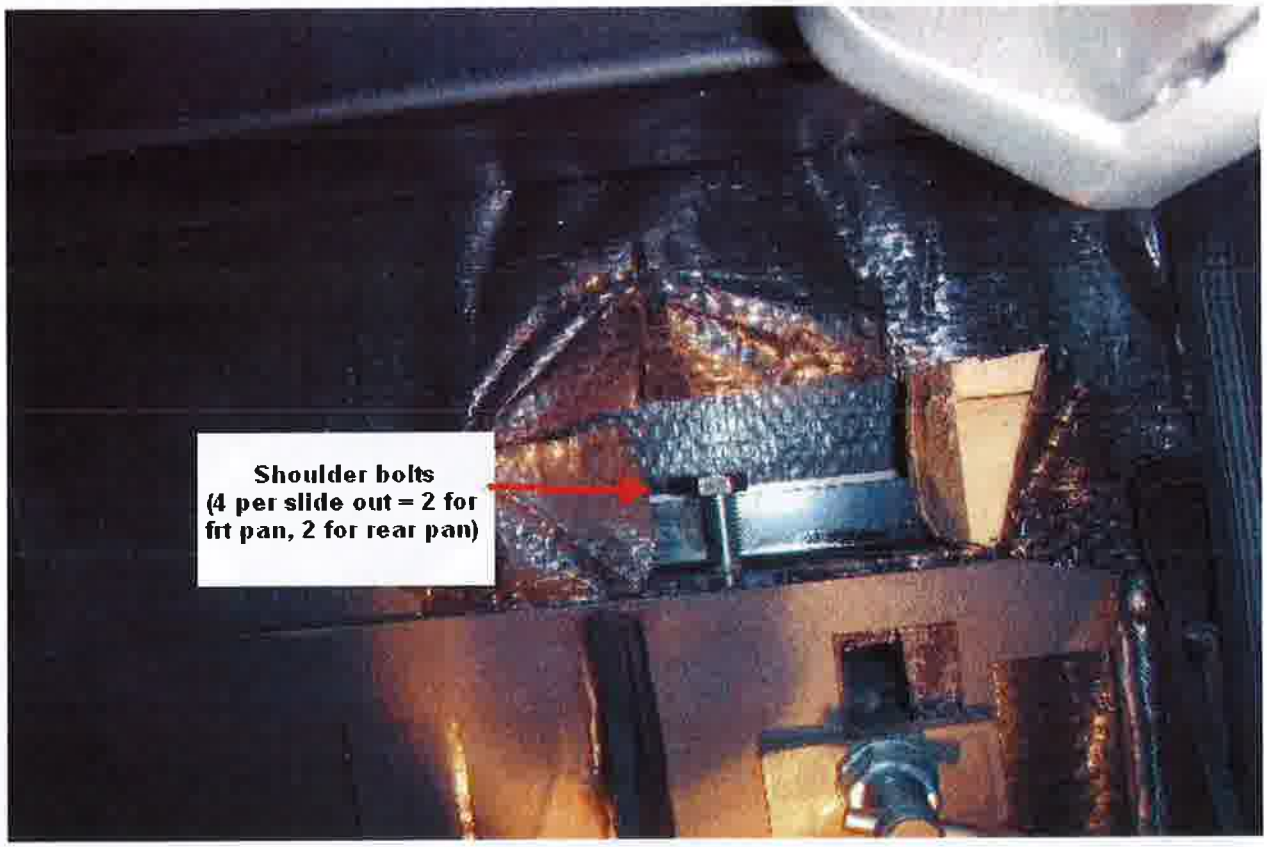
IF PAN SLIDE OUT IS TOO FAR FORWARD OR BACK IN OPENING

Remove ABS covers on slide out drive mechanism in storage compartment.

NEWER MODELS:

1. Loosen set screws in cog wheels (see picture). Adjust shoulder bolts. Bolts are located in sides of pan (see picture) located in cut-outs of storage compartment ceiling. To move slide out BACK, loosen rear pan shoulder bolts and tighten front pan shoulder bolts. To move slide out FORWARD, reverse previous stated sequence. Make sure to adjust/slide T-nuts to correspond with shoulder bolt alignment. This is to make sure that "bearing bracket" is vertically straight at all times.





LDER COACHES:

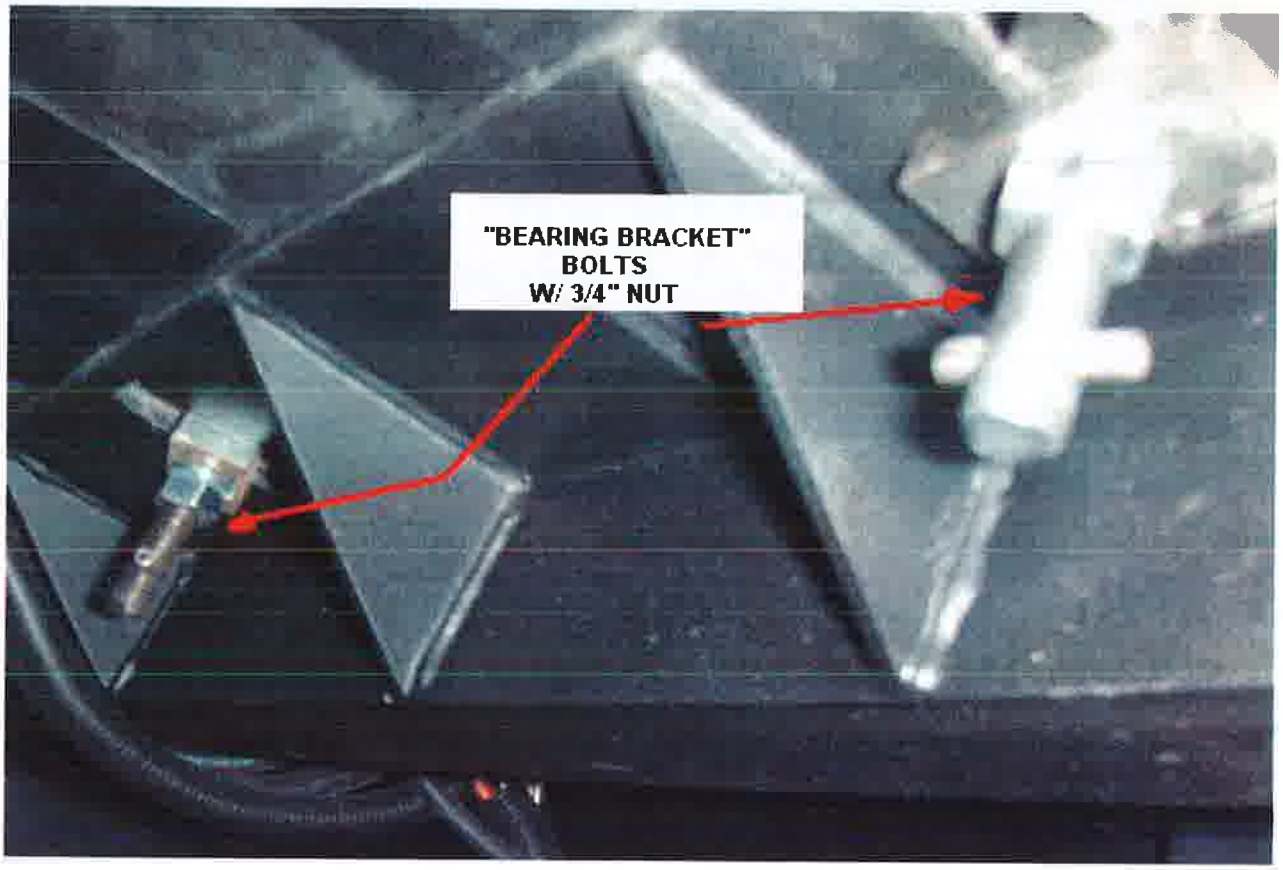
1. Loosen set screws in cog wheels (picture on previous page). Move slide out forward or back till slide out is square in opening. Retighten set screws. Make sure that "bearing bracket" is vertically straight. If not adjust T-nuts. NOTE: there are no "shoulder bolts" on older models.

IF FRONT OR REAR OF SLIDEOUT IS TOO LOW(PAN SLIDEOUT)

1. Run slide out to the "out" position.

2. Remove front and rear "brush" track covers(located on the exterior bottom side of the slide out floor).

3. Check if slide out "bearing bracket" roller is out of its track. IF NOT, loosen both ¾" nuts on "bearing bracket"....move slide out up by turning bolt w/ inserted pin(see picture)



IF ROLLER IS OUT OF TRACK: Check top lip of "C" channel/track to see of it is bent. If it not, proceed.

NOTE: Dump all air out of coach chassis system!

Loosen both ¾" nuts(see previous picture). Using 2 bottle jacks, raise front and back ends of slide out. Raise it enough to take weight off of rollers. Move "bearing bracket" roller back into track.

On newer models, check for "shoulder bolts"(bolts are located on sides of pans, in ceiling of storage compartment bay. May be covered with black tape (see following picture for 'ustration).

Bolts must be turned in against "bearing bracket" to keep roller from coming out of track. NOTE: LOC TITE® must be used on "shoulder bolt" when making final adjustment!

If unit does not have "shoulder bolts", a shim (see picture) must be added to keep roller from coming out of track.

NOTE: "Bearing bracket" must be verically straight.

Make sure all "T" nuts are seated in pan slot properly

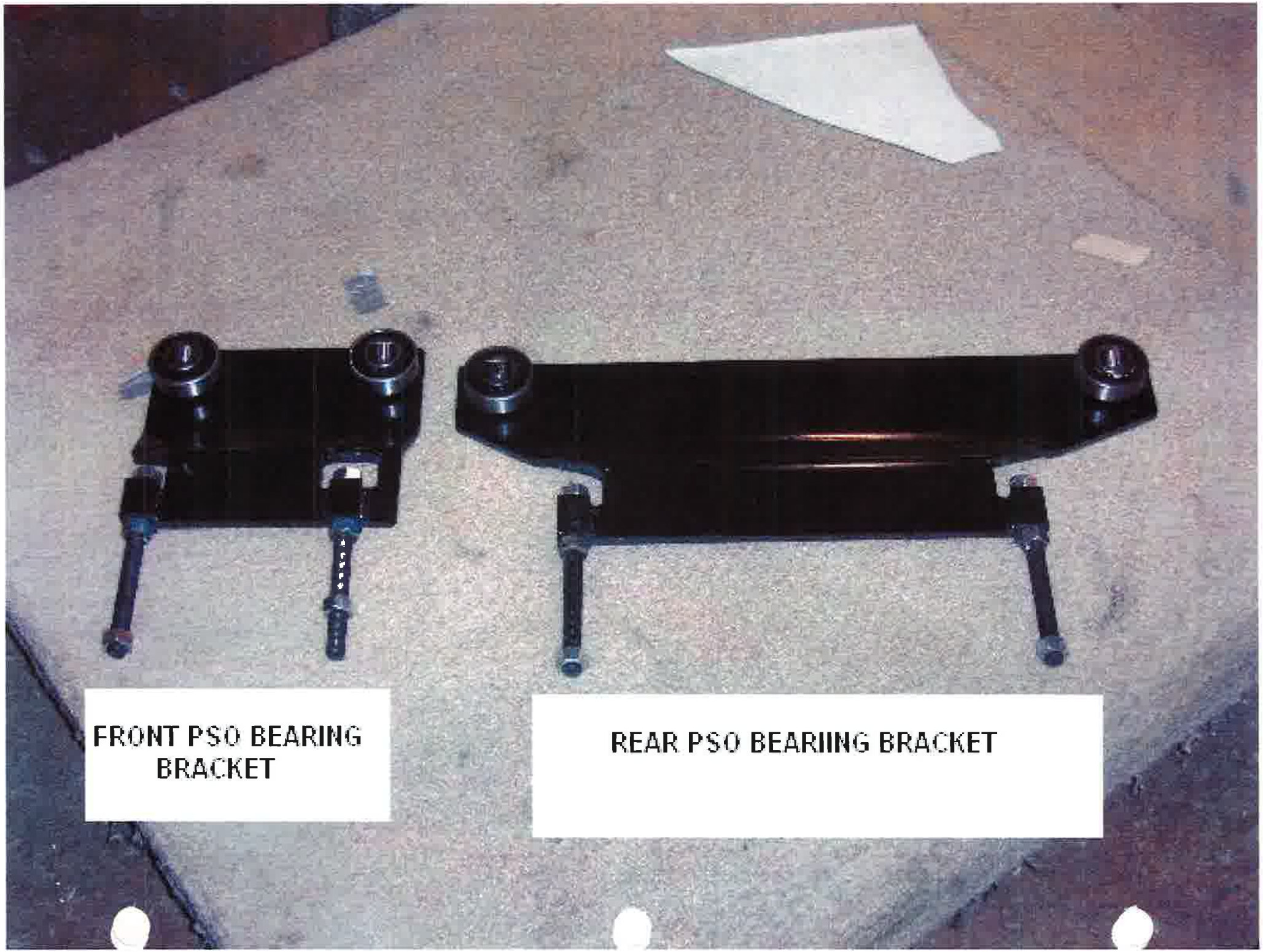
Do Not turn bolt with pin(this effects adjustment)

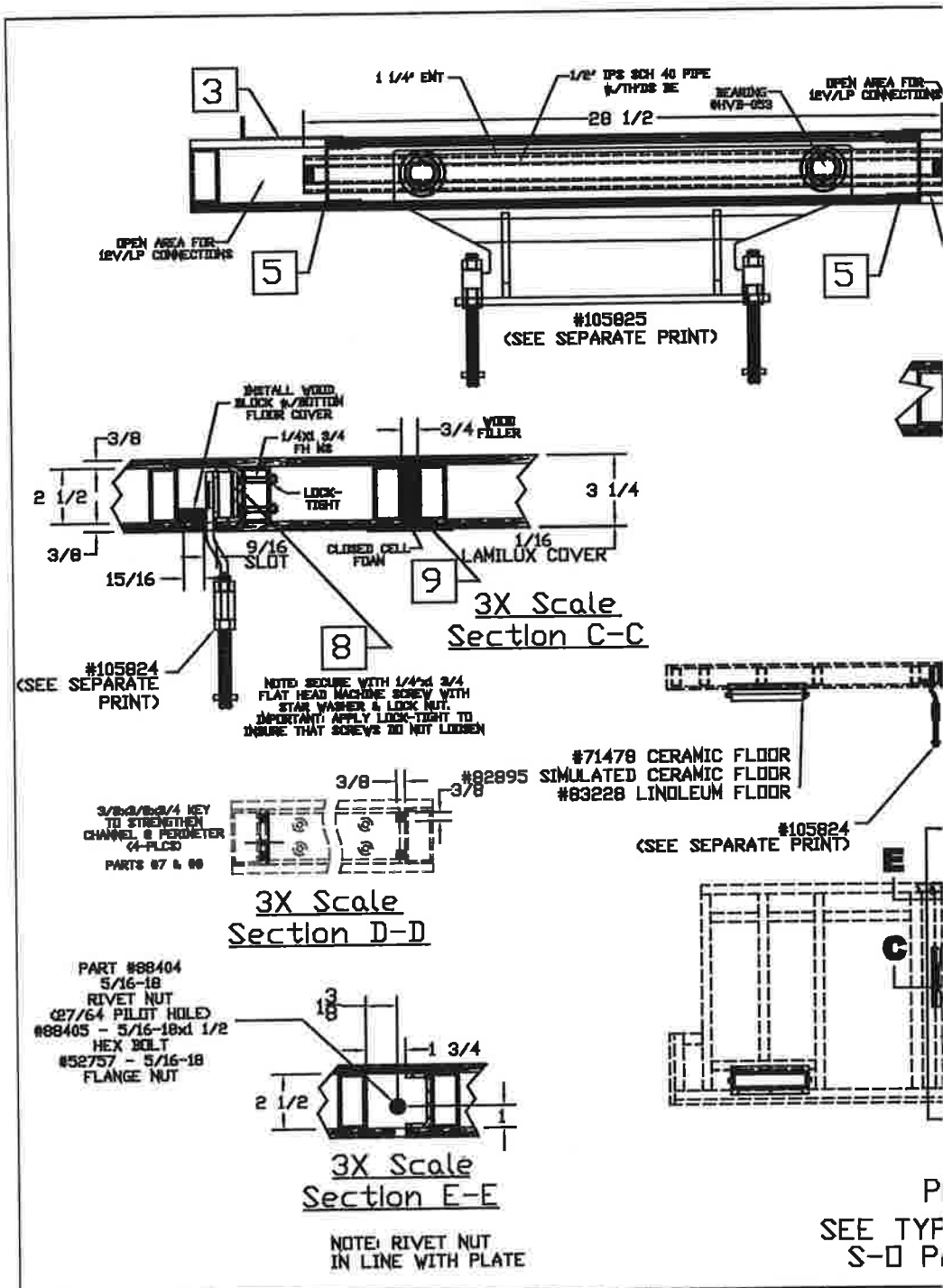
Do Not over-tighten nuts

IF TOP LIP OF "C" CHANNEL IS BENT:

"C" channel needs to bee replaced or turned end-for-end. In order to do this, remove the carpet from the slide out. Locate slide out floor cross members/structure. Cut out slide out ⅜" floor plywood on center of crossmembers (pay close attention to cutting depth so as not to cut into crossmembers). Save plywood pc so that it can be reused. Remove: pins in "bearing bracket" bolts, ¾" nuts, tie plate.....this is done in order to remove "C" channel.

Remove 3 bolts holding "C" channel in place. Lift "bearing bracket" and "C" channel out from the top. Replace "C" channel and reinstall previous removed components (at times "C" channel may be flipped end-for-end and reinstalled)

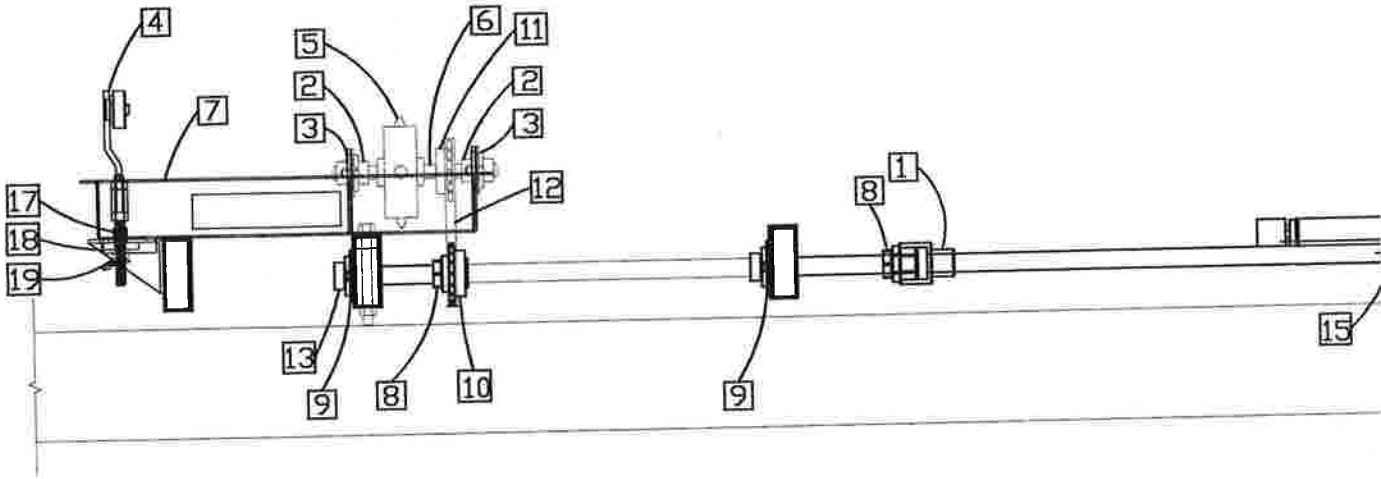

FRONT PSO BEARING BRACKET
REAR PSO BEARIING BRACKET



NEWMAR CORP P.O. Box 30, Nappanee, IN. 46550	Model: DS KIT PAN S-0 (SEE INDEX)	Sheet 1 OF
Title block--1-2fulTB	Title: KIT FLOOR S-0 PARTS	I.D. # 20 DP\S0\P KIT_S0

ITEM #	QTY	NEWMAR #	DESCRIPTION
1	2	21834	1" TO 1" ADAPTER
2	4	21837	3/4" D. BEARINGS
3	4	21838	3/4" D. MOUNTING FLANGE FOR BEARINGS
4	1	105825	PSO REAR BEARING BRACKET
5	2	21846	DRIVE GEAR
6	2	27617	3/4"x9" SHAFT W/ KEY
7	1	96713	REAR FLOOR PAN
8	4	52425	1" TRANTORQUE BUSHING
9	4	71339	1" D. MOUNTING FLANGE FOR BEARINGS
10	2	71341	SPROCKET WITH 1 3/4" BORE
11	2	71342	SPROCKET WITH 3/4" BORE & KEYSLOT

ITEM #	QTY	NEWMAR #
12	2	71343
13	4	71517
14	1	74255
15	1	78010
17	2	96133
18	2	96140
19	2	105826
20	1	105830
21	1	105824
22	1	96712



NEWMAR CORP P.O. Box 30, Napponee, IN 46550	Model: EX DP 4502, 4514, 4516	Sheet 1 OF 1	Drawn by B. S.	Checked by B. G.
	Title KITCHEN DRIVE SHAFT ASSEMB	ID # 2008\HE\SO\PARTS\KIT_SO_SHAFT_4502	Date 5/14/07	Date: 5/18/07
Title block--1-STB				

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