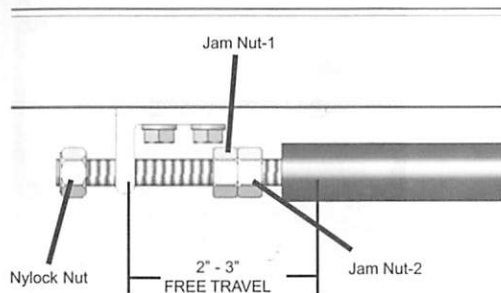


**Adjusting room so it seals in the IN position:**

1. Locate hydraulic cylinder coming through the frame.
2. On the end of the hydraulic cylinder there is a threaded rod mounted to the drive bracket with 3 nuts.
3. Loosen the Jam Nut-1 and set Jam Nut-2 to desired location.
4. Tighten down the Nylock Nut against bracket. Make sure Jam Nut-2 is snug against bracket. Secure assembly by tightening Jam Nut-1 against Jam Nut-2. This will change the location of your seal going to the "in position".

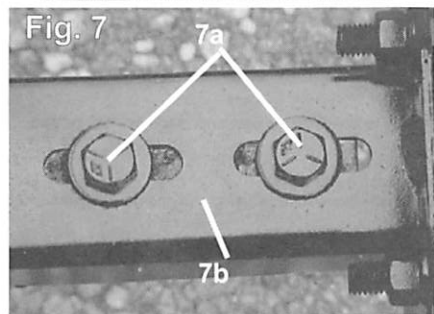
**Adjusting room so it seals in the OUT position:**

1. Locate hydraulic cylinder coming through the frame;
2. On the end of the hydraulic cylinder there is a threaded rod mounted to the bracket with 3 nuts.
3. Move one of the nuts, (Jam Nut-2 or Nylock Nut) one way or the other—this will change the location of your seal going to the "out position".
4. Make sure all nuts are tight.



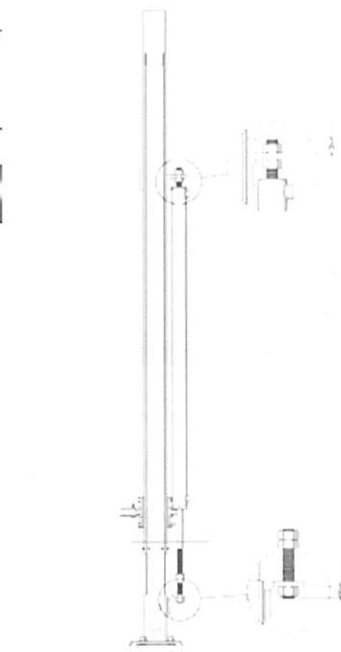
**Fig. 6**

**SYNCHRONIZING ROOM TRAVEL**



The Lippert Hydraulic Slideout System room travel (both sides of the room traveling the same distance) can be adjusted with specially designed synchronizing bracket mounted on the passive slide tube. The passive slide tube is the one that is not powered. The active slide tube is the one that has the cylinder attached. If one side of the room fails to seal adjust as follows:

1. Loosen bolts (Fig. 7a) on top of the passive slide tube (Fig. 7b)
2. Push or pull room (on the passive side) to align with the active side



**Fig. 8**

**REMOVING AND REPLACING CYLINDER**

**To replace cylinder:**

1. Take measurements A and B.
2. Remove both nylock nuts (2 total) from threaded shafts on cylinder rod.
3. Take note of jam nut locations and remove.
4. After everything is disconnected, slide hydraulic cylinder out of frame.

**NOTE** - To replace with new cylinder, follow previous directions in reverse.



**LIPPERT COMPONENTS, INC.**

**HYDRAULIC SLIDEOUT SYSTEM**

**OPERATION MANUAL**

**SYSTEM**

**WARNING!**

FAILURE TO ACT IN ACCORDANCE WITH THE FOLLOWING MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

THE LIPPERT HYDRAULIC SLIDEOUT SYSTEM IS INTENDED FOR THE PURPOSES OF EXTENDING AND RETRACTING THE SLIDEOUT ROOM. THE USE OF THIS SYSTEM FOR ANY REASON OTHER THAN WHICH IT IS INTENDED IS PROHIBITED BY LIPPERT'S LIMITED WARRANTY AND MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

THE LIPPERT HYDRAULIC SLIDEOUT SYSTEM IS DESIGNED AS A "SLIDEOUT" SYSTEM AND SHOULD NOT BE USED TO PROVIDE SERVICE FOR ANY REASON.

LIPPERT COMPONENTS, INC. RECOMMENDS THAT A TRAINED PROFESSIONAL BE EMPLOYED TO CHANGE THE TIRE ON THE COACH. ANY ATTEMPTS TO CHANGE TIRES OR PERFORM OTHER SERVICE WHILE COACH IS SUPPORTED BY THE LIPPERT HYDRAULIC SLIDEOUT SYSTEM COULD RESULT IN DAMAGE TO THE COACH AND/OR CAUSE SERIOUS PERSONAL INJURY OR DEATH.

BE SURE TO PARK THE COACH ON SOLID, LEVEL GROUND.

CLEAR ALL JACK LANDING LOCATIONS OF DEBRIS AND OBSTRUCTIONS. LOCATIONS SHOULD ALSO BE FREE OF DEPRESSIONS.

WHEN PARKING THE COACH ON EXTREMELY SOFT SURFACES, UTILIZE LOAD DISTRIBUTION PADS UNDER EACH JACK.

PEOPLE AND PETS SHOULD BE CLEAR OF COACH WHILE OPERATING LEVELING SYSTEM.

BE SURE TO KEEP HANDS AND OTHER BODY PARTS CLEAR OF FLUID LEAKS. OIL LEAKS IN THE LIPPERT HYDRAULIC SLIDEOUT AND HLG SYSTEM MAY BE UNDER HIGH PRESSURE AND CAN CAUSE SERIOUS SKIN PENETRATING INJURIES.

NEVER LIFT THE COACH COMPLETELY OFF THE GROUND. LIFTING THE COACH SO THE WHEELS ARE NOT TOUCHING GROUND WILL CREATE AN UNSTABLE AND UNSAFE CONDITION.

**PRIOR TO OPERATION**

**The leveling system shall only be operated under the following conditions:**

1. The coach is parked on a reasonably level surface.
2. Be sure all person, pets and property are clear of the coach while Lippert Hydraulic Slideout and HLG System is in operation.
3. Unit must be leveled prior to extending the slideouts to ensure coach will not move during operation of Slideout System and to provide the unit with a firm foundation.
4. Be sure battery is fully charged.

**PREVENTATIVE MAINTENANCE PROCEDURES**

The Lippert Hydraulic Slideout System has been designed to require very little maintenance. To ensure the long life of your system, read and follow these few simple procedures.

1. Change fluid every 36 months (in reservoir ONLY!).
  - a) Check fluid only when jacks and slideouts are fully retracted.
  - b) Always fill the reservoir with the jacks and slideouts are in the fully retracted position. Filling reservoir when jacks and slideouts are extended will cause reservoir to overflow into its compartment when jacks and slideouts are retracted.
  - c) When checking fluid level, fluid should be within 1/2" of fill spout lip.
2. Check the fluid level every month.
3. Inspect and clean all Pump Unit electrical connections every 12 months.
4. Remove dirt and road debris from slideout arms and cylinders as needed.

**WARNING!**

YOUR COACH SHOULD BE SUPPORTED AT BOTH FRONT AND REAR AXLES WITH JACK STANDS BEFORE WORKING UNDERNEATH. FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY OR DEATH.

5. If slideouts are extended for lengthy periods, it is recommended to spray exposed cylinder rods with a silicone lubricant every seven days for protection. If your coach is located in a salty environment, it is recommended to spray the rods every 2 to 3 days.

**WARNING!**

DO NOT WORK ON YOUR SLIDEOUT SYSTEM UNLESS THE BATTERY IS DISCONNECTED. FAILURE TO ACT IN ACCORDANCE WITH THE FOLLOWING MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

## SYSTEM MAINTENANCE

The Lippert Hydraulic Slideout System has been static tested to over 6,000 continuous cycles with out any noticeable wear to rotating or sliding parts. It is recommended that when operating in harsh environments (road salt, ice build up, etc.) the moving parts be kept clean and can be washed with mild soap and water. No grease or lubrication is necessary and in some situations may be detrimental to the environment and long term dependability of the system.

## ELECTRICAL SYSTEM MAINTENANCE

For optimum performance, the system requires full battery current and voltage. The battery must be maintained at full capacity. Other than good battery maintenance, check the terminals and other connections at the battery, the control switch, and the electric actuator motor for corrosion, and loose or damaged terminals. Check motor leads under the trailer chassis. Since these connections are subject to damage from road debris, be sure they are in good condition.

## MECHANICAL SYSTEM MAINTENANCE

Although the system is designed to be almost maintenance free, actuate the slideouts once or twice a month to keep the seals and internal moving parts lubricated.

Check for any visible signs of external damage or "leakage" before and after movement of the unit.

When the room is out, visually inspect the Inner and Outer Assemblies of the slideout. Check for excess build-up of dirt or other foreign material; remove any debris that may be present.

If the system squeaks or makes any noises it is permissible to apply a coat of lightweight oil to the drive shaft and roller areas of the slideout only but remove any excess oil so dirt and debris do not build-up. DO NOT USE GREASE.

**NOTE** - For long-term storage: It is recommend that the room be closed (retracted).

**NOTE** - The Lippert Hydraulic Slideout System is designed to operate as a negative ground system. A negative ground system utilizes the chassis frame as the ground source. An independent ground wire back to the battery is not needed. It is important the electrical components have good wire to chassis contact. Over 90% of unit electrical problems can be attributed to bad ground connections.

**NOTE** - For long-term storage: It is recommended that the room be closed (retracted) and if your unit is equipped with the IRC room control, it is recommended all of the control knobs be kept in the closed position.

## FILLING DIRECTIONS

The Lippert Hydraulic Slideout System uses automatic transmission fluid (ATF). Any ATF can be used. A full synthetic or synthetic blend works best such as Dexron II, Dexron III or Mercon 5. For best operation, fill system within 1" of the top when all slideouts and landing gear are completely retracted. The see through reservoir makes it easy to check oil level. It is recommended that the oil level be checked prior to operating the system. Make sure the breather cap is free of contamination before removing, replacing or installing. In colder temperatures (less than 10° F) the cylinders and jacks may extend and retract slowly due to the fluid's molecular nature. For cold weather operation, fluid specially formulated for low temperatures may be desirable. Please consult factory before using any other fluids.

1. Remove Breather/Fill Cap
2. Pour ATF into Breather/Fill opening.
- NOTE** - Do not allow any contamination into reservoir during fill process.
- NOTE** - Standard reservoir holds approximately 2 quarts (1.89 liters) of ATF.
3. Fill to within 1" of top.
4. Replace Breather/Fill cap when finished.

## OPERATION-HYDRAULIC SLIDEOUT

### WARNING!

FAILURE TO ACT IN ACCORDANCE WITH THE FOLLOWING MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

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.

## EXTENDING SLIDEOUT 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. Press and hold the IN/OUT switch in the OUT position until the room is fully extended and stops moving.
5. Release the switch, which will lock the room into position.

## RETRACTING SLIDEOUT ROOM

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

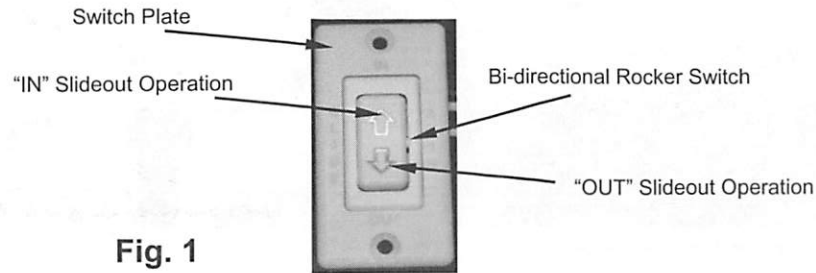


Fig. 1

## MANUAL OVERRIDE - POWER SYSTEM

The Lippert Hydraulic Slideout System can be run with auxiliary power devices like electric drills, ratchet wrenches or cordless screwdrivers. In the event of electrical or system failure, this manual method of extending and retracting the jacks can be used. A standard handheld drill is all that is required. See the instructions below.

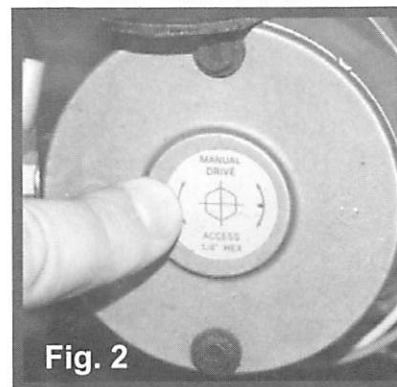


Fig. 2

1. Remove protective label. (See Fig. 2).
2. Using a standard hex bit, insert into auxiliary drive device, i.e. cordless drill or screwdriver or ratchet wrench.

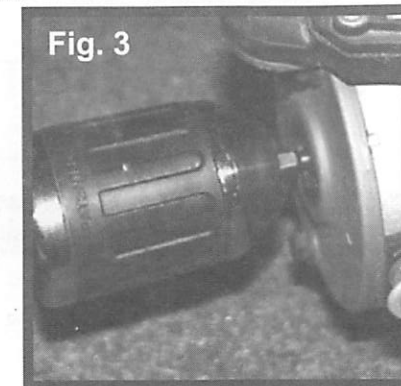


Fig. 3

3. Insert hex bit into coupler found under protective label, Fig. 3.
4. Run drill forward or clockwise to extend jacks and in reverse or counterclockwise to retract jacks.

## MECHANICAL ROOM ADJUSTMENT

### VERTICAL & HORIZONTAL ROOM ADJUSTMENT

**NOTE** - All slideout room adjustments must be performed by certified service technicians. Adjustments made by non-certified persons may void any and all warranty claims.

#### Horizontal adjustment - Fig. 4

1. Loosen 2 carriage bolts "A" on each bracket located at the end of each guide tube.
2. Room is ready to be positioned horizontally by pushing on the outside, sidewall or by using a prying devise inserted into the opening between the room and coach.

**NOTE** - Use caution when using prying devise so seals do not become damaged.

#### Vertical adjustment - Fig. 5

1. Loosen 2 carriage bolts "A" on each bracket located at the end of each guide tube
2. Loosen jam nut
3. For vertical adjustment turn vertical adjustment bolt "B" up or down to locate room height. Once room is located, tighten "A" and Jam Nut bolts.

**LIPPERTCOMPONENTS, INC.**

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**SERVICE & WARRANTY**

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