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PRODUCT/SERVICE BULLETIN

ISSUE DATE: July 29, 1993

TO: HWH Personnel, Distributors, Retailers and Installers

FROM: Leroy Van Roekel

RE: Field Enhancement

FIELD ENHANCEMENT

The following enhancements should be performed on all systems as applicable. Use Grounding Kit RAP0838 for the following two items:

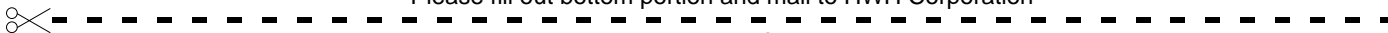
1. All 610 Systems should have the control box grounded directly to the frame rail. See Instruction Sheet MI91.2248.
2. All Fenner Stone power units with 3" diameter motors should have a ground cable on the motor as shown on Instruction Sheet MI91.2270.

Stone power units with 3" diameter motors were first furnished in mid year 1992. The ground cable was added in mid year 1993.

The 3" motors were used on some manually controlled leveling systems and on all computerized systems except those with the 3.5 gallon square reservoirs.

Please fill out the information section below and return to HWH Corporation "ATTENTION: Fred Grunder" along with a Warranty Claim. 1.5 hours warranty time will be paid if both of the above enhancements are performed.

Please fill out bottom portion and mail to HWH Corporation



FIELD ENHANCEMENT

- _____ Ground Cable Added to Pump Motor
- _____ Motor Already had Ground Cable or was a 4.5" Diameter Motor
- _____ Control Box Ground was Moved Direct to Frame Rail
- _____ Control Box was Already Ground Direct to Frame Rail

Servicing Dealer: _____ Technician: _____

COACH INFORMATION:

Owner's Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Make: _____ Model: _____ Year: _____

VIN Number: _____

**ML10906/MI91.2245
30MAR01**

FIELD ENHANCEMENT FOR 610 SYSTEMS

STEP "1" below should be performed on all 610 Systems as applicable.

1A. GROUND CONTROL BOX

All 610 Systems should have the control box grounded directly to the frame rail. See Instruction Sheet MI91.2248. If box is not grounded to frame use Box Grounding Kit RAP0999. (RAP0999 is included in the Motor Grounding Kit RAP0838 below.)

1B. GROUND 3" MOTOR

All Fenner Stone power units with 3" diameter motors should have a ground cable on the motor as shown on Instruction Sheet MI91.2270.

Stone power units with 3" diameter motors were first furnished in mid year 1992. The ground cable was added in mid year 1993.

The 3" motors were used on some manually controlled leveling systems and on all computerized systems except those with the 3.5 gallon square reservoirs. Use Grounding Kit RAP0838.

Obtain the coach VIN number, the owner's name and address and send them to HWH Corporation, "ATTENTION: WARRANTY DEPARTMENT", noting that the Pump Motor Ground was added

STEP "2" below should be performed if the system is not properly sensing the switches on the jacks.

2A. KICK-DOWN JACKS-PRESSURE SWITCH, WARNING SWITCH AND GROUNDING

Replace the pressure switch if existing pressure switch does not have a rubber boot on top. Use RAP8003 Pressure Switch. New style RAP8003 does NOT have a rubber boot.

Replace the warning switch and ground new switch directly to chassis frame rail. Use RAP0995 Warning Switch. See Instruction Sheet MI91.2272 for 6000# jacks. See Instruction Sheet MI91.2274 for 9000# jacks.

2B. STRAIGHT-ACTING JACKS PRESSURE SWITCH, WARNING SWITCH AND GROUNDING

Replace pressure switch if the existing pressure switch does not have a rubber boot on top. Use RAP8003 Pressure Switch.

Replace the warning switch and ground the new switch directly to the chassis frame rail. Use RAP1009 Warning Switch. New style RAP8003 does NOT have a rubber boot.

The pressure switches will have to be grounded with a RAP0770 Ground Kit if the warning switches are the one wire style.

2C. PRESSURE SWITCH ADJUSTMENT

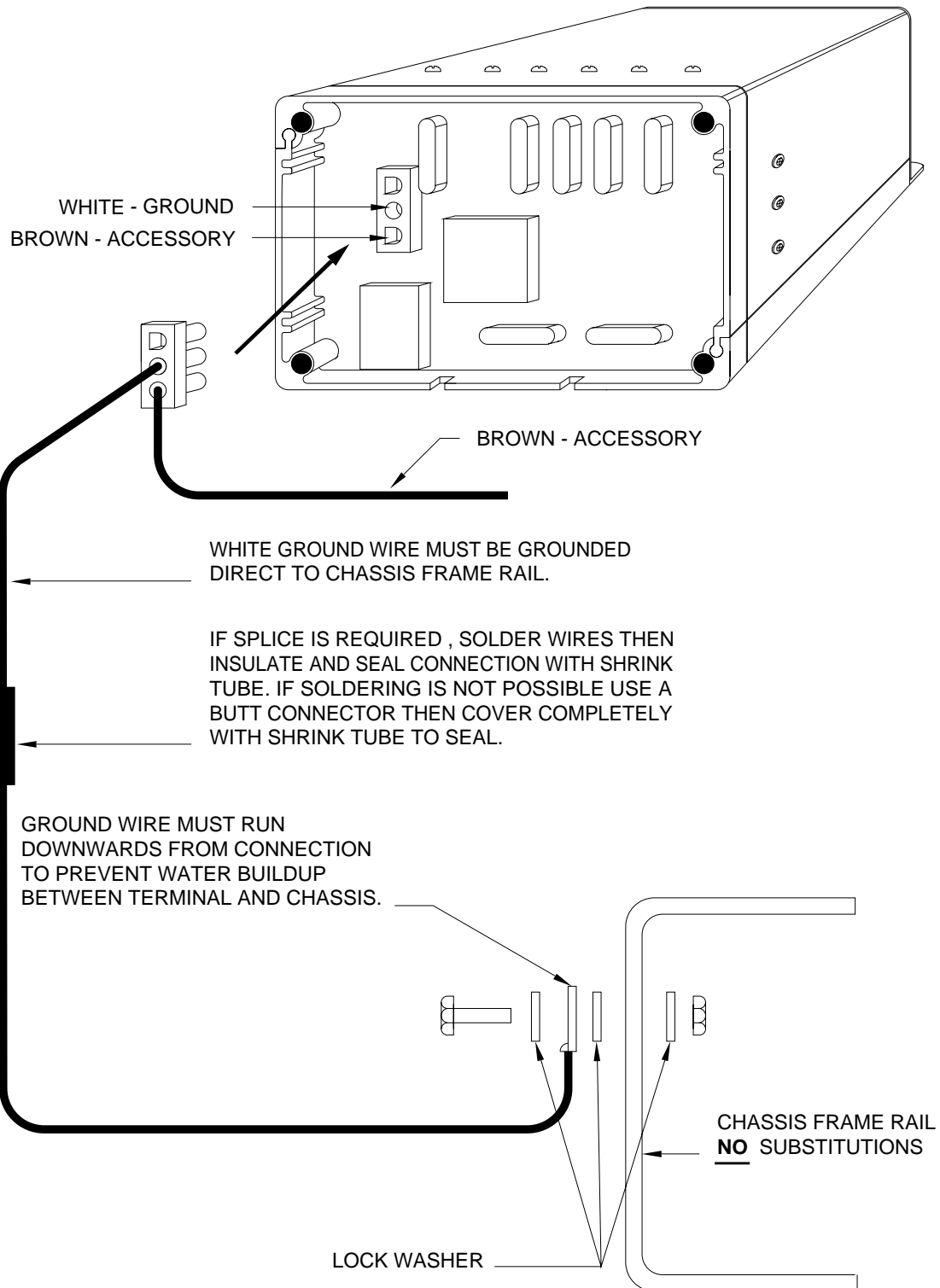
New pressure switches may need to be adjusted so that when stabilizing, the jacks will touch the ground and lift the coach 1/2" to 1". See MI95.44 in this manual.

STEP "3" - Replace the control box and the touch panel at this time if system operation is not operating correctly. The control box is 3" x 4" x 7" aluminum, generally located under the dash.

STEP "4" - Applies only to 6000# or 9000# kick-down jacks. In certain cases, replacing actuators improve the leveling or stabilizing function. Consult HWH Corporation before performing this step.

On a 6000# jack, replace the actuator by using an RAP0448 Actuator Kit. On a 9000# jack, replace the actuator by using an RAP0547 Actuator Kit and an RAP1029 Tube and Fitting Kit. See Instruction Sheet MI91.2276.

GROUNDING INSTRUCTIONS 610 CONTROL BOX



GROUNDING INSTRUCTIONS

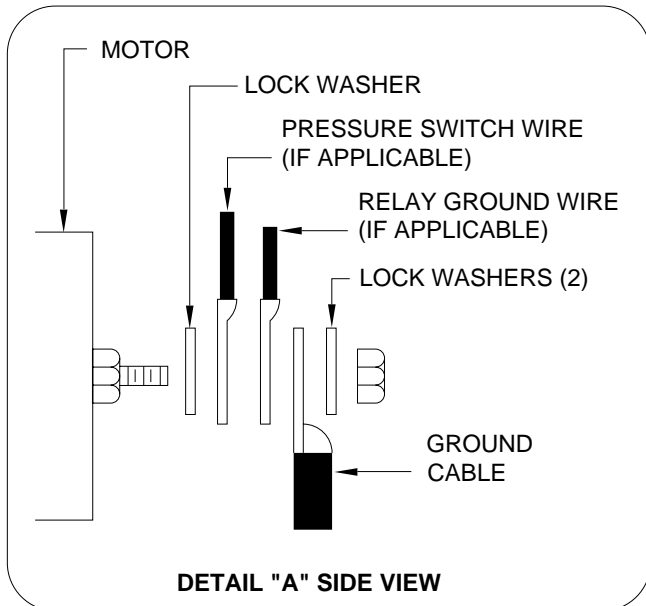
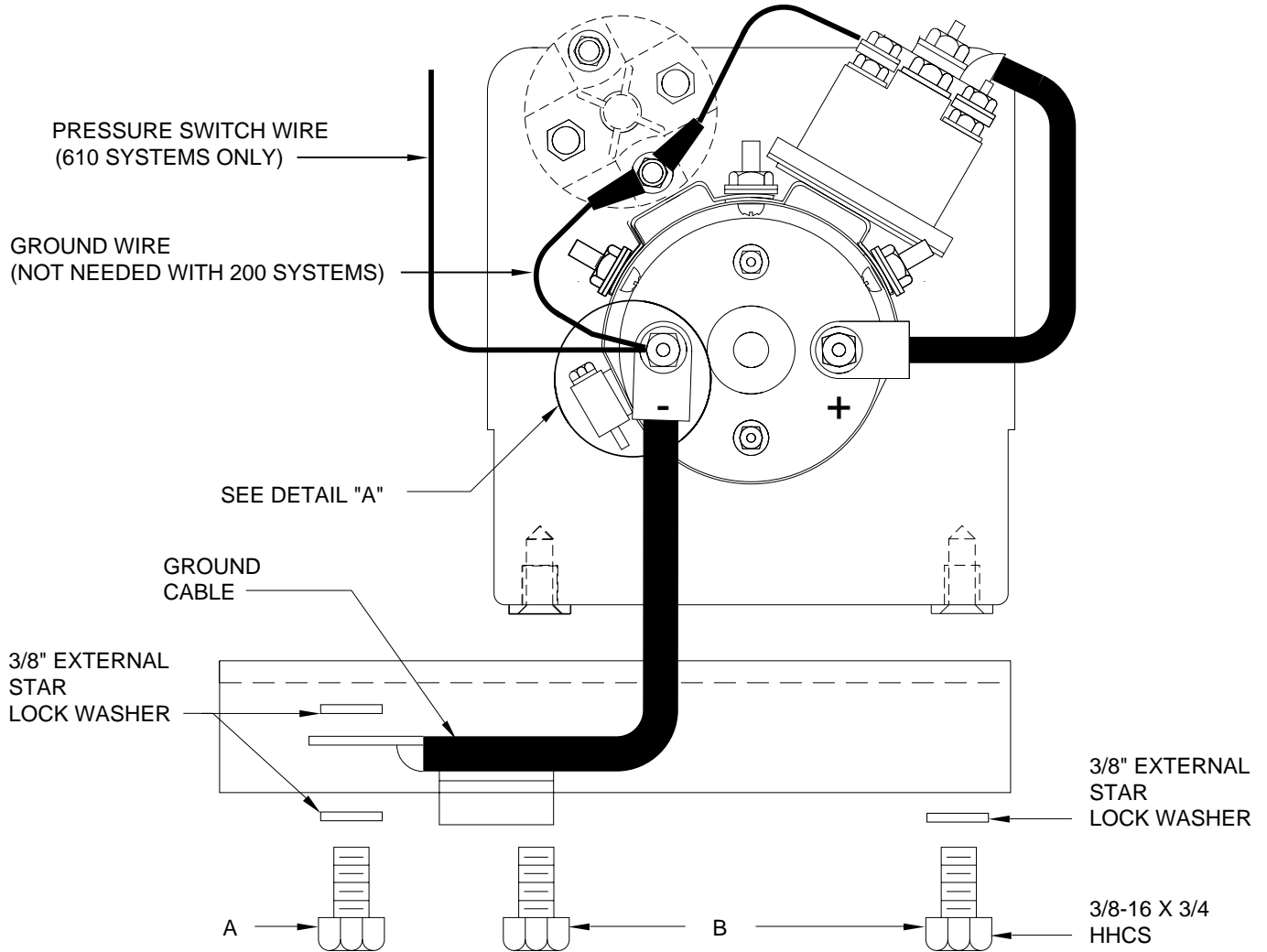
- 1) GRIND FRAME RAIL CLEAN.
- 2) DRILL 1/4" DIAMETER HOLE.
- 3) IMPORTANT: PLACE INTERNAL LOCK WASHERS ON BOTH SIDES OF TERMINAL AND UNDER NUT.
- 4) SEAL BOTH SIDES WITH SILICONE CAULKING.

RAP0999 BOX GROUND KIT

MI91.2248
25JUN98

GROUND CABLE INSTALLATION FOR FENNER STONE PUMPS

SEE OPERATOR'S MANUAL FOR CONNECTION INFORMATION OF GROUND WIRES AND SOLENOIDS.



CONNECT GROUND CABLE STRAP FROM NEGATIVE ("-") MOTOR TERMINAL TO PUMP CHANNEL MOUNTING BOLT (A). IF PUMP CHANNEL IS WELDED TO FRAME, CONNECT GROUND CABLE STRAP TO A PUMP MOUNTING BOLT (B). A 3/8" EXTERNAL STAR LOCK WASHER MUST BE USED BETWEEN GROUND CABLE STRAP TERMINAL/PUMP CHANNEL AND BETWEEN GROUND CABLE STRAP TERMINAL/BOLT HEAD OR NUT.

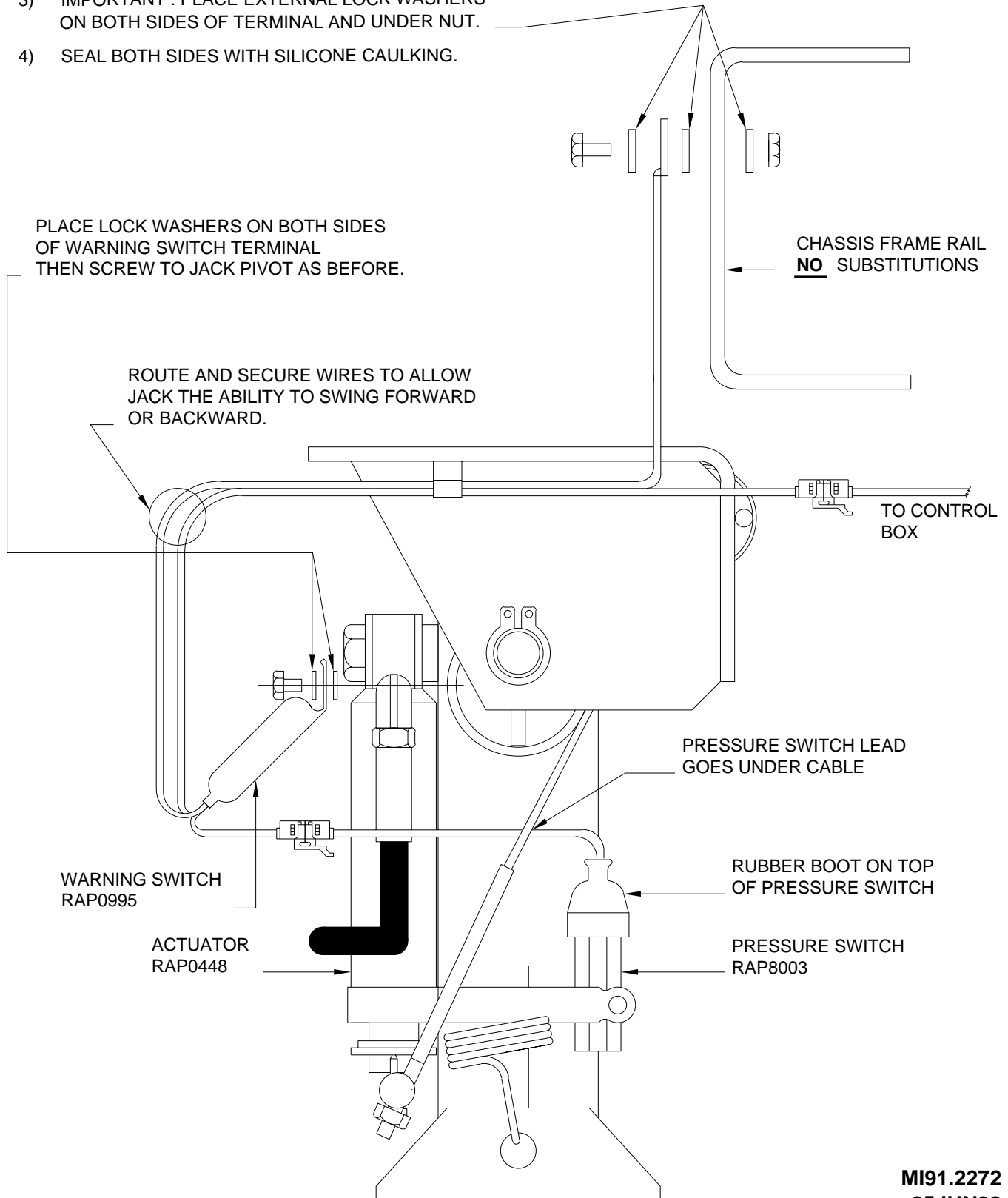
RAP0838 GROUND STRAP KIT

GROUNDING INSTRUCTIONS

6,000# KICK-DOWN JACKS

GROUNDING INSTRUCTIONS

- 1) GRIND FRAME RAIL CLEAN.
- 2) DRILL 1/4" DIAMETER HOLE.
- 3) IMPORTANT : PLACE EXTERNAL LOCK WASHERS ON BOTH SIDES OF TERMINAL AND UNDER NUT.
- 4) SEAL BOTH SIDES WITH SILICONE CAULKING.



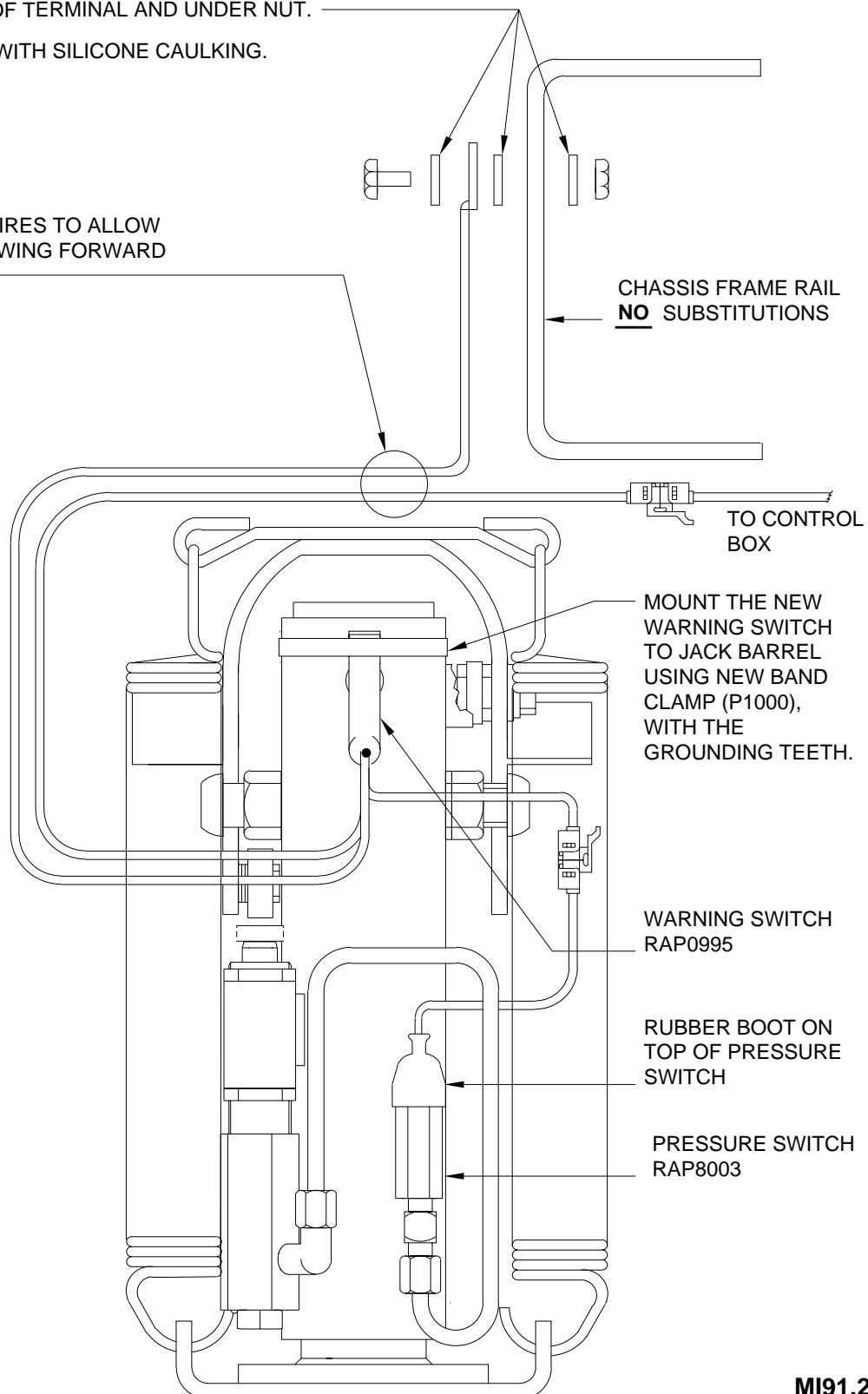
GROUNDING INSTRUCTIONS

9,000# KICK-DOWN JACKS

GROUNDING INSTRUCTIONS

- 1) GRIND FRAME RAIL CLEAN.
- 2) DRILL 1/4" DIAMETER HOLE.
- 3) IMPORTANT : PLACE EXTERNAL LOCK WASHERS ON BOTH SIDES OF TERMINAL AND UNDER NUT.
- 4) SEAL BOTH SIDES WITH SILICONE CAULKING.

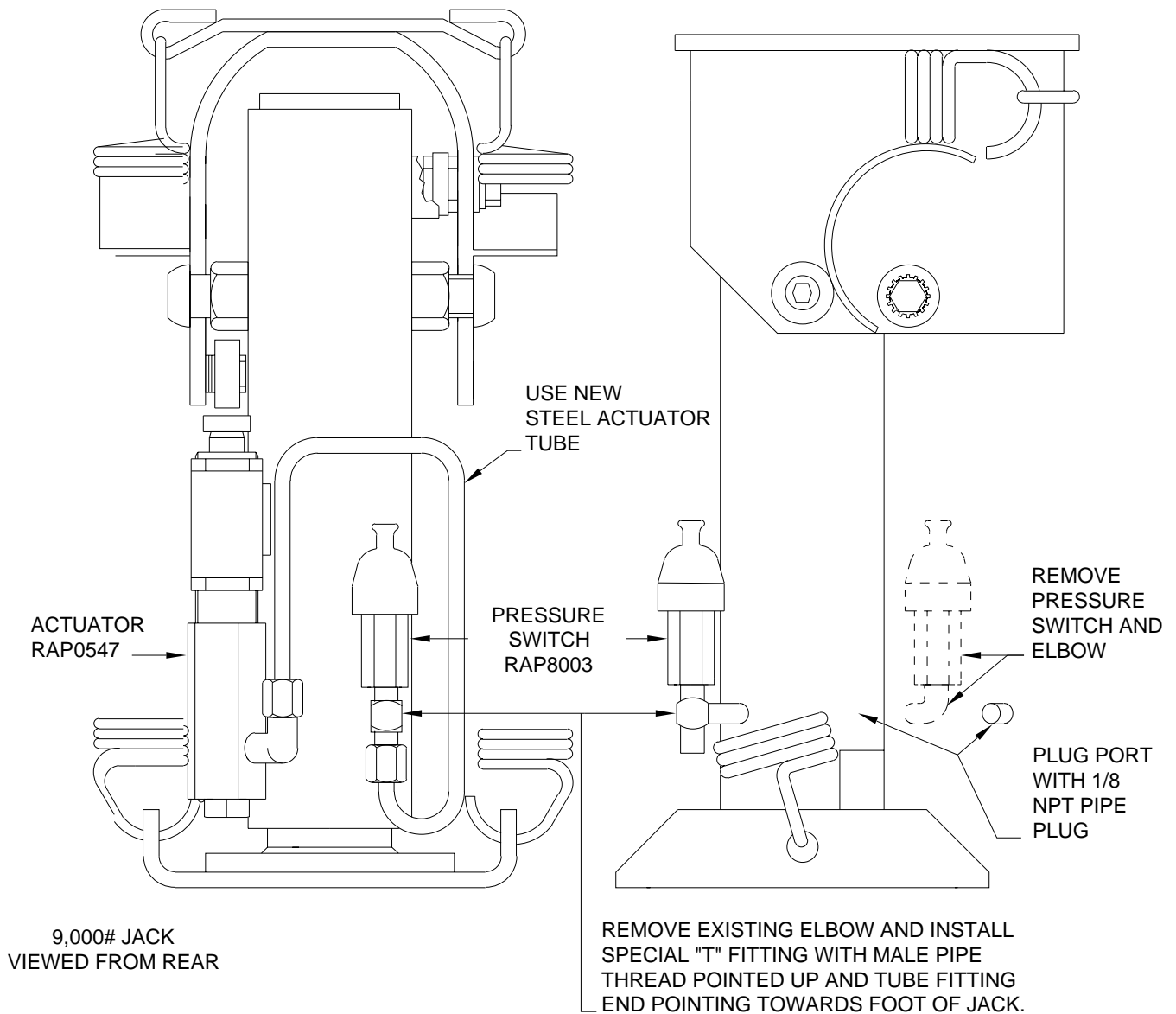
ROUTE AND SECURE WIRES TO ALLOW JACK THE ABILITY TO SWING FORWARD OR BACKWARD.



9,000# JACK
VIEWED FROM REAR

MI91.2274
25JUN98

**MOUNTING INSTRUCTIONS
PRESSURE SWITCH ON BACK SIDE
9,000# KICK-DOWN JACKS**



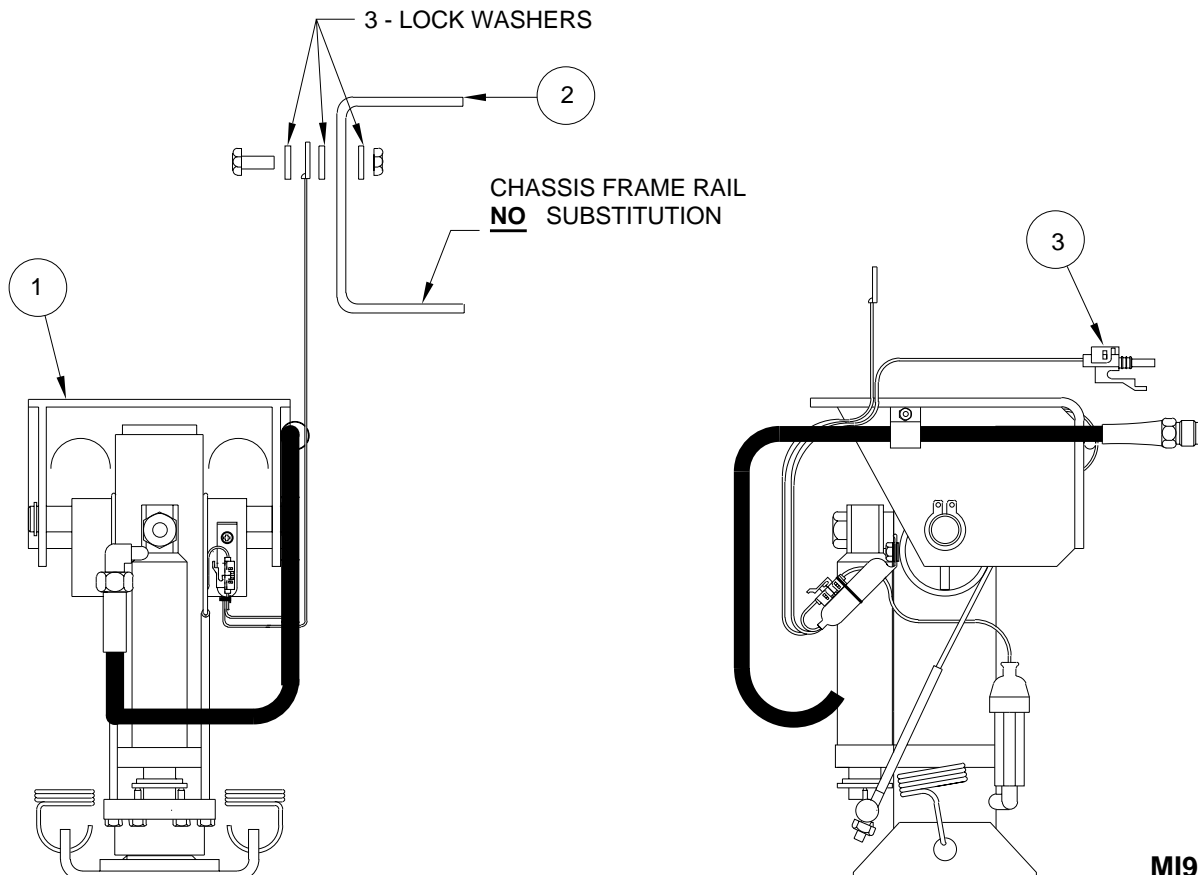
NOTE: ACTUATOR STEEL TUBE AND SPECIAL "T"
FITTING ARE AVAILABLE AS A KIT (RAP1029).

6000# JACK HOSE AND WIRING INSTRUCTIONS

1. Install brackets and jacks using correct installation procedures. (See Installation Manual)

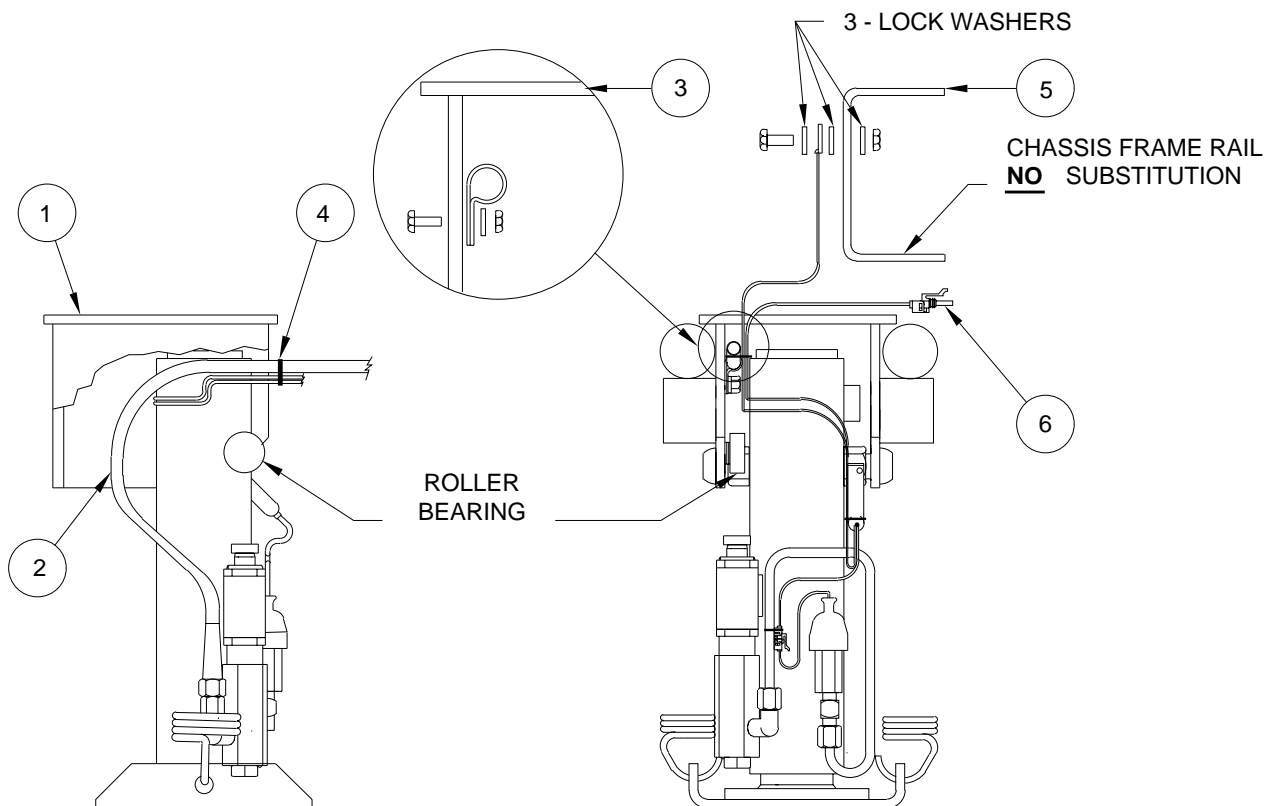
This jack is usually supplied with the wiring and a short hose already installed on the jack. For clearance purposes the hose and wire may be clamped to the opposite side of the jack. Check carefully that the hose and wire will not catch on the jack and that the jack may fold, swing vertical and swing to the front without damage to the hose or wire.

2. Ring terminal on warning switch must be grounded directly to the frame rail.
 - A. Grind the frame rail clean where ring terminal will be grounded.
 - B. Drill 1/4" hole in frame.
 - C. **IMPORTANT:** Place internal lock washers on both sides of the terminal and under the nut.
 - D. Seal both sides of bolt with silicone caulking.
3. Plug packard connector into correct wire from control box. (See Installation or Operator's Manual)



9000# JACK HOSE AND WIRING INSTRUCTIONS

1. Install brackets and jacks using correct installation procedures. (See Installation Manual)
2. Route hose above roller bearing, in front of pivot nut and connect to the actuator fitting.
3. Clamp hose to pivot bracket using hose clamp. Locate clamp on hose so that there is no slack in hose when jack is folded.
4. Route warning switch wires around front of jack and wire tie to hose by hose clamp. Check that jack can fold without damaging or stretching wires.
5. Ring terminal on warning switch must be grounded directly to the frame rail.
 - A. Grind frame rail clean where ring terminal will be grounded.
 - B. Drill 1/4" hole in frame.
 - C. **IMPORTANT:** Place internal lock washers on both sides of terminal and under nut.
 - D. Seal both sides of bolt with silicone caulking.
6. Plug packard connector into correct wire from control box. (See Installation or Operator's Manual)



16,000# JACK HOSE AND WIRING INSTRUCTIONS

1. Install brackets and jacks using correct installation procedures. (See Installation Manual)
2. Route hose around left pivot, between cylinder and wires, then across back side of cylinder and connect to actuator fitting.
3. Clamp hose to pivot bracket using hose clamp. Locate clamp on hose so that there is no slack in hose when jack is folded.
4. Wire tie wires to hose 1.0" from jack. Check that the jack will fold, swing vertical and swing to the front without damage to the hose or wire.
5. Ring terminal on warning switch must be grounded directly to frame rail.
 - A. Grind frame rail clean where ring terminal will be grounded.
 - B. Drill 1/4" hole in frame.
 - C. **IMPORTANT:** Place internal lock washers on both sides of terminal and under nut.
 - D. Seal both sides of bolt with silicone caulking.
6. Plug packard connector into correct wire from control box. (See Installation or Operator's Manual)

