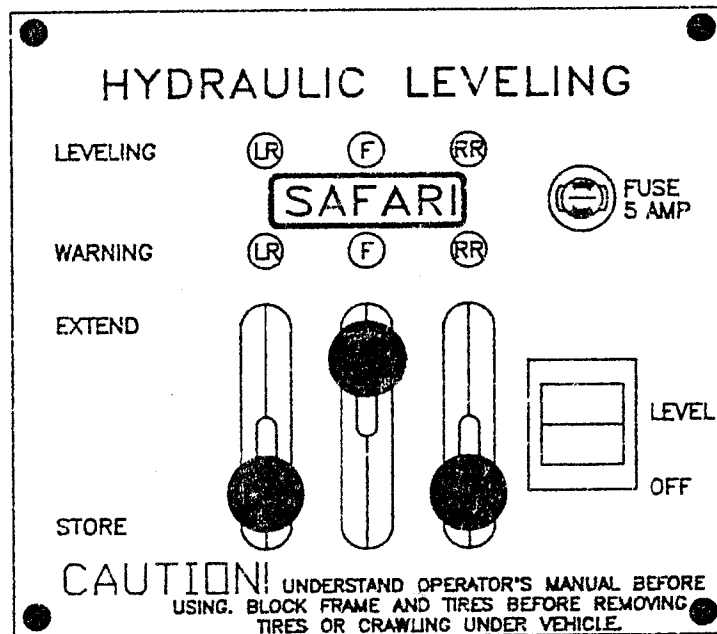


OPERATOR MANUAL

HWH LEVER CONTROLLED LEVELING SYSTEM

FEATURING;

THREE LEVER MANUAL CONTROL
HYDRAULIC LEVELING
STATIONARY LEVELING JACKS



HWH CORPORATION
R.R.1
MOSCOW, IOWA 52760
800-321-3494
319-724-3396

ML8183 LH-S MANUAL 2-91

OPERATORS MANUAL

CAUTION!

READ THE ENTIRE OPERATOR MANUAL BEFORE OPERATING.

BLOCK FRAME AND TIRES SECURELY BEFORE CRAWLING UNDER VEHICLE. DO NOT USE LEVELING JACKS TO SUPPORT VEHICLE WHILE UNDER VEHICLE OR CHANGING TIRES. VEHICLE MAY DROP AND/OR MOVE FORWARD OR BACKWARD WITHOUT WARNING CAUSING INJURY OR DEATH.

KEEP ALL PEOPLE CLEAR OF VEHICLE WHILE LEVELING SYSTEMS IS IN USE.

NEVER PLACE HANDS OR OTHER PARTS OF THE BODY NEAR HYDRAULIC LEAKS. OIL MAY PENETRATE SKIN CAUSING INJURY OR DEATH.

WEAR SAFETY GLASSES WHEN INSPECTING OR SERVICING THE SYSTEM TO PROTECT EYES FROM DIRT, METAL CHIPS, OIL LEAKS, ETC. FOLLOW ALL OTHER APPLICABLE SHOP SAFETY PRACTICES.

NOTE: KEEP LEVERS IN THE RETRACT OR STORE POSITION WHEN JACKS ARE NOT IN USE.

HOW TO OBTAIN WARRANTY SERVICE

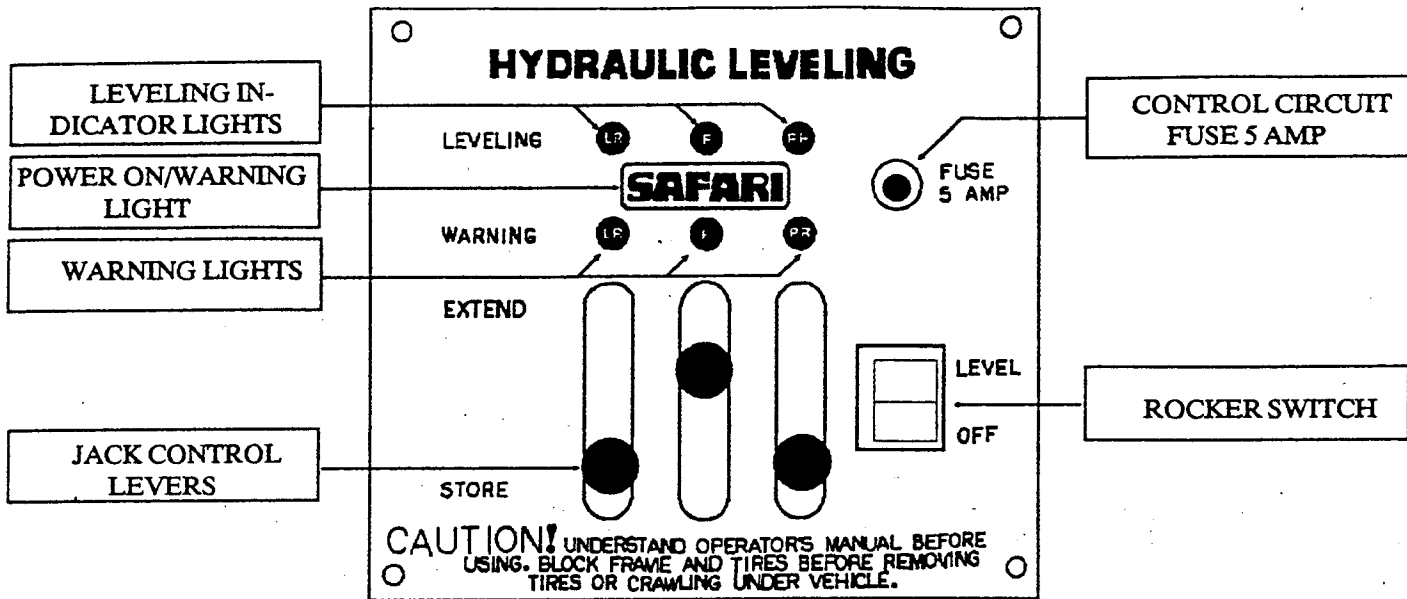
THIS IS NOT TO BE INTERPRETED AS A STATEMENT OF WARRANTY

HWH CORPORATION strives to maintain the highest level of customer satisfaction. Therefore, if you discover a defect or problem, please do the following:

FIRST: Notify the dealership where you purchased the vehicle or had the leveling system installed. Dealership management people are in the best position to resolve the problem quickly. If your dealer has difficulty solving the problem, he should immediately contact the Customer Service Department, HWH CORPORATION.

SECOND: If your dealer cannot or will not solve the problem, notify the Customer Service Department, HWH CORPORATION, R.R.1, MOSCOW, IOWA 52760, [319] 724-3396 OR 800-321-3494. Give your name and address, coach manufacturer and model year, date the coach was purchased, or the date of system installation, description of problem, and where you can be reached during business hours. [8:00a.m. till 5:00p.m. c.s.t.] HWH CORPORATION personnel will contact you to determine whether or not your claim is valid. If it is, HWH CORPORATION will authorize repair or replacement of the defective part, either by appointment at the factory or by authorization of an independent service facility, to be determined by HWH CORPORATION. All warranty repairs must be performed by an independent service facility authorized by HWH CORPORATION, or at HWH CORPORATION'S. factory, OR unless prior written approval has been obtained from proper HWH CORPORATION personnel.

CONTROL IDENTIFICATION



CONTROL FUNCTIONS

ROCKER SWITCH:

This is the on/off switch for the leveling system. It provides control power to operate the electrical solenoid on the pump and the leveling lights. It does not control power to the red warning light. [Only the ignition switch controls the WARNING light power.]

POWER ON/WARNING LIGHTS:

This light will be on when the rocker switch is on or any time a jack is extended. [Provided the ignition is on.].

LEVELING INDICATOR LIGHTS:

If a yellow LEVELING light is on, that corner or the front of the coach is low, thus that jack should be extended.

WARNING LIGHTS:

A red WARNING light will be "ON" whenever corresponding jack is extended, provided the ignition switch is in "ACCESSORY" or "ON" position. Some coaches are equipped with a dash mounted master warning or "JACKS DOWN" light which will be "ON" when one or more jacks are extended, provided the ignition switch is "ON".

JACK CONTROL LEVERS:

Any jack is extended by pushing the appropriate control lever to the EXTEND position. This movement of the lever activates the pump and directs hydraulic fluid to the jack. When the lever is released it will return to the neutral [center] position, turning off the pump and stopping the jack in position. The jacks are retracted by pulling the levers toward STORE. The levers will detent in the STORE position and should be left in STORE until jacks are used again.

SITE SELECTION

If parking in soft ground or asphalt paving, wood blocks or pads must be placed under the jacks.

LEVELING PROCEDURE

1. Place gear selector in the parking position and apply brake. Block wheels securely
2. Turn ignition switch to "ON" or "ACCESSORY".
3. Turn the rocker switch on jack control plate to LEVEL.

IMPORTANT: OVERHEATING AND EXCESSIVE CURRENT DRAW WILL RESULT IF CONTROL LEVERS ARE PARTIALLY OPERATED TOWARD "EXTEND" FOR AN EXTENDED PERIOD OF TIME.

4. A lit yellow LEVEL light indicates that corner or the front of the coach is low. **IMPORTANT: ALWAYS** extend rear jacks to put out left rear and/or right rear yellow lights before extending the front jack to raise the front of the coach. If **ONLY** the front yellow light is lit, then the front jack can be extended to raise the front of the coach to put out the front yellow light before extending the rear jacks. If both right rear and left rear yellow lights are lit, both of the rear jacks should be extended until both yellow lights are put out. Jacks are extended by pushing the appropriate control lever fully to the EXTEND position. If the ground is too uneven, the jacks may not have enough stroke to level the coach. The coach may have to be moved

5. The red WARNING lights will be lit when jacks are extended approximately 1 1/2 inches. The master warning lights will be lit when any or all jacks are extended approximately 1 1/2 inches.

6. After the coach is level the jacks not used for leveling may be extended until they touch the ground. This provides additional stability against wind and activity in the coach.

7. Turn off the rocker switch on the leveling system panel.

8. Turn off the ignition switch.

NOTE: The leveling system should be cycled at least once a month or whenever the vehicle is used, to keep the system in operating condition.

RETRACT PROCEDURE

1. IMPORTANT: ALWAYS RETRACT THE FRONT JACK FIRST. Move the control lever to the RETRACT position. After retracting the front jack, retract the two rear jacks together. This will provide a smooth retraction.

CAUTION: THE CONTROL LEVERS MUST BE KEPT IN THE "STORE" POSITION WHILE TRAVELING TO KEEP THE JACKS IN THE RETRACTED POSITION.

2. With the ignition switch in "ON" or "ACCESSORY" check that the red warning lights and the master "JACKS DOWN" lights are all out.

CAUTION: DO NOT MOVE THE VEHICLE WHILE THE LEVELING UNITS ARE STILL IN CONTACT ON THE GROUND OR IN THE EXTENDED POSITION. THIS COACH IS EQUIPPED WITH STATIONARY JACKS. MOVING THE VEHICLE WITH THE LEVELING UNITS EXTENDED CAN CAUSE SEVERE DAMAGE TO THE JACKS AND/OR THE COACH AND CREATE A DRIVING HAZARD. DO NOT RELY UPON WARNING LIGHTS. IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT ALL JACKS ARE FULLY RETRACTED.

3. Turn rocker switch on the jack control plate to OFF. Turn ignition off.

MAINTENANCE

It is important that the three leveling units are in the retracted position before checking the hydraulic oil level. To check the oil supply, remove the breather plug from the top of the hydraulic oil reservoir. The oil level should be approximately one inch below the top of the reservoir when adequately filled.

NOTE: FLUIDS-Use Universal, Multipurpose or Dextron automatic transmission fluid. **DO NOT USE** brake fluid or hydraulic jack fluid. Use of these fluids can damage seals.

In general, to insure the smooth operation of the leveling system, it is a good idea to occasionally check the individual leveling units to prevent problems. This is especially true under the unusual conditions stated in the following:

UNUSUAL CONDITIONS

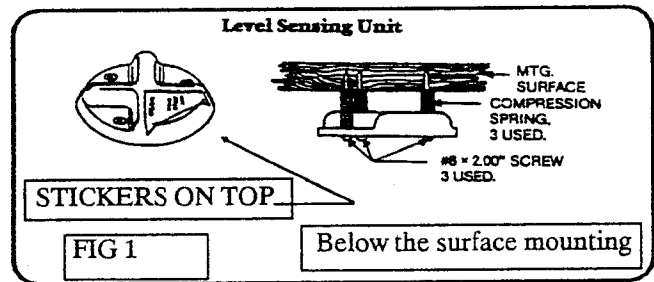
If driving conditions are unusually muddy, the units may become caked or clogged with mud. This condition may hamper the proper operation of the leveling system. This problem may be prevented or remedied by cleaning off each leveling unit if they become excessively muddy.

In wet, icy weather, leveling units may become encrusted with ice. This may cause the leveling system to function improperly. To eliminate this problem, periodically check the leveling units, and break loose any ice which may be causing improper operation.

SYSTEM ADJUSTMENT

LEVEL SENSING UNIT ADJUSTMENT

Level the coach by placing a circular bubble level in the center of the freezer floor or location within the coach that is to be level. With the coach level, adjust the sensing unit until all yellow lights are off. This is done by drawing up the corresponding screw if the sensing unit is mounted below the surface as shown in fig. 1 or backing out the corresponding screw if the sensing unit is mounted above the surface. Bump the sensing unit to see that it has settled down in the level position.



ADJUSTING THE HYDRAULIC CONTROL VALVE

Two parts of the control valve are possible to adjust. The proper adjustments for these parts are made at the factory, so readjustments will rarely be necessary.

NOTE: These valve adjustments should only be made on a non-warranty basis. If the valve needs to be repaired or adjusted under warranty, the complete control valve unit should be replaced, but not the light panel.

The following procedures are recommended to adjust them if the need arises.

1. **ADJUSTMENT OF THE DETENT PLATE:** Adjustment of the detent plate is necessary if the detent plate fails to hold the control levers in the retract position, or if the plunger is not depressed sufficiently by the valve handle in the retract position. To adjust the detent plate, first loosen the nuts which hold the valve mounting brackets and the detent plate to the valve assembly. The proper adjustment can be made by moving the detent plate up or down to a point where the valve handle is resting solidly on the detent plate in the retract position, yet holding the plunger down to its fullest extent or no less than 1/16" of this extension.

2. **ADJUSTING THE MICRO SWITCH:** The micro switch will need adjustment if the activating rod does not fall directly upon the nipple of the micro switch.

The adjustment must be made after disassembling a portion of the control valve. First, remove the mounting bracket and the detent plate. Next, remove the snap rings on the pivot rod, and carefully slide off the valve handles spacers, and spring, noting where each part must go during reassembly.

The micro switch is then adjusted by loosening the small hex nuts which hold the micro switch to the pivot plate, and then making the proper correction.

TROUBLE SHOOTING

The following is a list of troubles, and possible solutions which might occur to the leveling system.

NOTE: Only qualified technicians should install or repair leveling systems on coaches. A knowledge of hydraulics, welding, the vehicle's suspension and electrical system, as well as an understanding of the leveling system's hydraulics and electronics is required.

1. JACK RETRACTS AFTER COACH IS LEVEL

- A. Hose or jack has external leak
- B. Fluid is leaking back to reservoir through control valve

2. LEVELING JACKS WILL NOT RETRACT COMPLETELY

- A. Unit clogged with mud or ice
- B. Main rod bent or scored
- C. Valveplunger not completely depressed by valve handle
- D. Springs weak or broken
- E. Hydraulic line pinched

3. IGNITION SWITCH ON, BUT NO POWER TO PUMP AND/OR LIGHT

- A. Bad micro switch
- B. Pump solenoid not functioning
- C. 12 volts from main power source not present
- D. Bad rocker switch
- E. Faulty wire or electrical connection
- F. Pump not grounded
- G. Blown fuse .

4. LEVELING LIGHTS [YELLOW] NOT FUNCTIONING PROPERLY

- A. Yellow lights will not go out when coach is level: adjust sensing unit
- B. More than two yellow lights on: replace sensing unit
- C. Check PC board

5. WARNING LIGHTS [RED] NOT FUNCTIONING PROPERLY

- A. light won't come on: check for broken wire at warning switch on the jack
- B. light won't go out : bad warning switch or wires are shorted to ground
- C. Check PC board

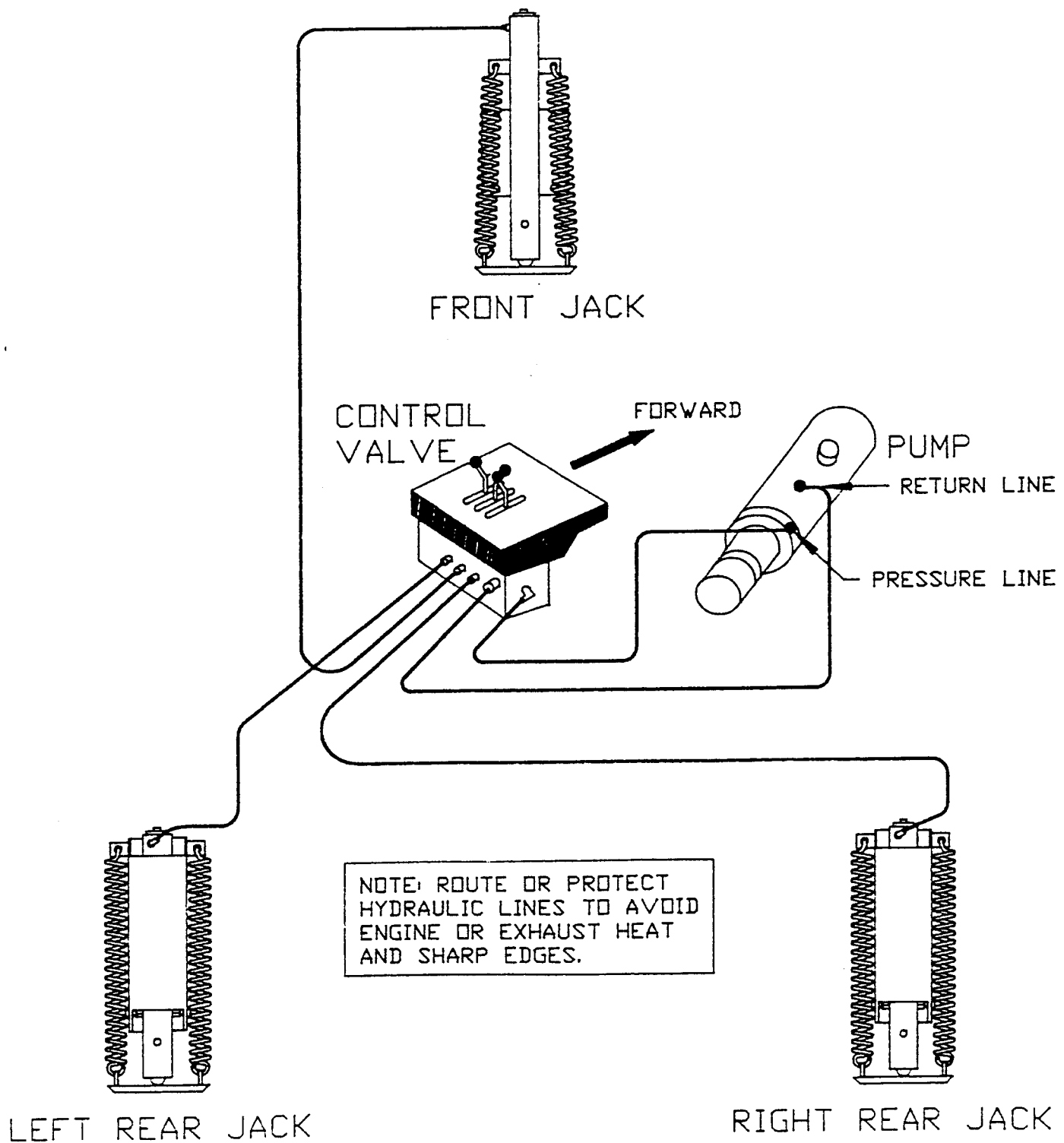
6. HYDRAULIC PUMP ACTIVATES, BUT THE JACKS WILL NOT EXTEND

- A. Control valve lever not in full "on" position
- B. Oil supply low in reservoir
- C. Pump is not developing pressure
- D. Broken hydraulic line

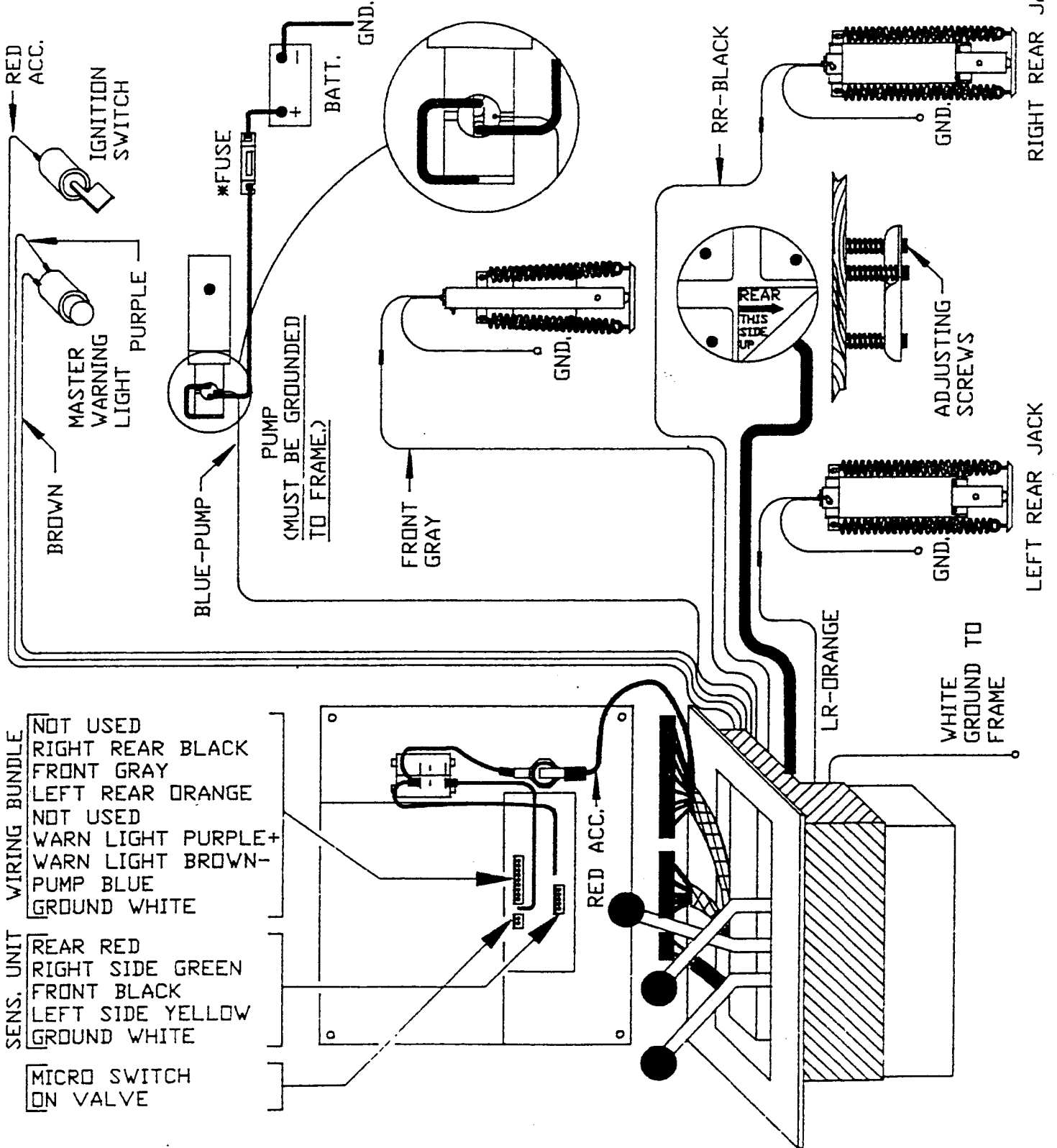
7. HYDRAULIC PUMP ACTIVATES WITHOUT USE OF CONTROL VALVE HANDLES.

- A. Micro switch out of adjustment
- B. Broken spring on pivot rod
- C. Pump solenoid stuck
- D. Short in PC board

HYDRAULIC CONNECTION DIAGRAM FOR THREE JACK LEVELING SYSTEM

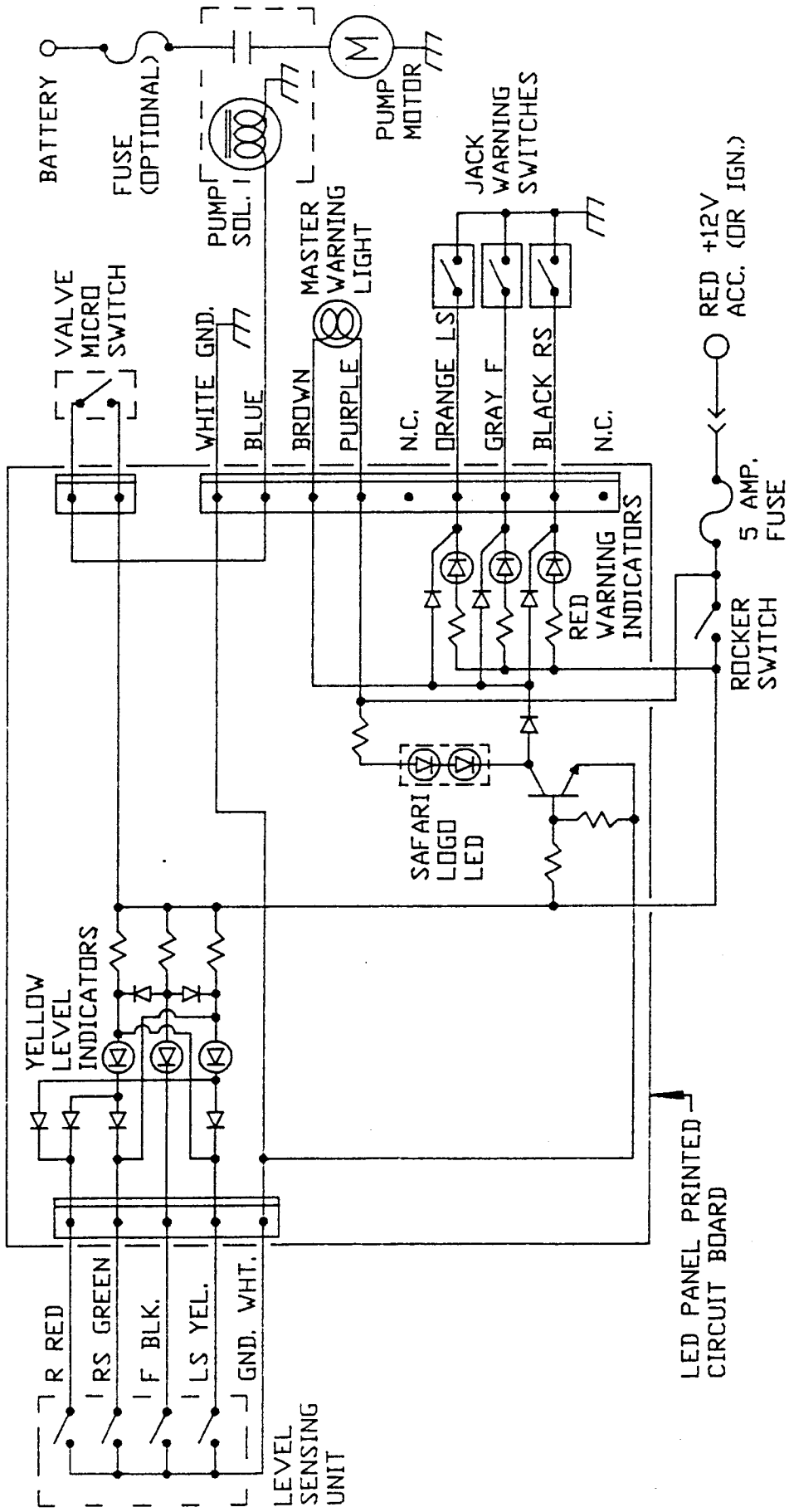


ELECTRICAL CONNECTION DIAGRAM THREE LEVER VALVE (SAFARI)



*FUSE MAY BE REQUIRED,
CHECK APPLICABLE CODE.

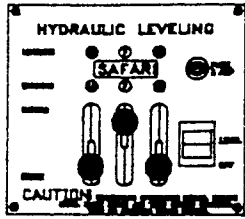
ELECTRICAL SCHEMATIC FOR 3-POINT LEVELING SYSTEMS



MP8111

REPLACEMENT PARTS

(See respective parts manual for complete parts information.)



RAP8050 LIGHT PLATE ASSY.

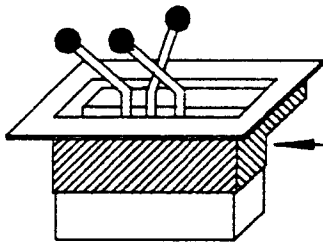
See MLP1.091



RAP6798 SENSING UNIT 21FT. BI-AX



RAP2472 RED LAMP



RAP8161 CONTROL VALVE ASSY.

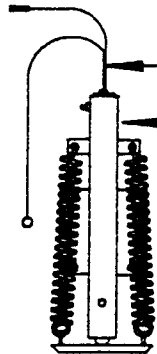
See MLP3.33



RAP8178 POWER UNIT W/O SOLENOID

See MLP5.52

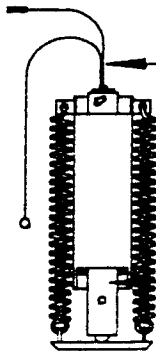
RAP8193 SOLENOID KIT
RAP5147 SOLENOID ONLY



RAP8100 WARNING SWITCH ASSY.

RAP8082 JACK ASSY.

See MLP4.852



RAP8100 WARNING SWITCH ASSY.

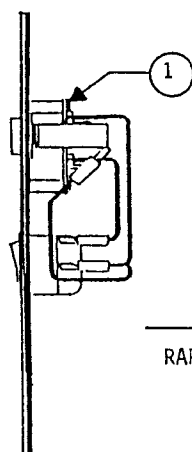
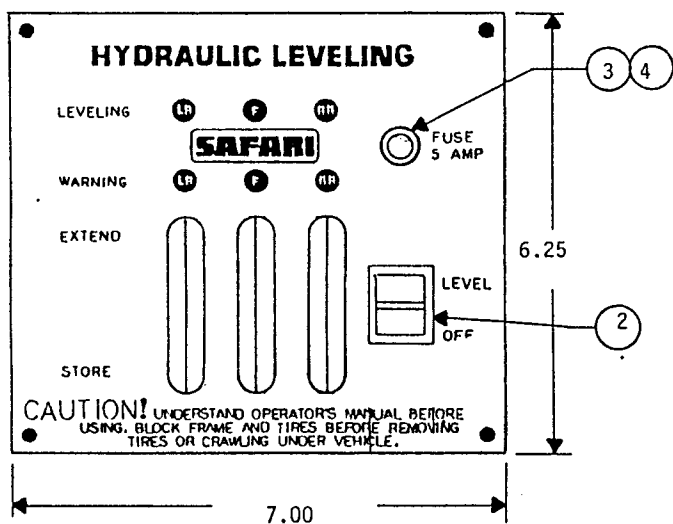
RAP8112 JACK ASSY.

See MLP4.851

RAP8164 CYLINDER ASSY.

(NOTE: Jack pivot bracket is welded to mounting bracket.
Only cylinder assy., springs, and foot can be replaced.)

PARTS MANUAL
 LIGHT PANELS FOR SYSTEMS WITH THREE LEVER CONTROLS
 USED PRIMARILY ON SAFARI COACHES



For replacement sensing unit for this panel see "CROSS MTG. SENSING UNITS" on page MLP2.11

REPLACEMENT PANEL

RAP8050

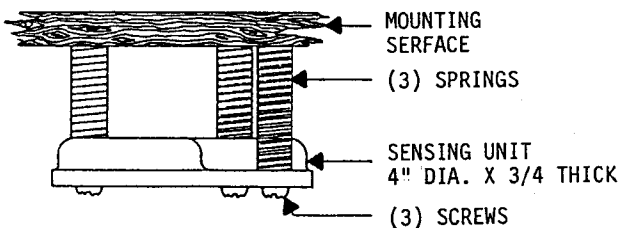
LIGHT PLATE W/O AIR DUMP.
 (COMPLETE ASSEMBLY WITH
 PC BOARD AND SWITCH.)

REPLACEMENT PARTS

ITEM	PART NO.	DESCRIPTION
1	RAP8051	PC BOARD W/O AIR DUMP
2	RP6977	SWITCH MOMENTARY
3	RP6352	FUSE HOLDER
4	R3674	FUSE AGC 5 AMP (5 FUSES PER R3674)

PARTS MANUAL
SENSING UNITS W/O BODY GROUNDS

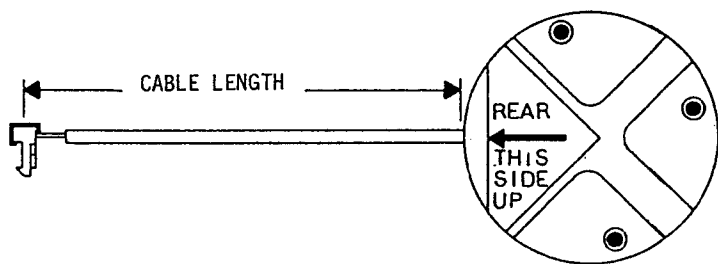
SENSING UNIT MOUNTING HARDWARE (FOR 4 LEVER OR COMPUTERIZED SYSTEM)



PART NO	DESCRIPTION
RAP3905	HDWE KIT FOR SENSOR [CONSIST OF 3 SPRINGS AND 3 SCREWS]

DIAGONAL MTG SENSING UNIT

USE



- 1) See light panel Parts Pages for TYPE of sensor required.
- 2) Four lever controlled leveling systems with rocker switch on light panel.

DISTINGUISHING FEATURES:

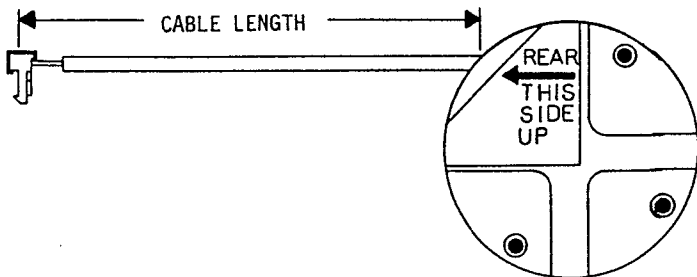
- 1) Cable is attached to the rear of the sensing unit.
- 2) No ground wire on body of sensor.
- 3) 5 wire jacketed unshielded cable.
- 4) Orange or Yellow five pin MTA connector.

REPLACEMENT SENSING UNITS

PART NO	CABLE LENGTH	DESCRIPTION
RAP6849	13'	SENSING UNIT DIAGONAL
RAP6794	21'	
RAP6847	30'	

CROSS MTG (BI AXIS) SENSING UNIT

USE



- 1) See control box or control panel parts page for type of sensor required.
- 2) Touch panel computerized leveling system.

DISTINGUISHING FEATURES:

- 1) Cable is attached to left rear of sensing unit.
- 2) No ground wire on body of sensor.
- 3) 5 wire jacketed unshielded cable.
- 4) Orange or yellow five pin MTA connector.

REPLACEMENT SENSING UNITS

PART NO	CABLE LENGTH	DESCRIPTION
RAP6894	15'	
RAP6798	21'	
RAP6800	27'	

GENERAL REPLACEMENT SENSING UNIT

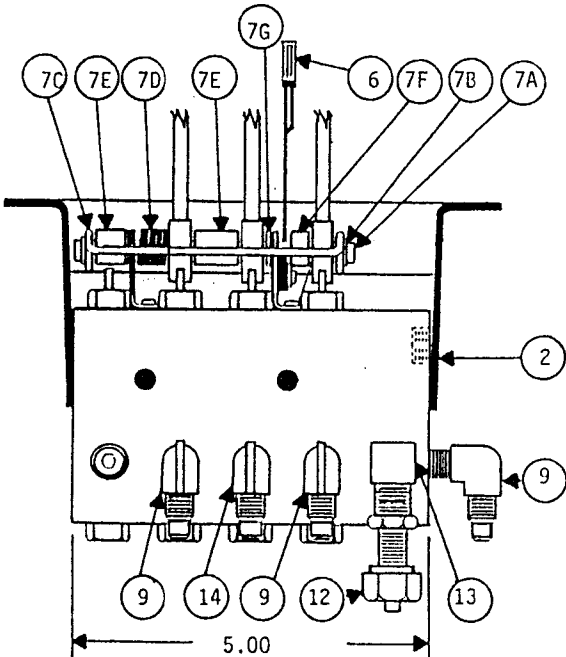
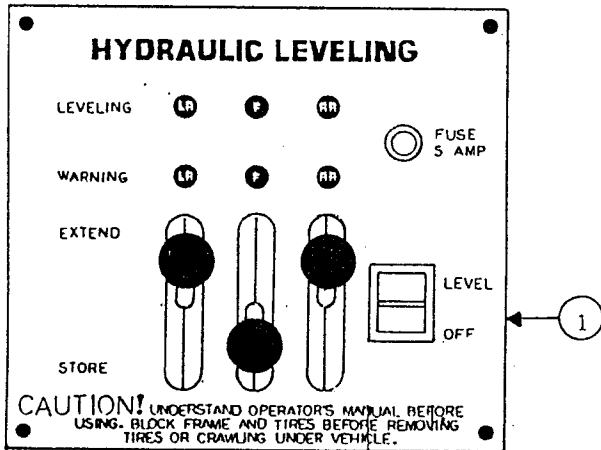
May be used in place of either of the above two types of sensors. Comes with out the orientation sticker mounted on the sensor.

RAP7056

30'

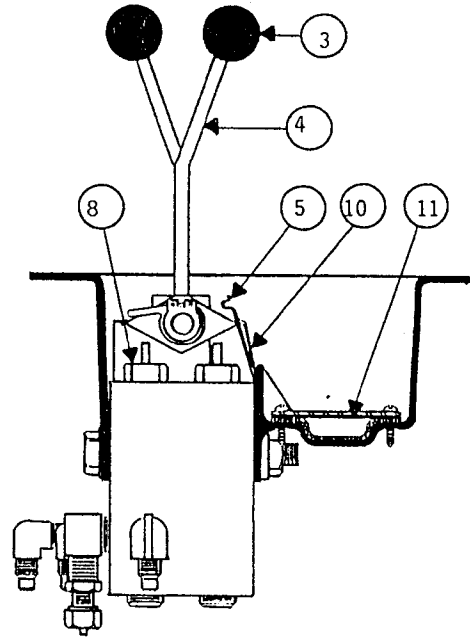
SENSING UNIT GEN 30'

PARTS MANUAL
THREE LEVER CONTROL VALVE FOR USE WITH INTEGRAL LIGHT PANEL



REPLACEMENT VALVES & ACCESSORIES

ITEM	PART NO.	DESCRIPTION
1		LIGHT PLATE ASSY. See page MLP1.1300 or MLP1.1310 for appropriate panel used.
2	RAP8161	VALVE ASSY. W/BOX Does not include light plate or harness.

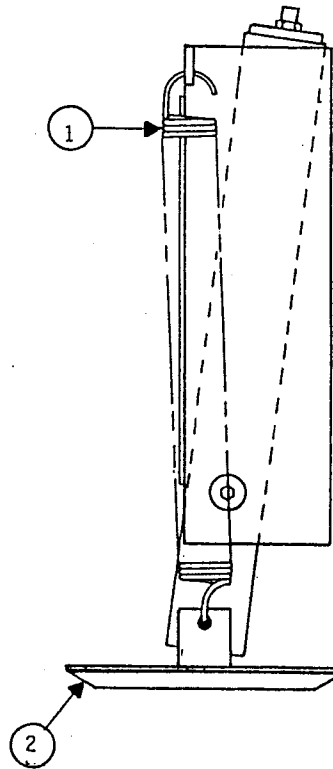
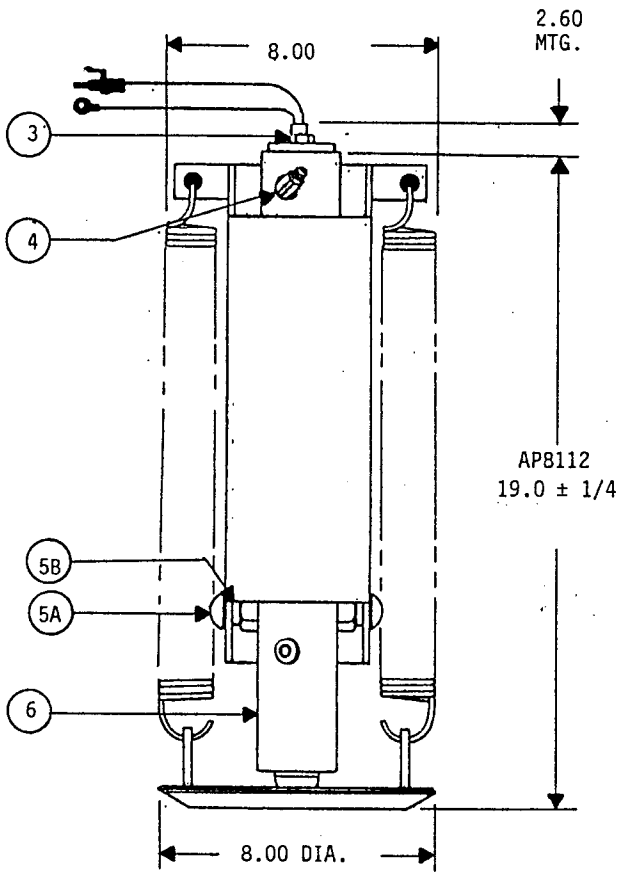


REPAIR PARTS

ITEM	PART NO.	QTY.	DESCRIPTION
3	RAP1379	3	KNOB BLACK
4	RAP1143	3	VALVE HANDLE W/KNOB (1 Handle per AP1143)
5	RP1150	2	DETENT PLATE (2 plates per RP1150)
6	RAP4974	1	SWITCH KIT
7	R8191	1	VALVE PIVOT KIT
7A		1	PIVOT ROD
7B		2	SNAP RING
7C		1	SWITCH ACTIVATING ROD
7D		1	SPRING TORSION
7E		2	SPACER .59
7F		1	SPACER .15
7G		1	SPACER .10

ITEM	PART NO.	QTY.	DESCRIPTION
8	R1217	8	PLUNGER AND GUIDE (8 plungers & guides per R1217)
9	RF1453	3	4-CTX-S 90° MALE ELBOW (1/8 NPT X 7/16 -20 for 1/4 line.)
10	RP5224	1	BACKING PLATE
11	RAP5023	1	HOLE COVER W/SEAL
12	RF1458	1	68NTA-8-4 1/2 TUBE X 1/4 NPT (1/4 NPT X 1/2 OD tube)
13	RF3340	1	2202P-4-4 ELBOW (brass) (1/4 NPT male X 1/4 NPT female.)
14	RF1511	1	4-CCTX-S lg male elbow (1/8 NPT X 7/16-20 for 1/4 line.)

PARTS MANUAL
 AP8112 JACK 6000, 1.625 X 13" STATIONARY (7°)
 USE BEGINNING IN 1991

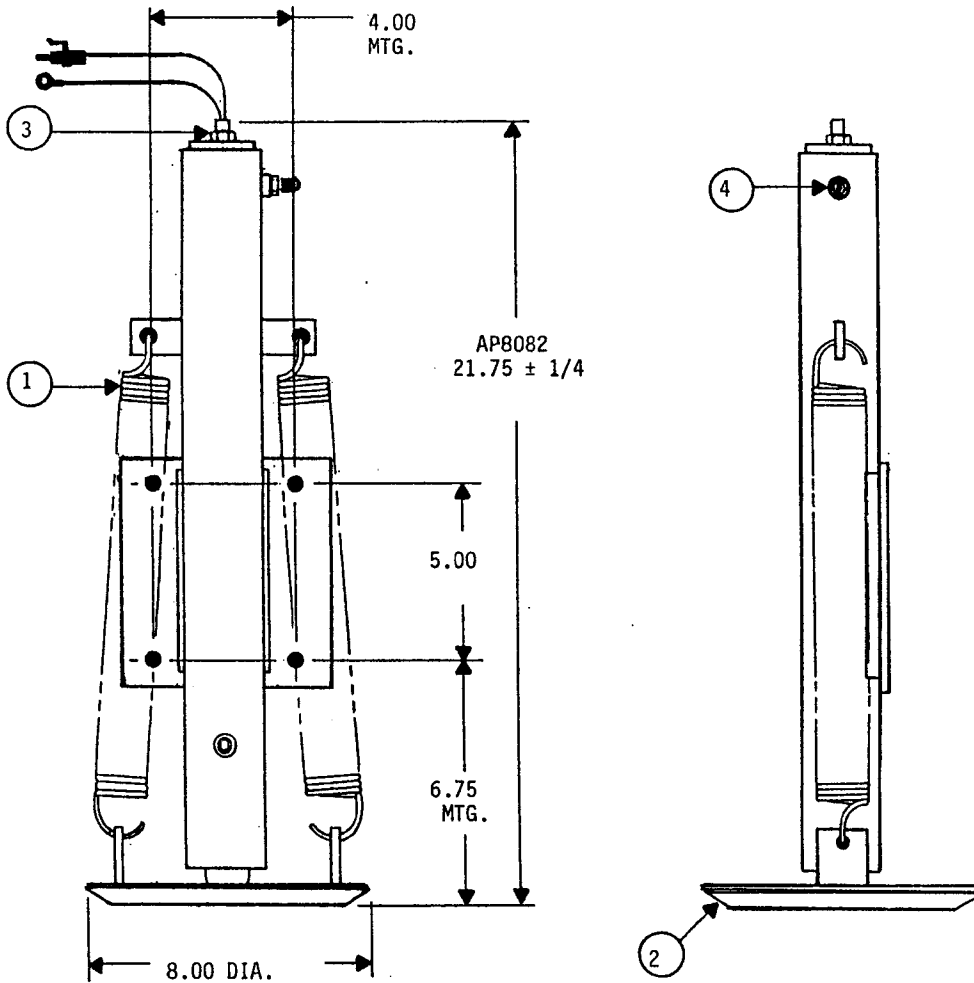


ITEM	PART NO.	QTY.	DESCRIPTION
	RAP8112		JACK 6000 13" STROKE (REPLACES AP8112)
1	R3847	1	SPRING KIT 1-11/16 X 14"
		2	SPRING 1-11/16 X 14"
2	RAP8126	1	8.00 DIA. FOOT
3	RAP8100	1	WARNING SWITCH
4	RF5996	1	4-VTX-S 45° MALE ELBOW

ITEM	PART NO.	QTY.	DESCRIPTION
5	R1280	1	PIVOT BOLT KIT
5A		2	BHCS 5/8-11 X 1
5B		2	BUSHING .75 OD
6	RAP8164	1	CYL ASSY 1.625 X 13" (Includes item 4) (Excludes item 3)

Indented items are included with preceding item.

PARIS MANUAL
 AP8082 JACK 6000 , 1,625 X 16 : FIXED
 USED PRIMARILY ON SAFARI COACHES

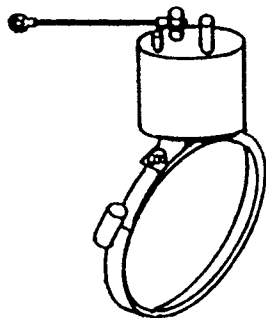


ITEM	PART NO.	QTY.	DESCRIPTION
	RAP8082		JACK 6000 16" STROKE (REPLACES AP8082)
1	R3847	1	SPRING KIT 1-1/2 X 14"
		2	SPRING 1-1/2 X 14"
2	RAP8126	1	8.00 DIA. FOOT
3	RAP8100	1	WARNING SWITCH
4	RF1456	1	4-FTX-S MALE CONNECTOR

Indented items are included with preceding item.

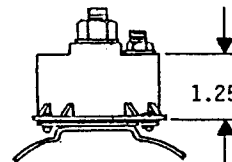
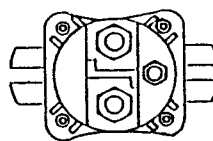
PARTS MANUAL
HYDRAULIC POWER UNIT SOLENOIDS

USED PRIMARILY ON FOUR LEVER CONTROL SYSTEMS



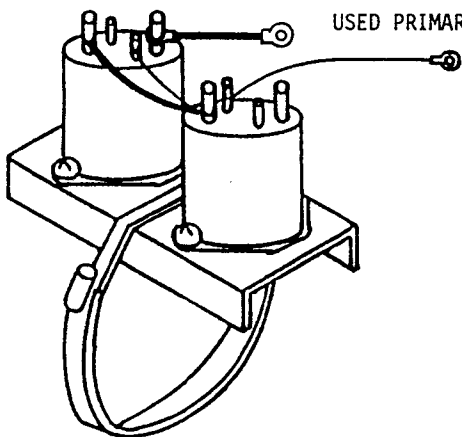
RAP5147 SOLENOID KIT INTERMIT.

Pump solenoid for any four lever control system. Includes intermittent duty solenoid, battery cable, and band clamp for mounting to power unit motor.



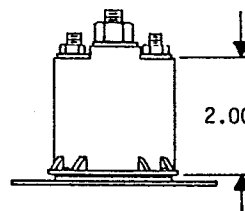
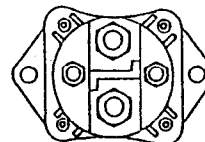
RAP4985 Solenoid intermit duty
Intermittent duty solenoid only.
Same as RAP5147 but w/o battery cable
and band clamp.

USED PRIMARILY ON PADDLE SWITCH SYSTEMS



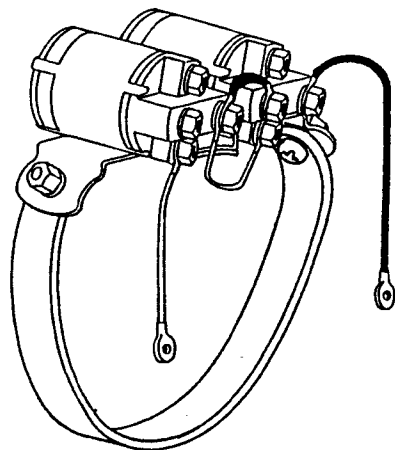
R5231 SOLENOID KIT AU W/ BRKT.

Pump solenoid for systems with computerized control panels. Includes two continuous duty solenoids, mounting brkt., band clamp, and connecting wires.



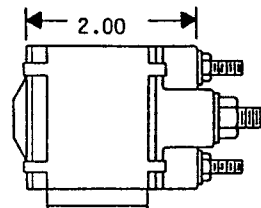
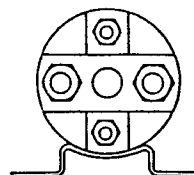
RAP4276 Solenoid Continuous Duty
Same solenoid as in R5231 solenoid
kit.

USED PRIMARILY ON TOUCHPANEL SYSTEMS



R7572 SOLENOID KIT

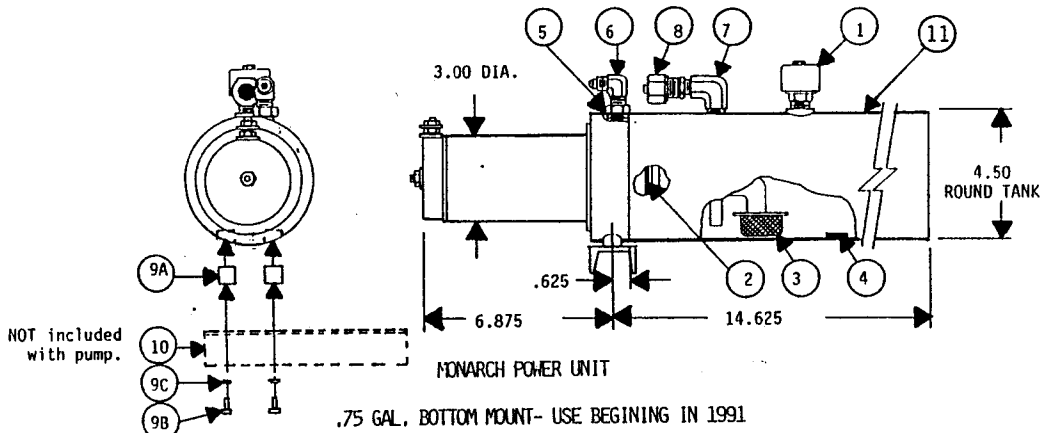
Pump solenoids for systems with touchpanel controls. Includes two continuous duty solenoids, band clamp, and connecting wires.



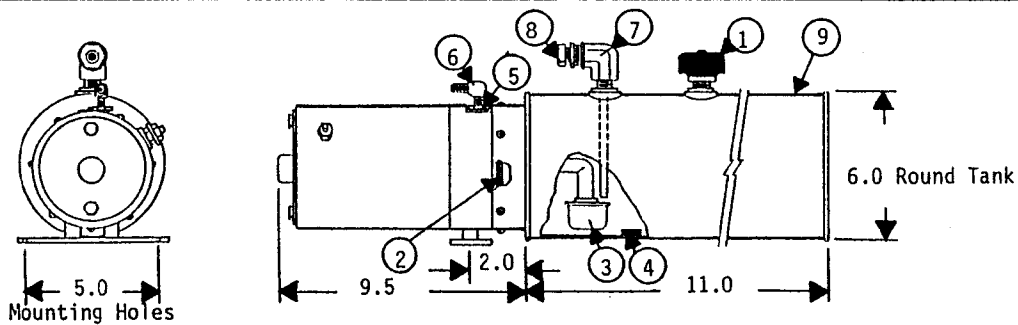
RAP7505 Solenoid Continuous Duty
Same solenoid as in R7572 solenoid
Kit.

PARTS MANUAL
HYDRAULIC POWER UNITS

ON THE FOLLOWING PAGES ARE VARIOUS HYDRAULIC POWER UNITS WITHOUT CONTROL SOLENOIDS. REPLACEMENT POWER UNITS ARE FURNISHED WITHOUT SOLENOIDS, BUT WITH FITTINGS AS SHOWN. FOR SOLENOIDS SEE THE PRECEDING PAGES ENTITLED "HYDRAULIC POWER UNIT SOLENOIDS". BELOW FIND THE POWER UNIT LIKE THAT IN QUESTION. NOTE THE SHAPE OF THE POWER UNIT, SIDE MOUNT, OR BOTTOM MOUNT, SIZE OF TANK, AND IF IT HAS EITHER A ROUND OR SQUARE RESERVOIR.



ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
	RAP8178		POWER UNIT BMM / .75 (3/4 gal. bottom mount) (replaces AP8178)	7	RP5011	1	ELBOW SPECIAL 3/8
1	RAP7984	1	BREATHER CAP	8	RF4970	1	68 NTA-8-6 1/2 X 3/8 (1/2 tube X 3/8 NPT)
2	RP5008	1	RESERVOIR "O" RING	9	RAP8255	1	PUMP MTG. KIT
3	RP5010	1	STRAINER	9A		2	BUSHING
4	RP3526	1	MAGNET	9B		2	HHCS 5/16-18 X 1-1/4
5	RF2912	1	3/8 X 1/4 PTR-S REDUCER (3/8 NPT MALE X 1/4 NPT FEMALE)	9C		2	LOCKWASHER 5/16 EXT.
6	RF1514	1	4-4CTX-S MALE ELBOW (1/4 NPT X 7/16-20 for 1/4 line)	10	RP8210	1	PUMP MTG. BRKT. Bracket not included with RAP8178 power unit assy. but supplied as repair part.
				11	RP8986	1	TANK .75 GAL. 4.50 RD. (FOR USE ON AP8178)



ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
	RAP4931		POWER UNIT BMM / 1.2 (1.2 gal. bottom mount) (replaces AP4931)	6	RF1514	1	4-4CTX-S MALE ELBOW (1/4 NPT X 7/16-20 for 1/4 line)
1	RP1474	1	BREATHER CAP	7	RP5011	1	ELBOW SPECIAL 3/8 NPT
2	RP5008	1	RESERVOIR "O" RING	8	RF4970	1	68 NTA-8-6 1/2 X 3/8 (1/2 tube X 3/8 NPT)
3	RP5010	1	STRAINER	9	RP5007	1	TANK 1.2 gal. 6" RD. (FOR USE ON AP4931)
4	RP3526	1	MAGNET				
5	RF2912	1	3/8 X 1/4 PTR-S REDUCER (3/8 NPT MALE X 1/4 NPT FEMALE)				

PARTS MANUAL
HYDRAULIC HOSE & FITTINGS FOR HWH LEVELING SYSTEMS

Use only hydraulic hose assemblies supplied by HWH Corporation or components supplied by HWH Corporation and ends swaged on with proper swaging tools. See special tool section for swaging equipment.

CAUTION! Serious personal injury may result due to ruptured hose or ends if incorrect components, incorrect swaging equipment, or incorrect swaging procedures are used when making hose assemblies.

Most HWH Leveling Systems use 1/4" (1/2" outside diameter) hydraulic hose for pressure lines. Certain pusher coaches with non-folding rear jacks use 5/16" hose (9/16" outside diameter). Coaches manufactured in 1985 by E.I.I., with HWH Leveling Systems, use 3/8" (5/8" outside diameter) hose.

1/4" hoses may be identified by a "-04" being incorporated into the description printed on the hose.

BULK HOSE, RETURN LINES AND FITTINGS

The following hoses come without ends. The proper swaging tool, die and pusher must be used to swag the ends onto the hose. See Special Tool Section of Parts Manual for swaging tools.

PART NO.	DESCRIPTION
R5233	HYDRAULIC HOSE HWH 04 1/4" X 250 FT
R7313	HYDRAULIC HOSE HWH 04 1/4" X 100 FT
RFH3338	HOSE END 1/4 X 7/16-20 FM SWIVEL (BOX OF 20)
RAP6219	DUST PLUG FOR 1/4" HOSE END (BAG OF 100)
RF2539	4-HTX-S 1/4" HOSE UNION (FOR CONNECTING 1/4" HOSE ASSEMBLIES)
RF3680	4-JTX-S 1/4" UNION TEE (FOR CONNECTING 3 HOSE ASSEMBLIES)
R5232	TUBING NYLON 1/2" X 50 FT (RETURN LINE)
R4220	TUBING NYLON 1/2" X 8 FT (RETURN LINE)
RF4819	62NTA-8 UNION 1/2" TUBE (FOR SPLICING 1/2" RETURN LINE)

READY MADE 1/4" HOSE ASSEMBLIES

Hose assemblies are of the designated length with a 7/16-20 female 37° J/C fitting swaged on each end.

PART NO.	LENGTH (FT)	PART NO.	LENGTH (FT)
RAP4158	1	RAP4162	16
RAP4060	2	RAP4061	18
RAP4059	3	RAP6116	20
RAP3314	4	RAP6216	22
RAP4073	5	RAP4063	24
RAP4159	6	RAP5216	26
RAP1412	7	RAP5561	28
RAP5352	8	RAP4163	30
RAP4074	9	RAP4164	32
RAP4161	10	RAP4669	34
RAP4827	12	RAP6117	36
RAP6115	14	RAP6217	38
		RAP6218	40

5/16 and 3/8 hose assemblies and bulk hoses are available upon request from HWH Corporation.