

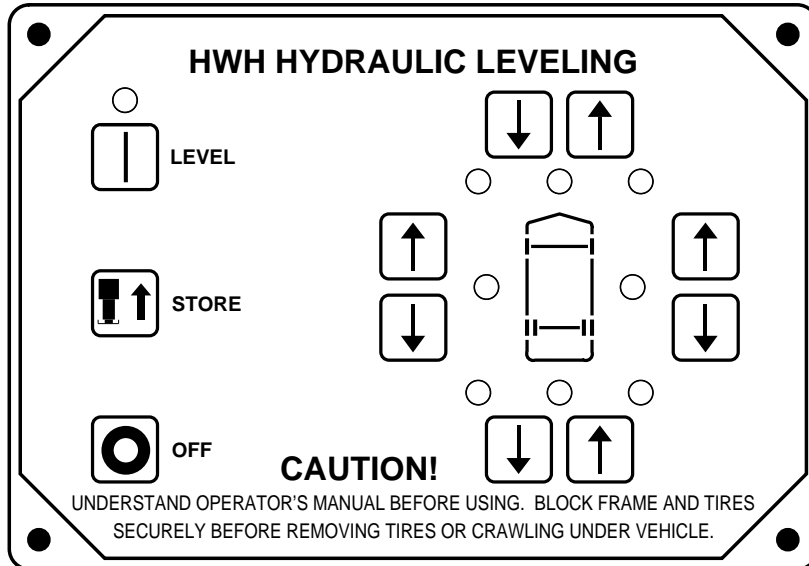


# OPERATOR'S MANUAL

## HWH® TOUCH PANEL-CONTROLLED 325 SERIES LEVELING SYSTEM

### FEATURING:

*Touch Panel Leveling Control  
BI-AXIS® Hydraulic Leveling  
Straight-Acting Jacks  
(Optional Manual Pilot Air Dump)*



### HWH CORPORATION

(On I-80, Exit 267 South)

2096 Moscow Road | Moscow, Iowa 52760

Ph: 800/321-3494 (or) 563/724-3396 | Fax: 563/724-3408

[www.hwh.com](http://www.hwh.com)

AP28836  
AP29349

ML29350/MP05.2703  
22SEP03

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# OPERATOR'S MANUAL

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## CAUTION !

READ THE ENTIRE OPERATOR'S MANUAL BEFORE OPERATING.

BLOCK FRAME AND TIRES SECURELY BEFORE CRAWLING UNDER VEHICLE. DO NOT USE LEVELING JACKS OR AIR SUSPENSION 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 SYSTEM AND ROOM EXTENSION ARE BEING OPERATED.

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.

IMPORTANT: IF COACH IS EQUIPPED WITH A ROOM EXTENSION, READ ROOM EXTENSION SECTION BEFORE OPERATING LEVELING SYSTEM.

## HOW TO OBTAIN WARRANTY SERVICE

### THIS IS NOT TO BE INTERPRETED AS A STATEMENT OF WARRANTY

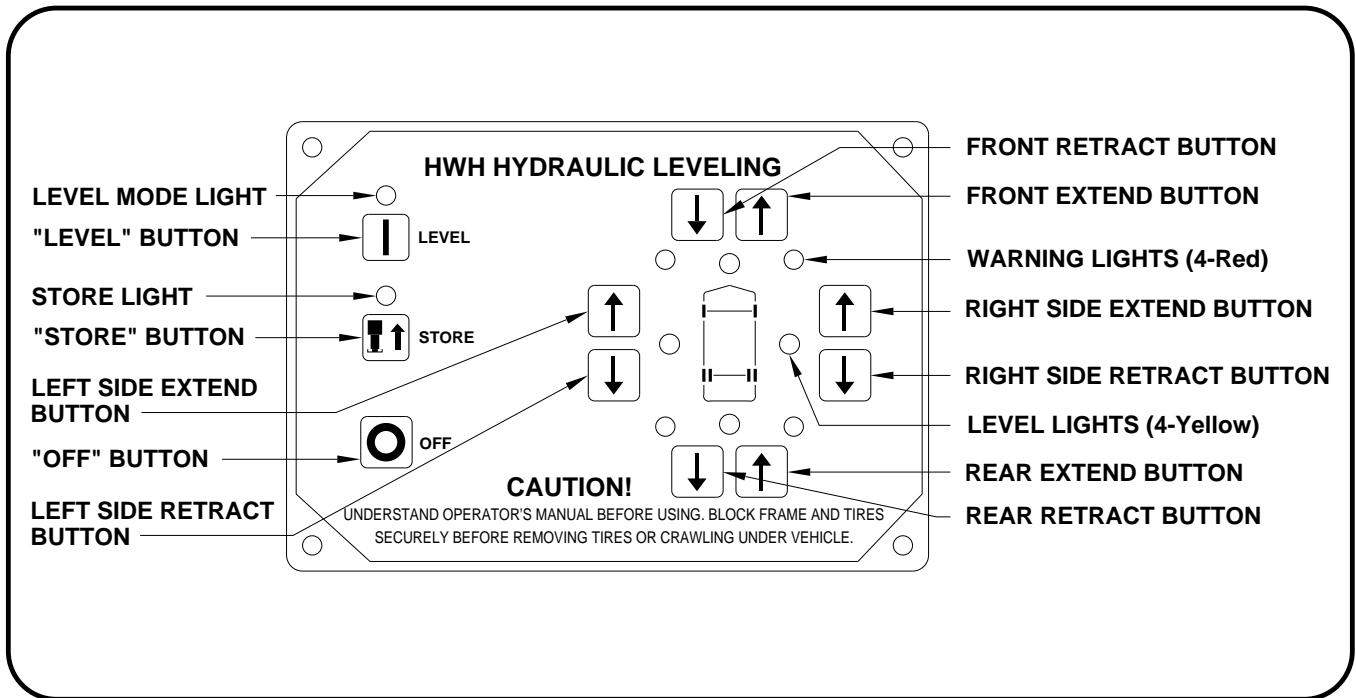
HWH CORPORATION strives to maintain the highest level of customer satisfaction. Therefore, if you discover a defect or problem, please do the following:

**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 the dealer has difficulty solving the problem, he should immediately contact the Customer Service Department, at HWH CORPORATION.

**SECOND:** If your dealer cannot or will not solve the problem, notify the Customer Service Department:  
HWH CORPORATION 2096 Moscow Rd. Moscow IA. 52760  
(563) 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 the problem, and where you can be reached during business hours (8:00 a.m. till 5:00 p.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 the 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 the HWH CORPORATION factory, unless prior written approval has been obtained from proper HWH CORPORATION personnel.

# CONTROL IDENTIFICATION



## CONTROL FUNCTIONS

### CONTROL BUTTONS

- "LEVEL" BUTTON:** This button places the system in leveling mode.
- "OFF" BUTTON:** This button turns off control power to the leveling system.
- "STORE" BUTTON:** This button will retract all four jacks. (The panel must be off before pressing the "STORE" button)
- EXTEND BUTTONS (UP ARROWS):** These buttons will extend their respective jack pairs to lift the vehicle.
- RETRACT BUTTONS (DOWN ARROWS):** These buttons will retract their respective jack pairs to lower the vehicle.

### INDICATOR LIGHTS

- LEVEL MODE LIGHT:** This light indicates the system is in the leveling mode.
- STORE LIGHT:** This light will be on when the system is in the store mode.
- LEVELING LIGHTS:** If a yellow LEVELING light is on, that indicates a side, corner, or end of the vehicle is low. Extend the appropriate jack pairs to put out the yellow light. One or two yellow LEVELING lights can be on at a time. The vehicle is level when all yellow lights are out.
- WARNING LIGHTS:** A red WARNING light will be on whenever the corresponding jack is extended approximately 1/2 inch, provided the ignition is in the "ACC" or "ON" position. Some vehicles are equipped with a dash mounted master "JACKS DOWN" light which will be on when one or more jacks are extended approximately 1/2 inch and the ignition is in the "ON" position.
- WARNING BUZZER:** A buzzer will sound if a jack is extended approximately 1/2 inch or more and the ignition switch is in the "ON" position.

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# OPERATING PROCEDURES

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## SITE SELECTION

Maintain adequate clearance in all directions for vehicle, room extensions, awnings, doors, steps, etc. Vehicle may move in any direction due to jack extension or retraction,

settling of jacks or vehicle, equipment malfunction, etc. If parking on soft ground or asphalt paving, wood blocks or pads should be placed under the jacks.

## ROOM EXTENSION PROCEDURES

**IMPORTANT: If the vehicle is equipped with a room extension read this section carefully.**

Refer to the vehicle owners manual for proper operation of room extensions.

If the vehicle is equipped with kick-down jacks, the wheels **MUST** be blocked securely. It is recommended the vehicle is leveled and stabilized when operating the room. It is recommended the leveling system is not operated when a room is extended.

**IMPORTANT: Do not use a room extension support when the vehicle is supported by the leveling system.**

## LEVELING PROCEDURE

1. Place gear selector in the parking position, apply park brake and block tires securely.

**NOTE: If the vehicle has an air suspension refer to "VEHICLES WITH AIR SUSPENSION" before leveling the vehicle.**

2. Turn ignition switch to "ACCESSORY".

3. Push the "LEVEL" button on the touch panel. The LEVEL MODE light will come ON.

**NOTE: If the park brake is not set the panel will have power but the pump will not run. The jacks can not be extended until the park brake is set.**

4. Place a pad under each jack, if needed, at this time.

5. A lit yellow LEVEL light indicates that end, side or corner is low. Push an EXTEND (up arrow) button to extend jack pairs according to a lit yellow light.

**ALWAYS LEVEL THE VEHICLE FROM SIDE TO SIDE BEFORE LEVELING THE VEHICLE FRONT TO REAR.**

One or two yellow LEVEL light can be on at one time. Extend jack pairs accordingly until all yellow lights are out.

**NOTE: If the ground is too uneven, the jacks may not have enough stroke to level the vehicle. The vehicle may have to be moved.**

6. After the vehicle is level, the jacks not used for leveling may be extended until they touch the ground. The remaining jacks used to stabilize the vehicle should lift the vehicle slightly after touching the ground. This provides additional stability against wind and activity in the vehicle. Do this by pushing the front and/or rear EXTEND buttons as needed to extend any remaining jacks. Do not use the right or left EXTEND buttons.

7. Push the "OFF" button on the Touch Panel.

8. Turn the ignition switch off.

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

## VEHICLES WITH AIR SUSPENSION

If the vehicle has an air suspension, all the air from the suspension must be dumped before leveling the vehicle.

**CAUTION: MAKE SURE ALL PEOPLE OR OBJECTS ARE CLEAR OF THE VEHICLE BEFORE DUMPING THE AIR FROM THE VEHICLE SUSPENSION. THE VEHICLE WILL DROP AS THE AIR IS RELEASED FROM THE SUSPENSION.**

Refer to the vehicle manufacturer for the proper method to dump the air from the suspension. Wait until the air is completely exhausted from the suspension before leveling the vehicle.

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# OPERATING PROCEDURES

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## RETRACT PROCEDURE

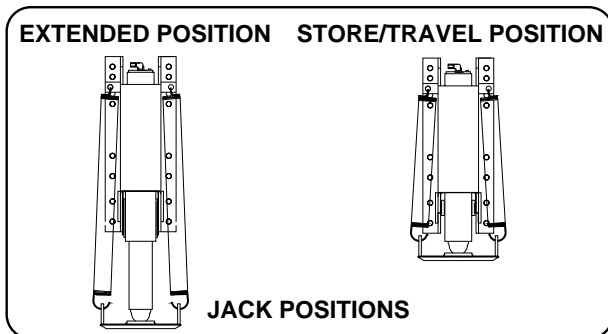
**CAUTION:** THE OPERATOR MUST BE SURE THAT THERE ARE NO OBJECTS UNDER THE VEHICLE AND THAT ALL PEOPLE ARE CLEAR OF THE VEHICLE.

**NOTE:** If the Leveling Mode light is on, the "STORE" button will not function.

### NORMAL RETRACT PROCEDURE

1. Start engine.
2. Press OFF.
3. Press STORE. The "STORE" light will come on. As each jack retracts it's red warning light will go out.
4. Do not turn off.

**NOTE:** When traveling, with rising temperatures a jack may extend slightly turning on the warning light and buzzer. If the unit is left in STORE mode the system will automatically retract the jack and turn off the light and buzzer.



5. The system will stay in the STORE mode until the "OFF" button is pushed or the ignition key is turned.

**IMPORTANT:** If a red Warning Light will not go out in a reasonable time, 2 minutes or less, push the "OFF" button to turn the system off. Have the system serviced.

**CAUTION:** DO NOT MOVE THE VEHICLE WHILE THE JACKS ARE STILL IN CONTACT WITH THE GROUND OR IN THE EXTENDED POSITION. THIS VEHICLE IS EQUIPPED WITH STRAIGHT-ACTING JACKS. MOVING THE VEHICLE WITH THE JACKS EXTENDED CAN CAUSE SEVERE DAMAGE TO THE JACKS AND/OR THE VEHICLE AND CREATE A DRIVING HAZARD. DO NOT RELY SOLELY UPON THE WARNING LIGHTS. IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT ALL JACKS ARE RETRACTED INTO THE STORE/TRAVEL POSITION.

**NOTE:** If jacks cannot be retracted by the above procedure see MANUAL JACK RETRACTION Section.

See TRAVEL PROCEDURES before moving the vehicle and traveling.

**CAUTION:** IF THE VEHICLE IS EQUIPPED WITH AN AIR SUSPENSION THE SUSPENSION MUST BE AT THE PROPER RIDE HEIGHT BEFORE TRAVELING, IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT THE SUSPENSION IS AT THE PROPER RIDE HEIGHT FOR TRAVELING.

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# OPERATING PROCEDURES

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## TRAVEL PROCEDURES

Always start the vehicle engine before retracting the jacks. Push the "STORE" button to retract the jacks, the STORE light will come on. Do not push the "OFF" button or interrupt power to the system.

If the vehicle is equipped with a manual pilot dump system, make sure the equipment is in the traveling position and the vehicle is at the proper ride height for traveling.

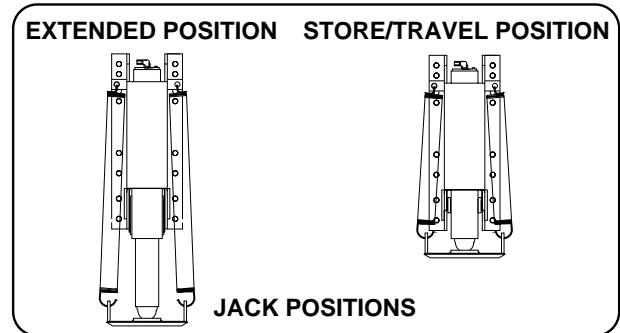
**It is important when traveling that the STORE light is on and the system left in the store mode. This allows a jack that extends due to thermal expansion to automatically retract when the warning buzzer comes on.**

**CAUTION:** A WARNING LIGHT OR BUZZER COMING ON BRIEFLY WHILE TRAVELING DOES NOT INDICATE A DRIVING HAZARD. IF THE "STORE" LIGHT IS ON AND THE WARNING LIGHT AND BUZZER COME ON, STAYING ON MORE THAN 30 SECONDS, THE JACKS SHOULD BE CHECKED.

Due to thermal expansion of the hydraulic fluid in the Leveling System, at times the jacks will extend slightly. When a jack extends, it's warning light and the warning buzzer will come on briefly. The system will automatically retract the jack turning the warning light and buzzer off, if the STORE light is on.

Any time the vehicle engine is stopped during traveling, such as for refueling, the STORE button should be pushed after the engine is started again before continuing to travel.

During traveling if the STORE light is not on and the Jacks Down Warning Buzzer comes on, push the "STORE" button and leave the system in the STORE mode.



**CAUTION:** DO NOT MOVE THE VEHICLE WHILE THE JACKS ARE STILL IN CONTACT WITH THE GROUND OR IN THE EXTENDED POSITION. THIS VEHICLE IS EQUIPPED WITH STRAIGHT-ACTING JACKS. MOVING THE VEHICLE WITH THE JACKS EXTENDED CAN CAUSE SEVERE DAMAGE TO THE JACKS AND/OR THE VEHICLE AND CREATE A DRIVING HAZARD. DO NOT RELY SOLELY UPON THE WARNING LIGHTS. IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT ALL JACKS ARE RETRACTED INTO THE STORE/TRAVEL POSITION.

**CAUTION:** IF THE VEHICLE IS EQUIPPED WITH AN AIR SUSPENSION THE SUSPENSION MUST BE AT THE PROPER RIDE HEIGHT BEFORE TRAVELING, IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT THE SUSPENSION IS AT THE PROPER RIDE HEIGHT FOR TRAVELING.

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# OPERATING PROCEDURES

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## MANUAL JACK RETRACTION

**NOTE:** Some assemblies have 4 large valves, some have 4 small valves and some will have 2 large valves in the outer positions and 2 small valves in the center positions.

**CAUTION:** KEEP AWAY FROM THE WHEELS, DO NOT CRAWL UNDER THE VEHICLE, KEEP A SAFE DISTANCE IN FRONT AND REAR OF THE VEHICLE. THE VEHICLE MAY DROP AND/OR MOVE FORWARD OR BACKWARD WITHOUT WARNING AS THE VALVE RELEASE IS OPERATED.

1. Locate the manual valve release on each solenoid valve. The solenoid valves are located on the power unit/valve assembly.

2. Allow clearance for the vehicle to lower.

**IMPORTANT:** Only open the valves enough to retract the jacks. DO NOT turn valve release nuts more than 4 and 1/2 turns. Turning the nuts more could damage the valves.

Valve release T-Handles will turn several turns easily. As the valve starts to open, the T-Handles will turn harder. Make sure the valves have been opened far enough to allow the jacks to retract.

3. Retract the front jacks by opening the two center valves. Slowly turn the manual valve releases counter clockwise until the jacks start to retract.

4. Repeat the process for the rear jacks by opening the two outer valves.

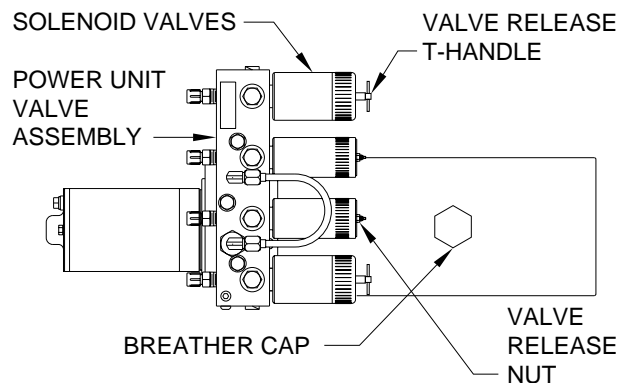
**NOTE:** Prior to APRIL 2002 a 1/4" Nut Driver was sent with the Operators Manual. As of APRIL 2002 the 1/4" Nut Driver has been incorporated into the Breather Cap. See the back page of this manual for further info.

5. Check that all four jacks are now retracted.

6. Close the valves by turning the manual valve releases clockwise.

**IMPORTANT:** Once the manual valve release is snug, DO NOT tighten the manual valve release past this point as internal damage may occur to the solenoid.

7. The system should now be repaired before using again.



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# MAINTENANCE

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## OIL LEVEL

All maintenance should be done as part of the normal servicing of the coach.

The oil level should be checked when the vehicle is first purchased and then once every two years. More often if there is an oil leak in the system.

All jacks and any HWH room extension cylinders should be completely retracted before checking the oil level. The oil reservoir is part of the pump/manifold assembly. The oil level is checked and filled through the breather cap. Clear any dirt away from the breather/filler cap before removing. The oil level should be within one inch of the top of the reservoir. Most breather caps have a dipstick.

**NOTE: Overfilling the tank can cause leakage of oil through the breather cap.**

**FLUID:** HWH Specialty Hydraulic Oil is recommended. In an emergency Dexron automatic transmission fluid can be used. **NOTE:** Dexron automatic transmission fluid contains red dye and can cause staining should a leak occur. **DO NOT USE** brake fluid or hydraulic jack fluid. Use of these can damage seals.

## ELECTRICAL SYSTEM

The batteries should be in good condition and fully charged. Weak batteries can cause erratic operation. Battery cable terminals and battery posts and connections should be kept clean.

All electrical connections, especially ground connections, should be clean, tight, free from corrosion and protected from weathering.

## JACKS

There are very few user serviceable parts on the jacks. The jacks require very little maintenance. If the jacks are extremely dirty with caked on mud they should be washed.

The jack rods should NOT be wiped and do not need to be oiled or sprayed with anything.

## ROOM EXTENSIONS

The HWH room mechanisms need no maintenance. **DO NOT** grease or lubricate any parts of the HWH mechanism.

Any visible mechanism can be kept clean by washing with water. Refer to the vehicle manufacturer for correct maintenance of the room seals.

## VISUAL INSPECTION

Periodically inspect the system for oil leaks and damaged or missing parts, such as pivot bolts or springs. Check the hydraulic lines and wiring for damage and wear. Check that the jacks do not interfere with any parts of the vehicle when they are in the "STORE" position.

The jacks should be cycled at least once a month or whenever the coach is serviced. The system will operate better if kept clean and free from caked on mud or ice.

## OPERATIONAL CHECK

Review the OPERATOR MANUAL. Run the system according to the SYSTEM OPERATION Section. Note any abnormal operation.

Review the "JACK RETRACTION" Section. Make sure the jacks will fully retract to the "STORE" position. Jacks should not interfere with any of the coach when in the "STORE" position.

Check that all lights work according to the "INDICATOR LIGHT" Section. Correct function of the red "WARNING" light is important.



# MAINTENANCE

## SENSING UNIT ADJUSTMENT

Level the vehicle by placing a bubble level in the center of the freezer floor or upon whichever surface within the vehicle that is to be level. Using the Leveling System and the bubble level, ignoring the yellow LEVEL lights on the Touch Panel, level the vehicle until the bubble is centered.

With the vehicle level according to the bubble level, if there are no yellow lights lit on the Touch Panel, the sensing unit is properly adjusted. If there are yellow LEVEL lights lit on the Touch Panel, manual adjustments to the Sensing Unit are needed. A 7/8", 3/4" or 5/16" socket w/driver or box end wrench and a philips screw driver will be needed.

The Sensing Unit is mounted inside the Control Box. The Control Box is mounted to the power unit/valve assembly.

There are four LED's on the Sensing Unit, A,B,C and D. Refer to the drawing below. The Sensing Unit is adjusted by turning the adjustment nut to turn out LED's B and D. The adjustment screw will turn out LED's A and C. If the adjustment nut has to be turned more than 1/2 flat or the adjustment screw has to be turned more than 3/4 turn to turn the LED out, there may be a problem with the Sensing Unit or the mounting of the Control Box. If two LED's are on, it is best to make the B-D adjustments first, then hold the adjustment nut from moving while making the A-C adjustment.

**NOTE:** If opposing LED's are lit, there is a problem with the Sensing Unit.

If LED (A) is lit: Turn the adjustment screw **COUNTER CLOCKWISE** until the LED is off.

If LED (C) is lit: Turn the adjustment screw **CLOCKWISE** until the LED is off.

If LED (B) is lit: Turn the adjustment nut **COUNTER CLOCKWISE** until the LED is off.

If LED (D) is lit: Turn the adjustment nut **CLOCKWISE** until the LED is off.

**IMPORTANT:** When all 4 LED's are off, move the vehicle to an unlevel position so one or two yellow lights are on. Level the vehicle according to the yellow LEVEL lights. Recheck the level. If more adjustment is needed, **DO NOT** try to adjust the sensing unit until the yellow level lights go out, instead just "tweak" the sensing unit, ignoring the LED's on the sensing unit.

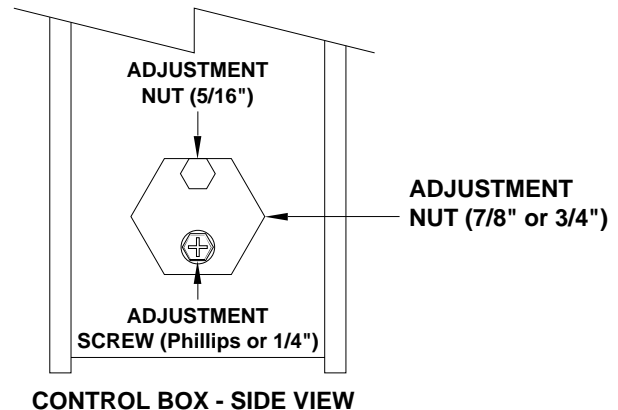
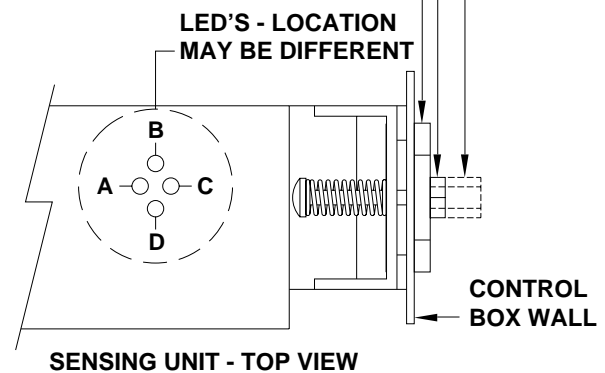
**Example:** After the initial adjustment and releveling the vehicle, the front is still low. This means the front yellow level light is turning off too soon. Determine which sensing unit light is the front light, A-B-C or D. Move the adjustment for that light very, very, slightly in the **OPPOSITE** direction that is given in the above instructions for LED's A, B, C, and D. This will allow

the front yellow light to stay on slightly longer to bring the front up more. Again, unlevel the vehicle then relevel the vehicle using the yellow level lights on the touch panel. Recheck with a level. Repeat the "tweaking" process until the system levels the vehicle properly.

ADJUSTMENT NUT (5/16")

ADJUSTMENT SCREW (Phillips or 1/4")

ADJUSTMENT NUT (7/8" or 3/4")



## NOT IN PARK/BRAKE CHECK

**CAUTION:** WHEN MAKING THIS CHECK, BLOCK THE COACH WHEELS SECURELY SO THE COACH CANNOT ROLL FORWARD OR BACKWARD.

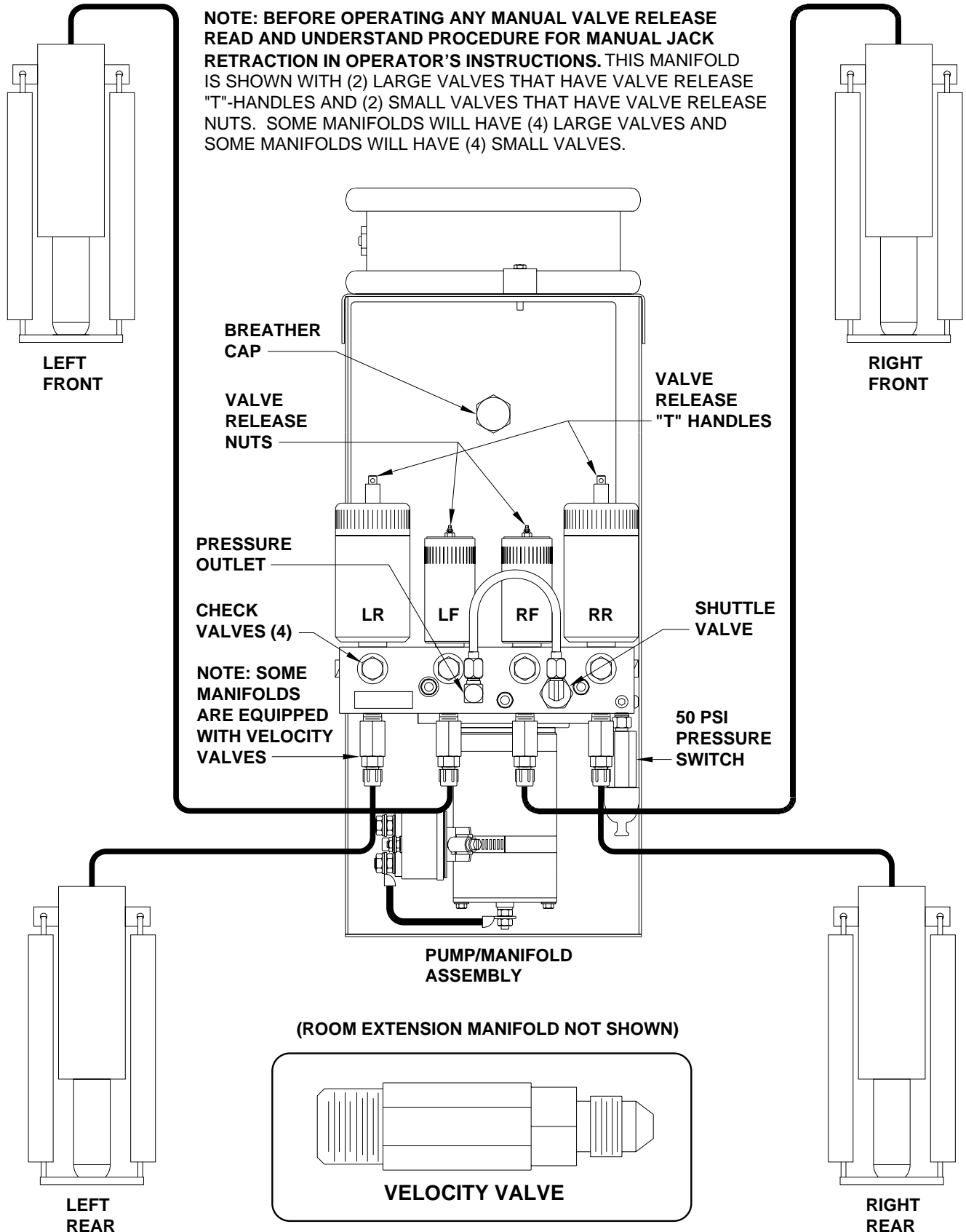
Set the park/brake. Switch the ignition to the "ACC" or "ON" position. Push the "ON/OFF" switch toward "ON". Release the parking brake and confirm that the "PARK" indicator light comes on. Reset the parking brake. The "PARK" indicator light should go out. Switch the ignition to "OFF".

If any of the above checks or inspections reveal a problem or if there are other problems or questions, consult a qualified RV repair center, your vehicle or coach manufacturer, or HWH CORPORATION for service or repair.

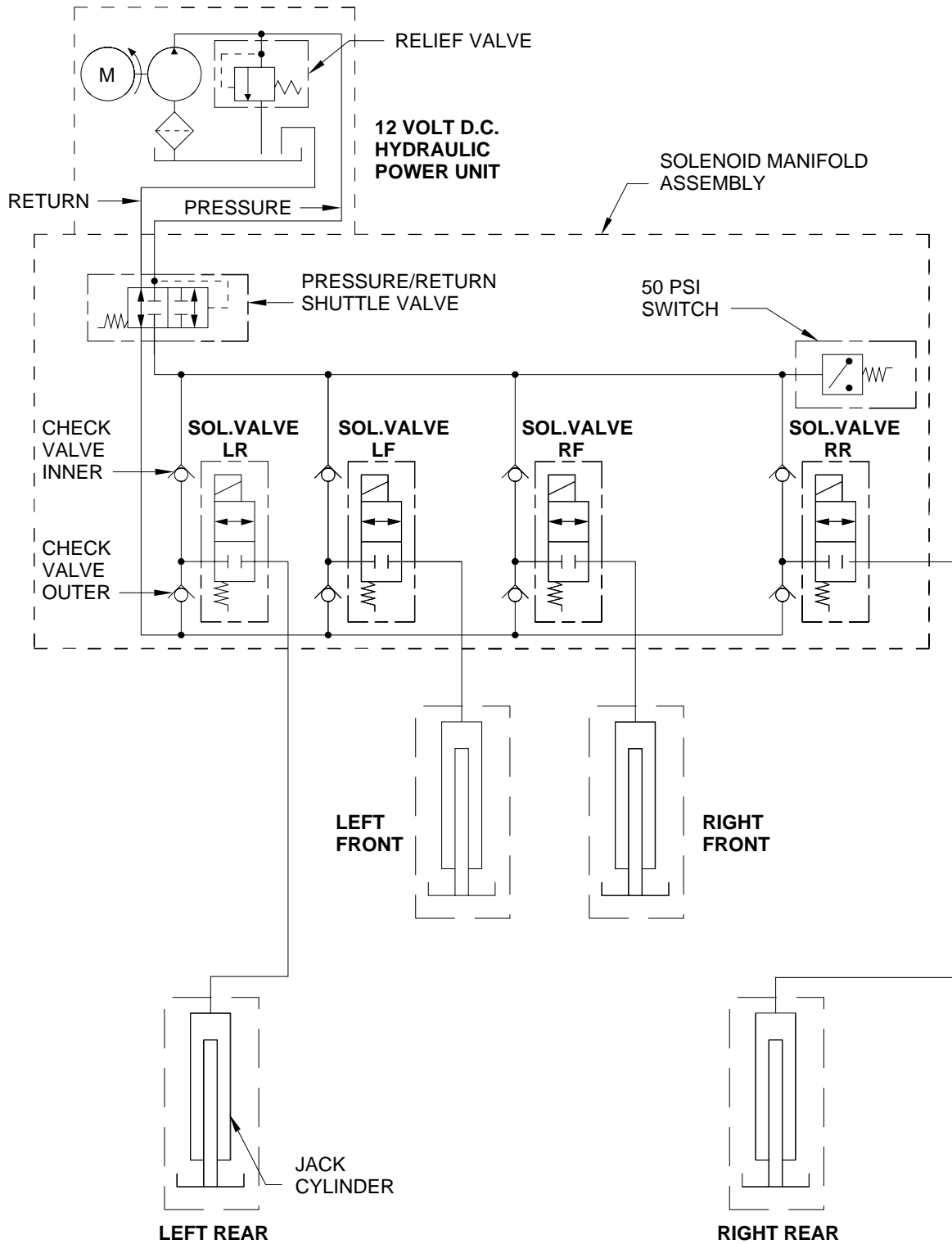
# HYDRAULIC LINE CONNECTION DIAGRAM

## 305/325 SERIES LEVELING SYSTEM

### (WITH 4 STRAIGHT-ACTING JACKS)



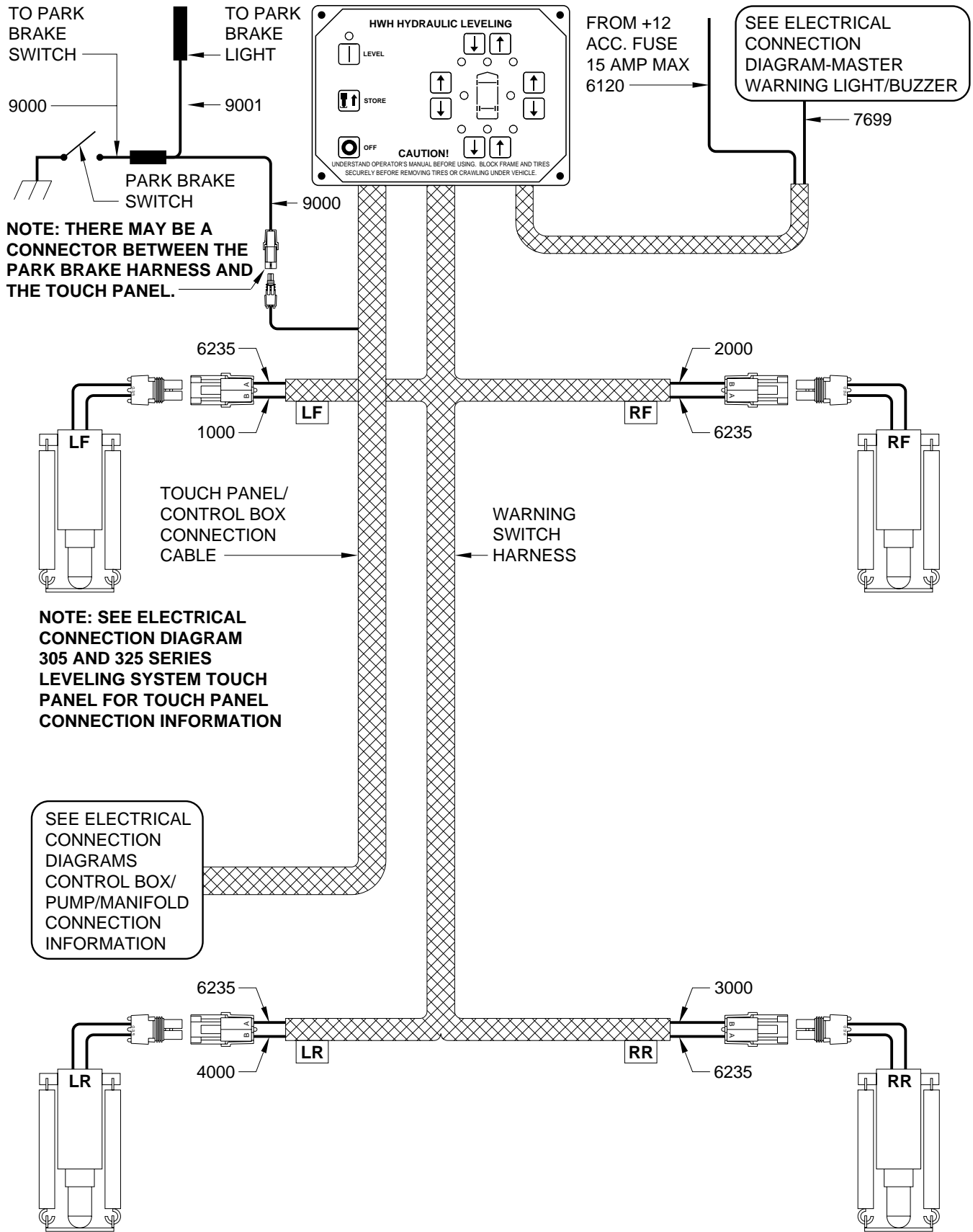
**HYDRAULIC SCHEMATIC**  
**305/310/325 SERIES LEVELING SYSTEM**  
**WITH STRAIGHT-ACTING JACKS**



# ELECTRICAL CONNECTION DIAGRAM

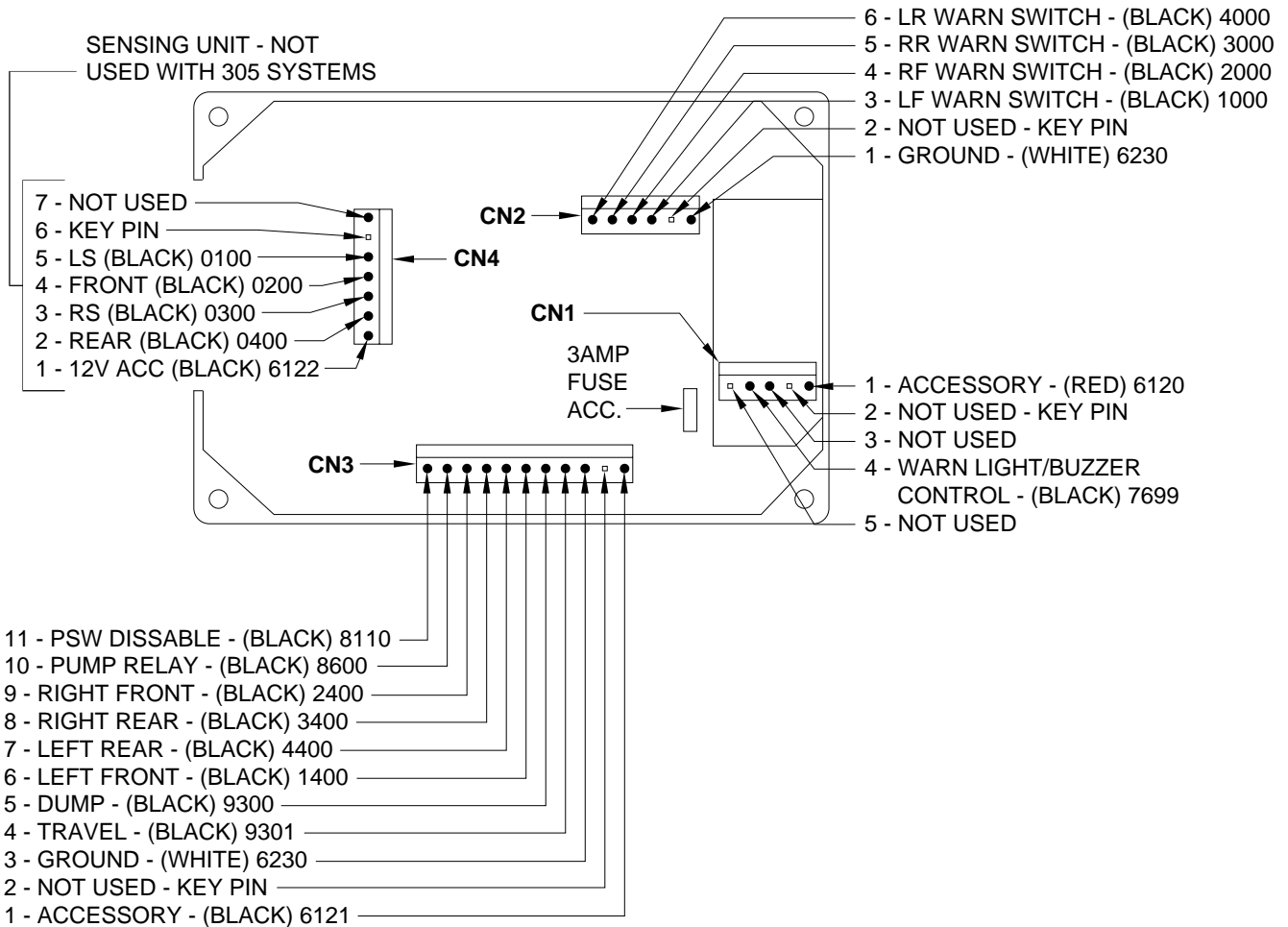
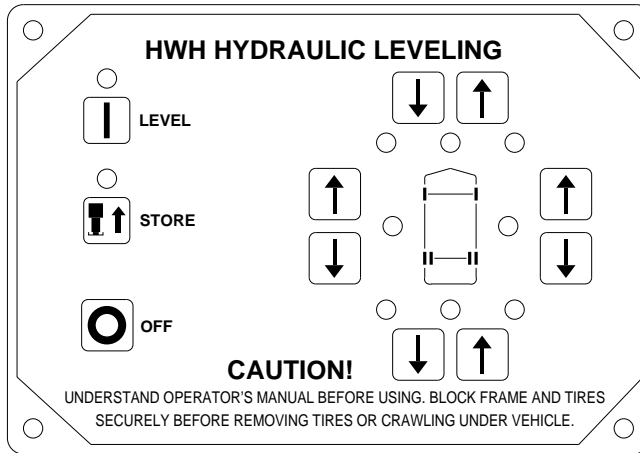
## 305/325 SERIES LEVELING SYSTEM

### TOUCH PANEL CONNECTIONS



# ELECTRICAL CONNECTION DIAGRAM

## 305 AND 325 SERIES LEVELING SYSTEM TOUCH PANEL



**NOTE: FOR WIRE FUNCTION INFORMATION SEE ELECTRICAL CONNECTION DIAGRAM - TOUCH PANEL WIRE LEGEND.**

# ELECTRICAL CONNECTION DIAGRAM

## TOUCH PANEL WIRE LEGEND

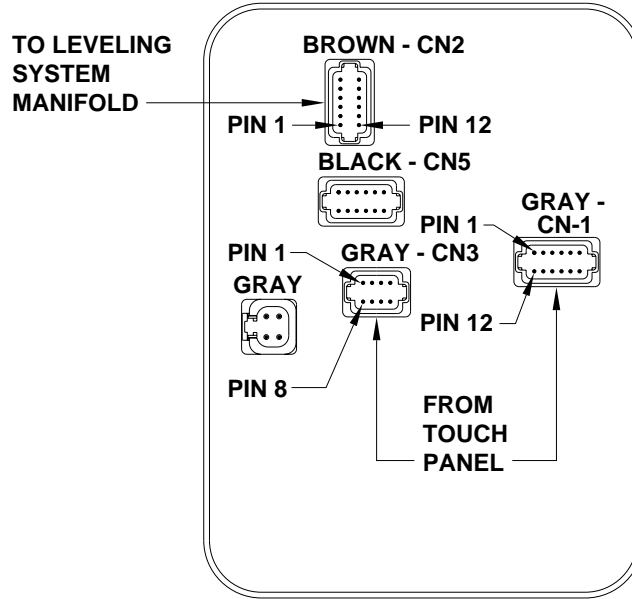
PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>CN1</b>			<b>5 PIN CONNECTOR</b>
1	RED	6120	+12V ACC. POWER
2			KEY PIN - NO CONNECTION
3			NO CONNECTION
4	BLACK	7699	SWITCHED GROUND FOR WARNING LIGHT/BUZZER CONTROL
5			NO CONNECTION
<b>CN2</b>			<b>6 PIN CONNECTOR</b>
1	WHITE	6235	GROUND FOR JACK WARNING SWITCHES
2			KEY PIN - NO CONNECTION
3	BLACK	1000	SWITCHED GROUND FOR LF WARNING LIGHT
4	BLACK	2000	SWITCHED GROUND FOR RF WARNING LIGHT
5	BLACK	3000	SWITCHED GROUND FOR RR WARNING LIGHT
6	BLACK	4000	SWITCHED GROUND FOR LR WARNING LIGHT
<b>CN3</b>			<b>11 PIN CONNECTOR</b>
1	BLACK	6121	+12V ACC. POWER FOR CONTROL BOX
2			KEY PIN - NO CONNECTION
3	WHITE	6230	CHASSIS GROUND FROM CONTROL BOX
4	BLACK	9301	SWITCHED GROUND TO CONTROL BOX FOR TRAVEL
5	BLACK	9300	SWITCHED GROUND TO CONTROL BOX FOR DUMP
6	BLACK	1400	SWITCHED GROUND TO CONTROL BOX FOR LF SOLENOID VALVE
7	BLACK	4400	SWITCHED GROUND TO CONTROL BOX FOR LR SOLENOID VALVE
8	BLACK	3400	SWITCHED GROUND TO CONTROL BOX FOR RR SOLENOID VALVE
9	BLACK	2400	SWITCHED GROUND TO CONTROL BOX FOR RF SOLENOID VALVE
10	BLACK	8600	SWITCHED GROUND TO CONTROL BOX FOR PUMP RELAY
11	BLACK	8110	SWITCHED GROUND TO CONTROL BOX FOR PRESSURE SW. OVERRIDE
<b>CN4</b>			<b>7 PIN CONNECTOR</b>
1	RED	6122	+12V ACC. POWER FOR LEVEL SENSING UNIT
2	ORANGE	0400	SWITCHED GROUND FOR REAR LEVEL LIGHT
3	GREEN	0300	SWITCHED GROUND FOR RIGHT SIDE LEVEL LIGHT
4	BLACK	0200	SWITCHED GROUND FOR FRONT LEVEL LIGHT
5	YELLOW	0100	SWITCHED GROUND FOR LEFT SIDE LEVEL LIGHT
6			KEY PIN - NO CONNECTION
7	WHITE		GROUND FOR LEVEL SENSING UNIT (MAY NOT BE USED)

# ELECTRICAL CONNECTION DIAGRAM

## 325 SERIES LEVELING SYSTEM

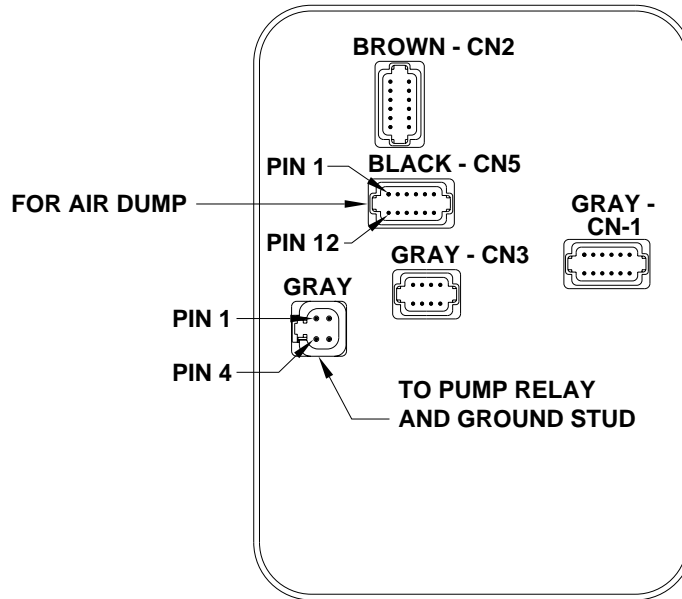
### CONTROL BOX CONNECTION INFORMATION

#### PAGE 1 OF 2



PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>CN1</b>			<b>12 PIN GRAY CONNECTOR</b>
1	BLACK	1400	SWITCHED GROUND FROM TOUCH PANEL LEFT FRONT CONTROL
2	BLACK	3400	SWITCHED GROUND FROM TOUCH PANEL RIGHT REAR CONTROL
3	BLACK	9301	SWITCHED GROUND FROM TOUCH PANEL FOR TRAVEL
4	WHITE	6230	GROUND FOR TOUCH PANEL
5	BLACK	8110	SWITCHED GROUND FROM TOUCH PANEL FOR PRESS SW OVERRIDE
6	BLACK	9300	SWITCHED GROUND FROM TOUCH PANEL FOR DUMP
7	BLACK	9000	SWITCHED GROUND FROM PARK BRAKE SWITCH
8			NO CONNECTION
9	BLACK	2400	SWITCHED GROUND FROM TOUCH PANEL RIGHT FRONT CONTROL
10	BLACK	4400	SWITCHED GROUND FROM TOUCH PANEL LEFT REAR CONTROL
11	BLACK	8600	SWITCHED GROUND FROM TOUCH PANEL PUMP RELAY CONTROL
12	BLACK	6121	+12V ACC. POWER FROM TOUCH PANEL
<b>CN2</b>			<b>12 PIN BROWN CONNECTOR</b>
1			NO CONNECTION
2	WHITE	6243	GROUND FOR LEFT FRONT SOLENOID VALVE
3	WHITE	6242	GROUND FOR RIGHT FRONT SOLENOID VALVE
4	WHITE	6241	GROUND FOR RIGHT REAR SOLENOID VALVE
5	WHITE	6240	GROUND FOR LEFT REAR SOLENOID VALVE
6	BLACK	8100	SWITCHED GROUND FROM MANIFOLD PRESSURE SWITCH
7	BLACK	9000	GROUND FROM PARK BRAKE SWITCH TO PUMP RELAY
8	BLACK	4400	SWITCHED +12 FOR LEFT REAR SOLENOID VALVE
9	BLACK	2400	SWITCHED +12 FOR RIGHT FRONT SOLENOID VALVE
10	BLACK	1400	SWITCHED +12 FOR LEFT FRONT SOLENOID VALVE
11	BLACK	3400	SWITCHED +12 FOR RIGHT REAR SOLENOID VALVE
12	BLACK	8600	SWITCHED +12 FOR PUMP RELAY
<b>CN3</b>			<b>8 PIN GRAY CONNECTOR - SENSING UNIT</b>
1	BLACK	0400	REAR - SWITCHED GROUND
2	BLACK	0300	RIGHT SIDE - SWITCHED GROUND
3	BLACK	0200	FRONT - SWITCHED GROUND
4	BLACK	0100	LEFT SIDE - SWITCHED GROUND
5 THRU 7			NO CONNECTION
8	BLACK	6122	ACCESSORY

**ELECTRICAL CONNECTION DIAGRAM  
325 SERIES LEVELING SYSTEM  
CONTROL BOX CONNECTION INFORMATION  
PAGE 2 OF 2**



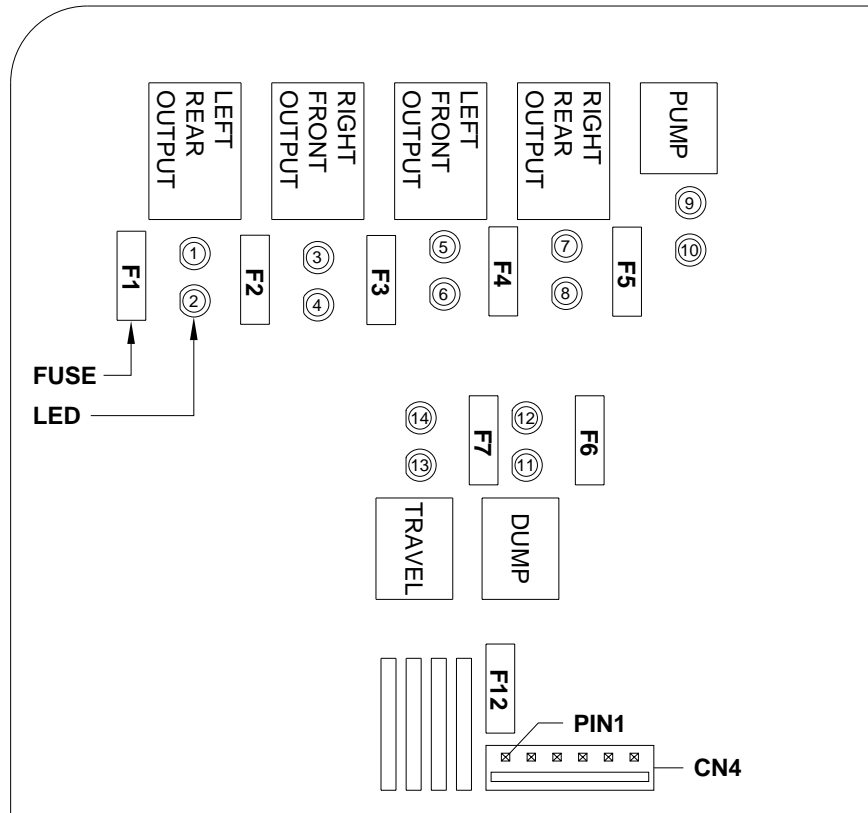
PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>GRAY CONNECTOR</b>			<b>4 PIN GRAY CONNECTOR</b>
1	RED	6100	+12V BATTERY POWER FROM PUMP RELAY
2	RED	6100	+12V BATTERY POWER FROM PUMP RELAY
3	WHITE	6230	GROUND FROM HWH GROUND STUD
4	WHITE	6230	GROUND FROM HWH GROUND STUD
<b>CN5</b>			<b>12 PIN BLACK CONNECTOR</b>
1 THRU 5			NO CONNECTION
6	WHITE	6230	GROUND FOR AIR DUMP VALVES
7	BLACK	9300	SWITCHED +12 TO AIR DUMP VALVES
8 THRU 12			NO CONNECTION



# ELECTRICAL CONNECTION DIAGRAM

## LED - FUSE LOCATION AND DESCRIPTION

### 305/325 CONTROL BOX



LED	RELAY DESCRIPTION	FUSE
1-YELLOW	LEFT REAR	F1-15 AMP
2-RED	LEFT REAR	
3-YELLOW	RIGHT FRONT	F2-15 AMP
4-RED	RIGHT FRONT	
5-YELLOW	LEFT FRONT	F3-15 AMP
6-RED	LEFT FRONT	
7-YELLOW	RIGHT REAR	F4-15 AMP
8-RED	RIGHT REAR	
9-YELLOW	PUMP	F5-5 AMP
10-RED	PUMP	
11-YELLOW	DUMP	F6-5 AMP
12-RED	DUMP	
13-YELLOW	TRAVEL	F7-5 AMP
14-RED	TRAVEL PARK BRAKE	F12-3 AMP

**NOTE: DUMP AND TRAVEL FUNCTIONS MAY NOT BE PRESENT.**

**NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - CONTROL BOX CONNECTION INFORMATION.**

**NOTE: A LIT YELLOW LED INDICATES THERE IS A GROUND SIGNAL TO TURN THE CORRESPONDING RELAY ON.**

**A LIT RED LED INDICATES THERE IS VOLTAGE ON IT'S CORRESPONDING OUTPUT PIN.**

**IF A YELLOW LED IS LIT AND THE CORRESPONDING RED LED IS OFF, EITHER IT'S FUSE IS BLOWN OR THE RELAY IS BAD.**

**IF THE YELLOW LED'S ARE WORKING BUT NO RED LED IS COMING ON THERE MAY BE PROBLEM WITH INPUT VOLTAGE IN THE 4-PIN CONNECTOR.**

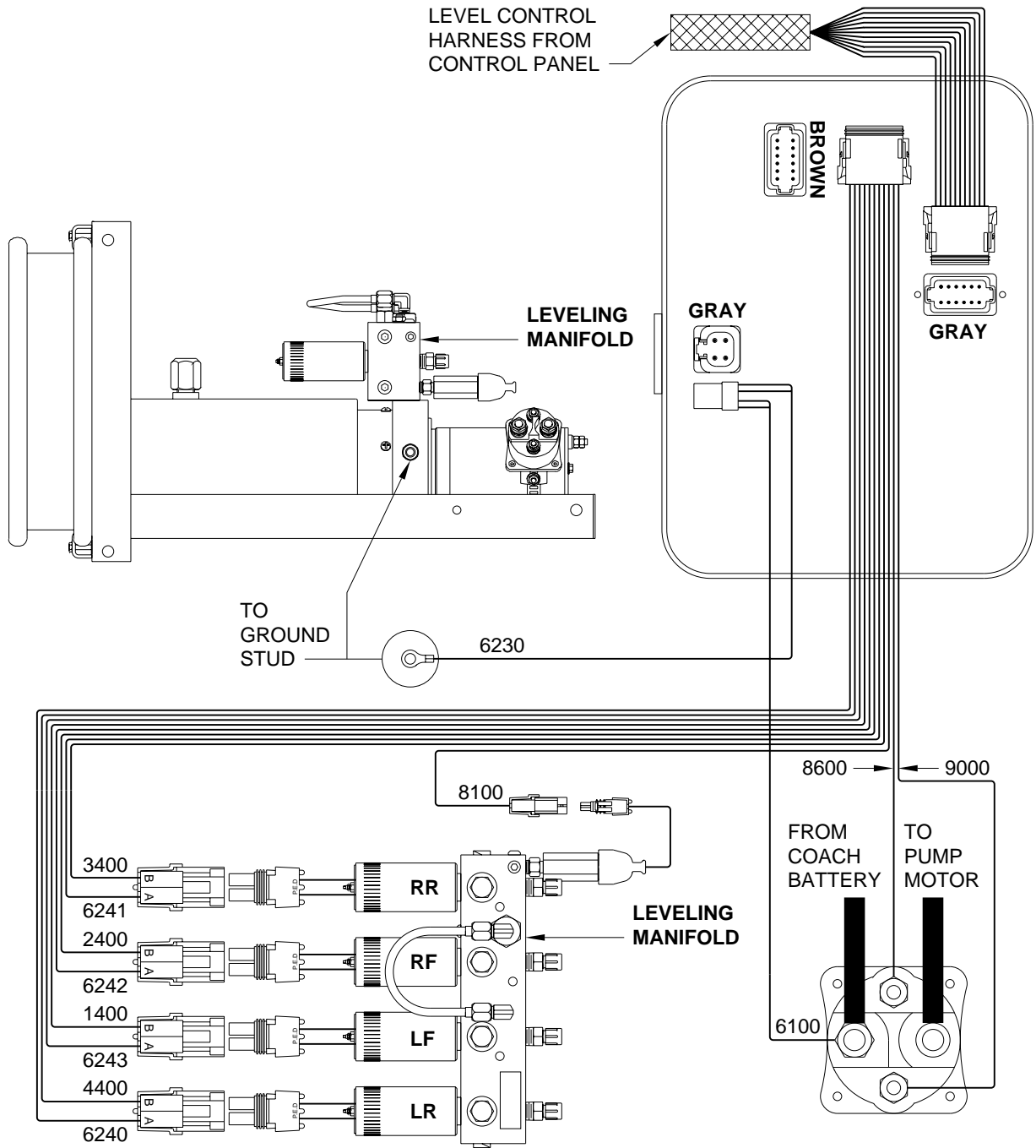
**IF A YELLOW LED IS NOT LIT, THERE IS A PROBLEM WITH THE CONTROL BOX, TOUCH PANEL OR CONNECTION CABLE**

CN4 - SENSING UNIT CONNECTIONS  
 PIN1 - RED - (+12 ACC) FOR SENSING UNIT  
 PIN2 - RED - GROUND FOR REAR YELLOW LEVEL LIGHT  
 PIN3 - GREEN - GROUND FOR RIGHT SIDE YELLOW LEVEL LIGHT  
 PIN4 - BLACK - GROUND FOR FRONT YELLOW LEVEL LIGHT  
 PIN5 - YELLOW - GROUND FOR LEFT SIDE YELLOW LEVEL LIGHT  
 PIN6 - WHITE - GROUND FOR SENSING UNIT

# ELECTRICAL CONNECTION DIAGRAM

## 305/325 SERIES POWER UNIT

### LEVELING MANIFOLD - PUMP RELAY



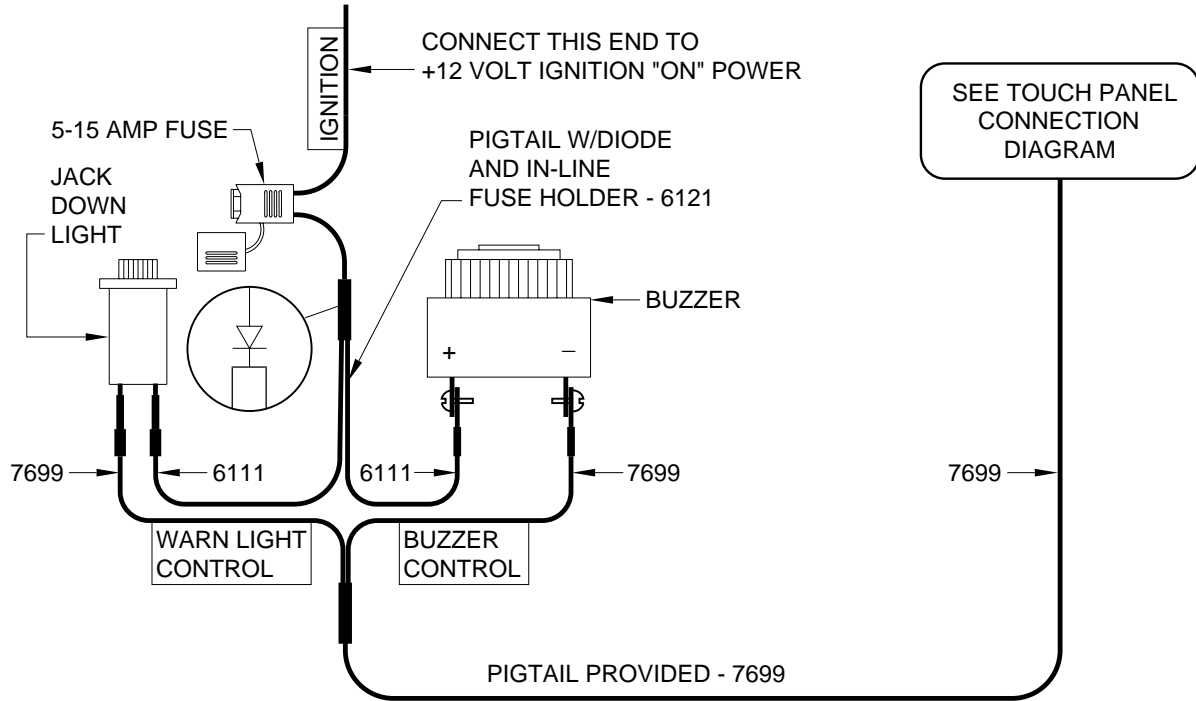
# MASTER LIGHT/BUZZER CONNECTION DIAGRAM

## MANUAL LEVELING SYSTEMS

### 305/310/325 SERIES LEVELING SYSTEM

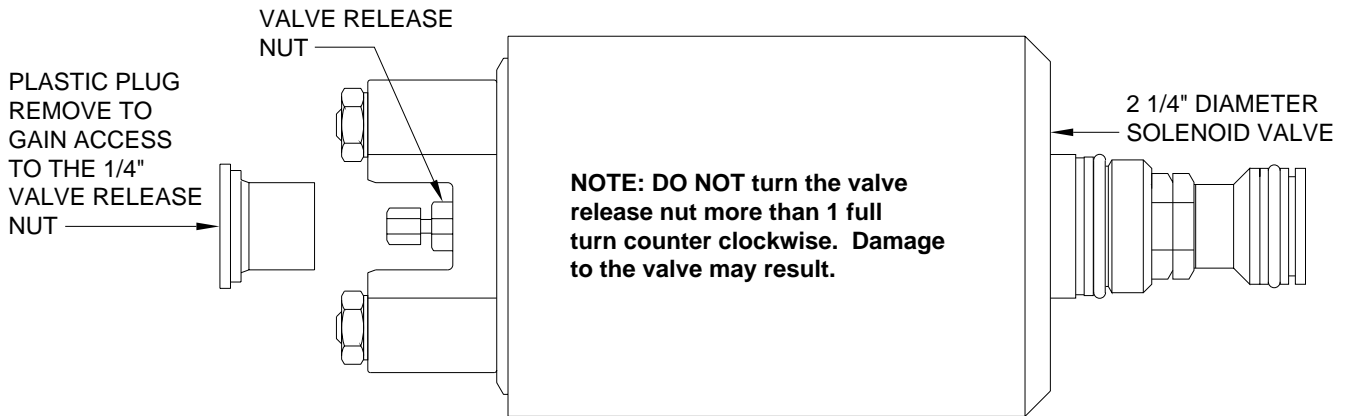
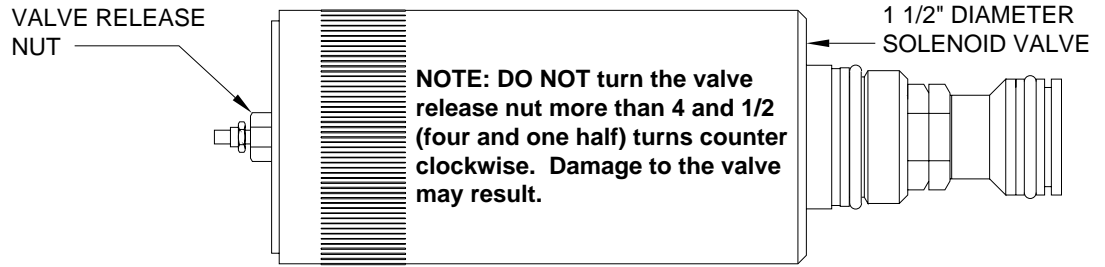
A MASTER WARNING INDICATOR SHOULD ALWAYS BE USED. WHEN THE LEVELING SYSTEM HAS STRAIGHT-ACTING JACKS A WARNING BUZZER MUST BE USED.

**NOTE: BY SUPPLYING IGNITION POWER TO THE WARNING BUZZER AND LIGHT, AND "ACC" POWER TO THE CONTROL BOX, THE SYSTEM MAY BE OPERATED IN ACCESSORY WITHOUT THE BUZZER SOUNDING. THE NEGATIVE SIGNAL FOR THE WARNING INDICATORS MUST ALWAYS COME FROM THE TOUCH PANEL.**

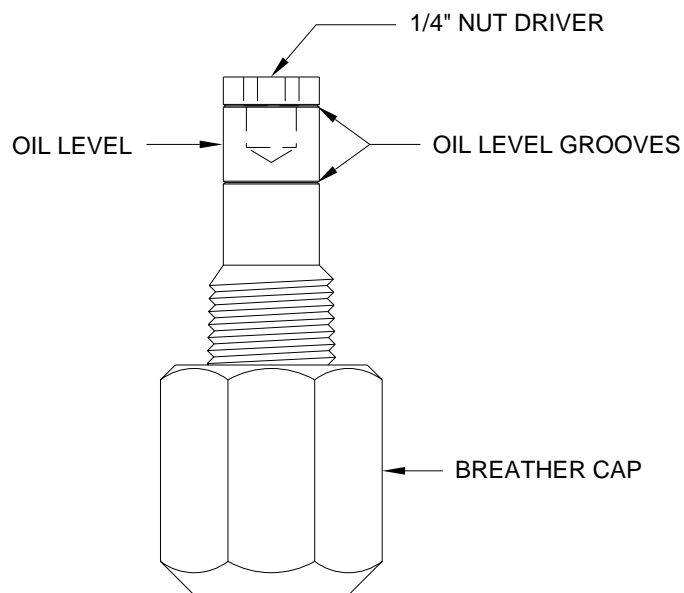




# BREATHER CAP - DIPSTICK - 1/4" NUT DRIVER



**NOTE: THE BREATHER CAP IS LOCATED ON THE TOP SIDE OF THE POWER UNIT RESERVOIR.**



**IMPORTANT: PRIOR TO REMOVING THE BREATHER CAP, EITHER TO CHECK THE OIL LEVEL OR TO USE THE 1/4" NUT DRIVER, CLEAN ANY DEBRIS FROM THE TOP OF THE RESERVOIR. BEFORE RETURNING THE BREATHER CAP TO THE RESERVOIR, REMOVE ANY PAINT CHIPS OR OTHER DEBRIS FROM THE DIPSTICK INCLUDING DEBRIS INSIDE THE 1/4" NUT DRIVER.**