

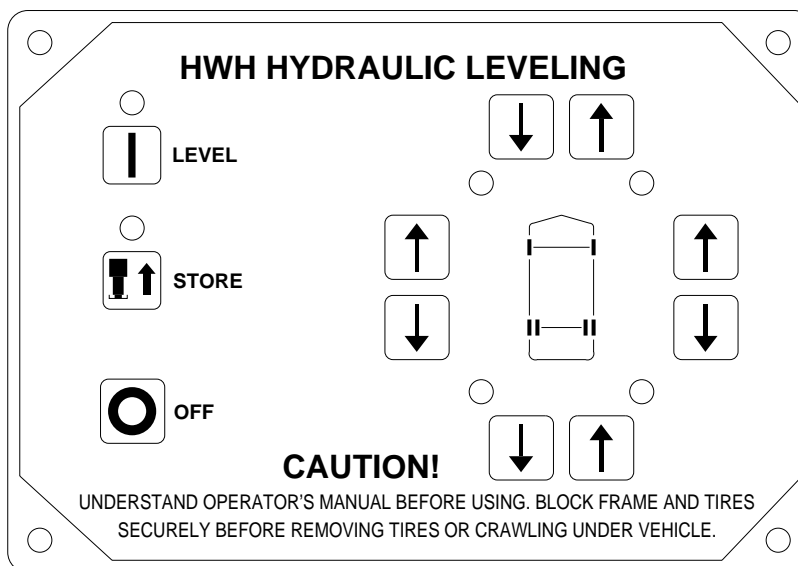


# OPERATOR'S MANUAL

## HWH TOUCH PANEL-CONTROLLED 305 SERIES LEVELING SYSTEM

### FEATURING:

*Touch Panel Control  
Hydraulic Leveling  
Straight-Acting Jacks*



### 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)

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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

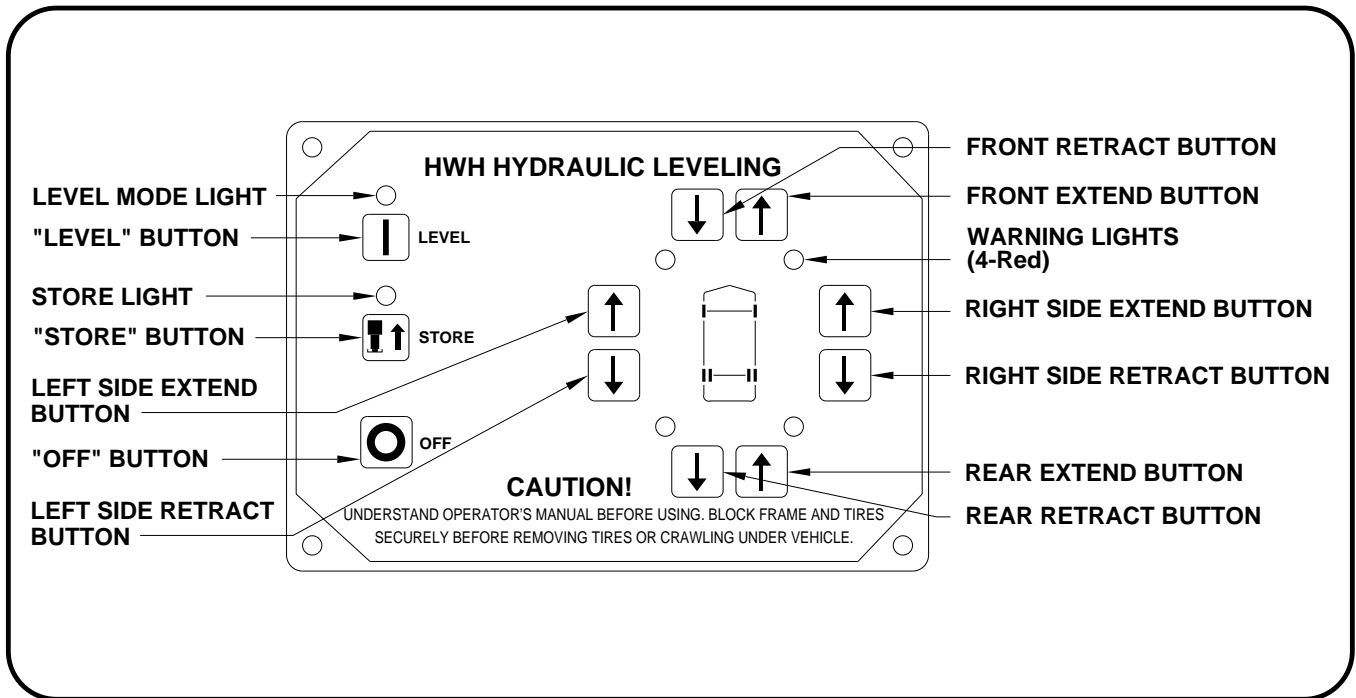
HWH CORPORATION strives to maintain the highest level of customer satisfaction. Therefore, if you discover a defect or problem, please do the following:

**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. It provides control power to operate the electrical relay on the pump, and the 4 red WARNING lights.

**"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.

**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.

**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

Park with the front of the vehicle facing downhill if possible. Care must be taken not to raise the rear of the vehicle too high or the vehicle may roll forward or backward off the jacks.

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 owner's manual for proper operation of room extensions.

If the vehicle is equipped with kick down jacks, the wheels MUST be blocked securely. Do NOT operate any room extension until the leveling and stabilizing procedure is complete. Do NOT retract the leveling system until all room extensions are retracted. NEVER operate the leveling system when any room extensions are 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.

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. Using a Bubble Level, level the vehicle side to side, if needed, before leveling the vehicle front to rear. Extend the jacks accordingly by pressing and holding the corresponding EXTEND button (up arrow) on the Touch Panel to raise the side or end of the vehicle that shows low.

**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. 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. Jacks used to stabilize the vehicle should lift the vehicle slightly after touching the ground.

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

8. Turn the ignition switch off.

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# OPERATING PROCEDURES

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## RETRACT PROCEDURE

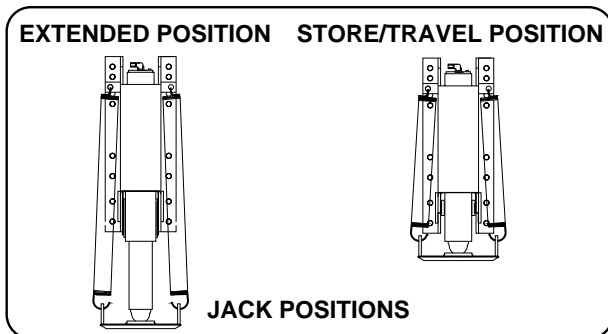
**CAUTION:** THE OPERATOR MUST BE SURE THAT THERE ARE NO OBJECTS UNDER THE VEHICLE AND THAT ALL PEOPLE ARE CLEAR OF THE VEHICLE.

**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, 5 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.

# OPERATING PROCEDURES

## 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.

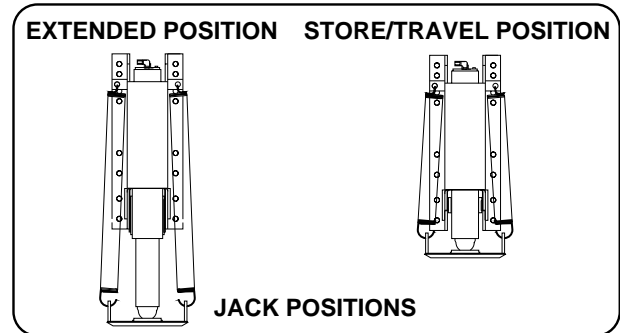
**It is important when traveling that the STORE light is on and the system left in the store mode. This allows a jack that extends due to thermal expansion to automatically retract when the warning buzzer comes on.**

**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.**

## MANUAL JACK RETRACTION (4 Jack Systems with Valve Release Nuts)

**NOTE: Use the Valve Release Nuts for retracting only if the "STORE" button on the control panel will not retract the jacks for travel.**

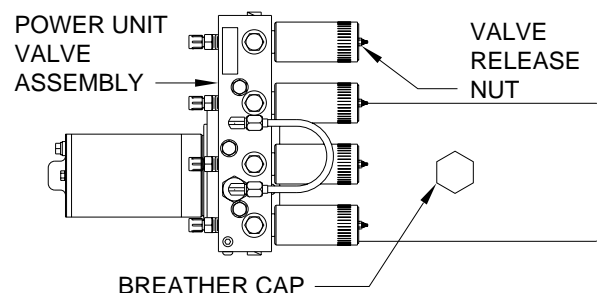
**CAUTION: KEEP AWAY FROM THE WHEELS, DO NOT CRAWL UNDER THE VEHICLE, KEEP A SAFE DISTANCE IN FRONT AND REAR OF THE VEHICLE. THE VEHICLE MAY DROP AND/OR MOVE FORWARD OR BACKWARD WITHOUT WARNING AS THE VALVE RELEASE IS OPERATED.**

1. Locate the (4) valve release nuts on the solenoid valves. The solenoid valves are located on the power unit/valve assembly.
2. Allow clearance for the vehicle to lower.
3. Retract the front jacks by opening the two center valves. Slowly turn the valve release nuts counter clockwise using the 1/4" nut driver supplied.
4. Retract the rear jacks by opening the two outer valves. Slowly turn the valve release nuts counter clockwise using the 1/4" nut driver supplied.

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

It is important that the four leveling jacks and the room and generator slides are fully retracted before checking the hydraulic oil level. To check the oil supply, remove the breather cap from the top of the hydraulic reservoir. The oil level should be approximately one inch below the top of the reservoir when adequately filled.

**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.

## UNUSUAL CONDITIONS

If driving conditions are unusually muddy, the jacks 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 jack if they become excessively muddy.

Do not move the vehicle while the leveling jacks are still in contact with the ground. Retract the jacks according to the "JACK RETRACTION" section and then visually check to see if the leveling jacks have returned to the STORE/TRAVEL position.

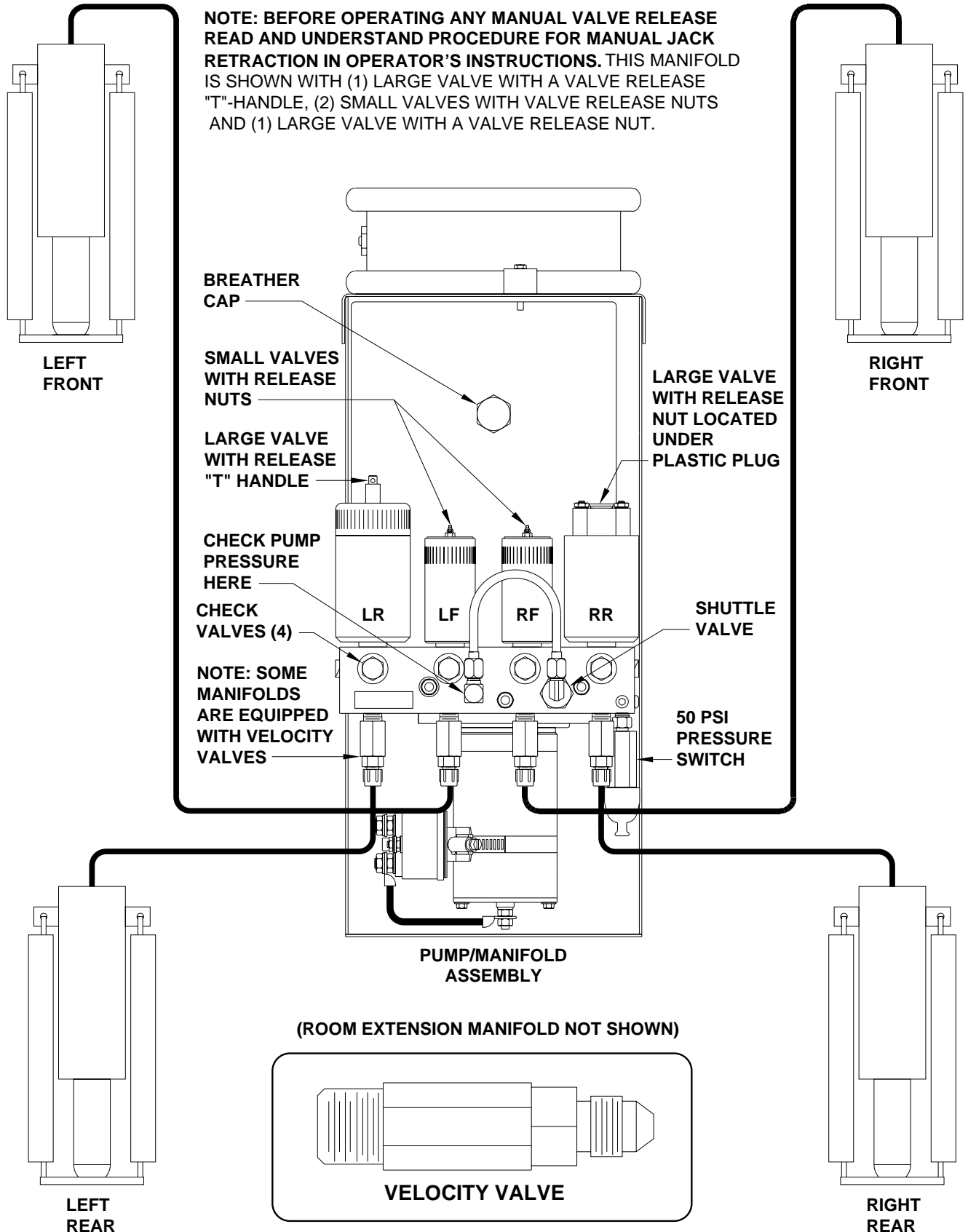
In wet or icy weather leveling jacks may become encrusted with ice. This may cause the leveling system to function improperly. To eliminate this problem, periodically check the leveling jacks and break loose any ice which may be causing improper operation.

**NOTE:** All major components of the system can be replaced with rebuilt parts or can be sent to HWH CORPORATION to be rebuilt, when the system is out of warranty.

# HYDRAULIC LINE CONNECTION DIAGRAM

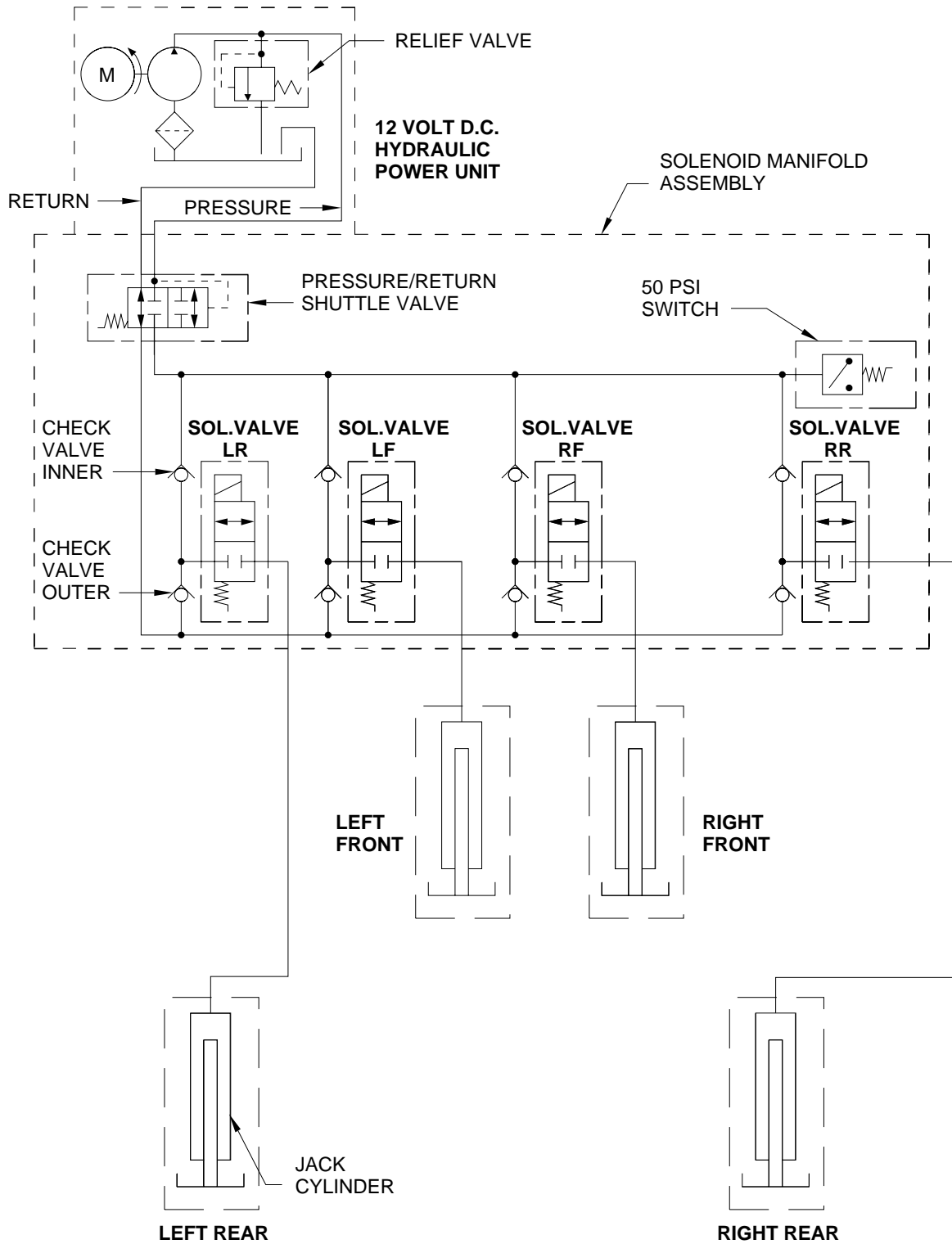
## 305/325 SERIES LEVELING SYSTEM

### (WITH 4 STRAIGHT-ACTING JACKS)



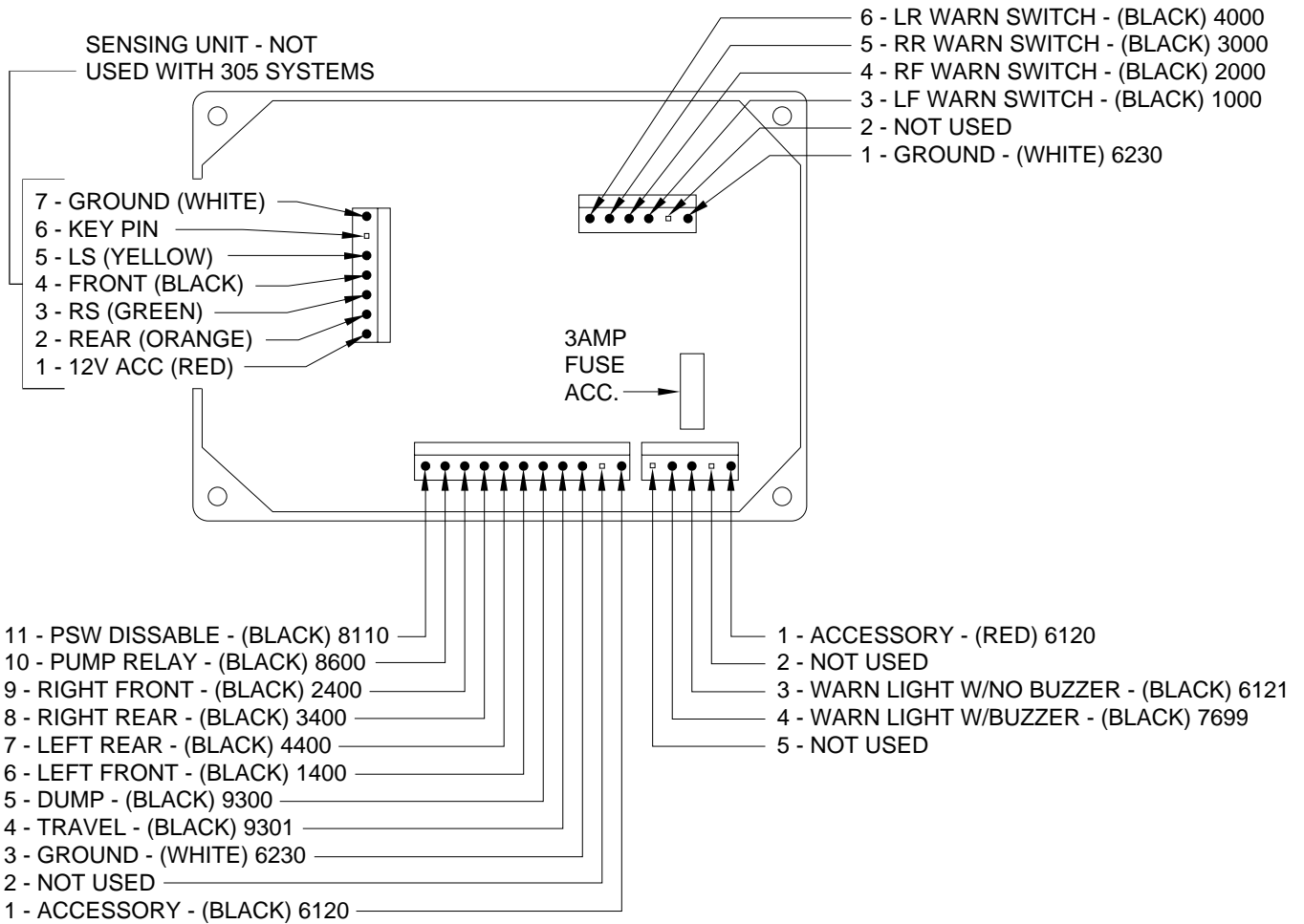
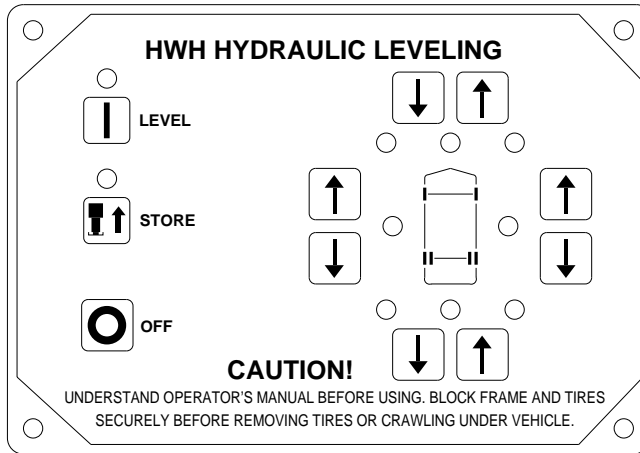


**HYDRAULIC SCHEMATIC**  
**305/310/325 SERIES LEVELING SYSTEM**  
**WITH STRAIGHT-ACTING JACKS**

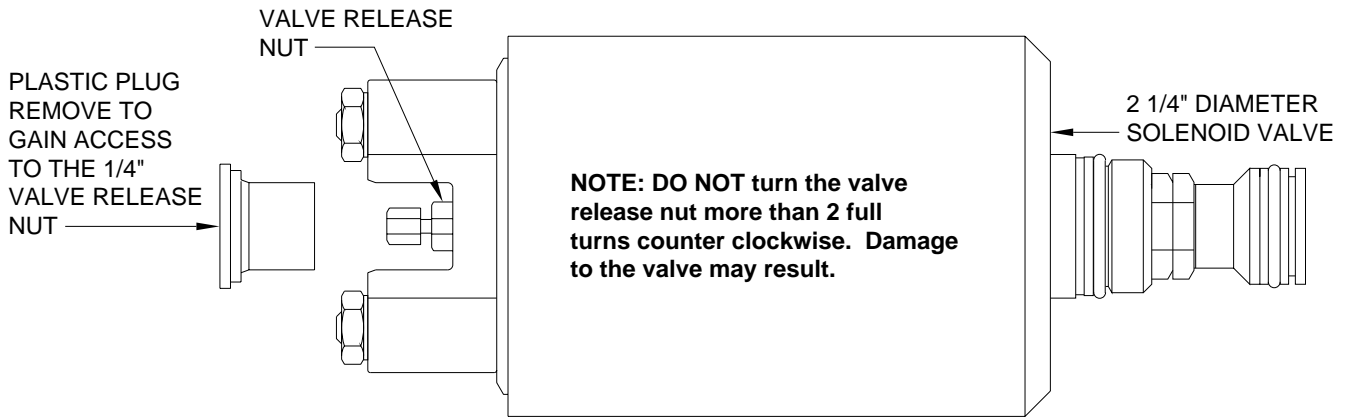
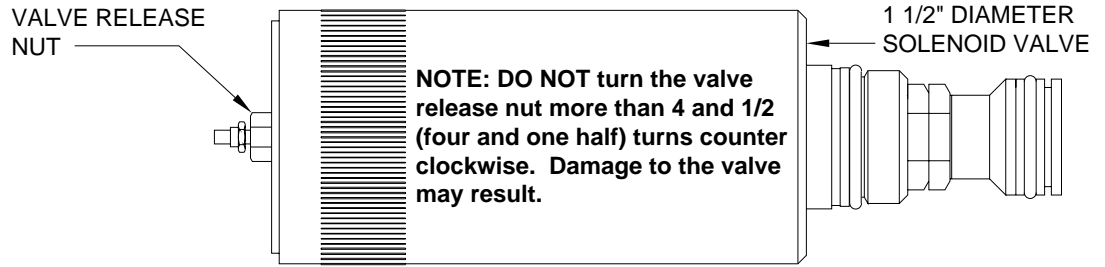


# ELECTRICAL CONNECTION DIAGRAM

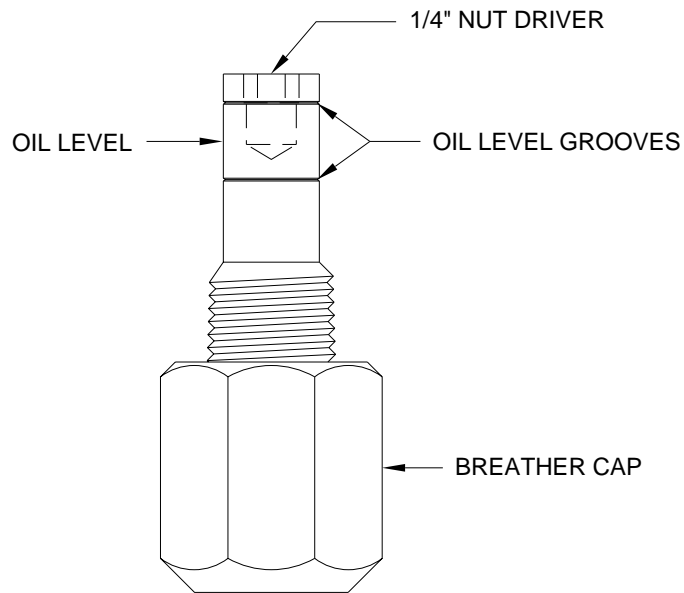
## 305 AND 325 SERIES LEVELING SYSTEM TOUCH PANEL



# 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.**