OPERATOR’S MANUAL

HWH® TOUCH PANEL-CONTROLLED
625 SERIES LEVELING SYSTEM

FEATURING:
Touch Panel Leveling Control
BI-AXIS® Hydraulic Leveling
Straight-Acting Jacks
(Optional Manual Pilot Dump)
24 Volt Equipment

HWH® COMPUTERIZED LEVELING

UNDERSTAND OPERATOR’S MANUAL BEFORE USING. BLOCK FRAME AND TIRES SECURELY BEFORE REMOVING TIRES OR CRAWLING UNDER VEHICLE.

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

AP35564
CAUTION!

READ THE ENTIRE OPERATOR 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 OPERATING LEVELING SYSTEM OR ROOM EXTENSIONS.

KEEP ALL PEOPLE CLEAR OF VEHICLE WHILE DUMPING AIR FROM THE VEHICLE’S SUSPENSION.

DO NOT MOVE THE VEHICLE IF THE VEHICLE IS NOT AT THE PROPER RIDE HEIGHT. CONTACT MANUFACTURER TECHNICAL SERVICE FOR MOVING THE VEHICLE WHEN NOT AT THE PROPER RIDE HEIGHT.

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
625 SERIES LEVELING SYSTEM
COMPUTER-CONTROL

CONTROL FUNCTIONS

ON/AUTO (I) BUTTON: This is the on button and automatic operation button. The on indicator light is above the (I) button.

"OFF" BUTTON: Push the "OFF" button to stop hydraulic operation.

"STORE" BUTTON: The store indicator light is above the "STORE" button. This button is used to automatically retract the jacks.

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

HYDRAULIC OPERATIONS (I) LIGHT: This light indicates that the panel is active.

"NOT IN PARK/BRAKE" LIGHT: This indicator will light when the hand/auto brake is not set and the "LEVEL" button is being pushed.

STORE LIGHT: This light indicates that the system is in STORE mode.

"TRAVEL MODE" LIGHT: This indicator light will be on when the ignition is on, when the jacks are retracted and there are no red WARNING lights on.

LEVELING LIGHTS: The four yellow indicating lights are level sensing indicators. When a yellow light is on, it indicates that its side, end, or corner of the vehicle is low. No more than two lights should be on at the same time.

JACK DOWN LIGHTS: The four red lights surrounding the yellow level indicators are jacks down WARNING lights. They are functional only when the ignition is in the "ON" or "ACC" position, the system is on, and the jacks are extended 1/4 to 1/2 inch.

MASTER "JACKS DOWN" WARNING LIGHT: This is a light mounted in the dash separate from the touch panel. It will be on when any one or more jacks are extended and the ignition is "ON".

BUZZER: This is a jacks down warning. It will sound if the master "JACKS DOWN" warning light is on.

INDICATOR LIGHTS (Continued)
CONTROL IDENTIFICATION

PUMP RUN TIME

PUMP RUN TIME

Pump motors used with HWH leveling systems and room extension systems come in 3 different diameters; 3", 3.7" and 4.5". Contact the vehicle manufacturer or HWH for help with identifying the motor size. It is important that any time the pump runs for more than four minutes with a 3" motor; or six minutes with a 3.7" or 4.5" motor that the motor is allowed to cool for thirty minutes before continuing. Continuous operation of the pump motor without allowing the motor to cool can damage the motor. For cold weather information see "COLD WEATHER OPERATIONS" below.

The HWH systems with a computer processor monitor the pump run time and will turn the pump off if the run time exceeds a specified time. This time can vary with different systems. Due to available electronics or system design, the pump run time programs will also vary. Leveling systems and room extensions that are not controlled by a system processor have no pump run time protection. DO NOT run the pump more than four or six minutes without allowing the pump motor to cool for thirty minutes.

SYSTEM VARIATIONS FOR PUMP RUN TIME

Some systems with rooms run the rooms separate from the system processor. These systems do not monitor pump run time when operating the rooms. DO NOT run the pump more than four or six minutes without allowing the pump motor to cool for thirty minutes.

Some systems can be turned back on immediately after the processor turns the pump off. DO NOT turn the system back on or run the pump without allowing the pump motor to cool for thirty minutes.

When operating some leveling systems manually or operating the room extensions, the pump will turn off and back on while pushing the control button when the pump run time has been exceeded. DO NOT continue without allowing the pump motor to cool for thirty minutes.

With some systems, when the processor has turned the pump off because the run time has been exceeded, power to the HWH system must be turned off and back on before the system will operate. With motorized vehicles, turn the ignition off and back on. With non-motorized vehicles, turn the master power switch for the HWH system off and back on. DO NOT continue without allowing the pump motor to cool for thirty minutes.

Some HWH systems are equipped with a lighted reset switch. If the processor turns the pump off because the run time has been exceeded, the light in the reset switch will turn on. The system will not operate until the reset switch is pushed. DO NOT continue without allowing the pump motor to cool for thirty minutes.

No matter what HWH system is on the vehicle, the pump should not be ran for more than four minutes (3" motors) or six minutes (3.7" or 4.5" motors) without allowing the pump motor to cool for thirty minutes. Continuous operation of the pump motor without allowing the motor to cool can damage the pump motor.

Contact HWH corporation to get specific information about the system in this vehicle.

COLD WEATHER OPERATIONS

HWH leveling and room extension systems are designed to function in cold weather down to 0 degrees Fahrenheit. Below freezing (32 degrees Fahrenheit) the jacks or rooms will operate slower than usual.

For operation in temperatures dropping below -20 degrees Fahrenheit, it is necessary that the system is equipped with oil designed for extreme cold weather application such as a synthetic oil. (Contact HWH for recommendations.)

DO NOT run the pump motor continuously. It is important that any time the pump runs for more than four minutes with a 3" motor; or six minutes with a 3.7" or 4.5" motor that the motor is allowed to cool for thirty minutes before continuing. Continuous operation of the pump motor without allowing the motor to cool can damage the motor. Continuous operation of the pump with slow moving jacks or rooms in cold weather, without allowing the pump motor to cool will cause the pump motor to burn up and damage the pump assembly.
GENERAL INSTRUCTIONS

Maintain adequate clearance in all directions for vehicle, room extensions, awnings, doors, steps, etc. Vehicle may move in any direction due to jacks extending or retracting, settling of the jacks or the vehicle, equipment malfunction, etc.

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

Press the "OFF" button and turn the ignition switch "OFF" at any time to stop the operation of the system.

Any time a hydraulic leveling process is interrupted, retract the jacks according to the JACK RETRACTION Section and then restart the leveling process.

If the hand / auto brake is not set when the "I" button is pressed, the "NOT IN PARK/BRAKE" light will come on. When the "I" button is released the "NOT IN PARK/BRAKE" light will go out. The panel will NOT turn on.

CAUTION: DO NOT MOVE THE VEHICLE IF ONE OR MORE JACKS ARE EXTENDED TO THE GROUND.

PREPARATION FOR TRAVEL

Before traveling, the red jack warning lights must be off and the "TRAVEL MODE" light must be on. If lights are not correct for travel, retract jack as described in the JACK RETRACTION Section.

If the jacks are retracted but a red "WARNING" light is lit or the green "TRAVEL MODE" light is not lit, the system needs to be serviced.

If this vehicle is equipped with manual pilot dump, make sure the pilot dump equipment is in the correct position traveling.

Any room extension should be fully retracted before traveling.

CAUTION: DO NOT MOVE THE VEHICLE WHILE THE LEVELING JACKS ARE STILL IN CONTACT WITH THE GROUND OR IN THE EXTEND POSITION. THIS

FOR VEHICLES EQUIPPED WITH MANUAL SUSPENSION PILOT DUMP

If the vehicle is equipped with an air suspension, the air must be dumped from the vehicle suspension before leveling the vehicle. The vehicle will be equipped with a Manual Pilot Dump. Refer to the vehicle owner’s manual for the proper operation of the air dump equipment.

CAUTION: Do not travel if the air dump equipment is not in the proper position for traveling or the vehicle is not at the proper ride height for traveling.

ROOM EXTENSION PROCEDURES

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

If the vehicle is equipped with kick-down jacks, the wheels MUST be blocked securely. It is recommended to complete the Leveling Procedure before operating room extensions. It is recommended to retract room extensions before retracting jacks.

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

Refer to the vehicle owners manual for proper operation of room extensions.
OPERATING PROCEDURES
625 SERIES LEVELING SYSTEM

AUTOMATIC HYDRAULIC LEVELING

1. Place transmission in the recommended position for parking vehicle and set parking brake. Turn the coach engine off. Turn the ignition to the “ACCESSORY” position.

NOTE: If the vehicle has an air suspension, the air must be dumped from the suspension before proceeding.

2. Press the “LEVEL” button to enter the hydraulic operation mode. The LEVEL light will glow steady.

3. At this time, the operator may want to check the jacks and place pads under the jacks if the ground will not support the vehicle.

4. Press the “LEVEL” button a second time. The “LEVEL” light will start to flash. The system will automatically extend the jacks to level the vehicle and then extend any remaining jacks for stabilizing. After the system has finished leveling and stabilizing, and has completed the air dump cycle, it will automatically shut off.

5. Turn the ignition switch to the “OFF” position.

JACK RETRACTION

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

1. Start the engine. Store the jacks immediately.

NOTE: If this vehicle is equipped with an air suspension, refer to the vehicles owners manual to return the suspension to the proper ride height for traveling.

2. Press the “STORE” button. The store indicator light will flash. As each jack retracts, its red WARNING light will go out. The system will automatically shut down six minutes after the four individual red “WARNING” lights are out. If any one red “WARNING” light does not go out, the system will continue to store for thirty minutes, then shut down regardless of the “WARNING” lights condition.

NOTE: When traveling thermal expansion may cause a jack to extend slightly. When the “STORE” button has been used to retract the jacks, the system will automatically retract any jack that extends due to thermal expansion.

IMPORTANT: DO NOT interrupt power to the leveling system while the “STORE” indicator light is blinking. DO NOT push the "OFF" button or turn the ignition key. The system must be allowed to completely finish the STORE mode.

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

3. The vehicle can be moved as soon as the red warning lights are out, the jacks are in the STORE/TRAVEL position, the green “TRAVEL MODE” light is on, and the suspension air bags are inflated to the vehicles proper ride height.

IMPORTANT: If a red warning light and buzzer come on while traveling, the jacks should be checked as soon as a safe parking location is found.

4. If jacks cannot be retracted by the above procedure see MANUAL JACK RETRACTION Section.

NOTE: If the vehicle is parked or stored with the jacks extended for an extended period of time and the jacks fail to retract completely, extend the jacks back down to the ground and then retract the jacks again.
OPERATING PROCEDURES

MANUAL 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 "I" (ON) button on the touch panel.
The HYDRAULIC OPERATION light will come ON.

NOTE: If the park brake is not set the "NOT IN PARK 
BRAKE" light will come on while the "I" button is being 
pushed. The panel will not turn on.

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 
IF NEEDED BEFORE LEVELING THE VEHICLE FRONT 
TO REAR. One or two yellow LEVEL lights 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.

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 relese 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 manaul valve release past this 
point as internal damage may occur to the solenoid.

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

NOTE: The system should now be repaired before using again.
MAINTENANCE

OIL LEVEL

It is important that the four leveling jacks are fully retracted before checking the hydraulic oil level. To check the oil supply, remove the breather cap 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.

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.

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.

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.

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.

OPERATIONAL CHECK

Review the operator manual and run the system in the automatic and manual mode. Note any abnormal operation.

Check that all lights work according to the INDICATOR LIGHT section. Correct function of the four red WARNING lights is essential to the correct operation of the system.

Check that the vehicle is level when all the yellow LEVEL indicator lights are out.

Contact you dealer or HWH Corporation for assistance.

Review the JACK RETRACTION Section.

Make sure the jacks will fully retract to the store position. Jacks should not interfere with any part of the vehicle when in the store position.

With the jacks extended, check that the jacks can be retracted using the "T" handles on the solenoid valves. Refer to the MANUAL JACK RETRACTION section.

Check the air dump system by using the manual "DUMP" button according to the MANUAL AIR DUMP section. If the system will not dump air or return to the proper ride height, contact your dealer or HWH Corporation.

NOT IN PARK/BRAKE LIGHT CHECK

1. Turn the ignition on.
2. Set the park brake.
3. Turn the leveling system on.
4. Apply the foot brake or chock the wheels so the vehicle cannot move.
5. Release the park brake. The Leveling System panel should turn off.
6. Apply the park brake.
7. If the panel does not turn off when the park brake is released, the system needs to be checked.
SENSING UNIT MAINTENANCE/SERVICE

SENSING UNIT ACCURACY TOLERANCE

The sensing unit has an accuracy tolerance of ± 5.4 inches front to rear and ± 1 inch side to side on a 36 foot vehicle. Typical leveling results will be better.

SENSING UNIT ADJUSTMENT

To adjust the sensing unit, first the vehicle must be level. Either position the vehicle on a level surface or use the leveling system to manually level the vehicle. It is recommended to use the vehicle trim line to determine level. An alternative would be to use a small bubble level. If using a bubble level, the level should be placed on a flat surface close to the mounting location of the control box/sensing unit.

With the vehicle level, if there are no yellow light 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 Phillips screw driver or sockets w/driver or box end wrenches of 7/8, 3/4, 1/2, 5/16 or 1/4 sizes 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.

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.

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.
NOTE: BEFORE OPERATING ANY MANUAL VALVE RELEASE
READ AND UNDERSTAND PROCEDURE FOR MANUAL JACK
RETRACTION IN OPERATOR'S INSTRUCTIONS. THIS MANIFOLD
IS SHOWN WITH (1) LARGE VALVE WITH A VALVE RELEASE
"T"-HANDLE, (2) SMALL VALVES WITH VALVE RELEASE NUTS
AND (1) LARGE VALVE WITH A VALVE RELEASE NUT.

NOTE: SOME MANIFOLDS ARE EQUIPPED
WITH VELOCITY VALVES

NOTE: 50 PSI PRESSURE SWITCH MAY NOT
BE USED ON ALL 625 MANIFOLDS.

(Room Extension Manifold Not Shown)
HYDRAULIC SCHEMATIC DIAGRAM
625 - 625S - 725 SERIES LEVELING SYSTEM

LEVELING SYSTEM SOLENOID MANIFOLD ASSEMBLY

STEEL TUBE

JACK SOLENOID VALVES (4)

INNER CHECK VALVE (4)

OUTER CHECK VALVE (4)

3000 PSI PSW

800 PSI TO SHIFT SHUTTLE VALVE

SHUTTLE VALVE

* 50 PSI SWITCH MAY NOT BE ON ALL 625 MANIFOLDS

RELIEF VALVE

3500 PSI

LEVELING SYSTEM SOLENOID MANIFOLD ASSEMBLY

PRESSURE PORT

SHUTTLE VALVE

NOTE: LARGE SOLENOID VALVES SHOWN. MANIFOLD MAY BE EQUIPPED WITH TWO OR FOUR SMALL SOLENOID VALVES

LEFT FRONT

LEFT REAR

RIGHT FRONT

RIGHT REAR

HYDRAULIC POWER

STEEL TUBE
ELECTRICAL CONNECTION DIAGRAM
625 SERIES LEVELING SYSTEM
LEVELING MANIFOLD
PUMP AND MASTER RELAYS

TO 50 LB PRESSURE SWITCH - 8101

LEVELING MANIFOLD

TO 3000 LB PRESSURE SWITCH - 8100

TO HWH GROUND STUD - 6240

TO HOUSE BATTERY

TO PUMP MOTOR

6231 - TO HWH GROUND STUD

8600

8500

6800

6230 - TO HWH GROUND STUD

TO TOUCH PANEL HARNESS

4 PIN
GRAY

8 PIN
BLACK

12 PIN
BROWN

LEVELING MANIFOLD

HWH GROUND STUD
# Electrical Connection Diagram

## 625 Series Leveling System

### Control Box Connection Information

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Wire Color</th>
<th>Wire Number</th>
<th>Wire Description and Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gray Connector</strong> 4 Pin Gray Connector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Red</td>
<td>6800</td>
<td>+24V Battery Power from Pump Relay</td>
</tr>
<tr>
<td>2</td>
<td>Red</td>
<td>6800</td>
<td>+24V Battery Power from Pump Relay</td>
</tr>
<tr>
<td>3</td>
<td>White</td>
<td>6230</td>
<td>Ground from HWH Ground Stud</td>
</tr>
<tr>
<td>4</td>
<td>White</td>
<td>6230</td>
<td>Ground from HWH Ground Stud</td>
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<tr>
<td><strong>Brown Connector</strong> 12 Pin Brown Connector</td>
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<td></td>
<td></td>
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<td>Black</td>
<td>8500</td>
<td>Master Relay Control - Switched +24V</td>
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<tr>
<td>2</td>
<td>Black</td>
<td>8100</td>
<td>3000 LB Pressure Switch - Switched Ground</td>
</tr>
<tr>
<td>3</td>
<td>Black</td>
<td>8101</td>
<td>50 LB Pressure Switch - Switched Ground</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>No Connection</td>
</tr>
<tr>
<td>5</td>
<td>Black</td>
<td>1400</td>
<td>Switched +24V for Left Front Solenoid Valve</td>
</tr>
<tr>
<td>6</td>
<td>Black</td>
<td>7600</td>
<td>Ground for Right Front Solenoid Valve</td>
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<td>Black</td>
<td>7601</td>
<td>Ground for Right Rear Solenoid Valve</td>
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<td>8</td>
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<td>4400</td>
<td>Switched +24V for Left Rear Solenoid Valve</td>
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<td>Black</td>
<td>3400</td>
<td>Switched +24V for Right Rear Solenoid Valve</td>
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<td>Black</td>
<td>8600</td>
<td>Pump Relay Control - Switched +24V</td>
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<tr>
<td><strong>Black Connector</strong> 12 Pin Black Connector</td>
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<tr>
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<td></td>
<td></td>
<td>No Connection</td>
</tr>
<tr>
<td>7</td>
<td>Black</td>
<td>9000</td>
<td>Switched Ground from Park Brake Switch</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>11</td>
<td>Black</td>
<td>7699</td>
<td>Buzzer Control - Switched Ground</td>
</tr>
<tr>
<td>12</td>
<td></td>
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<td>No Connection</td>
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<tr>
<td><strong>Black Connector</strong> 8 Pin Black Connector</td>
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</tr>
<tr>
<td>1</td>
<td>And 2</td>
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</tr>
<tr>
<td>3</td>
<td>Red</td>
<td>6800</td>
<td>+24V Accessory / Ignition Out to Touch Panel</td>
</tr>
<tr>
<td>4</td>
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<td>6230</td>
<td>Ground</td>
</tr>
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</tr>
<tr>
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<td>6120</td>
<td>+24V Accessory / Ignition In</td>
</tr>
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<td></td>
<td>CAN Low</td>
</tr>
<tr>
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<td>CAN High</td>
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</tr>
<tr>
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<td>And 2</td>
<td></td>
<td>No Connection</td>
</tr>
<tr>
<td>3</td>
<td>Black</td>
<td>1000</td>
<td>Switched Ground from Left Front Warning Switch</td>
</tr>
<tr>
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<td>Black</td>
<td>2000</td>
<td>Switched Ground from Right Front Warning Switch</td>
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<tr>
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<td></td>
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<td>Switched Ground from Left Front Pressure Switch</td>
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<td>Black</td>
<td>1200</td>
<td>Switched Ground from Right Front Pressure Switch</td>
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<td>7</td>
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<td>Switched Ground from Right Rear Pressure Switch</td>
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<td>9</td>
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<td>3200</td>
<td>Switched Ground from Right Rear Warning Switch</td>
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<td>Black</td>
<td>4200</td>
<td>Switched Ground from Right Rear Warning Switch</td>
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<tr>
<td>12</td>
<td>White</td>
<td>6235</td>
<td>Shared Ground for Warning Switches</td>
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</table>

MP85.066C
16APR09
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.

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

LED'S 19 AND 20 (YELLOW) WILL BE ON WHenever THE TOUCH PANEL IS ON UNLESS THE "STORE" BUTTON IS PUSHED. TWO SECONDS AFTER THE "STORE" BUTTON IS PUSHED, LED'S 7 AND 20 WILL TURN OFF. 5 SECONDS LATER LED'S 3 AND 19 WILL TURN OFF.

NOTE: THE TRAVEL RELAY IS WIRED AS A NORMALLY CLOSED RELAY. WHEN THE YELLOW LED (17) IS ON THE RELAY CONTACTS WILL OPEN. THE RED LED (18) WILL NOT BE ON. THE RED LED WILL BE ON IF THE LEVELING SYSTEM IS IN THE TRAVEL MODE AND THE IGNITION IS ON.

NOTE: THE TRAVEL RELAY IS NOT USED ON VEHICLES EQUIPPED WITH HWH AIR DUMP SYSTEMS. IT IS ONLY USED WITH PILOT OPERATED AIR DUMP SYSTEMS.
BREATHER CAP - DIPSTICK - 1/4" NUT DRIVER

Note: Do not turn the valve release nut more than 4 and 1/2 (four and one half) turns counter clockwise. Damage to the valve may result.

Note: Do not turn the valve release nut more than 2 full turns counter clockwise. Damage to the valve may result.

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.