OPERATOR’S MANUAL

HWH® COMPUTER-CONTROLLED
625S SERIES LEVELING SYSTEM

FEATURING:
Touch Panel Leveling Control
Single Step BI-AXIS® Hydraulic Leveling
Straight-Acting Jacks
With Optional 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

HWH® COMPUTERIZED LEVELING

AUTOMATIC LEVELING

MANUAL LEVELING

EXCESS SLOPE

NOT IN PARK/ BRAKE

TRAVEL MODE

PARK/ NOT IN

MANUAL DUMP

AUTO DUMP

EMERGENCY STOP

EXTEND

RETRACT

EXTEND

RETRACT

EXTEND

RETRACT

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RETRACT

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

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 / 2000 SERIES LEVELING SYSTEM
COMPUTER-CONTROL

CONTROL FUNCTIONS

CONTROL BUTTONS

"CANCEL" BUTTON: Push this button to stop any leveling system operation.

"AUTO LEVEL" BUTTON: Push this button any time to start the automatic leveling function.

"AUTO STORE" BUTTON: Push this button to retract all four jacks at the same time.

"MANUAL DUMP" BUTTON: This is a manual button for dumping air from the vehicle suspension.

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

AUTO LEVEL INDICATOR LIGHT: This light will flash during the automatic leveling function.

STORE INDICATOR LIGHT: This light will flash during the automatic store function.

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

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. When all four yellow LEVEL lights are out, the vehicle is level.

WARNING LIGHTS: The four red lights surrounding the yellow level indicators are jack 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.

"EXCESS SLOPE" LIGHT: This indicator will light when the leveling system cannot level the vehicle.

"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.

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

NOTE: This manual is intended for vehicles with a spring or air suspension. If the vehicle has an air suspension with a manual pilot air dump, refer to the vehicle manufacturer for operating instructions.

If parking on soft ground or asphalt paving, a wood block or pad should be placed under each jack.

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 "AUTO LEVEL" button is pressed, the "NOT IN PARK/BRAKE" light will come on. When the "AUTO LEVEL" button is released the "NOT IN PARK/BRAKE" light will go out. The Automatic Leveling function will not start.

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

If the jacks are retracted but a red "WARNING" light is lit the system needs to be serviced.

If the jacks cannot be retracted according to the JACK RETRACTION Section, retract the jacks according to the MANUAL JACK RETRACTION Section. The system should then be checked.

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..

NOTE: This manual is intended for vehicles with a spring or air suspension. If the vehicle has an air suspension with a manual pilot air dump, refer to the vehicle manufacturer for operating instructions.

If parking on soft ground or asphalt paving, a wood block or pad should be placed under each jack.

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

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 then retract the jacks again.

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

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 FOR TRAVELING. CONTACT MANUFACTURER TECHNICAL SERVICE BEFORE MOVING A VEHICLE THAT IS NOT AT PROPER TRAVEL HEIGHT.

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.

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 FOR TRAVELING. CONTACT MANUFACTURER TECHNICAL SERVICE BEFORE MOVING A VEHICLE THAT IS NOT AT PROPER TRAVEL HEIGHT.

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.

IMPORTANT: Do not use a room extension support when the vehicle is supported by the leveling system.
OPERATING PROCEDURES
625 SERIES LEVELING SYSTEM

AUTOMATIC HYDRAULIC LEVELING

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

2. At this time, the operator may want to check the jacks and place a pad under each jack if the ground will not support the vehicle.

NOTE: If the vehicle has an air suspension, running the vehicle engine during leveling can cause erratic operation and inhibit proper leveling of the vehicle.

WARNING: PRIOR TO PUSHING THE “AUTO LEVEL” BUTTON THE OPERATOR MUST BE SURE THAT ALL PERSONS AND OBJECTS ARE CLEAR OF THE VEHICLE.

NOTE: If the vehicle is equipped with an air suspension and a manual pilot dump, the suspension air should be exhausted at this time. Refer to the vehicle manufacturer for operating instructions.

3. Press the "AUTO LEVEL" button one time. The AUTO LEVEL light will start to flash. Systems equipped with HWH operated dump will begin to dump air from the vehicle suspension. After approximately 25 seconds, the leveling process will begin.

IMPORTANT: During the Automatic Leveling procedures, pushing the "AUTO LEVEL", "AUTO STORE" or the "EMERGENCY STOP" button on the HWH touch panel will stop the automatic leveling function.

AUTO LEVEL SEQUENCE: During the automatic leveling sequence, after the system has extended the appropriate jacks to level the vehicle and has turned the yellow level indicator lights off, the system will then stabilize the vehicle. While the system is stabilizing the vehicle, the yellow level indicator lights are inhibited from coming on. Stabilizing the vehicle is accomplished by extending any jacks to the ground that were not used to level the vehicle. This is done by monitoring a pressure switch on each jack. Any jack used to stabilize the vehicle will lift the vehicle approximately one (1) inch. This "bumps" the vehicle up slightly when stabilizing. Due to the ½ degree accuracy tolerance of the sensing unit, one or two yellow level indicator lights may come on after the red auto level indicator light turns off. The slight lift experienced during the stabilizing procedure normally is not sufficient to cause a level issue for the motor home. However, a feature of the single step leveling system is the manual leveling buttons will function anytime the ignition is in the ON or ACC. position and the park brake is set. If desired, the operator can use the UP ARROWS (extend jacks) that correspond to any lit yellow level indicator light to "bump" the vehicle up slightly to turn that yellow indicator light off.

EXCESS SLOPE SITUATION: In the event the jacks are unable to level the coach, the "EXCESS SLOPE" light will come on. Excess slope is one or two jacks fully extended without turning the yellow level light out. The system will not stabilize the vehicle if the “EXCESS SLOPE” light comes on. One or more jacks may be extended. The system will shut off leaving the “EXCESS SLOPE” light on. The “EXCESS SLOPE” light will remain on if there is power to the control box, until the jacks have been fully retracted turning the red warning lights out. Refer to the JACK RETRACTION section. Move the vehicle to a more level position or level the vehicle as close as possible according to the MANUAL LEVELING section.

5. Turn the ignition switch to the "OFF" position.
OPERATING PROCEDURES
625 SERIES LEVELING SYSTEM

JACK RETRACTION

**CAUTION:** 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 the vehicle is equipped with an air suspension and a manual pilot dump, place the suspension in the TRAVEL position at this time. Refer to the vehicle manufacturer for operating instructions.

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.

**CAUTION:** 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" 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.
OPERATING PROCEDURES

MANUAL HYDRAULIC OPERATION

1. Place transmission in the recommended position for parking the vehicle, and set the parking brake. Turn the ignition to the "ACCESSORY" position.

   **NOTE:** If the vehicle is equipped with a manual pilot air dump, the air must be exhausted from the suspension before leveling. Refer to the vehicle manufacturer for instructions.

2. Place pads under the jack feet if the ground will not support the vehicle on the jacks.

3. If applicable, push the "DUMP" button. Wait until all of the air is exhausted from the vehicles suspension system. If necessary, hold the button to exhaust the air.

4. The vehicle may be leveled using the manual EXTEND (UP ARROW) buttons on the right half of the panel. If a yellow LEVEL SENSING light is on, that side or end of the vehicle is low. It is best to level the vehicle side to side first, if needed, before front to rear.

   Jacks will extend (or retract) in pairs to raise (or lower) a side or end of the vehicle. Any jack not used for leveling can be extended to the ground. This provides additional stability against wind and activity in the vehicle. Jacks used to stabilize the vehicle after leveling is complete should lift the vehicle slightly after touching the ground.

   **IMPORTANT:** Do not continue to push an EXTEND button for more than ten (10) seconds after that pair of jacks are fully extended.

5. When leveling is completed, turn the ignition switch to the "OFF" position.

   **IMPORTANT:** Push the "STORE" button before traveling when manual operation of the leveling system is used.
MANUAL JACK RETRACTION

WARNING: 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.

IMPORTANT: HWH recommends that all HWH room extensions are fully retracted prior to performing manual jack retraction procedures.

Use the manual valve release for retracting the jacks only if the STORE feature on the HWH control panel will not retract the jacks.

1. Locate your power unit-manifold assembly. (The diagram below represents a typical Power Unit-Manifold Assembly it may not be an exact match to yours).

NOTE: Multiple manifolds may be present on the power unit. The upper most manifold should control jack functions. (Valve styles and arrangements will vary)

2. Allow clearance for the vehicle to lower.

3. Using the diagram below identify the style of your two center valves.

NOTE: As of APRIL 2002 a 1/4” Nut Driver has been incorporated into the Breather Cap. Before using read and understand the last page of this manual.

Large style with T-Handle valve release: The T-Handle will turn several turns easily. As the valve starts to open, the T-Handle will turn harder. Make sure the valves have been opened far enough to allow the jacks to retract.

Small style with Valve Release Nut: DO NOT turn the 1/4” valve release nut more than 4 and 1/2 turns. Turning the nut more could damage the valve.

Large style with Valve Release Nut: The 1/4” Valve release nut is located under a plastic plug that must be removed to gain access. Open valve 1-1/2 to 2 full turns. DO NOT turn the 1/4” valve release nut more than 2 full turns. Turning the nut more could damage the valve. Replace the protective plastic plug.

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

5. Repeat the process by identifying then opening the two outer valves, if applicable.

6. Check that all jacks are now retracted. If yes, continue. If no, notify the dealership where you purchased the vehicle or had the leveling system installed or contact HWH Corporation customer service.

7. Close the valves by turning each valve release 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.

8. The system should now be repaired before using again.
MAINTENANCE

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.

Any HWH hydraulic equipment, including jacks, slide-outs and steps should be fully retracted before checking fluid 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. Fluid level should be between the bottom of the dipstick and the center mark.

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.

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.
WINTER WEATHER DRIVING

Anti-icing / deicing agents when splashed on your vehicle, continue to absorb moisture from the air even after they have dried. This can facilitate corrosion of metallic components, such as HWH jacks.

To help reduce the corrosion of jacks after exposure to anti-icing / deicing agents, thoroughly wash jacks with warm soapy water.
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

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 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.

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.
HYDRAULIC LINE CONNECTION DIAGRAM
625 OR 625S SERIES LEVELING SYSTEMS
(WITH 4 STRAIGHT-ACTING JACKS)

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

VELOCITY VALVE
HYDRAULIC SCHEMATIC DIAGRAM

625 - 625S - 725 SERIES LEVELING SYSTEM

LEVELING SYSTEM SOLENOID MANIFOLD ASSEMBLY

SHUTTLE VALVE 800 PSI TO SHIFT SHUTTLE VALVE

* 50 PSI SWITCH MAY NOT BE ON ALL 625 MANIFOLDS

3000 PSI SWITCH

3000 PSI PSW

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

LEFT REAR

RIGHT REAR

LEFT FRONT

RIGHT FRONT

HYDRAULIC POWER

RELIEF VALVE 3500 PSI

STRAIGHT TUBE

INNER CHECK VALVE (4)

OUTER CHECK VALVE (4)

JACK SOLENOID VALVES (4)

JACK PRESSURE SWITCH

JACK CYLINDER

PRESSURE PORT

SHUTTLE VALVE

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

MP65.601C

12MAR18
ELECTRICAL CONNECTION DIAGRAM
625 OR 625S SERIES LEVELING SYSTEMS

AIR DUMP - PARK BRAKE - MASTER WARNING LIGHT AND BUZZER
TOUCH PANEL - JACK WARNING LIGHTS AND PRESSURE SWITCHES

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

HWH COMPUTERIZED LEVELING
LEVEL
STORE
OFF
MODE
TRAVEL
CAUTION!
SLOPE
EXCESS
BRAKE
PARK/
NOT IN

WARNING
LIGHT BUZZER
5AMP
FUSE
DIODE
7699
7699
6111
6111
7699
7699
7699
7699
9001 - TO PARK BRAKE LIGHT
TO HWH LEVELING MANIFOLD - PUMP AND MASTER RELAYS
SEE ELECTRICAL CONNECTION DIAGRAM - 625 SERIES LEVELING SYSTEM - LEVELING
PILOT DUMP CONNECTION BY OEM

TO ACCESSORY
6110
TO IGNITION
6120

TO HWH
GROUND
STUD
6231
6230
6230
6231
9301
9300
9300
9301

PILOT AIR DUMP CONNECTION

6235
3200
6235
3000

6235
4200
6235
4000

6235
1000
6235
2000
6235
2200

RIGHT REAR
LEFT REAR
LEFT FRONT
RIGHT FRONT

MP85.102G
11SEP09
ELECTRICAL CONNECTION DIAGRAM
625 OR 625S SERIES LEVELING SYSTEMS
TOUCH PANEL CONNECTIONS

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

ELECTRICAL CONNECTIONS

625 SERIES

<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>1</td>
<td>YELLOW</td>
<td>6230</td>
<td>CAN HIGH</td>
</tr>
<tr>
<td>2</td>
<td>GREEN</td>
<td>6230</td>
<td>CAN LOW</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>6800</td>
<td>CAN SHIELD</td>
</tr>
<tr>
<td>4</td>
<td>WHITE</td>
<td>6230</td>
<td>GROUND FROM CONTROL BOX</td>
</tr>
<tr>
<td>5</td>
<td>RED</td>
<td>6800</td>
<td>SWITCHED BATTERY FROM CONTROL BOX</td>
</tr>
</tbody>
</table>

625S SERIES

CAUTION!
UNDERSTAND OPERATOR’S MANUAL BEFORE USING. BLOCK FRAME AND TIRES SECURELY BEFORE REMOVING TIRES OR CRAWLING UNDER VEHICLE.
### Control Box Connection Information

**Gray Connector**

<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>1</td>
<td>Red</td>
<td>6800</td>
<td>+12V Battery Power From Master Relay</td>
</tr>
<tr>
<td>2</td>
<td>Red</td>
<td>6800</td>
<td>+12V Battery Power From Master 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>
</tr>
</tbody>
</table>

**Brown Connector**

<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>1</td>
<td>Black</td>
<td>8500</td>
<td>Master Relay Control Switched +12 Volts</td>
</tr>
<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>Black</td>
<td></td>
<td>No Connection</td>
</tr>
<tr>
<td>5</td>
<td>Black</td>
<td>1400</td>
<td>Switched +12 For Left Rear Solenoid Valve</td>
</tr>
<tr>
<td>6</td>
<td>Black</td>
<td>7600</td>
<td>Ground For Right Rear Solenoid Valve</td>
</tr>
<tr>
<td>7</td>
<td>Black</td>
<td>7601</td>
<td>Ground For Right Rear Solenoid Valve</td>
</tr>
<tr>
<td>8</td>
<td>Black</td>
<td>4400</td>
<td>Switched +12 For Left Rear Solenoid Valve</td>
</tr>
<tr>
<td>9</td>
<td>Black</td>
<td>3400</td>
<td>Switched +12 For Right Rear Solenoid Valve</td>
</tr>
<tr>
<td>10</td>
<td>Black</td>
<td>2400</td>
<td>Switched +12 For Right Rear Solenoid Valve</td>
</tr>
<tr>
<td>11</td>
<td>Black</td>
<td>9300</td>
<td>Switched +12 For Air Dump Valves</td>
</tr>
<tr>
<td>12</td>
<td>Black</td>
<td>8600</td>
<td>Pump Relay Control</td>
</tr>
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</table>

**Black Connector**

<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>1</td>
<td></td>
<td>6800</td>
<td>No Connection</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>9000</td>
<td>Switched Ground From Park Brake Switch</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>7699</td>
<td>No Connection</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td>No Connection</td>
</tr>
</tbody>
</table>

**Black Connector**

<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>1</td>
<td>Red</td>
<td>6800</td>
<td>Switched Battery</td>
</tr>
<tr>
<td>4</td>
<td>White</td>
<td>6230</td>
<td>Ground</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>Can Shield</td>
</tr>
<tr>
<td>6</td>
<td>Red</td>
<td>6121</td>
<td>Switched House Battery</td>
</tr>
<tr>
<td>7</td>
<td>Green</td>
<td></td>
<td>Can Low</td>
</tr>
<tr>
<td>8</td>
<td>Yellow</td>
<td></td>
<td>Can High</td>
</tr>
</tbody>
</table>

**Gray Connector**

<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>1</td>
<td></td>
<td>1000</td>
<td>No Connection</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>No Connection</td>
</tr>
<tr>
<td>3</td>
<td>Black</td>
<td>2000</td>
<td>Switched Ground From Right Rear Warning Switch</td>
</tr>
<tr>
<td>4</td>
<td>Black</td>
<td>1200</td>
<td>Switched Ground From Left Front Pressure Switch</td>
</tr>
<tr>
<td>5</td>
<td>Black</td>
<td>2200</td>
<td>Switched Ground From Left Rear Pressure Switch</td>
</tr>
<tr>
<td>6</td>
<td>Black</td>
<td>3200</td>
<td>Switched Ground From Right Rear Pressure Switch</td>
</tr>
<tr>
<td>8</td>
<td>Black</td>
<td>4200</td>
<td>Switched Ground From Left Rear Warning Switch</td>
</tr>
<tr>
<td>9</td>
<td>Black</td>
<td>3000</td>
<td>Switched Ground From Right Rear Warning Switch</td>
</tr>
<tr>
<td>10</td>
<td>Black</td>
<td>4000</td>
<td>Switched Ground From Left Rear Warning Switch</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td>No Connection</td>
</tr>
<tr>
<td>12</td>
<td>White</td>
<td>6235</td>
<td>Shared Ground For Warning Switch</td>
</tr>
</tbody>
</table>
ELECTRICAL CONNECTION DIAGRAM
625 OR 625S SERIES LEVELING SYSTEMS
CONTROL BOX - LED - FUSE LOCATION AND DESCRIPTION

**LED DESCRIPTION**

<table>
<thead>
<tr>
<th>LED</th>
<th>RELAY DESCRIPTION</th>
<th>FUSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-YELLOW</td>
<td>RIGHT REAR COIL</td>
<td>F1 - 15 AMP</td>
</tr>
<tr>
<td>2-RED</td>
<td>RIGHT REAR OUTPUT</td>
<td></td>
</tr>
<tr>
<td>3-YELLOW</td>
<td>LEFT REAR COIL</td>
<td>F2 - 15 AMP</td>
</tr>
<tr>
<td>4-RED</td>
<td>LEFT REAR OUTPUT</td>
<td></td>
</tr>
<tr>
<td>5-YELLOW</td>
<td>RIGHT FRONT COIL</td>
<td>F3 - 15 AMP</td>
</tr>
<tr>
<td>6-RED</td>
<td>RIGHT FRONT OUTPUT</td>
<td></td>
</tr>
<tr>
<td>7-YELLOW</td>
<td>LEFT FRONT COIL</td>
<td></td>
</tr>
<tr>
<td>8-RED</td>
<td>LEFT FRONT OUTPUT</td>
<td>F4 - 15 AMP</td>
</tr>
<tr>
<td>11-YELLOW</td>
<td>DUMP COIL</td>
<td></td>
</tr>
<tr>
<td>12-RED</td>
<td>DUMP OUTPUT</td>
<td>F6 - 5 AMP</td>
</tr>
<tr>
<td>13-YELLOW</td>
<td>MASTER RELAY COIL</td>
<td></td>
</tr>
<tr>
<td>14-RED</td>
<td>MASTER RELAY OUTPUT</td>
<td>F7 - 5 AMP</td>
</tr>
<tr>
<td>15-YELLOW</td>
<td>PUMP COIL</td>
<td></td>
</tr>
<tr>
<td>16-RED</td>
<td>PUMP OUTPUT</td>
<td>F8 - 5 AMP</td>
</tr>
<tr>
<td>17-YELLOW</td>
<td>TRAVEL COIL</td>
<td></td>
</tr>
<tr>
<td>18-RED</td>
<td>TRAVEL OUTPUT</td>
<td>F9 - 5 AMP</td>
</tr>
<tr>
<td>19-YELLOW</td>
<td>CRX 2</td>
<td></td>
</tr>
<tr>
<td>20-YELLOW</td>
<td>CRX 1</td>
<td></td>
</tr>
<tr>
<td>21-YELLOW</td>
<td>LEFT FRONT WARN SW</td>
<td></td>
</tr>
<tr>
<td>22-YELLOW</td>
<td>RIGHT FRONT WARN SW</td>
<td></td>
</tr>
<tr>
<td>23-YELLOW</td>
<td>RIGHT REAR WARN SW</td>
<td></td>
</tr>
<tr>
<td>24-YELLOW</td>
<td>LEFT REAR WARN SW</td>
<td></td>
</tr>
<tr>
<td>25-RED</td>
<td>LEFT FRONT PRESS SW</td>
<td></td>
</tr>
<tr>
<td>26-RED</td>
<td>RIGHT FRONT PRESS SW</td>
<td></td>
</tr>
<tr>
<td>27-RED</td>
<td>RIGHT REAR PRESS SW</td>
<td></td>
</tr>
<tr>
<td>28-RED</td>
<td>LEFT REAR PRESS SW</td>
<td></td>
</tr>
<tr>
<td>29-RED</td>
<td>NOT USED</td>
<td></td>
</tr>
<tr>
<td>30-YELLOW</td>
<td>NOT USED</td>
<td></td>
</tr>
<tr>
<td>31-GREEN</td>
<td>3000 LB PRESS SW INPUT</td>
<td></td>
</tr>
<tr>
<td>32-RED</td>
<td>MASTER WARN CONTROL</td>
<td></td>
</tr>
<tr>
<td>33-GREEN</td>
<td>50 LB PRESS SW INPUT</td>
<td></td>
</tr>
<tr>
<td>34-RED</td>
<td>JACK INTERRUPT</td>
<td></td>
</tr>
<tr>
<td>35-RED</td>
<td>PARK BRK</td>
<td></td>
</tr>
<tr>
<td>36-RED</td>
<td>BOARD ENABLE</td>
<td></td>
</tr>
<tr>
<td>37-RED</td>
<td>ACCESSORY IN</td>
<td>F10 - 10 AMP</td>
</tr>
<tr>
<td>38-RED</td>
<td>ACCESSORY OUT FOR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MASTER WARNING</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LINK LIGHT</td>
<td></td>
</tr>
</tbody>
</table>

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

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:** 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.

**NOTE:** ON NEWER CONTROL BOXES, FUSE F11 AND FUSE F12 HAVE BEEN REPLACED WITH POLY SWITCHES PF4 AND PF3. POLY SWITCHES PROTECT A COMPONENT OR WIRE AS A FUSE DOES EXCEPT THE POLY SWITCH WILL ALLOW CURRENT THROUGH WHEN THE OVERLOAD OR SHORT IS REMOVED. POLY SWITCHES ARE NOT REPLACEABLE.

MP85.184C
08SEP09
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.