

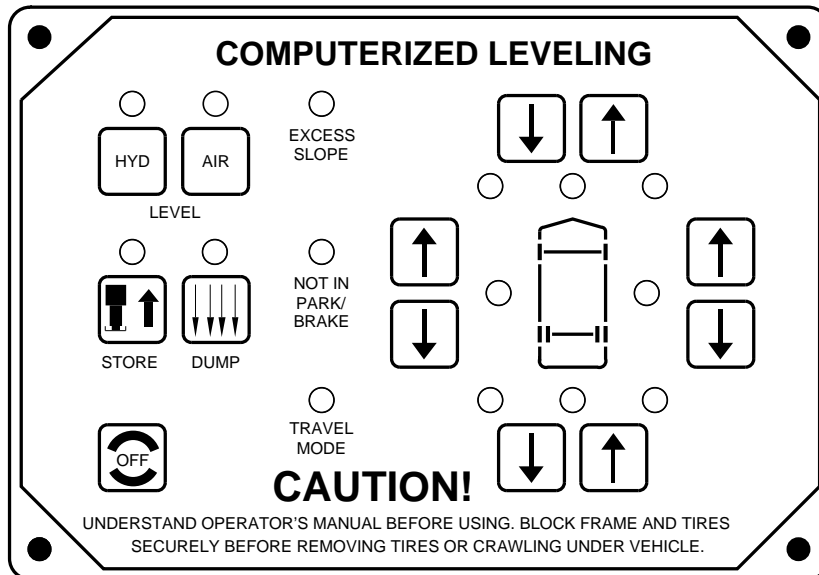


OPERATOR'S MANUAL

HWH® COMPUTER-CONTROLLED 2000 SERIES LEVELING SYSTEM

FEATURING:

*Touch Panel Leveling Control
BI-AXIS® Hydraulic Leveling
Air Leveling
Straight-Acting Jacks
Front Cap Slide
Engine Door Lift*



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

OPERATOR'S MANUAL

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.

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

DO NOT USE THE DUMP OR RAISE BUTTONS IF THE VEHICLE IS MOVING IN EXCESS OF 5 MPH.

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

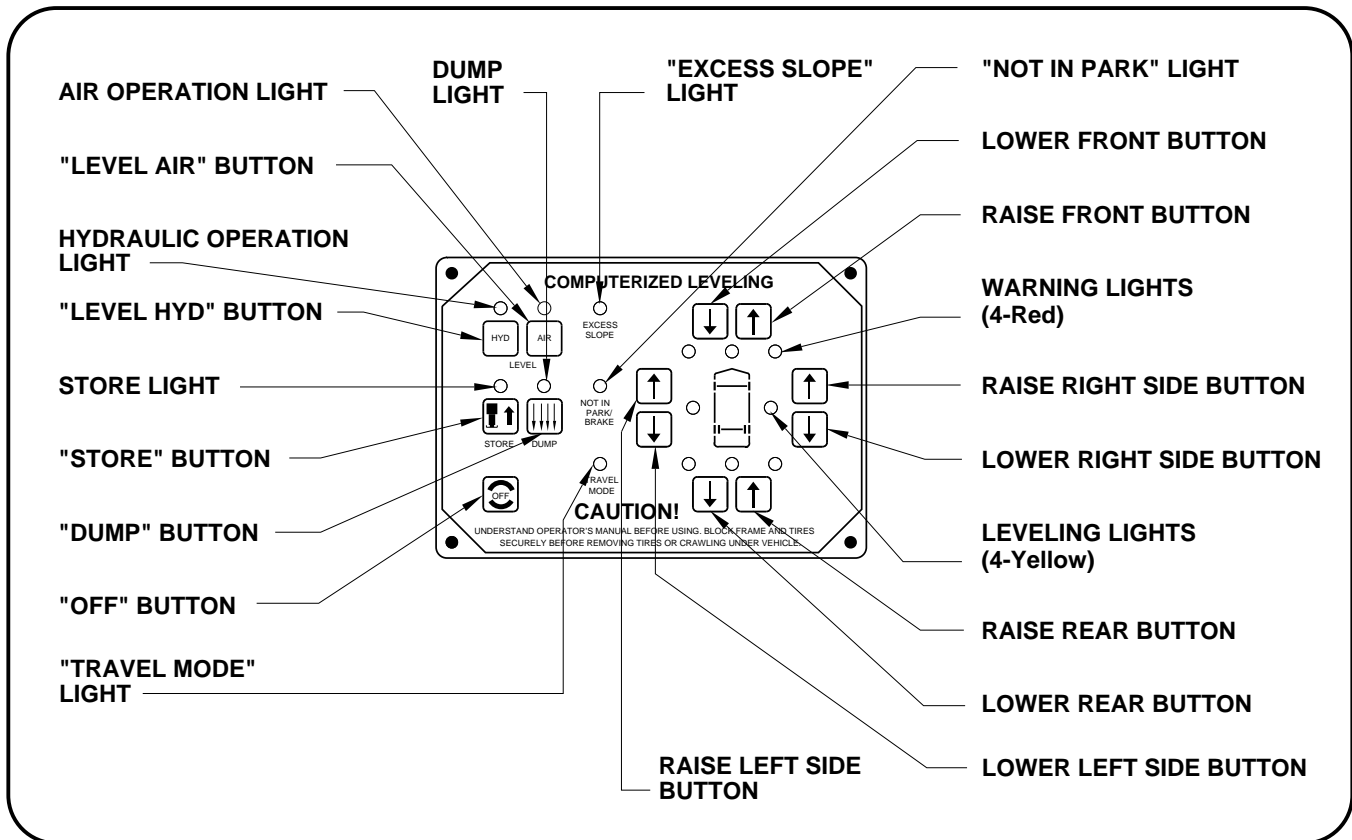
HWH CORPORATION strives to maintain the highest level of customer satisfaction. Therefore, if you discover a defect or problem, please do the following:

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

"OFF" BUTTON: Push the "OFF" button to stop the hydraulic or air operation. **Pushing OFF will not put the system in the TRAVEL MODE.**

"LEVEL HYD" BUTTON: This is a system active and automatic operation button for hydraulic leveling.

"STORE" BUTTON: This button is used to automatically retract the jacks into the STORE/TRAVEL position. It will also return the system to the travel mode if air leveling was used.

"LEVEL AIR" BUTTON: This is a system active and automatic operation button for air leveling.

"DUMP" BUTTON: This button will lower the whole vehicle by exhausting air from the suspension system.

IMPORTANT: READ "DUMP" FUNCTION SECTION CAREFULLY.

RAISE BUTTONS (UP ARROW): These momentary buttons are used for manually operating the air or hydraulic leveling systems. Sides or ends of the vehicle will raise while these buttons are pushed.

LOWER BUTTONS (DOWN ARROWS): These are momentary buttons used for manually operating the air or hydraulic leveling systems. Sides or ends of the vehicle will lower while these buttons are pushed in manual Air Leveling. The jacks will retract when in manual Hydraulic Leveling.

INDICATOR LIGHTS

AIR OPERATION LIGHT: This light indicates the system is active in the AIR LEVELING mode. This light will flash during a leveling procedure.

HYDRAULIC OPERATION LIGHT: This light indicates the system is active in the HYDRAULIC LEVELING mode. This light will flash during a leveling procedure.

STORE LIGHT: This light will flash indicating the hydraulic system is in the STORE mode.

DUMP LIGHT: This light will flash when the "DUMP" button is pushed.

CONTROL IDENTIFICATION

CONTROL FUNCTIONS (CONT'D)

INDICATORS (CONT'D)

"EXCESS SLOPE" INDICATOR LIGHT: This light will be on if the leveling system can NOT level the vehicle.

"TRAVEL MODE" INDICATOR LIGHT: This light will be on if the ignition is "ON" and the Master Warning light is off.

"NOT IN PARK" INDICATOR LIGHT: This light will be on if the "AIR" or "HYD" button is being pushed and the park brake is not set, provided the ignition is in the "ON" position.

WARNING INDICATOR LIGHTS: When a jack is extended 1 inch or more, the respective red WARNING light will be on, if the HYDRAULIC OPERATION indicator light is on. If the AIR OPERATION indicator light is on and the ignition is in the "ON" position all four red warning lights will be on.

LEVEL INDICATOR LIGHTS: There are four yellow LEVEL indicator lights. A lit LEVEL indicator light indicates a side, end or corner of the vehicle is low. These lights can be on only if the AIR or HYDRAULIC indicator lights are on. Only one or two LEVEL indicator lights can be on at once. When all LEVEL indicator lights are out the vehicle is level.

MASTER WARNING LIGHT: This light will be on if the ignition is in the "ON" position and a jack is extended 1 inch or more, or if a suspension air bag has low air pressure.

WARNING BUZZER: The buzzer will sound if the ignition is in the "ON" position and a jack is extended 1 inch or more, or if a suspension air bag has low air pressure.

NOTE: The vehicle can be moved at speeds not exceeding 5 MPH if the "DUMP" button is being used. The TRAVEL MODE LIGHT will be off.

HWH LIGHTED RESET SWITCH

The HWH system has a lighted reset switch that is normally located on the vehicle dash. If there is a failure at any time in the HWH CAN network, the network will shut down. The leveling system will not operate. If the ignition is off, no indicator lights will come on. If the ignition is in the "ON" or "ACC" position, the lighted reset switch and the MASTER WARNING Light will come on.

If the lighted reset switch is on, the switch must be pushed before the leveling system can be operated.

If the lighted reset switch will not go out when pushed, there is a problem with the central control module of the network system. The Leveling System will not operate. The vehicle suspension will return to the travel mode if the ignition key is in the "ON" position.

CAUTION: IF THE IGNITION IS IN THE "ON" POSITION AND THE LIGHTED RESET SWITCH IS ON, THE VEHICLE CAN RETURN TO RIDE HEIGHT WITHOUT RELEASING THE PARK BRAKE.

MASTER WARNING INDICATORS

The HWH Master Warning light and Buzzer are used to indicate a jack has not been retracted or has extended slightly due to thermal expansion, the air pressure in any suspension air bag drops below 20 psi or the system air pressure drops below 85 psi. When the Master Warning light and Buzzer are on the Travel Mode Light will be off. A jack that extends slightly does not create a driving hazard. A jack that remains extended more than several inches or low air pressure can create a driving hazard.

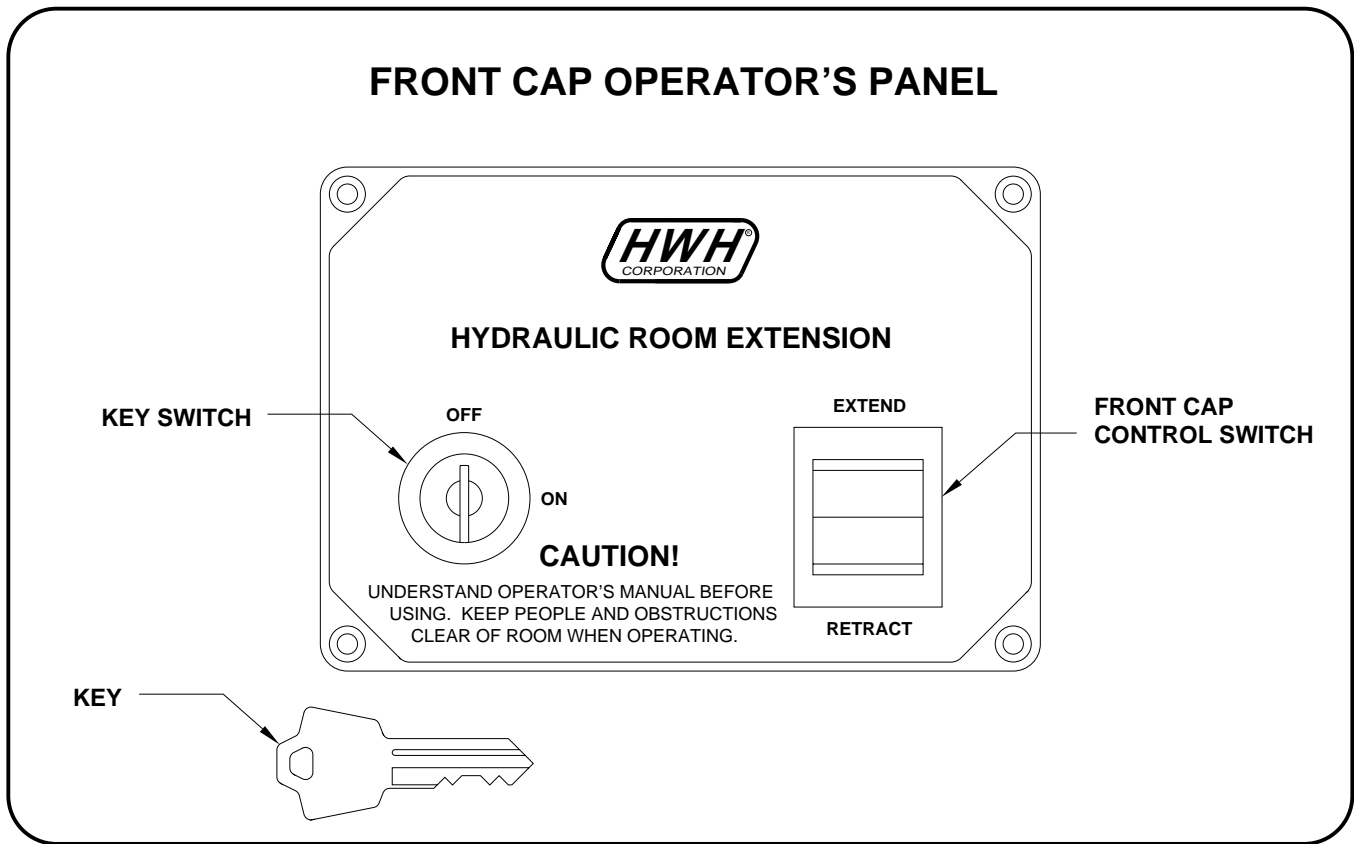
If the HWH buzzer and light are on when ready to travel, possible problems should be checked and corrected before proceeding.

If the HWH buzzer and light come on briefly while traveling, possible problems should be checked when convenient, but it is not necessary to stop traveling when the warning buzzer and light do not stay on.

If the HWH buzzer and light come on and stay on, the vehicle should be pulled over as soon as it is safe to do so. Any problem found should be corrected before continuing. It is not recommended to stop on a traveled portion of the road or anywhere that does not have adequate room to safely inspect the vehicle.

If a problem that could create a driving hazard is not found, proceed with caution. The problem may be a faulty indicator or warning switch. If a driving hazard is found, the problem should be corrected before traveling. When in doubt, contact the vehicle manufacturer or HWH customer service for assistance.

CONTROL IDENTIFICATION



CONTROL FUNCTIONS

KEY SWITCH: The KEY SWITCH controls power to the FRONT CAP SWITCH. When the KEY SWITCH is in the "ON" position the front cap can be operated and the key cannot be removed. When the KEY SWITCH is in the "OFF" position the front cap cannot be operated, and the key can be removed.

FRONT CAP CONTROL SWITCH: The FRONT CAP CONTROL SWITCH is a two position momentary switch. Pressing the switch in the EXTEND position will extend the FRONT CAP. Pressing the switch in the RETRACT position will retract the FRONT CAP. Releasing the FRONT CAP CONTROL SWITCH will halt the operation of the FRONT CAP.

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 three 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 three 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 three or six minutes without allowing the pump motor to cool for thirty minutes.**

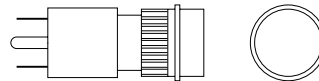
Some systems can be turned back on immediately after the processor turns the pump off. **DO NOT turn the system back on or run the pump without allowing the pump motor to cool for thirty minutes.**

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.



LIGHTED RESET SWITCH

No matter what HWH system is on the vehicle, the pump should not be ran for more than three 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 three 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.

OPERATING PROCEDURES

NETWORK INFORMATION

The HWH 2000 series CAN system is a computerized modular network. It controls all functions of the leveling system and HWH room extensions. The network is active any time the ignition is in the "ON" or "ACC" position or when any room extension control panel key is "ON". Certain functions and indicator lights for the leveling system will work when the network is active. Certain functions and lights will work ONLY if the the ignition is in the "ON" or "ACC" position to start the function.

NOTE: The network will stay active for 10 minutes after the ignition key has been turned "OFF". If the leveling system was turned "ON", the network will stay active for 10 minutes after automatic leveling is complete or the system goes "EXCESS SLOPE". If manual leveling buttons were used, the network stays active for 10 minutes after the last manual button is released.

GENERAL INSTRUCTIONS

If parking on soft ground or asphalt paving, pads should be placed under the jacks for hydraulic leveling.

Press the "OFF" button at any time to stop the operation of the system. The vehicle will not return to TRAVEL MODE.

Pushing the "STORE" button or releasing the park brake will allow the vehicle to return to travel height if the ignition is on and a leveling system was used.

NOTE: The ignition switch must be "ON" before the vehicle's air suspension can return to travel height.

If the ignition is in the "ON" position and the park brake is not set, the "NOT IN PARK/BRAKE" light will come on, and the system will not turn on when either the "AIR" or "HYD" button is pressed. If the ignition is in the "ON" position, either air or hydraulic leveling will be stopped anytime the park brake is released. The system will shut off and the vehicle suspension system will return to travel height.

Air and hydraulic leveling can not be used simultaneously.

The "DUMP" button will function with the system and park brake off if the ignition is in the "ON" position. See DUMP FUNCTION.

The MASTER WARNING light and buzzer will be on if a jack is extended two inches or more or if an air bag has low air pressure if the ignition is in the "ON" position.

CAUTION: DO NOT MOVE THE VEHICLE IF A WARNING LIGHT OR BUZZER IS ON, OR IF THE ROOM EXTENSION IS EXTENDED. (SEE "MASTER WARNING INDICATORS")

PREPARATION FOR TRAVEL

Start the vehicle's engine and allow air pressure to build to recommended level for traveling.

Check that the FRONT CAP slide is fully retracted.

If air leveling was used, the "STORE" button must be pushed or the park brake must be released before the vehicle can return to travel height.

Visually check that the jacks are in the STORE/TRAVEL position. Also check that the vehicle's suspension is at the proper height for travel.

The "TRAVEL" light on the leveling panel must be on.

Before traveling, the MASTER WARNING light and buzzer must be off.

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 VISUALLY CHECK THAT ALL JACKS ARE FULLY RETRACTED INTO THE STORE POSITION.

CAUTION: IT IS THE OPERATOR'S RESPONSIBILITY TO VISUALLY CHECK THAT THE VEHICLE IS AT THE PROPER RIDE HEIGHT AND THE FRONT CAP IS FULLY RETRACTED BEFORE MOVING THE VEHICLE.

OPERATING PROCEDURES

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.
2. Press the "LEVEL" button to enter the hydraulic operation mode. The ON 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 ON light will start to flash.

NOTE: After pushing the "LEVEL" button a second time, the system will begin to dump air from the vehicle suspension. After approximately 25 seconds, the leveling process will begin.

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.

EXCESS SLOPE SITUATION: In the event the jacks are unable to level the coach, the "EXCESS SLOPE" light will come on. Excess slope is two jacks fully extending 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 not be extended. The system will shut off leaving the "EXCESS SLOPE" light on. The "EXCESS SLOPE" light will remain on if the ignition is in the "ON" or "ACC" position, until the jacks have been fully retracted turning the red warning lights out. Push the "STORE" button to retract the jacks. Move the vehicle to a more level position or level the vehicle as close as possible according to the MANUAL HYDRAULIC OPERATION section.

5. Turn the ignition switch to the "OFF" position.

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.
2. Press the "STORE" button. The store indicator light will flash. Air will be pumped into the vehicle suspension for 10 seconds before the jacks start to retract and the system goes into the TRAVEL MODE. The two front jacks will retract for approximately 5 seconds before the rear jacks start to retract. As each jack retracts, its red WARNING light will go out. The system will automatically shut down one minute 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 until the ignition is turned off. The panel will remain on in the STORE mode for ten minutes after the ignition is turned off. After ten minutes the panel will turn off.

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 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 then retract the jacks again.

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.
2. Press the "HYD" button. The indicator light will glow steady.
3. Place pads under the jack feet if the ground will not support the vehicle on the jacks.
4. Push the "DUMP" button. Wait until all of the air is exhausted from the vehicles suspension system.
5. 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.

6. When leveling is completed, push the "OFF" button on the touch panel and turn the ignition switch to the "OFF" position.

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

OPERATING PROCEDURES

MANUAL JACK RETRACTION

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.

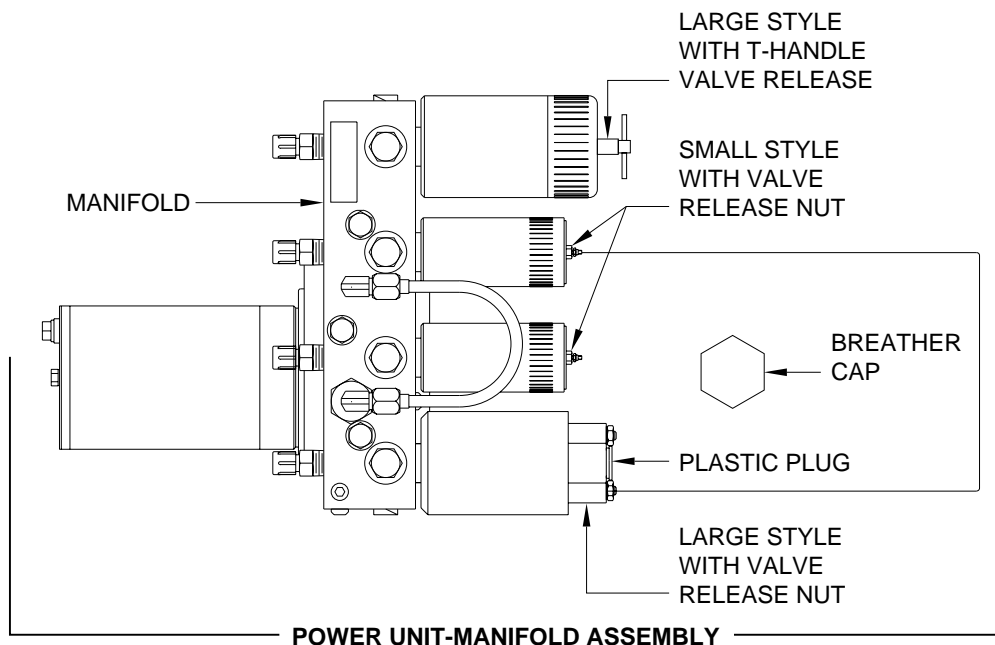
5. Repeat the process by identifying then opening the two outer valves, if applicable.

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.



OPERATING PROCEDURES

AUTOMATIC AIR OPERATION

NOTE: The ignition must be in the "ON" or "ACC" position to use the "AIR" button. Once the operation is started, the ignition can be moved to the "OFF" position and the operation will continue.

1. Place the transmission in the proper position for parking and set the park brake. The air leveling system can only be turned on if the ignition is in the "ON" or "ACC" position. Leaving the engine running during leveling is recommended. This will provide a better air supply for leveling. The vehicle will level with the engine shut off, however more time will be required for leveling.

NOTE: If the ignition key is in the "ON" or "ACC" position, the panel will not turn on if the park brake is not set. The "NOT IN PARK/BRAKE" light will be on while the "AIR" button is being pushed.

2. Press the "AIR" button once to enter the air mode. The LEVELING SYSTEM ACTIVE LIGHT will glow steady. When the ignition is in the "ON" or "ACC" position, the four red WARNING lights on the panel will come on. This indicates that the height control valves have been locked out. The vehicle should not be moved when these lights are on.

3. Press the "AIR" button a second time. The LEVELING SYSTEM ACTIVE LIGHT will start flashing and air leveling will begin. The system will attempt to level the vehicle by exhausting air from the air bags. If a level position is not achieved by lowering the high side and/or end of the vehicle, the low side and/or end of the vehicle will be raised by adding air to the air bags. When all four yellow LEVEL SENSING lights are out the leveling is complete.

NOTE: Only one or two yellow LEVEL SENSING lights may be ON at one time.

4. When all four yellow level lights are out, the LEVELING SYSTEM ACTIVE LIGHT will stop flashing and start pulsating dimly. The Leveling System is now in the SLEEP MODE. The vehicle's engine/ignition may now be turned OFF.

NOTE: After the ignition and all room extension KEY SWITCHES are turned OFF, the CAN Network stays active for 10 minutes before shutting down. Leveling System touch panel lights will stay ON during this time and go out when the CAN Network shuts down. If the Leveling System is in the SLEEP MODE when the Network shuts down, the computer will stay ON. The Leveling System touch panel lights will all be OFF, but the Leveling System will still be in the SLEEP MODE.

5. 30 minutes after the Leveling System enters the SLEEP MODE, the computer will monitor the LEVELING SENSING UNIT for one minute. If no leveling is needed, the computer will continue to monitor the LEVELING SENSING UNIT every 30 minutes. No light will be seen on the Touch Panel.

6. If the vehicle needs to be relevelled, the CAN Network will become active. The Leveling System touch panel lights will come ON during the leveling procedure. The LEVELING SYSTEM ACTIVE LIGHT will flash. One or two yellow LEVELING LIGHTS will be ON. When the yellow LEVELING LIGHTS are all out, the LEVELING SYSTEM ACTIVE LIGHT will stop flashing and start pulsating dimly. The Leveling System will remain in the SLEEP MODE with the computer monitoring the LEVELING SENSING UNIT every 30 minutes, releveling the vehicle as needed.

NOTE: The CAN Network will stay active for 10 minutes after releveling the vehicle and then shut down, turning the touch panel lights OFF. This happens every time the system relevels the vehicle.

7. The SLEEP MODE will continue until the "EMERGENCY STOP" button is pushed or the park brake is released, if the ignition is in the "ON" position.

EXCESS SLOPE: The system will attempt to level the vehicle for approximately 15 to 20 minutes. After the 15 to 20 minutes, if a LEVEL SENSING light is still on, the "EXCESS SLOPE" light will come on. The LEVEL LIGHT indicator light will go out. The "EXCESS SLOPE" light will be on whenever the network is active.

NOTE: Due to factors such as wind or movement in the vehicles, the time needed to go into an EXCESS SLOPE situation may exceed 20 minutes.

The "EXCESS SLOPE" light will be on whenever the network is active until the vehicle is leveled with all yellow LEVEL indicator lights off.

The system will only return to the TRAVEL MODE if the "STORE" button is pushed or the park brake is released. In either case, the ignition key must be in the "ON" position.

OPERATING PROCEDURES

MANUAL AIR OPERATION

NOTE: The ignition must be in the "ON" or "ACC" position to use the "AIR" button. Once the operation is started, the ignition can be moved to the "OFF" position and the operation will continue.

1. Place the transmission in the proper position for parking and set the park brake. The air leveling system can only be turned on if the ignition is in the "ON" position. Running the vehicle engine during leveling is recommended. This will provide a better air supply for leveling. The vehicle will level with the engine shut off, however more time will be required for leveling.

NOTE: If the "NOT IN PARK/BRAKE" light is on, the leveling system cannot be turned on.

2. Press the "AIR" button once to enter the air mode. The LEVELING SYSTEM ACTIVE LIGHT indicator light will glow steady. When the ignition is in the "ON" position, the four red WARNING lights on the panel will come on. This indicates that the height control valves have been locked out. The vehicle should not be moved when these lights are on.

3. The vehicle can now be leveled using the RAISE (up arrow) and LOWER (down arrow) buttons on the right half of the

panel in conjunction with the yellow LEVEL indicator lights. **Any side to side leveling should be done, if needed, before leveling the vehicle front to rear.** The yellow LEVEL indicator light indicates that side or end is low. When all yellow lights are out the vehicle is level. Try leveling the vehicle by lowering the high side or end (opposite of the lit yellow level lights). If a level position is not achieved use the RAISE (up arrow) button to raise the low side or end.

NOTE: In either manual or automatic leveling when either front air manifold air bag pressure switch is on a front lower procedure is halted. When either rear air manifold air bag pressure switch is on, a rear lower procedure is halted. Air bag pressure switches will not interfere with either a right or left lower procedure.

4. Turn the ignition to the "OFF" position.

5. Turn the system off.

NOTE: If the "DUMP" button is pushed while manually leveling the vehicle with air and the ignition is in the "ON" position, the system will latch into the dump mode until the "EMERGENCY STOP" button is pushed or the ignition is turned off.

"DUMP" FUNCTIONS

The "DUMP" function is provided for operator convenience for purposes such as dumping the air suspension when parked.

The park brake does not have to be set to use the "DUMP" button.

IMPORTANT: If the ignition is ON and the park brake is OFF, the "DUMP" feature will latch in and remain on. If the vehicle exceeds 10 MPH, the "DUMP" function will automatically turn off and the system will return to the TRAVEL MODE. If the park brake is set, the "TRAVEL MODE" button must be pushed before the vehicle can return to ride height.

CAUTION: REREAD CAUTIONS ON THE FIRST PAGE OF THIS MANUAL. THE VEHICLE MAY DROP OR RAISE AND/OR MOVE FORWARD OR BACKWARD WITHOUT WARNING CAUSING INJURY OR DEATH.

DO NOT OPERATE THE VEHICLE UNLESS THE AIR SUSPENSION IS AT THE PROPER HEIGHT FOR TRAVEL.

The "DUMP" button can be used at any time the network is active. The park brake does not have to be on.

If the ignition is in the "ON" position and the park brake is off, the "DUMP" button will latch in. The vehicle will raise or lower completely and stay in that position. The vehicle can not return to ride height until the "TRAVEL MODE" button or the "EMERGENCY STOP" button is pushed or the vehicle exceeds 10 M.P.H, putting the system in the TRAVEL MODE.

If the ignition is in the "OFF" position the "DUMP" button will not latch in. The vehicle will remain in the position it was when the button was released. The vehicle can return to ride height when the ignition is turned to "ON" if the park brake is released or the "TRAVEL MODE" button is pushed.

DO NOT operate the vehicle for extended distances unless the air suspension is at the proper height for travel. The vehicle can not return to ride height until the "EMERGENCY STOP" button is pushed or the vehicle exceeds 10 MPH, putting the system in the TRAVEL MODE.

CAUTION: IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT THE VEHICLE IS AT PROPER RIDE HEIGHT BEFORE TRAVELING.

OPERATING PROCEDURES

FRONT CAP EXTEND PROCEDURE

1. The park brake must be set. The FRONT CAP will not operate if the park brake is not set.

CAUTION: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF THE FRONT CAP WHEN OPERATING.

NOTE: Make sure there is adequate clearance to fully extend the FRONT CAP

2. Turn the FRONT CAP CONTROL PANEL KEY SWITCH to "ON".

3. To extend the CAP, press and hold the FRONT CAP CONTROL SWITCH in the "EXTEND" position until the CAP is fully extended.

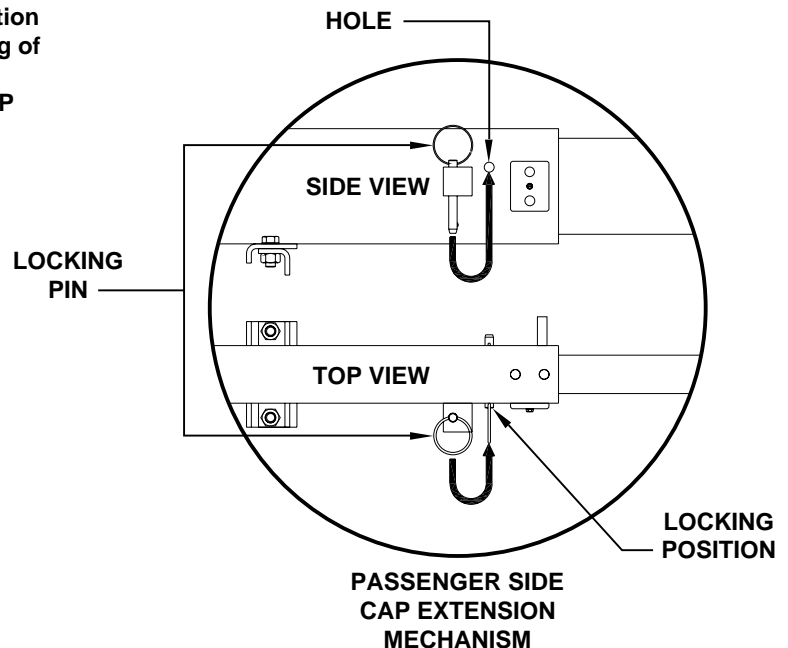
NOTE: Hold the switch to "EXTEND" three or four seconds after the CAP is fully extended. This assures proper pressurization of the cylinders. **During normal operation of the CAP, do not reverse direction of the CAP until the CAP is fully extended. If necessary, the direction of the CAP may be reversed, but watch for binding of the CAP. If the direction of the CAP has been reversed, DO NOT re-extend the CAP until the CAP has been fully retracted.**

IMPORTANT: Do not hold the FRONT CAP CONTROL SWITCH in the "EXTEND" position for more than ten seconds after the CAP is fully extended or stops moving. **If either side of the CAP stops moving, release the CAP control switch immediately. DO NOT force the CAP. DO NOT reverse direction of the CAP, contact HWH Customer Service for assistance 1-800-321-3494.**

NOTE: Releasing the FRONT CAP CONTROL SWITCH will halt the operation of the CAP.

4. Turn off the FRONT CAP PANEL KEY SWITCH.

5. The passenger side cap extension mechanism is equipped with a locking pin. The pin is used to prevent the FRONT CAP from being retracted. Remove the pin from it's holder and insert into the hole shown in the mechanism. The cap must be fully extended to use the locking pin.



CAUTION: DO NOT ENTER OR WORK IN AREA BETWEEN THE FRONT CAP AND VEHICLE WHEN THE CAP IS EXTENDED UNTIL THE LOCKING PIN IS PLACED IN THE LOCKING POSITION.

OPERATING PROCEDURES

FRONT CAP RETRACT PROCEDURE

CAUTION: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF THE FRONT CAP WHEN OPERATING.

IMPORTANT: Extending or retracting any leveling jacks when the room is extended is not recommended.

1. The park brake must be set. The FRONT CAP will not operate if the park brake is not set.

2. **IMPORTANT:** Make sure the locking pin has been removed from the mechanism and placed into its holder. If the locking pin is tight, push the FRONT CAP CONTROL SWITCH to "EXTEND". This should loosen the pin.

3. Turn the FRONT CAP CONTROL PANEL KEY SWITCH to "ON".

4. To retract the FRONT CAP press and hold the FRONT CAP CONTROL SWITCH in the "RETRACT" position until the FRONT CAP is fully retracted.

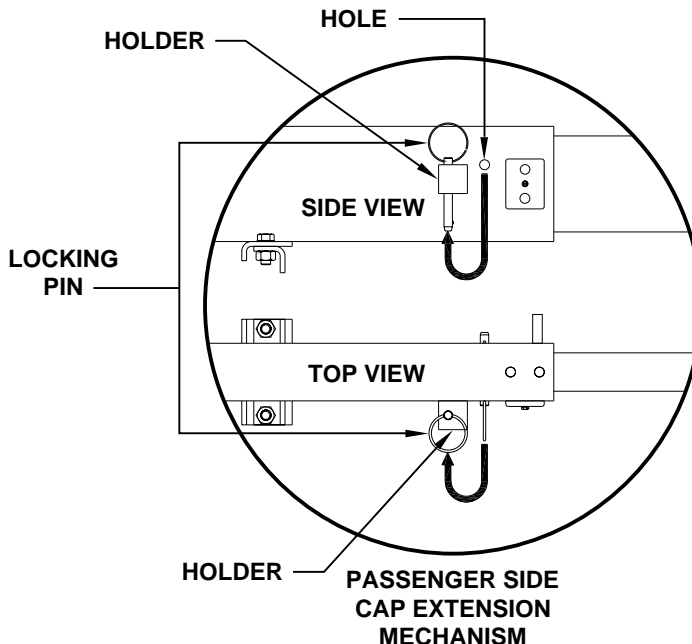
NOTE: Hold the switch to "RETRACT" three or four seconds after the FRONT CAP is fully retracted. This assures proper pressurization of the cylinders. **During normal operation of the FRONT CAP, do not reverse direction of the CAP until the CAP is fully retracted. If necessary, the direction of the CAP may be reversed, but watch for binding of the CAP. If the direction of the CAP has been reversed, DO NOT retract the CAP until the room has been fully extended.**

IMPORTANT: Do not hold the FRONT CAP CONTROL SWITCH in the "RETRACT" position for more than ten seconds after the CAP is fully retracted or stops moving. **If either side of the CAP stops moving, release the CAP control switch immediately. DO NOT force the CAP. DO NOT reverse direction of the CAP, contact HWH Customer Service for assistance 1-800-321-3494.**

NOTE: Releasing the FRONT CAP CONTROL SWITCH will halt the operation of the CAP.

5. Turn the FRONT CAP PANEL KEY SWITCH to "OFF".

6. If the room will not retract see the MANUAL FRONT CAP RETRACT PROCEDURE.



OPERATING PROCEDURES

ENGINE DOOR LIFT - OPEN

CAUTION: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF THE ENGINE DOOR LIFT WHEN OPERATING.

IMPORTANT: Make sure there is adequate clearance to fully open the ENGINE DOOR LIFT.

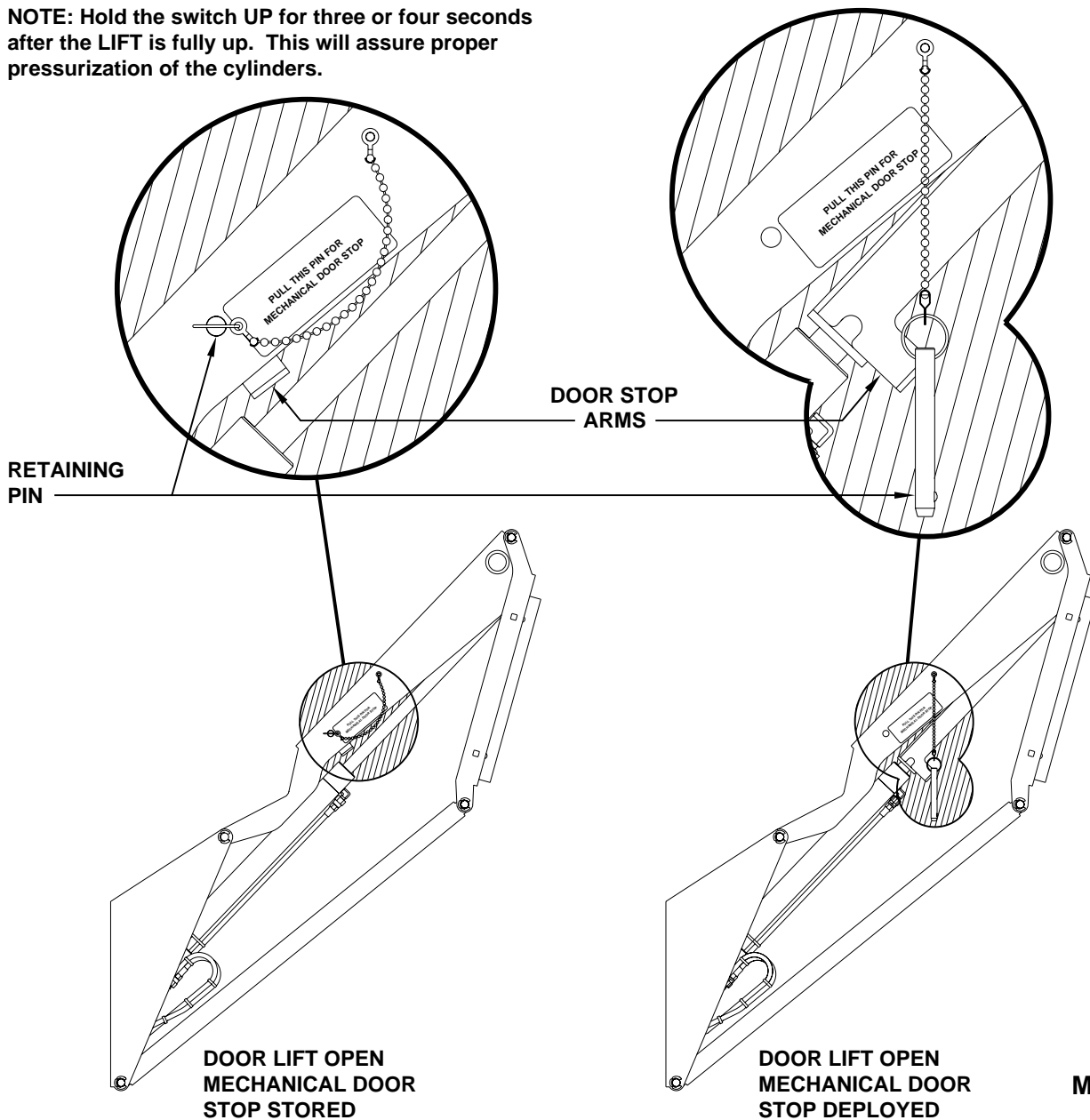
1. The park brake must be set to operate the ENGINE DOOR LIFT.
2. The toggle switch to operate the door lift is located in the rear battery compartment on the passenger side of the vehicle.
3. Push and hold the toggle switch UP to RAISE the door.

NOTE: Hold the switch UP for three or four seconds after the LIFT is fully up. This will assure proper pressurization of the cylinders.

IMPORTANT: Do not hold the LIFT CONTROL TOGGLE SWITCH in the UP position for more than ten seconds after the LIFT is fully up or stops moving. If either side of the LIFT stops moving, release the LIFT CONTROL TOGGLE SWITCH immediately. DO NOT force the LIFT. DO NOT reverse direction of the LIFT, contact HWH Customer Service for assistance 1-800-321-3494.

NOTE: Releasing the LIFT CONTROL TOGGLE SWITCH will halt the operation of the LIFT.

4. Each side of the door mechanism is equipped with a mechanical door stop. The door must be completely open, before removing the retaining pins. The door stop arms can then be lowered into place.



OPERATING PROCEDURES

ENGINE DOOR LIFT - CLOSE

CAUTION: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF THE ENGINE DOOR LIFT WHEN OPERATING.

IMPORTANT: Make sure there is adequate clearance to close the door.

1. The park brake must be set to operate the ENGINE DOOR LIFT.
2. Lift the mechanical door stops into their stored position and insert the retaining pins.

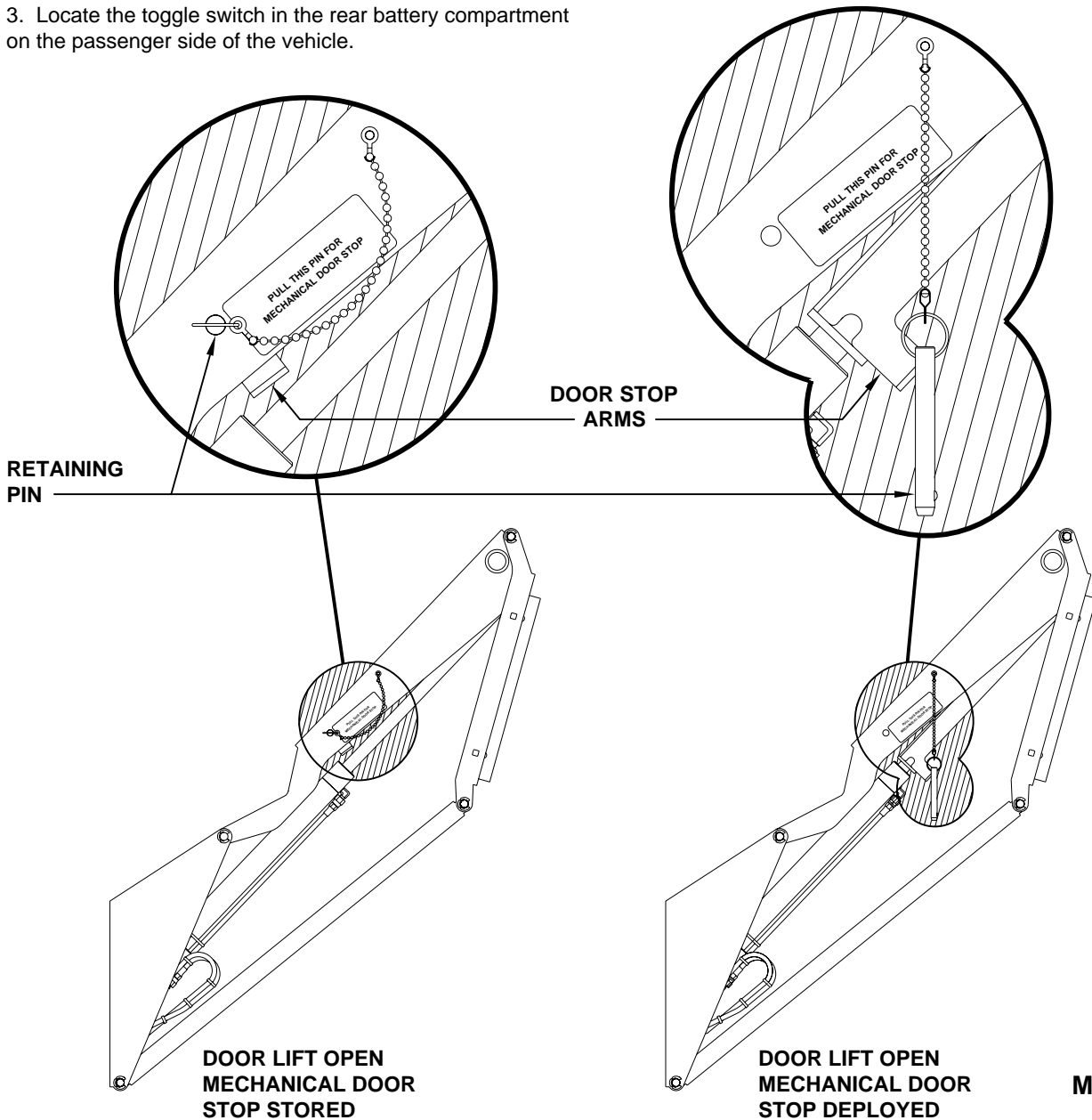
NOTE: If the door stop arm is tight, push the toggle switch up. This should loosen the door stops so they can be stored.

3. Locate the toggle switch in the rear battery compartment on the passenger side of the vehicle.

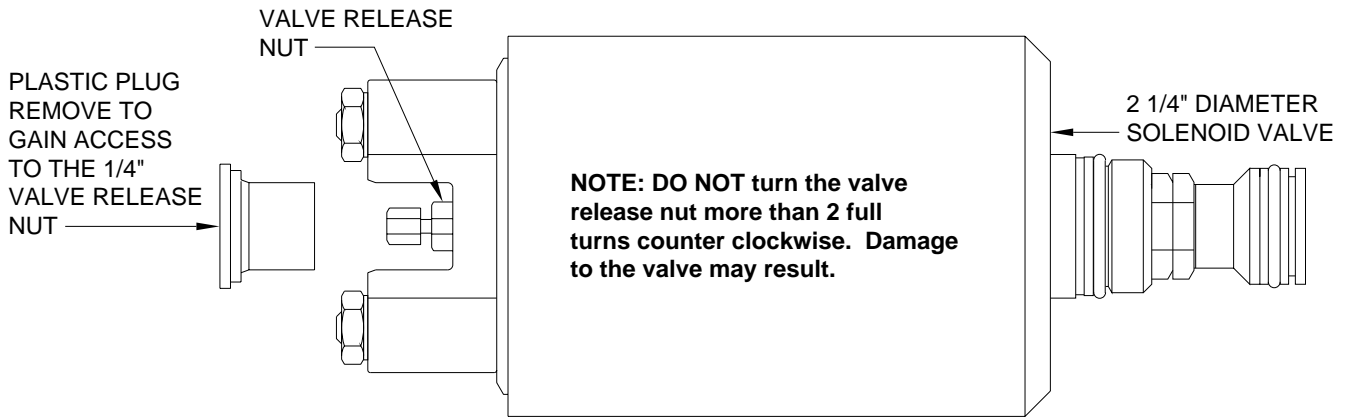
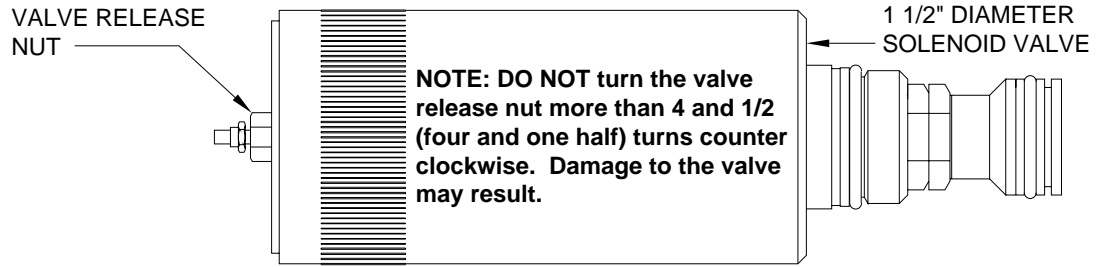
4. Push and hold the toggle switch down until the Engine Door Lift is completely closed. Continue holding the switch 3 or 4 seconds after the door is closed. This assures proper pressurization of the cylinders.

IMPORTANT: If either side of the DOOR LIFT stops moving, release the TOGGLE SWITCH immediately. DO NOT force the DOOR LIFT. DO NOT reverse direction of the LIFT, contact HWH Customer Service for assistance 1-800-321-3494.

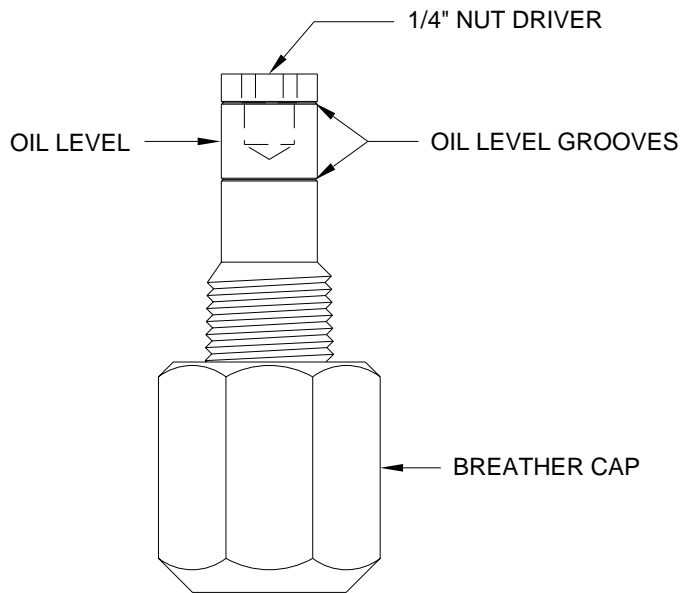
NOTE: Releasing the LIFT CONTROL TOGGLE SWITCH will halt the operation of the LIFT.



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.