

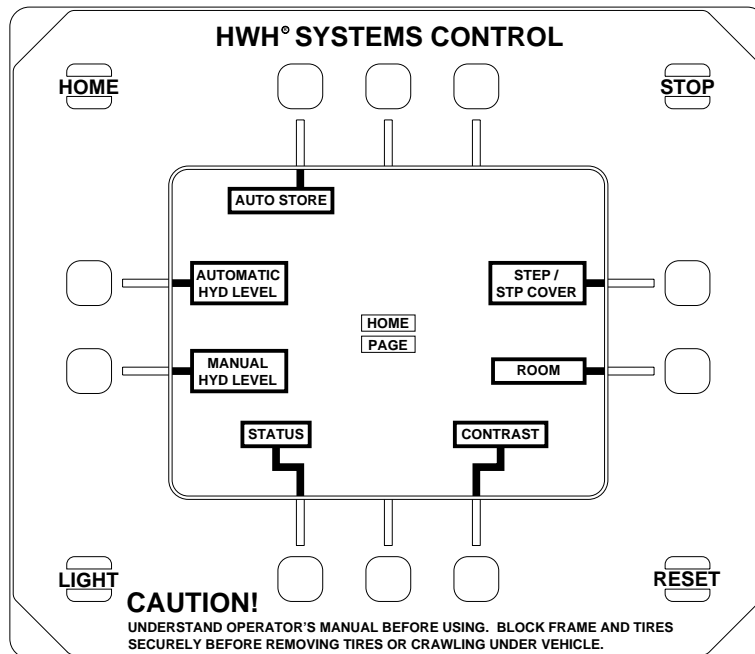


OPERATOR'S MANUAL

HWH® SYSTEMS CONTROL MODULE

FEATURING:

- BI-AXIS® Computerized Hydraulic Leveling*
- Multiple Rooms*
- Hydraulic Step and Step Cover*
- Dual Direction Hydraulic Storage Slide Out*
- Auxiliary Hand Pump*



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

ML46343/MP04.5650

16MAR10

OPERATOR'S MANUAL

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

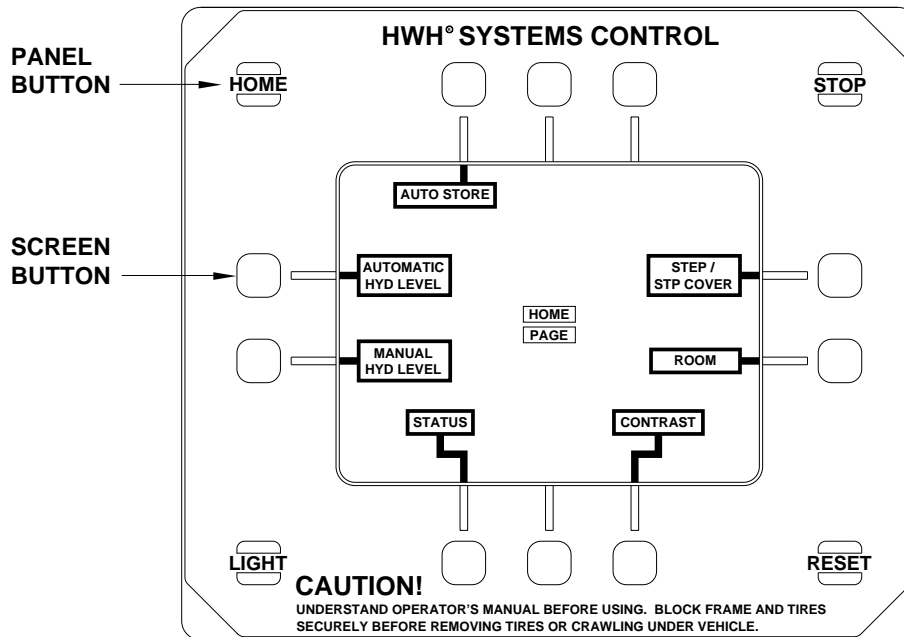
HWH CORPORATION strives to maintain the highest level of customer satisfaction. Therefore, if you discover a defect or problem, please do the following:

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



HOME PAGE

NOTE: See individual function pages in the OPERATING PROCEDURES section of this manual for detailed information about specific screen buttons.

PANEL BUTTONS

"HOME" BUTTON: Pushing the "HOME" button at any time will return the control panel to HOME PAGE 1 EXCEPT when the system is actively leveling the vehicle in an automatic mode.

"LIGHT" BUTTON: Pushing the "LIGHT" button will turn the back light off. The panel will appear dark but the system will remain on. Push the "LIGHT" button to turn the back light on.

"STOP" BUTTON: Pushing the "STOP" button will turn the system off halting any active function. The LCD screen will go dark. If the ignition is on, the Master Warning Light will come on.

"RESET" BUTTON: This button will reset the SYSTEM CONTROL PANEL if the panel ceases to function due to a malfunction. The "RESET" button will also reactivate the CONTROL PANEL if the "STOP" button is pushed at ANY time. The ignition key must be on for the "RESET" button to work.

SCREEN BUTTONS AND LIGHTS

"AUTOMATIC HYD LEVEL" BUTTON: This button will start the automatic hydraulic leveling procedure and bring up the AUTOMATIC HYD LEVEL screen.

"MANUAL HYD LEVEL" BUTTON: This button will put the system in the manual hydraulic leveling mode and bring up the HYD LEVEL page for manual hydraulic leveling control.

SCREEN BUTTONS AND LIGHTS CONTINUED

"AUTO STORE" BUTTON: This button will start the automatic retract sequence for the jacks when manual or automatic hydraulic leveling has been used.

"AUTO STORE" LIGHT: This light will flash as "STORING" When the "AUTO STORE" button is pushed. If Hydraulic Leveling was used, this light will flash while the jacks are retracting plus 1 minute after all the jack down indicators are off.

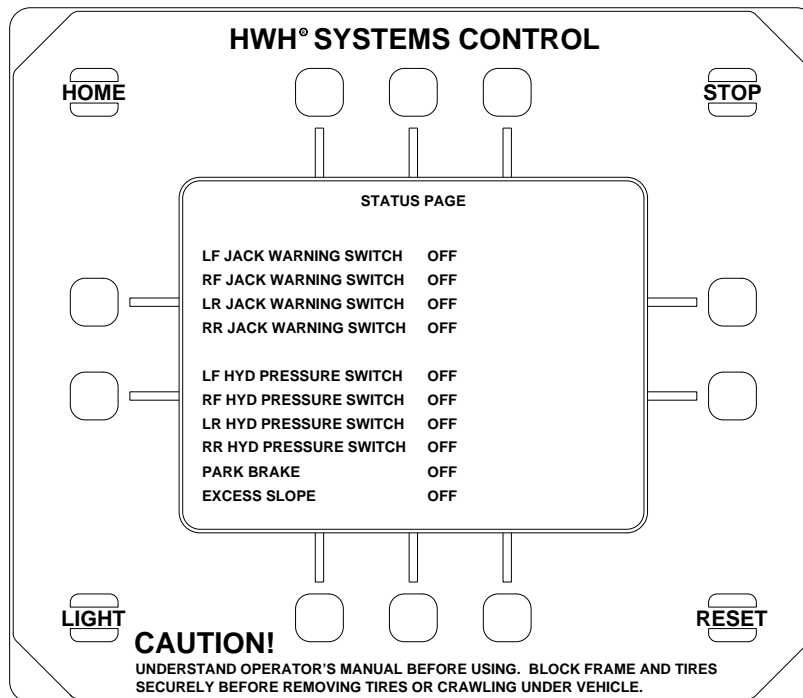
"STATUS" BUTTON: This button will bring up the "STATUS" page. The "STATUS" page will have jack pressure and warning switch information.

"CONTRAST" BUTTON: This button will bring up a page that will allow you to change the contrast of the screen.

"ROOM" BUTTON: This button will bring up a room selection screen. A room control screen will be accessed from the room selection screen.

"STEP / STP COVER" BUTTON: This button will bring up the step and step cover control screen.

CONTROL IDENTIFICATION



STATUS PAGE

NOTE: This "STATUS PAGE" is specific to HWH hydraulic leveling systems ONLY.

SCREEN TEXT

"LF JACK WARNING SWITCH"

"RF JACK WARNING SWITCH"

"LR JACK WARNING SWITCH"

"RR JACK WARNING SWITCH"

OFF - Jack is "FULLY" retracted

ON - Jack is extended approximately 1 inch

"LF HYD PRESSURE SWITCH"

"RF HYD PRESSURE SWITCH"

"LR HYD PRESSURE SWITCH"

"RR HYD PRESSURE SWITCH"

OFF - Jack has no load on it, It is not supporting weight.

ON - Jack has load on it, it is supporting weight.

"PARK BRAKE"

OFF - Park brake is not set

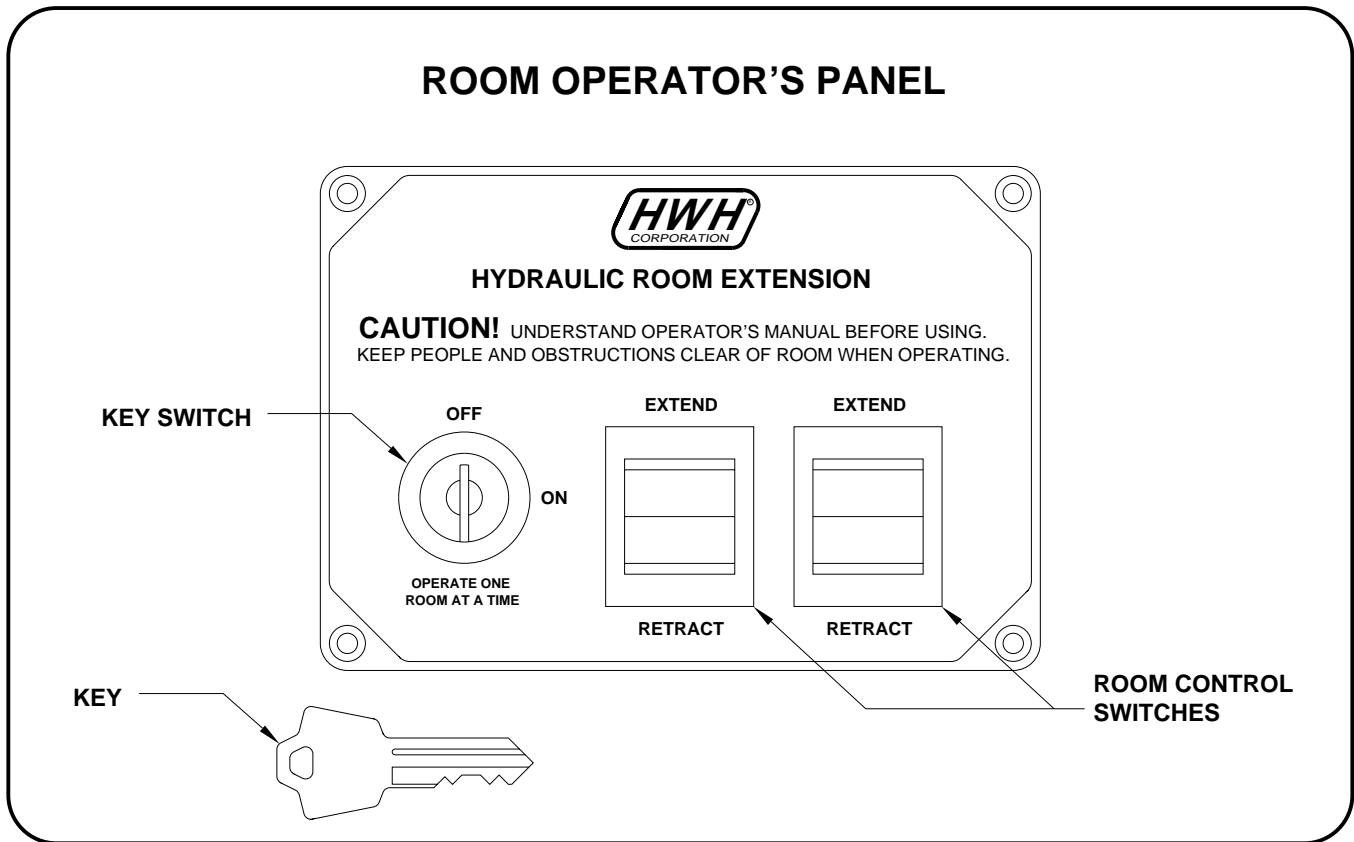
ON - Park brake is set

"EXCESS SLOPE"

OFF - Leveling system is not in an excess slope situation

ON - Leveling system is in an excess slope situation

CONTROL IDENTIFICATION



CONTROL FUNCTIONS

KEY SWITCH: The KEY SWITCH controls power to the ROOM CONTROL SWITCH. When the KEY SWITCH is in the "ON" POSITION the rooms can be operated, and the key cannot be removed. When the KEY SWITCH is in the "OFF" position the rooms cannot be operated, and the key can be removed.

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

OPERATING PROCEDURES

GENERAL INSTRUCTIONS

Turn the ignition to the "ON" or "ACC" position to turn the SYSTEM CONTROL panel on.

Push the "HOME" button to return the SYSTEM CONTROL panel to the HOME PAGE. Any function that is to be operated from the SYSTEM CONTROL panel can only be accessed from the HOME PAGE. Individual screen functions are explained in this section.

The SYSTEM CONTROL screen will exhibit messages to the operator when there is a problem or malfunction in the system or when a function cannot be used. The "HOME" button must be pushed to acknowledge the message. The malfunction or situation must be corrected before proceeding.

CAUTION: ANYTIME A "WARNING" MESSAGE APPEARS ON THE CONTROL SCREEN, IT IS THE OPERATORS RESPONSIBILITY TO CORRECT THE PROBLEM TO ENSURE SAFE OPERATION OF THE VEHICLE AND IT'S SYSTEMS.

Push the "STOP" button to stop any function. Pushing the "STOP" button will turn the SYSTEM CONTROL panel off.

The Hydraulic Leveling system, cannot be activated if the park brake is not set.

Maintain adequate clearance in all directions for vehicle, room extensions and generator slide, doors, steps, etc.. Vehicle may move in any direction due to raising and lowering of vehicle during leveling, settling of vehicle, equipment malfunction etc..

Place a pad or block under each jack if the ground is too soft to support the vehicle or when parking on soft asphalt.

PREPARATION FOR TRAVEL

1. When either leveling system has been used, push the "AUTO STORE" button to retract the jacks and/or return the system to the traveling mode. It is a good idea to always, push the "AUTO STORE" button after starting the engine. This will ensure thermal expansion of the fluid in the hydraulic leveling system will not cause a jack down indicator to come on while traveling.

2. Check that all four leveling jacks are fully retracted to the STORE position.

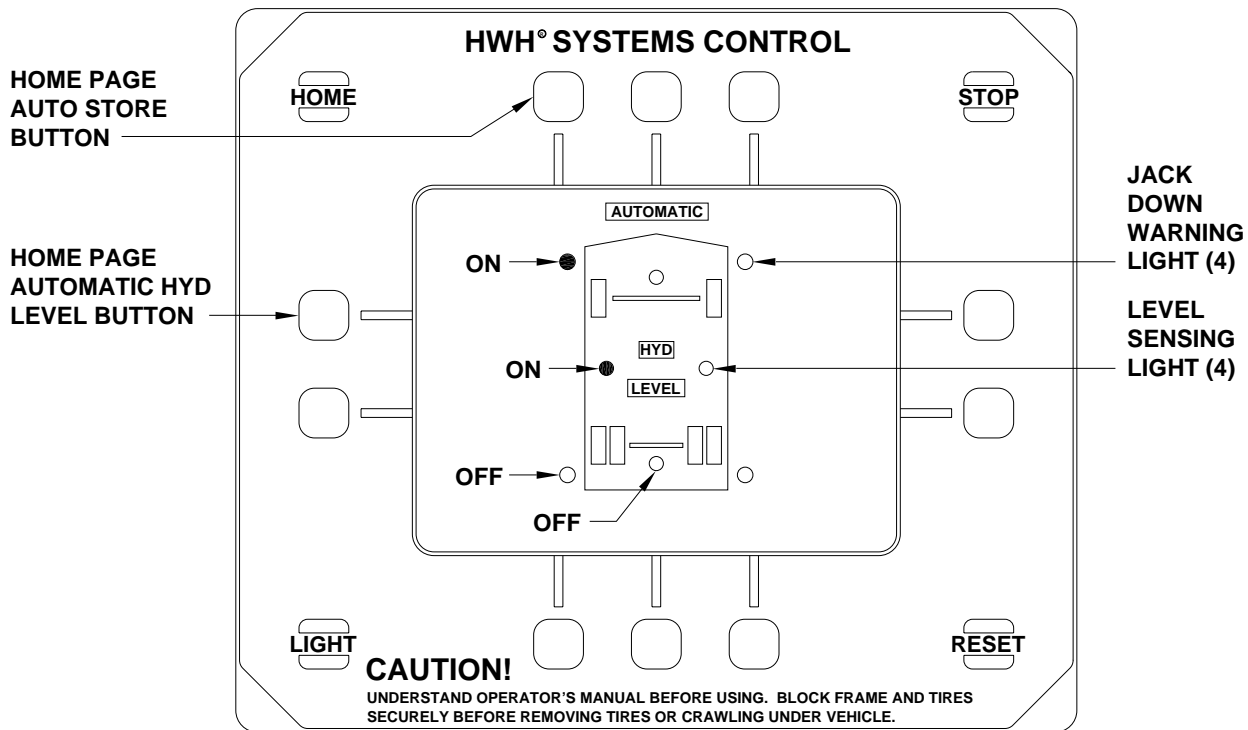
3. If the flashing "STORE" light does not shut off after three to four minutes there may be a malfunction. Bring up the correct STATUS page to determine which jack may not be retracted. The jacks may take longer to retract in cold weather.

4. The SYSTEM CONTROL PANEL should be on when traveling.

5. Check that the vehicle is at the proper ride height for traveling.

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 THE 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.

OPERATING PROCEDURES



AUTOMATIC HYDRAULIC LEVELING

CAUTION: KEEP PEOPLE AND OBJECTS CLEAR OF THE VEHICLE WHILE OPERATING THE HYDRAULIC LEVELING SYSTEM.

The ignition key must be on and the park brake must be set to use automatic hydraulic leveling. If the ignition and/or the park brake are not on, a message will appear on the screen when the "AUTOMATIC HYD LEVEL" button is pushed. Push the "HOME" button and correct the problem before pushing the "AUTOMATIC HYD LEVEL" button again.

NOTE: Automatic leveling and automatic store can only be started when the "HOME" page is being displayed.

The system will level the vehicle according to level sensing lights. A lit level sensing light indicates that side, end or corner of the vehicle is low. When all level sensing lights are out the vehicle is level.

The Jack Down Warning Lights will come on as there respective jack extends approximately 1 inch.

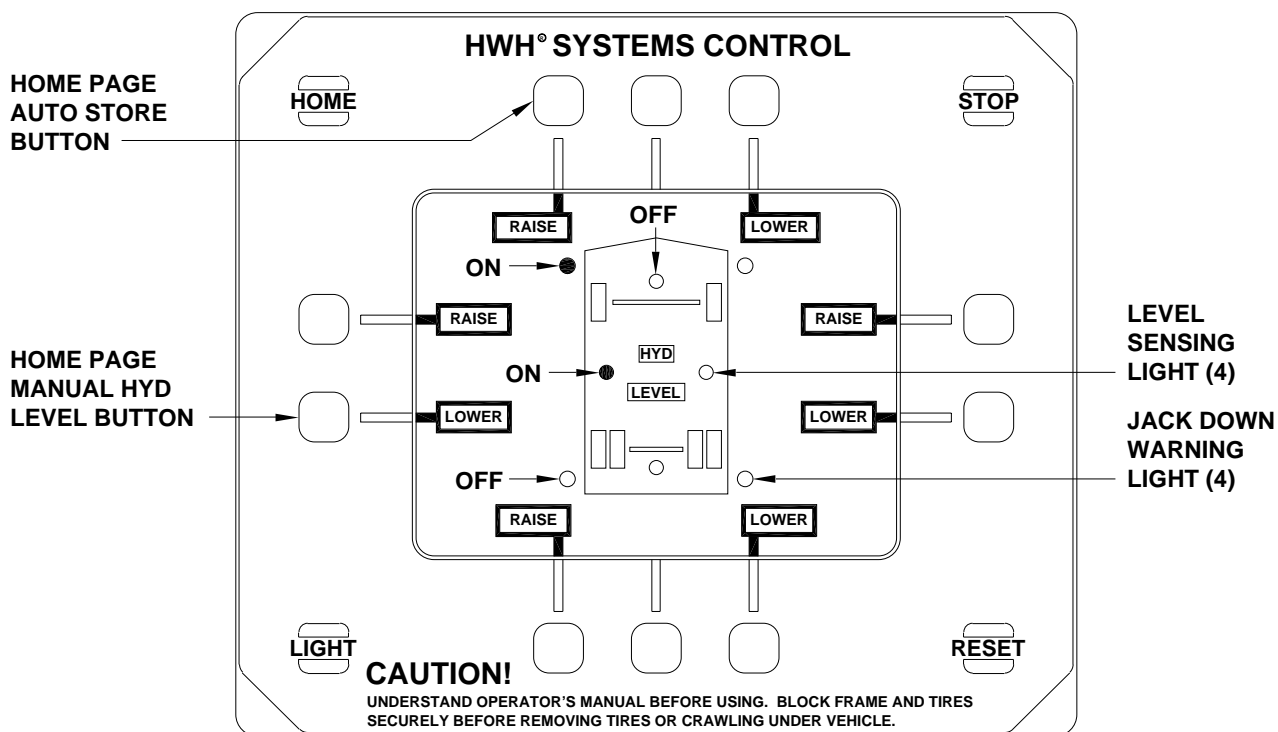
NOTE: Suspension air must be dumped before automatic leveling is started. Refer to the vehicle manufacturer for suspension air dump instructions.

1. Turn the ignition key on and set the park brake.
2. Dump the suspension air.
3. At this time, the operator may want to check the jacks. Place a pad under each jack at this time, if necessary.

4. When the suspension air is completely exhausted, push the AUTOMATIC HYD LEVEL button on the HOME page. The AUTOMATIC HYD LEVEL page will appear.
5. The system will extend the jacks as necessary according to the level sensing lights starting with any lit side lights.
6. When all the level lights are out, the system will extend any remaining jacks to the ground to stabilize the vehicle. Stabilizing jacks should lift the vehicle slightly, approximately 3/4 inch.
7. When the leveling sequence is completed a message confirming this will appear on the screen.
8. Push the "HOME" button and turn the ignition off or continue with other functions.

EXCESS SLOPE: Excess slope is two jacks extending fully without turning that level sensing light out. In the event the jacks are unable to level the vehicle, the control screen will display a message stating the attempt to level was unsuccessful. One or more jacks may not be extended. Push the "HOME" button to return to the HOME page. Use "AUTO STORE" to retract the jacks. Move the vehicle to a more level position or level the vehicle as close as possible according to the MANUAL HYD LEVEL section.

OPERATING PROCEDURES



MANUAL HYDRAULIC LEVELING

CAUTION: KEEP PEOPLE AND OBJECTS CLEAR OF THE VEHICLE WHILE OPERATING THE HYDRAULIC LEVELING SYSTEM.

The ignition key must be on and the park brake must be set to use automatic hydraulic leveling. If the ignition and/or the park brake are not on, a message will appear on the screen when the "AUTOMATIC HYD LEVEL" button is pushed. Push the "HOME" button and correct the problem before pushing the "AUTOMATIC HYD LEVEL" button again.

NOTE: Manual leveling and automatic store can only be started when the "HOME" page is being displayed.

Level the vehicle according to level sensing lights. A lit level sensing light indicates that side, end or corner of the vehicle is low. When all level sensing lights are out the vehicle is level.

The "RAISE" buttons are used to extend the jacks and raise the vehicle. The "LOWER" buttons are used to retract the jacks. Each set of buttons operate a pair of jacks, front, rear left or right side. The RAISE and LOWER buttons are momentary buttons. The jacks will extend or retract while the buttons are being pushed.

The Jack Down Warning Lights will come on as there respective jack extends approximately 1 inch.

1. Turn the ignition key on and set the park brake.
2. Push the "MANUAL HYD LEVEL" button on the "HOME" page.

3. At this time, the operator may want to check the jacks and place a pad under each jack at this time, if necessary.

4. Dump air from the vehicle suspension at this time. Refer to the vehicle manufacturer for air dump instructions.

5. Push and hold the "RAISE" buttons as necessary to raise the vehicle according to lit LEVEL SENSING lights. If a side LEVEL SENSING light is on, extend that pair of jacks to turn the side light out first before leveling the vehicle from front to rear.

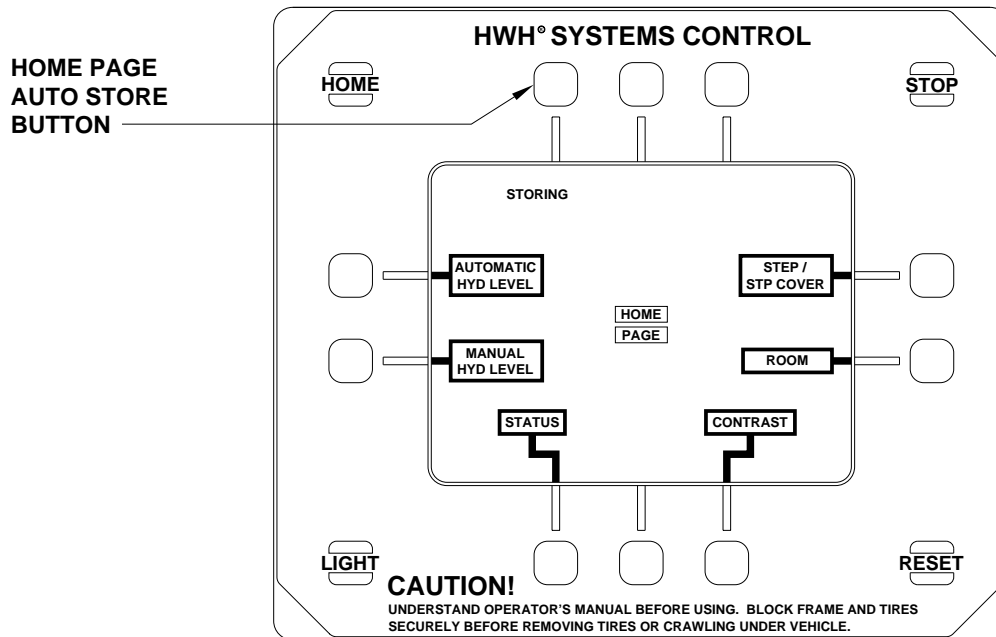
6. Any jack(s) not used for leveling should be extended to the ground to stabilize the vehicle. Use the front and/or rear "RAISE" button to accomplish this. Jacks extended to stabilize the vehicle should lift the vehicle at least 3/4 of an inch.

IMPORTANT: DO NOT continue to push a "RAISE" button for more than 10 seconds after that pair of jacks are fully extended.

7. When the leveling and stabilizing procedure is complete, push the "HOME" button and turn the ignition off or proceed with other functions.

IMPORTANT: Although the jacks can be retracted using the "LOWER" buttons the "AUTO STORE" button on the "HOME" page should be used to retract the jacks. Always use the "AUTO STORE" button when preparing to travel.

CONTROL IDENTIFICATION

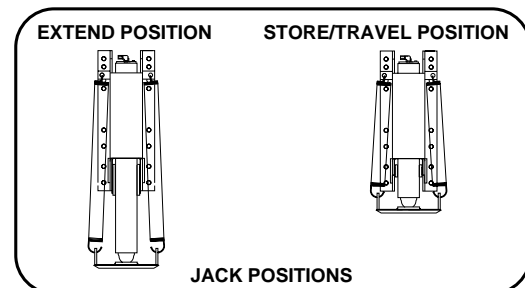


JACK RETRACTION

Jack retraction is achieved from the "HOME" page. The "AUTO STORE" button can be used with the ignition and park brake on or off as long as the control panel screen is on at the "HOME" page.

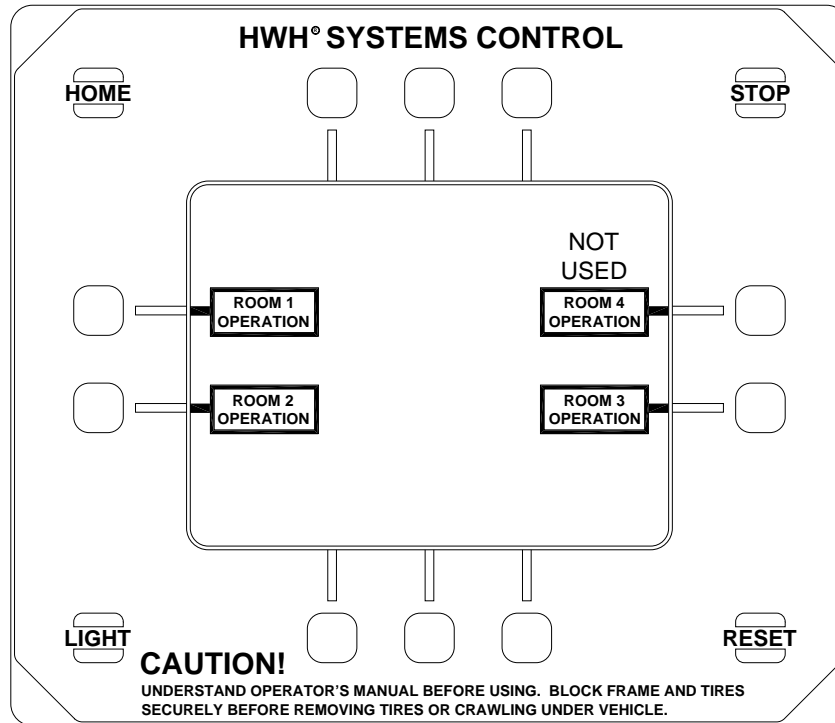
CAUTION: THE OPERATOR MUST BE SURE THAT THERE ARE NO OBJECTS UNDER THE VEHICLE AND THAT ALL PEOPLE ARE CLEAR OF THE VEHICLE.

1. Turn a room panel key or ignition key on to turn the CONTROL PANEL on. If preparing to travel, start the engine.
2. Push the "AUTO STORE" button. The "AUTO STORE" light will flash as "STORING".
3. As each jack retracts fully, its jack down indicator will go out. (The panel does not show this). One minute after all the jacks are fully retracted, the "STORING" light will stop flashing and revert to a solid "AUTO STORE" light.
4. Check that the jacks are retracted and the vehicle is at the proper ride height for traveling before proceeding.



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 FOR TRAVELING.

OPERATING PROCEDURES



ROOM SELECTION

1. Push the "ROOM" button on the "HOME" page to access the ROOM SELECTION page.

The park brake must be set to access the ROOM SELECTION page from the home page. If the park brake is not set, a message will appear when the ROOM button on the "HOME" page is pushed. The operator is directed to push the "HOME" button and correct the problem. If the park brake is released while the ROOM SELECTION page is on the screen, the screen will return to the HOME PAGE.

2. Push the corresponding button to select a room that is to be operated. A ROOM OPERATION page will be displayed.

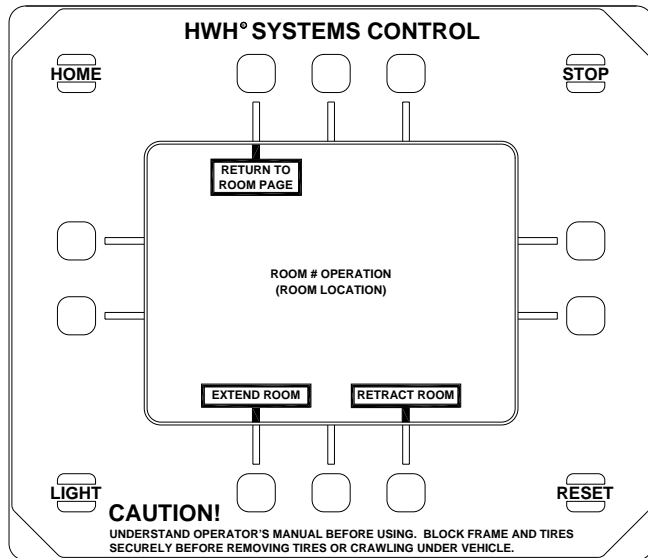
NOTE: The two rear rooms may be operated from a two rocker switch panel at the rear of the vehicle. The system LCD panel does not have to be on to use the rocker switch panel.

If an attempt to level the vehicle in an automatic leveling mode fails putting the system in an EXCESS SLOPE situation, rooms cannot be extended. Individual ROOM OPERATION pages can be accessed from the ROOM SELECTION page, but when the EXTEND button is pushed, a message will appear directing the operator to push the HOME button and resolve the EXCESS SLOPE situation.

Rooms can be retracted when the leveling system is in an EXCESS SLOPE situation.

NOTE: See "EXCESS SLOPE" in the AUTOMATIC HYD or AIR procedures for detailed explanation of "EXCESS SLOPE".

OPERATING PROCEDURES



ROOM 1 EXTEND/RETRACT/STATUS

WARNING: OPERATING A ROOM WITH ANY ROOM LOCKING, CLAMPING OR MANUAL RETRACTING DEVICES ATTACHED OR ENGAGED CAN CAUSE PERSONAL INJURY AND VEHICLE DAMAGE IT IS THE OPERATOR'S RESPONSIBILITY TO ENSURE THAT ALL ROOM LOCKING, CLAMPING OR MANUAL RETRACTING DEVICES ARE DETACHED OR DISENGAGED BEFORE OPERATING THE ROOM.

Refer to vehicle manufacturer for proper sequence of room extension and leveling system operation.

1. Unlock all room-locking devices.

NOTE: If a MANUAL RETRACT device is attached to the room remove it before extending the room.

WARNING: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF ROOM WHEN OPERATING.

NOTE: Make sure there is adequate clearance to fully extend the room.

2. To extend the room, press and hold the EXTEND ROOM button until the room is fully extended. The EXTEND ROOM LIGHT will flash while the button is being pushed.

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

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

NOTE: Releasing the ROOM CONTROL SWITCH will halt the operation of the room.

IMPORTANT: DO NOT USE A ROOM EXTENSION SUPPORT WHEN THE VEHICLE IS SUPPORTED BY THE LEVELING SYSTEM.

ROOM RETRACT PROCEDURE

WARNING: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF ROOM WHEN OPERATING.

It is recommended to retract room extensions before retracting the hydraulic leveling system.

1. To retract the room press and hold the RETRACT ROOM button until the room is fully retracted. The RETRACT ROOM light will flash while the button is being pushed.

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

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

NOTE: Releasing the ROOM CONTROL SWITCH will halt the operation of the room.

2. Engage all room-locking devices.

3. If the room will not retract see the MANUAL ROOM RETRACT PROCEDURE.

IMPORTANT: Room-locking devices should be locked while traveling.

RETURN TO ROOM PAGE BUTTON: This button will return the screen to the ROOM SELECTION page.

NOTE: If the park brake is released while operating a room, the screen will return to the home page.

OPERATING PROCEDURES

ROOM EXTEND PROCEDURE WITH ROCKER SWITCH CONTROL PANEL

WARNING: OPERATING A ROOM WITH ANY ROOM LOCKING, CLAMPING OR MANUAL RETRACTING DEVICES ATTACHED OR ENGAGED CAN CAUSE PERSONAL INJURY AND VEHICLE DAMAGE. IT IS THE OPERATOR'S RESPONSIBILITY TO ENSURE THAT ALL ROOM LOCKING, CLAMPING OR MANUAL RETRACTING DEVICES ARE DETACHED OR DISENGAGED BEFORE OPERATING THE ROOM.

Refer to vehicle manufacturer for proper sequence of room extension and leveling system operation.

1. Unlock all room-locking devices to include travel clamps/locks supplied by manufacturers other than HWH.

NOTE: If a MANUAL RETRACT WINCH is attached to the room remove it before extending the room.

WARNING: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF ROOM WHEN OPERATING.

NOTE: Make sure there is adequate clearance to fully extend the room.

2. Turn the room control panel KEY SWITCH to the "ON" position.

NOTE: The park brake must be set to operate the rooms.

3. To extend the room, press and hold the appropriate ROOM CONTROL SWITCH in the "EXTEND" position until the room is fully extended.

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

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

NOTE: Releasing the ROOM CONTROL SWITCH will halt the operation of the room.

4. Turn the room control panel KEY SWITCH to the "OFF" position.

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

OPERATING PROCEDURES

ROOM RETRACT PROCEDURE WITH ROCKER SWITCH CONTROL PANEL

WARNING: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF ROOM WHEN OPERATING.

Refer to vehicle manufacturer for proper sequence of room extension and leveling system operation.

1. The park brake must be set. The room will not operate if the park brake is not set.
2. Turn the room control panel KEY SWITCH to the "ON" position.
3. To retract the room press and hold the appropriate ROOM CONTROL SWITCH in the "RETRACT" position until the room is fully retracted.

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

IMPORTANT: Do not hold the ROOM CONTROL SWITCH in the "RETRACT" position for more than ten seconds after the room is fully retracted or stops moving.

If either side of the room stops moving, release the room control switch immediately. DO NOT force the room. DO NOT reverse direction of the room, contact HWH Customer Service for assistance 1-800-321-3494.

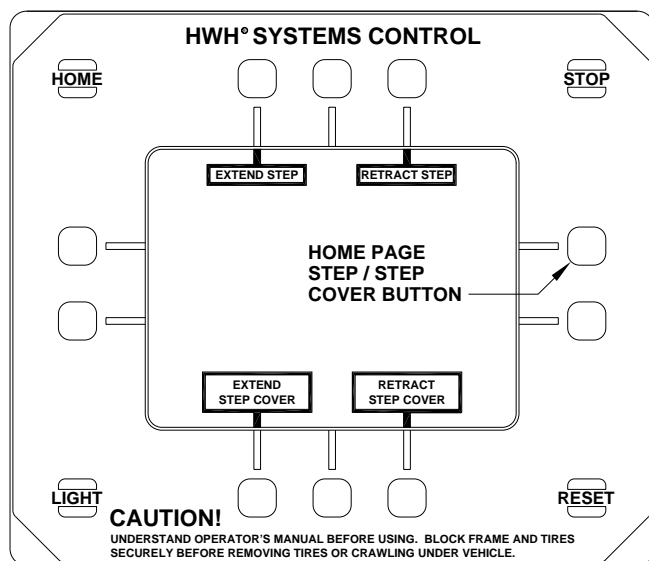
NOTE: Releasing the ROOM CONTROL SWITCH will halt the operation of the room.

4. Turn the room control panel KEY SWITCH to the "OFF" position.
5. If the room will not retract see the MANUAL ROOM RETRACT PROCEDURE.

IMPORTANT: Room-locking devices should be locked while traveling.

OPERATING PROCEDURES

STEP / STEP COVER



STEP AND STEP COVER OPERATION

Push the "STEP / STP COVER" button on the "HOME" page to access the STEP AND STEP COVER OPERATION page.

The park brake must be set to access the STEP AND STEP COVER OPERATION page from the home page. If the park brake is not set, a message will appear when the "ROOM" button on the "HOME" page is pushed. The operator is directed to push the "HOME" button and correct the problem.

If the park brake is released while the STEP / STEP COVER operation page is on the screen, the message to push the "HOME" button will appear if a step or step cover control button is pushed.

STEP OR STEP COVER - EXTEND PROCEDURE

WARNING: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF STEP AND STEP COVER WHEN OPERATING.

NOTE: Make sure there is adequate clearance to fully extend the step or step cover.

To extend the step or step cover, press and hold the appropriate control switch in the "EXTEND" position. When the step or cover is fully extended, release the control switch.

IMPORTANT: If the pump is running, DO NOT hold the control switch in the "EXTEND" position for more than ten seconds after the STEP or STEP COVER is fully extended or stops moving. DO NOT FORCE THE STEP or STEP COVER.

NOTE: Releasing the control switch will halt the operation of the STEP or STEP COVER.

STEP OR STEP COVER - RETRACT PROCEDURE

WARNING: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF STEP AND STEP COVER WHEN OPERATING.

To retract the step or step cover, press and hold the appropriate control switch in the "RETRACT" position. When the step or cover is fully extended, release the control switch.

IMPORTANT: If the pump is running, DO NOT hold the control switch in the "RETRACT" position for more than ten seconds after the STEP or STEP COVER is fully retracted or stops moving. DO NOT FORCE THE STEP or STEP COVER.

NOTE: Releasing the control switch will halt the operation of the STEP or STEP COVER.

MANUAL STEP COVER RETRACT PROCEDURE: See hydraulic connection diagram - step cover manifold and cylinder.

MANUAL STEP RETRACT PROCEDURE: Refer to the hand pump operating page or open both solenoid valves for the step then fold the step and push the assembly back into the vehicle.

OUTSIDE STEP CONTROL SWITCH

There is a step control switch on the outside of the vehicle, close to the entrance door.

The park brake must be set to use the switch. The LCD panel and the vehicle ignition do not have to be on to use this switch.

WARNING: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF STEP AND STEP COVER WHEN OPERATING.

NOTE: Make sure there is adequate clearance to fully extend the step.

Refer to the "STEP or STEP COVER EXTEND / RETRACT PROCEDURE" for operating instructions.

OPERATING PROCEDURES

DUAL DIRECTION STORAGE SLIDE OUT OPERATION

The HWH SLIDE OUT is operated by toggle switches inside the compartment doors. There is a switch on the driver's side and passenger's side of the compartment.

The park brake must be set to use the STORAGE SLIDE OUT. The system control module and the vehicle ignition do not have to be on.

WARNING: KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF THE STORAGE SLIDE OUT WHEN OPERATING.

NOTE: Make sure there is adequate clearance to fully extend the storage slide out.

The passenger side control toggle switch must be used to extend the storage slide out the passenger's side. The driver side control toggle switch must be used to extend the storage slide out the driver's side.

If the storage slide is extended (either side) either control switch can be used to retract the storage slide.

EXAMPLE 1: The storage slide is extended out the passenger side of the vehicle. Push and hold the driver's side control switch to "RETRACT". The storage slide will move to the retracted position and stop.

EXAMPLE 2: The storage slide is extended out the passenger side of the vehicle. Push and hold the driver's side control switch to "EXTEND". The storage slide will retract into the vehicle then extend out the driver's side as long as the control switch is held to the extend position.

IMPORTANT: DO NOT hold the control switch in the "EXTEND" or "RETRACT" position more than 10 seconds after the storage slide is fully extended, retracted or stops moving. DO NOT FORCE THE STORAGE SLIDE.

OPERATING PROCEDURES

AUXILIARY HAND PUMP OPERATION

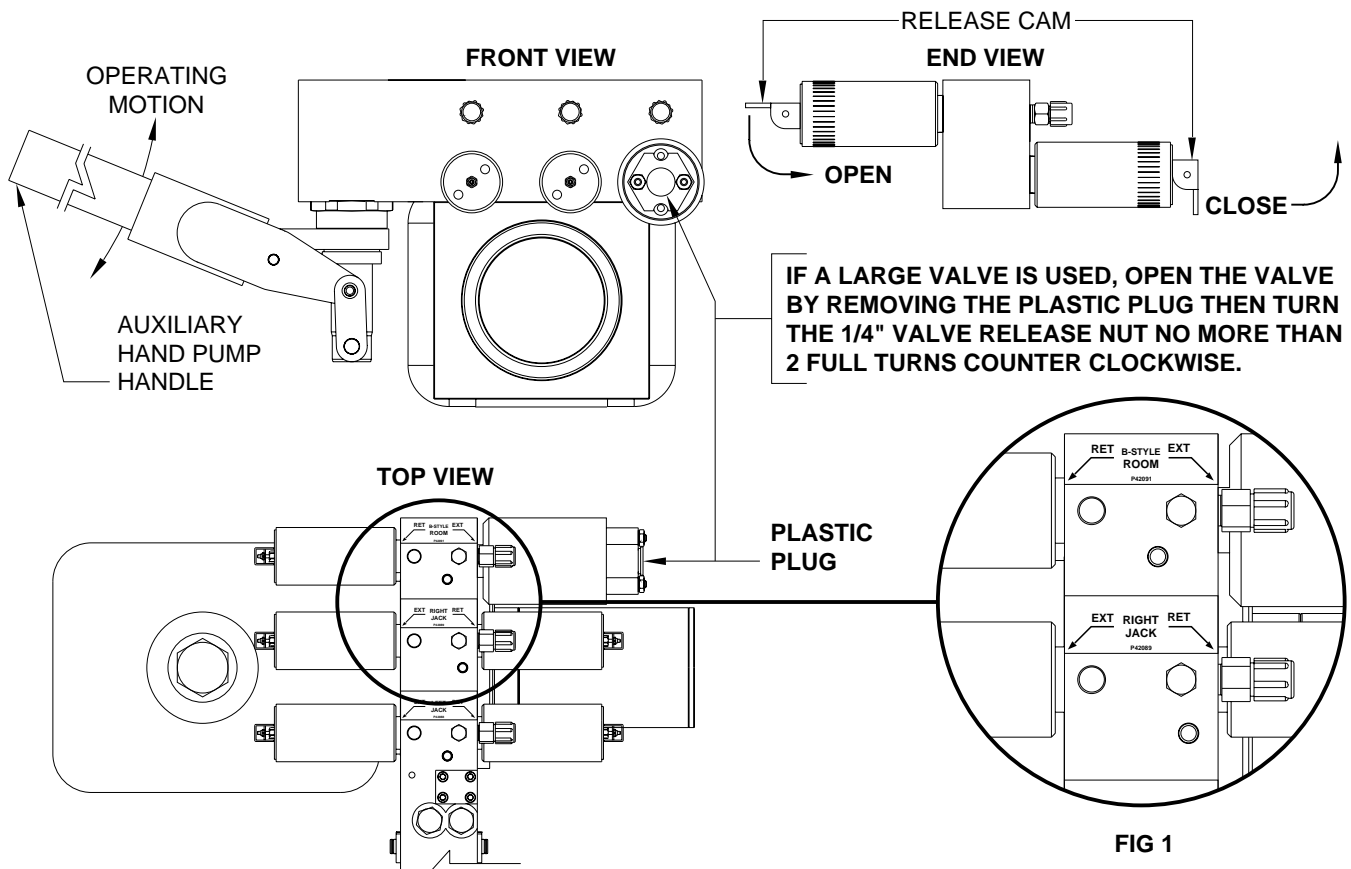


FIG 1

NOTE: Each hydraulic function requires a pair of solenoid valves one each for the extend and retract procedures. The number of functions and the items controlled by each pair of solenoid valves will vary for each system. The diagrams shown on this page represent a (3) function system of (2) jacks and (1) room as indicated by the labels shown in FIG 1. Use the labels specific to your system when following these procedures. Room control solenoid valves may be located at the synchronizing cylinder, not on the pump manifold.

The auxiliary hand pump can be used to extend or retract the landing gear, jacks or room extensions anytime the pump will not function.

The auxiliary hand pump is a two stage pump that will produce enough pressure to extend the landing gear and lift the vehicle as well as retract the landing gear. When operating the auxiliary pump to lift the vehicle or when the jacks are fully retracted, the pump handle will seem to "snap" as the pump goes to the second stage. The pumping action will be easier at first as the second stage starts to create more pressure.

NOTE: The hand pump will swivel to any position which will ease the operation of the hand pump.

To operate the auxiliary hand pump, open the appropriate solenoid valve. Insert the hand pump handle into the handle receptacle and move the handle in an up and down motion.

NOTE: If a room cannot be retracted using the auxiliary hand pump, see "MANUAL ROOM RETRACTION PROCEDURES".

WARNING: THE VEHICLE SHOULD BE SUPPORTED BY AUXILIARY STANDS OR SECURELY HITTED TO THE TOW VEHICLE BEFORE OPENING ANY VALVES.

The auxiliary hand pump may work easier if only one valve is open at a time. **Be careful to not twist the vehicle if only one solenoid valve is open.**

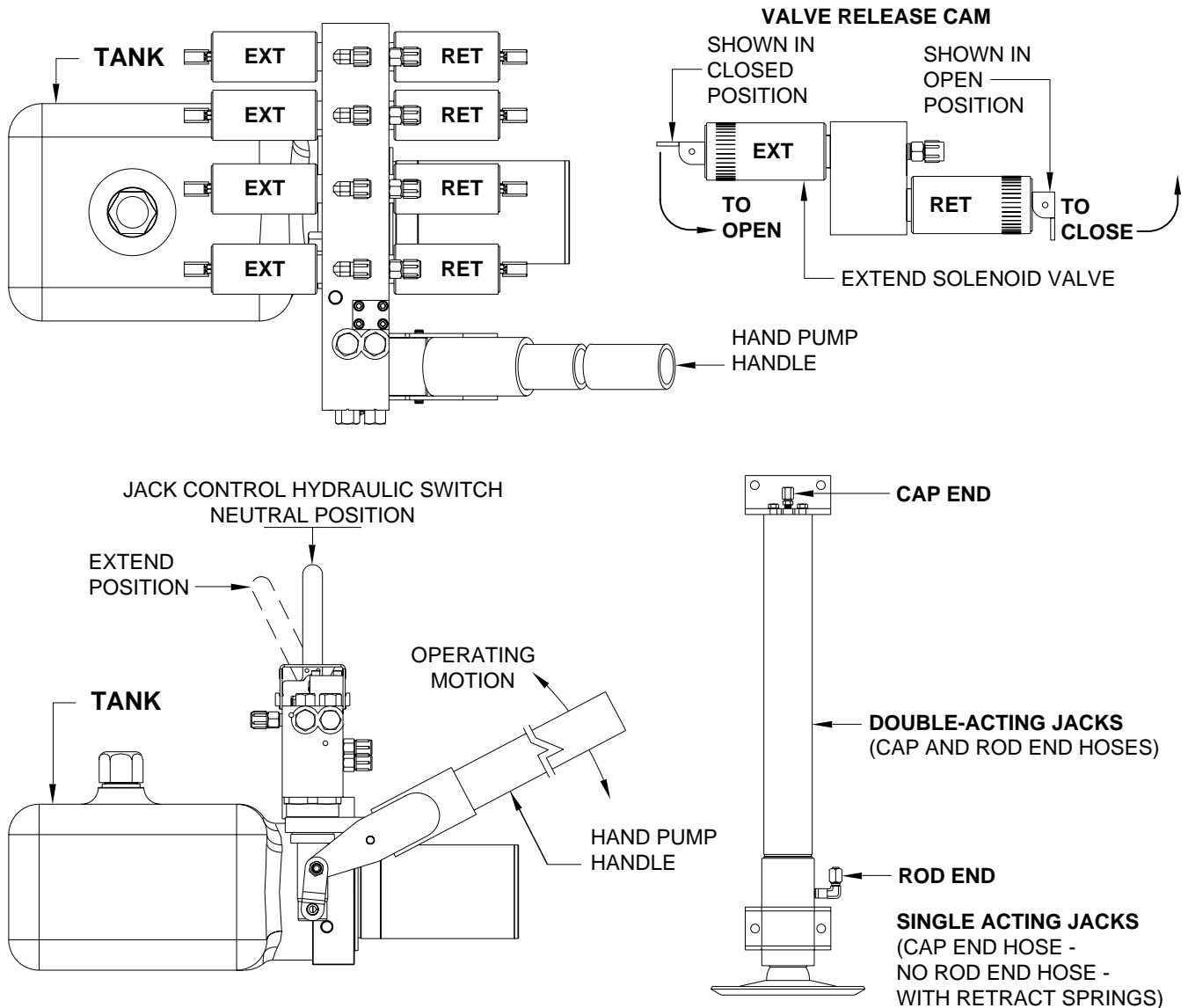
IMPORTANT: FOLLOW THE "SET UP" AND "PREPARATION FOR TRAVEL" PROCEDURES WHEN USING THE AUXILIARY HAND PUMP.

It is recommended to operate the auxiliary hand pump occasionally to check its operation.

IMPORTANT: ONLY MOVE THE RELEASE CAM IN THE DIRECTION SHOWN. MOVING THE CAM IN THE OPPOSITE DIRECTION CAN DAMAGE THE VALVES.

MAINTENANCE

PRIMING THE HAND PUMP



To prime the hand pump, it will be necessary to remove a hose from one of the jacks. One of the front jacks would be best, but use the easiest hose to get to.

If the system has Double-Acting cylinders on the front, remove the rod end hose from either of the front jacks. Place the end of the hose in a bucket. Make sure the tank is at least half full. Pump the hand pump until a healthy flow of oil is coming from the hose.

IMPORTANT: DO NOT ALLOW THE FLUID LEVEL IN THE TANK TO LOWER MORE THAN 1 INCH BEFORE ADDING FLUID.

Reattach the hose and retry the hand pump. Repeat the procedure if the hand pump does not move the jacks.

If the system has only Single-Acting jacks with return springs, remove the easiest hose to access and place the end in a bucket. Using the release cam, manually open the EXTEND solenoid valve for that jack (if equipped with solenoid valves) or move the jack control hydraulic switch to "EXTEND" for that jack. Make sure the tank is at least half full. Pump the hand pump until a healthy flow of fluid comes from the hose.

IMPORTANT: DO NOT ALLOW THE FLUID LEVEL IN THE TANK TO LOWER MORE THAN 1 INCH BEFORE ADDING FLUID.

Reattach the hose and retry the hand pump. Repeat the procedure if the hand pump does not move the jacks.

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.

UNUSUAL CONDITIONS

In general, to insure the smooth operation of the leveling system, it is a good idea to occasionally check the individual leveling units to prevent problems. This is especially true under the unusual conditions stated in the following:

If driving conditions are unusually muddy, the units 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 unit if they become excessively muddy.

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

Do not move the trailer while the leveling units are still in contact with the ground. Visually check to see if the leveling units have returned to the STORE/TRAVEL position before moving the trailer.

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

NOT IN PARK/BRAKE CHECK

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

Apply the brake so the coach cannot roll. Turn the ignition to the "ACC" or "ON" position. Release the parking brake. Push the "AUTO LEVEL" button. The "NOT IN PARK/BRAKE" indicator light should come on while the "AUTO LEVEL" button is pushed. Release the "AUTO LEVEL" button and set the park brake. The leveling system should now function.

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

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.

