

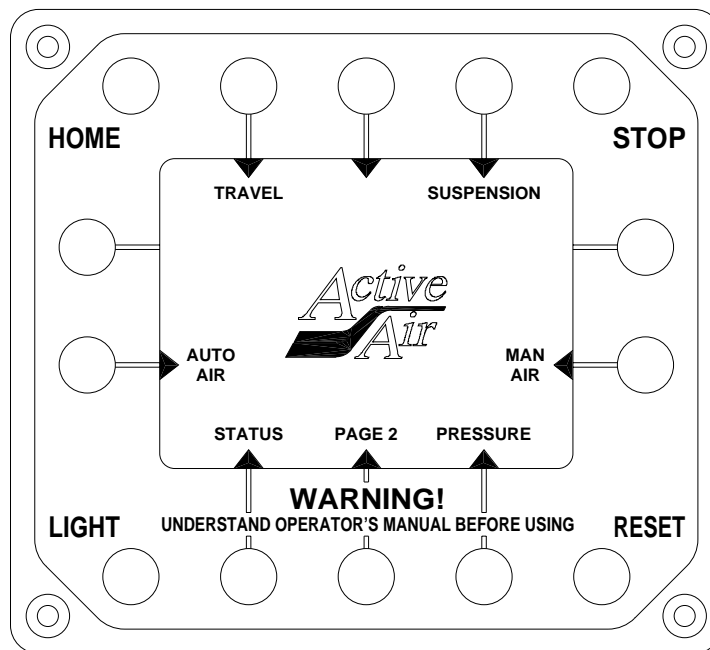


OPERATOR'S MANUAL

HWH® SYSTEMS CONTROL MODULE AND SPACEMAKER® ROOM EXTENSION SYSTEMS

FEATURING:

Active Air Suspension
Computerized Air Leveling
Color LCD Panel



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

WARNING !

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.

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

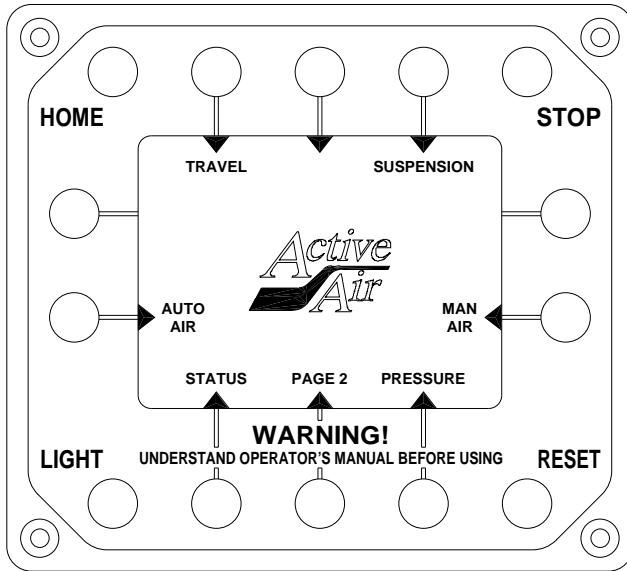
HWH CORPORATION strives to maintain the highest level of customer satisfaction. Therefore, if you discover a defect or problem, please do the following:

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: Screen starts at default brightness. Push the button once for user defined setting. **SEE: MP24.3980C** Push the button again, the screen will go dark but the system will remain on. Push again to return to default brightness.

"STOP" BUTTON: Pushing the "STOP" button will turn the system off halting any active function including ACTIVE AIR SUSPENSION. If the ignition is on, the Master Warning Light will come on. **IT IS NOT RECOMMENDED TO PUSH THE "STOP" BUTTON WHEN TRAVELING.**

"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

"TRAVEL" BUTTON: This button will put the system in the Travel Mode. If Manual or Automatic Air leveling was used, this button will put the system in the Travel Mode.

SCREEN BUTTONS AND LIGHTS

"TRAVEL" LIGHT: This light will flash 3 times when the "TRAVEL" button is pushed.

"SUSPENSION" BUTTON: This button will bring up the Suspension Control page. **SEE: MP34.1600A**

"SUSPENSION" LIGHT: This light will flash as "INITIALIZING" until the suspension reaches ride height if the "TRAVEL" button is pushed and the ignition key is on. If no Leveling System has been used, the "INITIALIZING" light will flash until the suspension reaches ride height when the ignition key is turned on. Any time the "INITIALIZING" light is flashing, the Master Warning Light should be on.

"MAN AIR" BUTTON: This button will put the system in the manual air leveling mode. **SEE: MP34.3701B**

"PRESSURE" BUTTON: This button will bring up individual bag / system pressure readings screen. **SEE: MP24.3992B**

"PAGE 2" BUTTON: This button will bring up the page 2 operation screen.

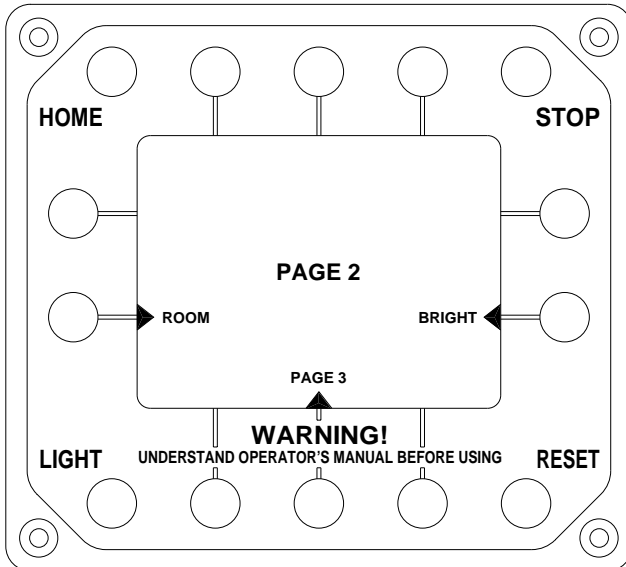
"STATUS" BUTTON: This button will bring up the first "STATUS" page. There will be multiple "STATUS" pages. The "PAGE FORWARD" button on a "STATUS" page will advance the screen to the next "STATUS" page. The "PAGE BACK" button on a "STATUS" page will move back one "STATUS" page. **SEE: MP24.3993B and MP24.3994B**

"AUTO AIR" BUTTON: This button will put the system in the automatic air leveling mode. **SEE: MP34.3402B**

NOTE: Some of the PANEL and SCREEN buttons will react as soon as they are pressed but some buttons will not react until they are released.

CONTROL IDENTIFICATION

PAGE 2



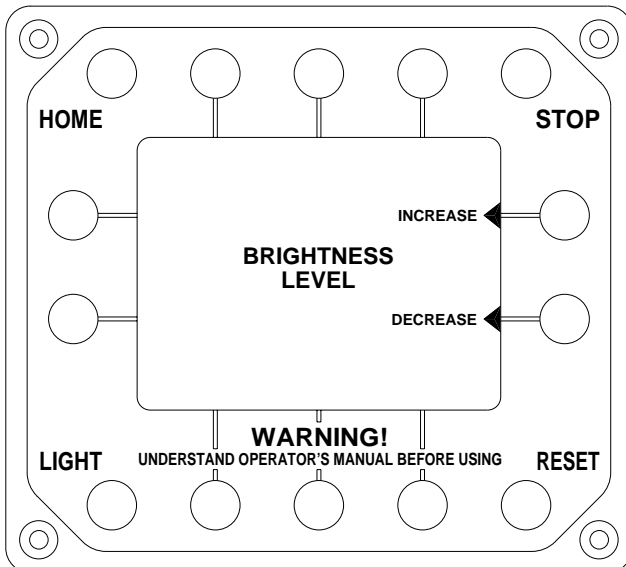
SCREEN BUTTONS AND LIGHTS

"ROOM" BUTTON: This button will bring up the room selection screen. Room information is not applicable.

"BRIGHT" BUTTON: This button will bring up the brightness level screen.

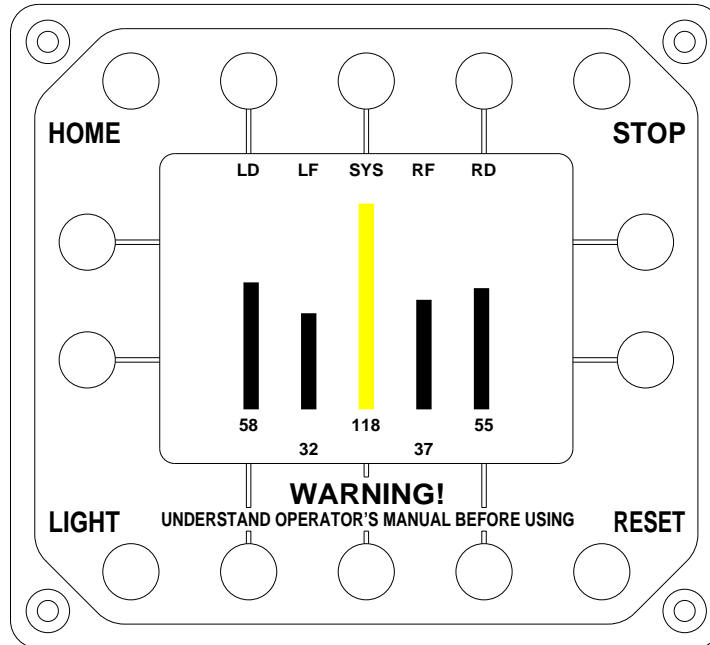
"PAGE 3" BUTTON: This button will bring up PAGE 3. PAGE 3 is password protected, contact HWH Corporation for assistance.

BRIGHTNESS LEVEL SCREEN



"INCREASE / DECREASE" BUTTONS: Increase or decrease the screen brightness in increments by pushing the corresponding button. When the desired screen brightness is achieved pressing the HOME button will set this as the user defined setting discussed under the "LIGHT" button on page MP24.3970C.

CONTROL IDENTIFICATION



BAG / SYSTEM PRESSURE READINGS PAGE

PRESSURE NUMBERS SHOWN ON THIS PAGE ARE FOR EXAMPLE PURPOSES ONLY AND MAY NEVER RESEMBLE ACTUAL SYSTEM NUMBERS.

Each column represents a particular bag or the system pressure.
The numbers represent an approximate p.s.i. reading.

Bag Columns: GREEN

System Column: YELLOW

Screen Background: BLUE (Economy Mode)

Screen Background: GREEN (Fly Mode)

LD - LEFT SIDE DRIVE AXLE PRESSURE TRANSDUCER

LF - LEFT SIDE FRONT AXLE PRESSURE TRANSDUCER

SYS - SYSTEM PRESSURE TRANSDUCER (MEASURED AT DRIVE AXLE MANIFOLD AIR SUPPLY)

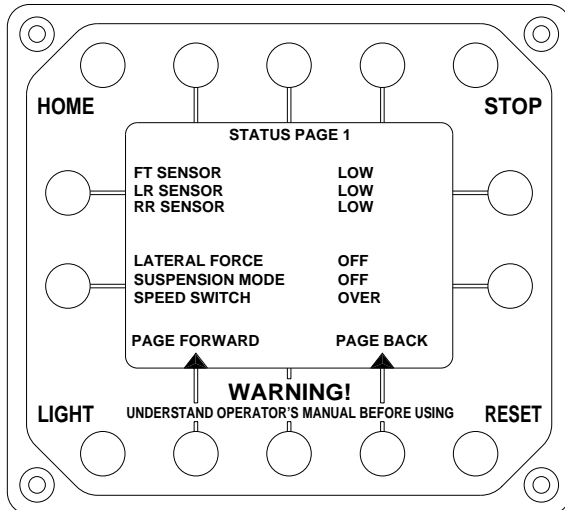
RF - RIGHT SIDE FRONT AXLE PRESSURE TRANSDUCER

RD - RIGHT SIDE DRIVE AXLE PRESSURE TRANSDUCER

CONTROL IDENTIFICATION

SCREEN BUTTONS: "PAGE FORWARD / BACK" BUTTONS: Use these buttons to switch from status screen to status screen.

STATUS PAGE 1



NOTE: If the vehicle is not equipped with a tag axle, tag axle information will not be present on LCD screen.

PAGE 1 STATUS DESIGNATIONS

FT SENSOR - FRONT AXLE HEIGHT SENSOR
LR SENSOR - LEFT SIDE DRIVE AXLE HEIGHT SENSOR
RR SENSOR - RIGHT SIDE DRIVE AXLE HEIGHT SENSOR

HIGH: Sensor is ABOVE ideal set point.

LOW: Sensor is BELOW ideal set point.

CHANGING: Sensor is "dithering" ABOVE and BELOW the ideal set point.

INACTIVE: Sensor is not changing state within allowed time.

LATERAL FORCE:

OFF: Vehicle is not experiencing high side loads.

ON: High side loads. "FLY" mode maintained.

SUSPENSION MODE:

OFF: System is not in Active Air mode.

LEVELING: System has leveled the vehicle in auto air or manual air.

ECONOMY: Normal operating mode.

Designed to conserve air (Straight roads)

FLY: Active response to driving conditions.

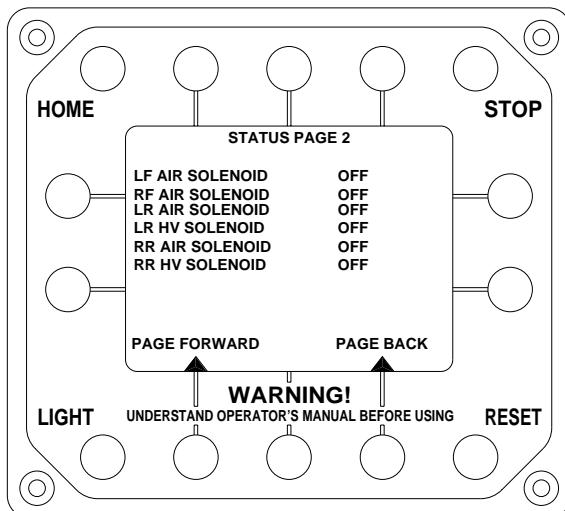
(Windy conditions or curvy roads)

SPEED SWITCH:

OVER: Vehicle is over speed. System will not enter "FLY" mode.

UNDER: Vehicle is under speed. System will not enter "FLY" mode.

STATUS PAGE 2



PAGE 2 STATUS DESIGNATIONS

LF AIR SOLENOID: LEFT SIDE FRONT AXLE RAISE OR DUMP SOLENOID VALVE

RF AIR SOLENOID: RIGHT SIDE FRONT AXLE RAISE OR DUMP SOLENOID VALVE

LR AIR SOLENOID: LEFT SIDE DRIVE AXLE RAISE OR DUMP SOLENOID VALVE

RR AIR SOLENOID: RIGHT SIDE DRIVE AXLE RAISE OR DUMP SOLENOID VALVE

RR HV SOLENOID: RIGHT SIDE DRIVE AXLE HIGH VOLUME RAISE SOLENOID VALVE

RAISE: Raise solenoid valve is on.

Air is directed into the air bags.

LOWER: Dump solenoid valve is on.

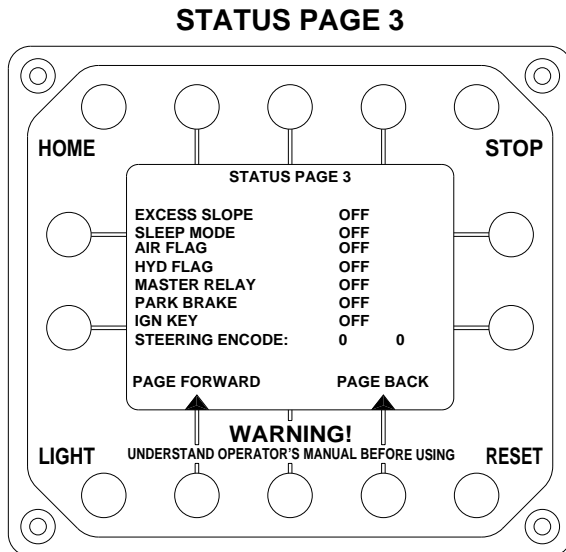
Air is exhausted out of air bags.

OFF: Solenoid valves are off.

Air in bag is maintained.

CONTROL IDENTIFICATION

SCREEN BUTTONS: "PAGE FORWARD / BACK" BUTTONS: Use these buttons to switch from status screen to status screen.



PAGE 3 STATUS DESIGNATIONS

EXCESS SLOPE:

OFF: Leveling system is not in "EXCESS SLOPE"

ON: Leveling system could not level vehicle

SLEEP MODE:

OFF: Leveling system SLEEP MODE is off

ON: Leveling system is in the sleep mode

AIR FLAG:

OFF: Auto or Manual air leveling has not been used

ON: Air leveling system has been used

HYD FLAG:

(Only applicable if equipped with HWH hydraulic leveling)

OFF: Auto or Manual hyd leveling has not been used

ON: Hydraulic leveling system has been used

MASTER RELAY:

OFF: See LCD screen for error message

ON: Master relay is in normal on position

PARK BRAKE:

OFF: Park brake is not set

ON: Park brake is set

IGN KEY:

OFF: Ignition key is off

ON: Ignition key is on

STEERING ENCODE:

Light flashing between 1 and 0
indicating steering sensor is working

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.**

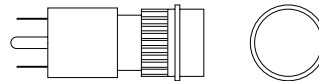
Some systems can be turned back on immediately after the processor turns the pump off. **DO NOT turn the system back on or run the pump without allowing the pump motor to cool for thirty minutes.**

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

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 HOME PAGE 1. Any function that is to be operated from the SYSTEM CONTROL panel can only be accessed from HOME PAGE 1. 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.

WARNING: 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. Push the "RESET" button to turn the panel on if the "STOP" button is pushed. The ignition must be on for the "RESET" button to work.

WARNING: THE ACTIVE AIR SUSPENSION CANNOT FUNCTION IF THE SYSTEM CONTROL PANEL IS OFF.

The Air 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..

PREPARATION FOR TRAVEL

When the leveling system has been used, push the "STORE" button to return the system to the traveling mode.

NOTE: If the ignition is on and the park brake is released, the vehicle will return to ride height unless the "STOP" button has been pushed.

Check that the vehicle is at the proper ride height for traveling. When the SUSPENSION Light is flashing "INITIALIZING", the vehicle is not at ride height.

The SYSTEM CONTROL PANEL should be on when traveling.

WARNING: DO NOT RELY SOLELY UPON WARNING LIGHTS. IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT 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. ALL ROOM EXTENSIONS OR GENERATOR SLIDES SHOULD BE FULLY RETRACED BEFORE TRAVELING.

MASTER WARNING LIGHT

The master warning light is powered by the ignition in the "ON" or "ACC" position. The light will be on during auto or manual air leveling.

The master warning light will be on if the LCD panel is displaying a warning or failure message.

The master warning light will be on if the SUSPENSION light is flashing "INITIALIZING".

TOWING

WARNING: THESE INSTRUCTIONS ARE FOR THE HWH ACTIVE AIR EQUIPMENT AND MANUAL INFLATION OF THE VEHICLE SUSPENSION AIR BAGS. CONSULT THE VEHICLE MANUFACTURER FOR COMPLETE TOWING INSTRUCTIONS.

There is a Schrader valve supplied for each air bag or sets of air bags on the vehicle suspension. They are labeled as follows: RIGHT FRONT - LEFT FRONT
RIGHT DRIVE AXLE - LEFT DRIVE AXLE

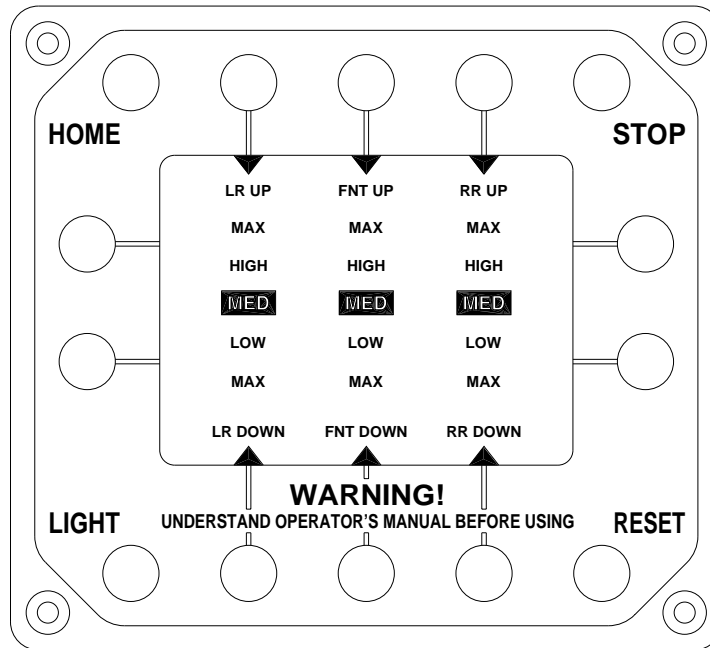
NOTE: A Schrader valve is the same type of valve used to inflate or deflate a tire.

Consult the vehicle manufacturer for the specific location of the air bag Schrader valves and proper ride height for towing.

The HWH Active Air Control Panel must be OFF when using the manual air bag Schrader valves and during towing. Push the "STOP" button to turn the Active Air Control Panel OFF. The ignition key should also be "OFF" while towing.

NOTE: With the HWH Active Air System OFF during towing, the air bags may be controlled only from the Schrader valves. Monitor and maintain proper travel height during towing using the Schrader valves.

OPERATING PROCEDURES



SUSPENSION CONTROL SCREEN

INDICATORS

This page is accessed by pushing "SUSPENSION" on the HOME PAGE.

This screen is used to control the ride height of the vehicle while traveling or moving slowly.

Push UP or DOWN buttons to move the indicator light one position.

NOTE: Pushing and holding a button will move an indicator one position only.

BUTTONS

LR UP: This will add air to the LEFT REAR air bags to raise the vehicle.

FNT UP: This will add air to the FRONT air bags to raise the vehicle.

RR UP: This will add air to the RIGHT REAR air bags to raise the vehicle.

LR DOWN: This will exhaust air from the LEFT REAR air bags to lower the vehicle.

FNT DOWN: This will exhaust air from the FRONT air bags to lower the vehicle.

RR DOWN: This will exhaust air from the RIGHT REAR air bags to lower the vehicle.

MED: When the indicator is in this position the suspension should be at the normal ride height for traveling.

HIGH: When the indicator is in this position the suspension should be approximately one (1) inch HIGHER than normal ride height.

LOW: When the indicator is in this position the suspension should be approximately one (1) inch LOWER than normal ride height.

MAX: When this indicator is in this position, the suspension will be at it's MAXIMUM height if an UP button is used OR the suspension will be at it's LOWEST point if a DOWN button is used.

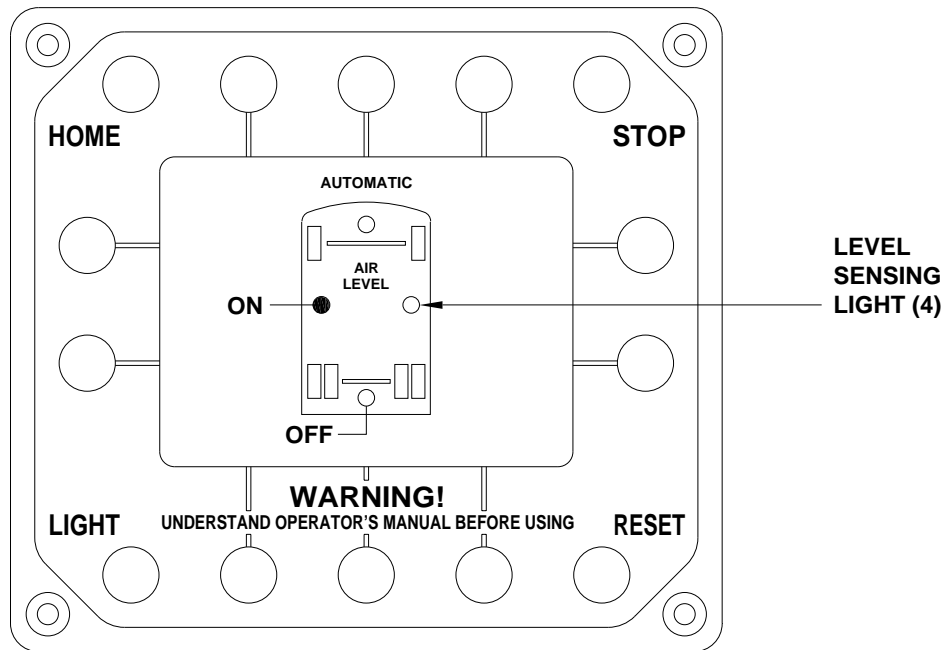
If either rear button is pushed to MAX UP or MAX DOWN, the other side will follow.

NOTE: The system monitors the transmission speed switch. The system will not allow the suspension to move to the MAX position, UP or DOWN when the vehicle is moving faster than the setting of the speed switch. This is usually between 5 MPH to 15 MPH.

If the suspension is set to the MAX position, when the setting of the speed switch is exceeded, the system will default to the MED position. This would be normal ride height for the vehicle.

IMPORTANT: Any time the RESET button is pushed while traveling, the system will default to the MED position, normal ride height.

OPERATING PROCEDURES



AUTOMATIC AIR LEVELING

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

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

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

1. Turn the ignition key on and set the park brake. 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.

2. Push the "AUTO AIR" button on the HOME page. The AUTOMATIC AIR LEVEL page will appear. The air leveling process will begin. The system will first exhaust air from all of the air bags. If a level position is not achieved when lowering 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. The system will be in the SLEEP MODE. The screen will display a message for 45 seconds, then return to the HOME PAGE. The screen will turn off after 5 minutes if the ignition is turned off.

3. SLEEP MODE: If automatic air leveling is successful the system will be in the SLEEP MODE when all 4 level sensing lights go out. The system will remain in the SLEEP MODE until the "STOP" button is pushed or the park brake is released with the ignition on.

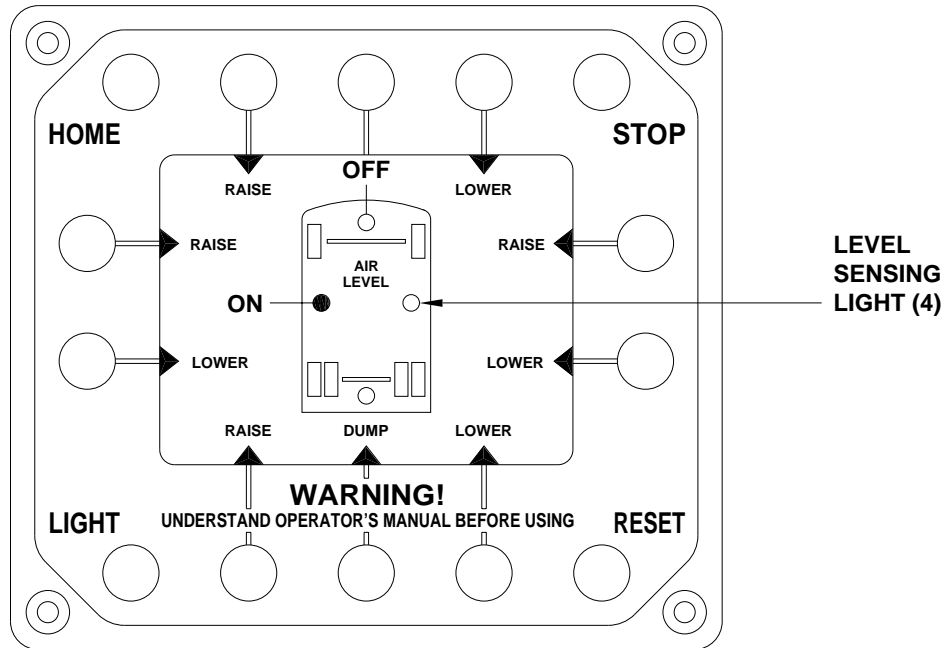
NOTE: The system will remain in the SLEEP MODE even with the screen off.

In the SLEEP MODE, the system will check the level sensing unit every 30 minutes. If an input is on continuously for one minute, the system will relevel the vehicle.

When re-leveling the vehicle the screen will be off unless the "LIGHT" button is pushed. When all level lights are turned off, the system will return to the SLEEP MODE in the same manner as before.

EXCESS SLOPE: The system will attempt to level the vehicle for 15 minutes. If the automatic leveling attempt is not successful, the system will go into EXCESS SLOPE. The screen will display an EXCESS SLOPE message. This message will remain on the screen until the "HOME" button is pushed or if the ignition is off, the screen will turn off 10 minutes later.

OPERATING PROCEDURES



MANUAL AIR LEVELING

WARNING: KEEP PEOPLE AND OBJECTS CLEAR OF THE VEHICLE WHILE OPERATING THE AIR LEVELING SYSTEM.

1. Place the ignition key in the "ON" position. Transmission must be in the proper position for parking and the park brake must be set to use MANUAL AIR LEVELING. Running the vehicle 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.

2. Push the "MAN AIR" button located on "HOME PAGE 1". If the ignition and/or the park brake are not in the recommended positions, when the "MAN AIR" button is pushed, a message will appear on the screen. Push the "HOME" button and correct the problem before pushing the "MAN AIR" button again.

The LEVEL SENSING LIGHTS indicate which side, end or corner of the vehicle is low. No more than two level lights should be on at any one time. The vehicle is level when all LEVEL SENSING LIGHTS are off.

3. To level, use the "LOWER" buttons to exhaust air from the corresponding air bags. Use the "RAISE" buttons to add air to the corresponding air bags. The "RAISE" and "LOWER" buttons are momentary buttons. The bags will inflate or deflate only when the buttons are being pushed.

NOTE: Any side to side leveling should be done, if needed, before leveling the vehicle front to rear.

Try leveling the vehicle by lowering the high side or end (opposite of the lit level lights). If a level position is not achieved use the RAISE button to raise the low side or end.

NOTE: Pushing and holding the "DUMP" button will exhaust air from all bags of the vehicle suspension.

4. When the leveling procedure is complete, the engine can be turned off.

MAINTENANCE

NOT IN PARK/BRAKE CHECK

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

Switch the ignition to the "ON" or "ACC" position.
Release the park brake. Push and hold the "AIR" button.
The "NOT IN PARK/BRAKE" light should come on while pushing the "AIR" button. The system should not function.
Release the "AIR" button and set the park brake. Push the "AIR" button. The system should start to level.

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.

INSTRUCTION SHEET

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 / WITH ADJUSTING ENHANCEMENT SWITCH

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

With the vehicle level, if there are no yellow 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 1/2", or 1/4" sizes will be needed.

The Sensing Unit is mounted inside the Control Box. The adjusting enhancement switch is on the same side of the control box as the sensing unit adjustment assembly.

The ignition (motorized units) or master power switch (towable units) must be on to adjust the sensing unit. Before adjusting the sensing unit, move the "adjusting enhancement switch" from the "NORMAL" (110) position to the "OVERRIDE" (220) position. This will make the sensing unit very sensitive. The LEDs on the sensing unit plate may "jump" around while adjusting the sensing unit. Allow the lights to settle down after each adjustment. Small, gentle movements will work best when moving the sensing unit adjustment nut or screw. When all four LEDs are off, move the enhancement switch back to the "NORMAL" (110) position.

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 lit LEDs on the sensing unit plate do not match the yellow level lights on the touch panel, the control box is not properly oriented. Contact HWH Corporation for assistance.

If LED (A) is lit: Turn the adjustment screw COUNTER CLOCKWISE until the LED is off.

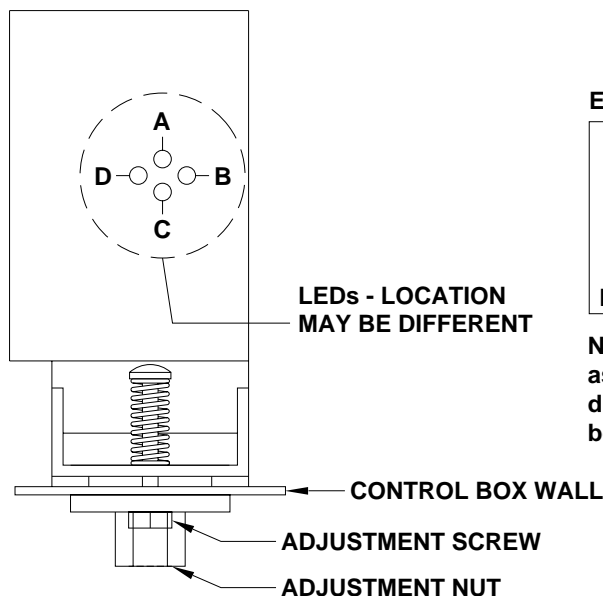
If LED (C) is lit: Turn the adjustment screw CLOCKWISE until the LED is off.

If LED (B) is lit: Turn the adjustment nut COUNTER CLOCKWISE until the LED is off.

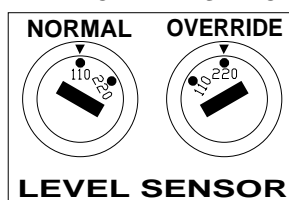
If LED (D) is lit: Turn the adjustment nut CLOCKWISE until the LED is off.

When the adjustment is complete, move the vehicle to an out of level position and level the vehicle according to the yellow level lights on the touch panel. If necessary, go through the adjustment procedure again.

TOP VIEW - SENSING UNIT

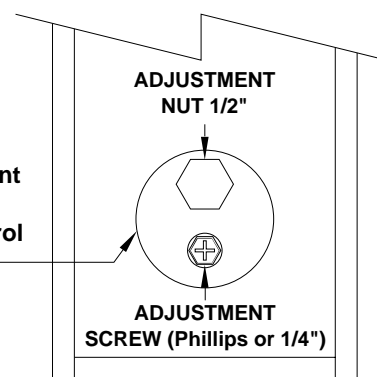


ADJUSTING ENHANCEMENT SWITCH



NOTE: Sensing unit adjustment assembly may be in a different position due to control box style or orientation.

SIDE VIEW - CONTROL BOX



MAINTENANCE

PROCEDURE FOR WEIGHING VEHICLE, CHECKING RIDE HEIGHT MEASUREMENTS, AND ALIGNING THE WHEELS

WARNING: DO NOT CRAWL UNDER A VEHICLE UNLESS THE FRAME OF THE VEHICLE IS PROPERLY SUPPORTED. DO NOT USE THE AIR SUSPENSION OR LEVELING JACKS TO SUPPORT THE VEHICLE WHILE UNDER THE VEHICLE.

1. Chock wheels.
2. Park brake off.
3. Transmission in neutral.
4. Enter SUSPENSION Screen and select MAX low on all 3 columns (LR, FNT, RR).
5. Press HOME.
6. Select PRESSURE screen and verify all air bags display zero.
7. Press RESET.
8. Press HOME to acknowledge reset had been pressed.
9. Wait for "INITIALIZING" to stop flashing.
10. Wait an additional 2 minutes.

The vehicle can now be weighed, the ride height of the suspension can be checked, or the wheels can be aligned.

Refer to the vehicle or chassis manufacturer for information concerning axle weights or ride height specifications and location on the chassis for measuring ride height.