

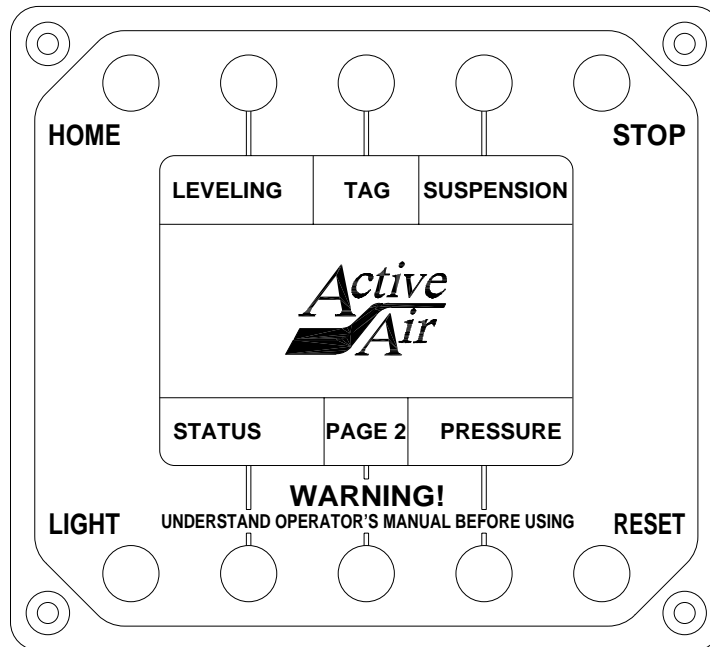


# OPERATOR'S MANUAL

## HWH® ACTIVE AIR SUSPENSION AND HWH® AIR LEVELING

### FEATURING:

*Computerized Air Leveling  
With / With Out Tag Axle  
Color LCD Control Module*



### HWH CORPORATION

(On I-80, Exit 267 South)

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[www.hwh.com](http://www.hwh.com)

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# OPERATOR'S MANUAL

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## 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

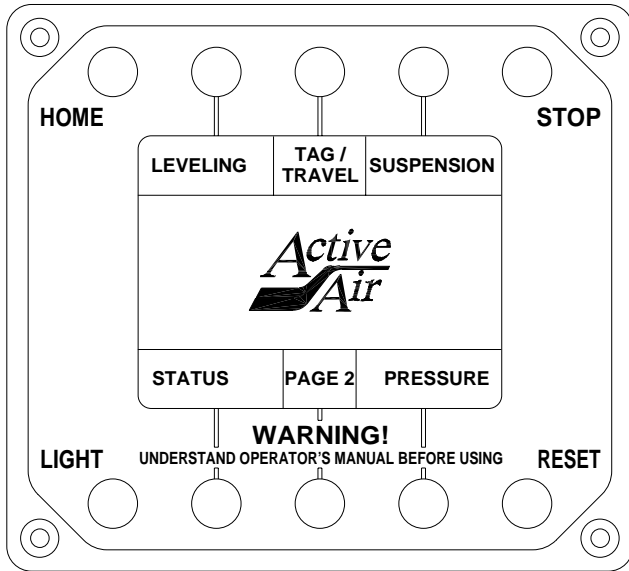
HWH CORPORATION strives to maintain the highest level of customer satisfaction. Therefore, if you discover a defect or problem, please do the following:

**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.

**NOTE:** If the coach is equipped with HWH hydraulic leveling, the panel will have additional features not covered under the scope of this manual. See ML60756 for important operational information.

## PANEL BUTTONS

**"HOME" BUTTON:** Pushing the "HOME" button at any time will return the control panel to HOME PAGE 1. Pushing the Active Air logo located in the center of the LCD will also return the control panel to HOME PAGE 1.

**"LIGHT" BUTTON:** Screen defaults to full brightness. Push the button to dim the screen and turn off the button lights. Push again to return to full 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 Active Air System. Any previously selected leveling or suspension modes will be cancelled, and any error messages shown on the screen will be cleared. If the ignition key is in the "ON" position, after the reset, the system will attempt to bring the coach to medium ride height. After the system reboots, a message will pop up indicating reset was pressed. It will then ask to acknowledge the reset by pressing the "HOME" button. The "RESET" button will also reactivate the Active Air System if the "STOP" button was pressed. The ignition key must be on for the "RESET" button to work.

## SCREEN BUTTONS AND LIGHTS

**"LEVELING" BUTTON:** This button will bring up options for manual or automatic leveling. **SEE: MP34.3982** If the park brake is not set, this button will not function.

**"TRAVEL" BUTTON:** This button will put the system in the Travel Mode. When pressed, the message "RETURNING TO RIDE HEIGHT" will flash. When the message is no longer displayed, the suspension is in Travel Mode. When the vehicle is under speed, the button will say "TAG" if equipped with a tag axle.

**"TAG" BUTTON:** This button will turn the tag axle feature on. **SEE: MP34.0902 - Only present if the vehicle is equipped with a tag axle.**

**"TAG" LIGHT:** When the background is blue and the letters are white, the tag feature is off. The tag axle should be in the Travel Position. When the background is white and the letters are blue, the tag feature is on. **No function if vehicle is not equipped with a tag axle.**

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

**"RETURNING TO RIDE HEIGHT" MESSAGE:** This will flash until the suspension reaches ride height if the "TRAVEL" button is pushed and the ignition key is on, or taken out of park. If no leveling function has been used, this message will flash until the suspension reaches ride height when the ignition key is turned on. Any time "RETURNING TO RIDE HEIGHT" is flashing, the Master Warning Light should be on.

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

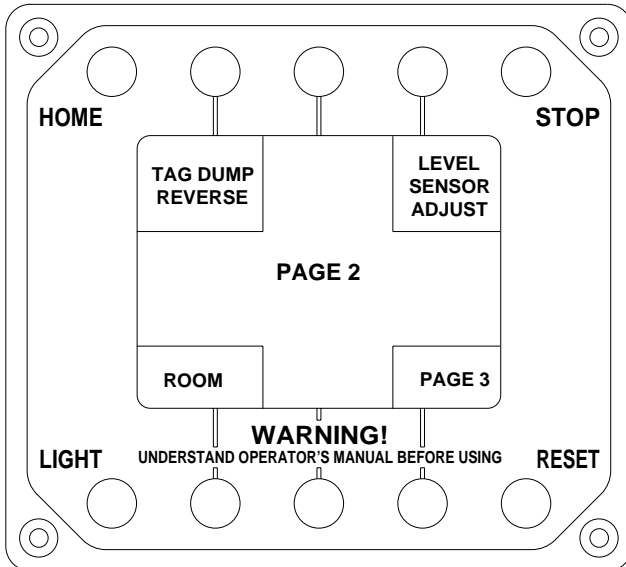
**"PAGE 2" BUTTON:** This button will bring up the page 2 operation screen.

**"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: MP24.3993D and MP24.3994D**

**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



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

## SCREEN BUTTONS AND LIGHTS

**"TAG DUMP REVERSE" BUTTON:** This button will turn on or turn off the tag dump reverse feature. When reverse is selected on the transmission controller the tag axle air bags will dump. If the vehicle has a tag lift option the tag will also lift. White letters on a blue background indicates that this feature is turned off. Blue letters on a white background indicates that this feature is turned on.

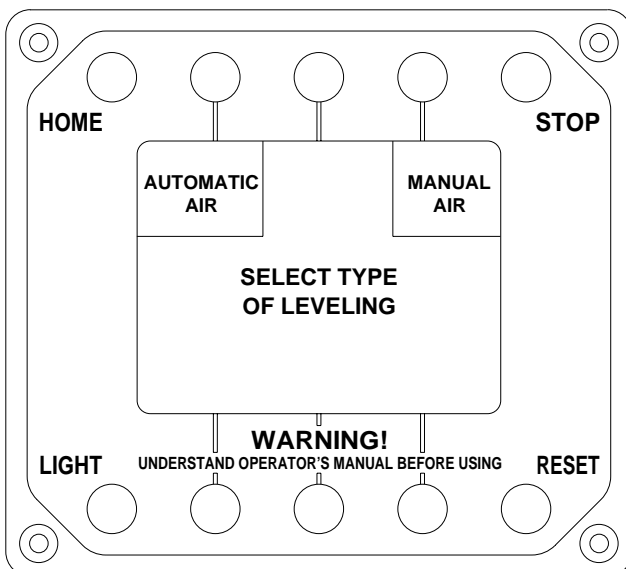
**"ROOM" BUTTON:** This button will bring up the room selection screen. Only rooms 1 and 4 are controlled with the LCD panel.

**"LEVEL SENSOR ADJUST" BUTTON:** This button should be pressed before adjusting the level sensing unit. See the "SENSING UNIT MAINTENANCE / SERVICE" page.

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

**NOTE:** The "ROOM" button will only function if the existing room controls have been integrated into the LCD controls at the time of the Active Air System installation. Contact HWH Corporation for room operation information.

## LEVELING PAGE



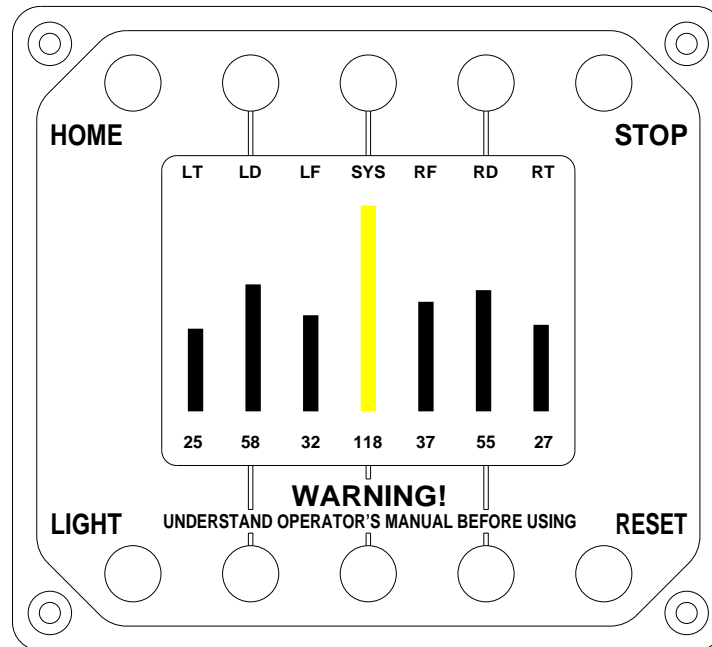
**"AUTOMATIC AIR" BUTTON:** This button will begin the automatic air leveling process and bring up the automatic air leveling screen. **SEE: MP34.3402D**

**"MANUAL AIR" BUTTON:** This button will bring up the manual air leveling screen. **SEE: MP34.3701C**

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# CONTROL IDENTIFICATION

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## BAG / SYSTEM PRESSURE READINGS PAGE

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

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

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

Bag Columns: RED

System Column: YELLOW

Screen Background: BLUE (Economy Mode)

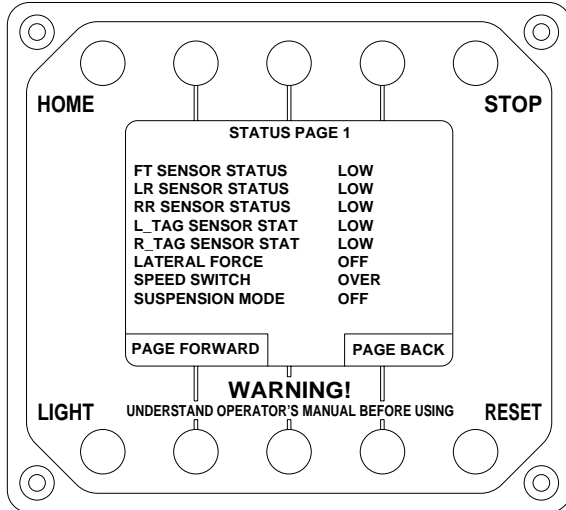
Screen Background: GREEN (Fly Mode)

**LT - LEFT SIDE TAG AXLE PRESSURE TRANSDUCER**  
**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**  
**RT - RIGHT SIDE TAG 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 STATUS - FRONT AXLE HEIGHT SENSOR**  
**LR SENSOR STATUS - LEFT SIDE DRIVE AXLE HEIGHT SENSOR**  
**RR SENSOR STATUS - RIGHT SIDE DRIVE AXLE HEIGHT SENSOR**  
**L\_TAG SENSOR STAT - LEFT SIDE TAG AXLE PRESS. TRANSDUCER**  
**R\_TAG SENSOR STAT - RIGHT SIDE TAG AXLE PRESS. TRANSDUCER**  
**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.

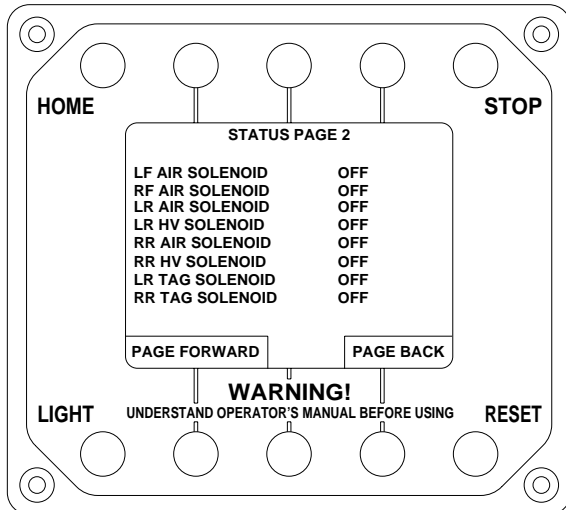
### SPEED SWITCH:

**OVER:** Vehicle is over speed. System is allowed to enter "FLY" mode.  
**UNDER:** Vehicle is under speed. System will not enter "FLY" mode.

### SUSPENSION MODE:

**OFF:** System is not in Active Air mode.  
**AIR LEVELED:** System has leveled the vehicle in auto air or manual air.  
**HYD LEVELED:** System has leveled the vehicle in auto hydraulic or manual hydraulic.  
**SLEEP:** System is in sleep mode.  
**EXCESS SLOPE:** System is in excess slope mode.  
**ECONOMY:** Normal operating mode.  
 Designed to conserve air (Straight roads)  
**FLY:** Active response to driving conditions.  
 (Windy conditions or curvy roads)

## STATUS PAGE 2



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

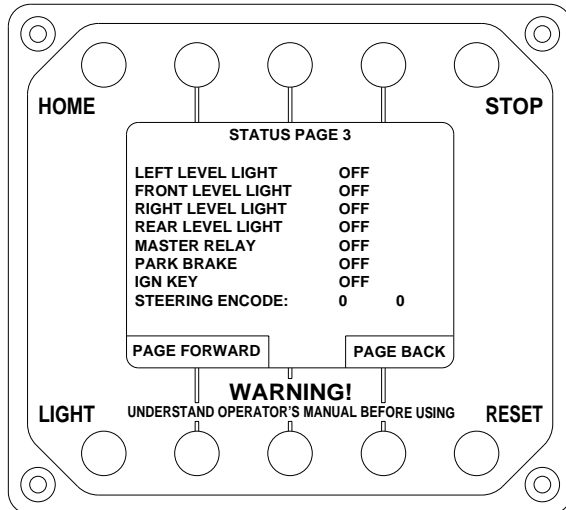
## PAGE 2 STATUS DESIGNATIONS

**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**  
**LR TAG SOLENOID: LEFT SIDE TAG AXLE RAISE OR DUMP SOLENOID VALVE**  
**RR TAG SOLENOID: RIGHT SIDE TAG AXLE RAISE OR DUMP 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.

## STATUS PAGE 3



## PAGE 3 STATUS DESIGNATIONS

### LEFT LEVEL LIGHT:

**OFF:** Left side of the coach is not low.

**ON:** Left side of the coach is low.

### FRONT LEVEL LIGHT:

**OFF:** Front of the coach is not low.

**ON:** Front side of the coach is low.

### RIGHT LEVEL LIGHT:

**OFF:** Right side of the coach is not low.

**ON:** Right side of the coach is low.

### REAR LEVEL LIGHT:

**OFF:** Rear of the coach is not low.

**ON:** Rear of the coach is low.

### 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

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# OPERATING PROCEDURES

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## 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 ITS 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 "TRAVEL" 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.**

## TAG DUMP / LIFT

**IMPORTANT: REFER TO THE VEHICLE MANUFACTURER FOR PROPER USE OF THE TAG FEATURE.**

The system must be at ride height, the ignition must be on and the park brake off for the tag feature to function. If the park brake is set or if the vehicle is traveling faster than approximately 10 mph the tag will return to the travel position.

On some vehicles, the tag feature will dump the tag air bags. On some vehicles, the tag feature will dump the tag air bags and lift the tag axle.

To use the tag feature, push the "TAG" button. The "TAG" letters will turn blue with a white background. The tag feature will remain on until the "TAG" button is pushed again or the vehicle exceeds approximately 10 mph. The "TAG" letters will turn white with a blue background when the feature is off.

It is recommended to have the tag in the travel position before using the leveling system.



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# OPERATING PROCEDURES

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## 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  
If Applicable: RIGHT TAG AXLE - LEFT TAG 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.

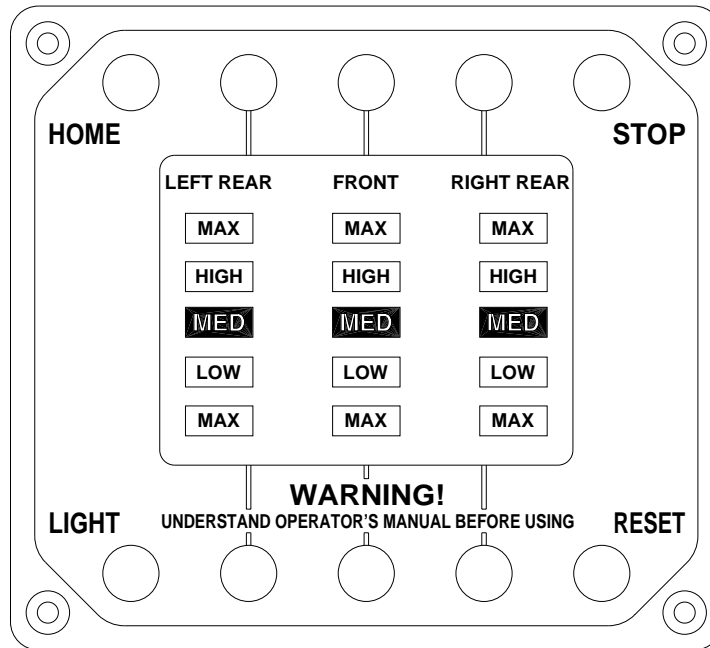
The HWH Active Air Control Panel must be OFF when using the manual air bag Schrader valves and during towing. Push the "STOP" button to turn the Active Air Control Panel OFF. The ignition key should also be "OFF" while towing.

**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.

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# OPERATING PROCEDURES

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**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. There are five predetermined suspension positions.

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

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

**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-half (1/2) inch HIGHER than normal ride height.

**LOW:** When the indicator is in this position the suspension should be approximately one-half (1/2) inch LOWER than normal ride height.

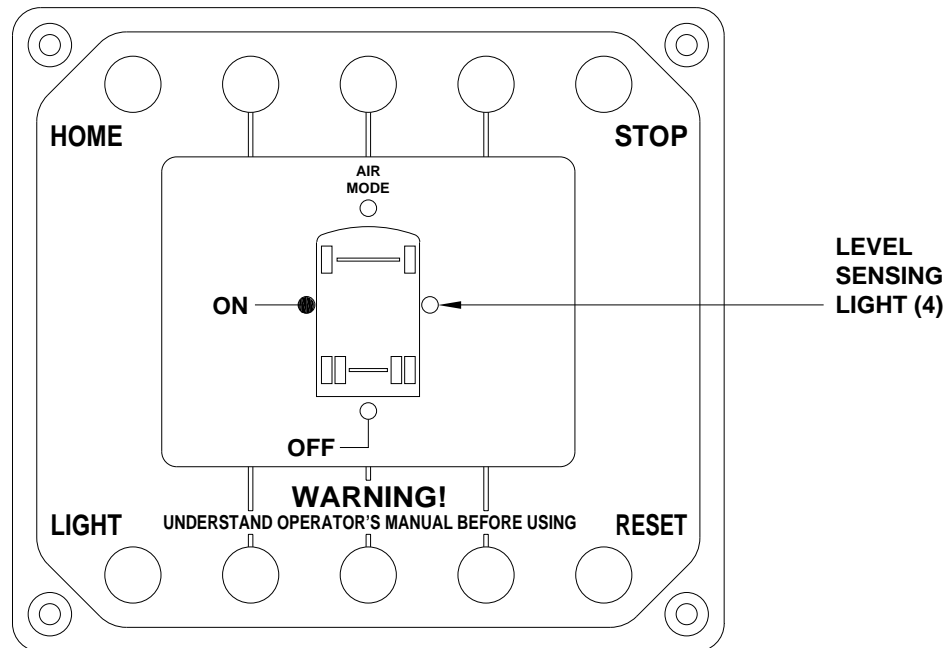
**MAX:** When this indicator is in this position, the suspension will be at it's MAXIMUM height if an UP button is used OR the suspension will be at it's LOWEST point if a DOWN button is used.

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 "AUTOMATIC AIR" button is pushed. Push the "HOME" button and correct the problem before pushing the "AUTOMATIC AIR" button again.

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 "AUTOMATIC AIR" button on the LEVELING page. The AUTOMATIC AIR LEVEL page will appear. The air leveling process will begin. The system first exhaust air from all of the air bags. If a level position is not achieved by 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.

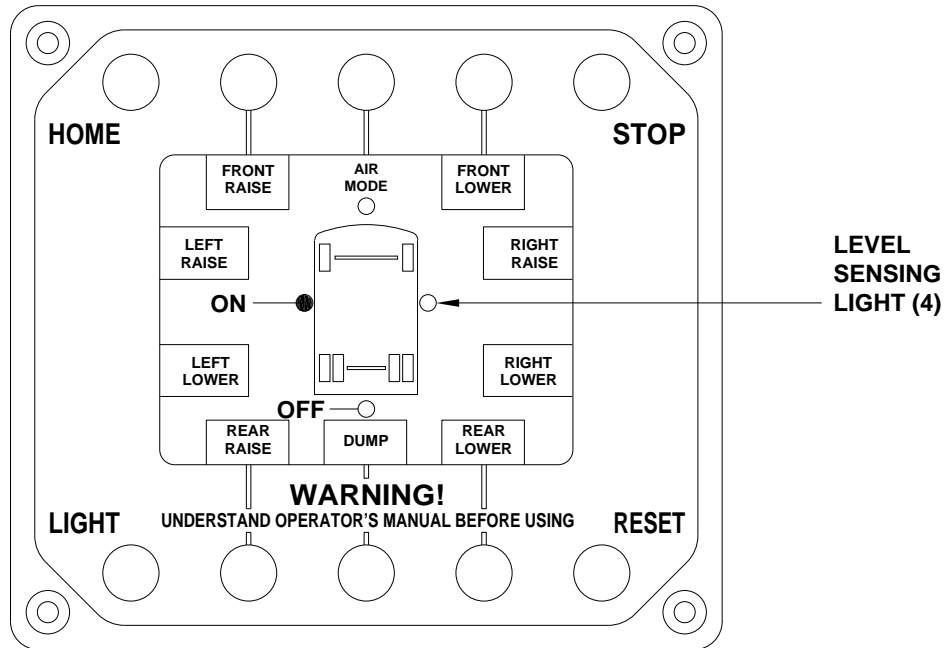
3. SLEEP MODE: If automatic air leveling is successful the system will be in the SLEEP MODE when all 4 level sensing lights go out. The system will remain in the SLEEP MODE until the "STOP" button is pushed or the park brake is released with the ignition on.

**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.

**EXCESS SLOPE:** The system will attempt to level the vehicle for 15 to 20 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.

**NOTE:** The HWH supplied auxiliary air compressor is intended for sleep mode only. Air compressor output is capable of producing approximately 110 psi but with very low flow rate. Leveling without sufficient coach air supply may take a very long time.

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 engine to utilize the engine air compressor 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 "MANUAL AIR" button located on the "LEVELING" page. If the park brake is removed, the system will return to the "HOME" page.

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

Press and hold the "LOWER" buttons to exhaust air from the corresponding air bags. Press and hold 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:** 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.

# INSTRUCTION SHEET

## SENSING UNIT MAINTENANCE/SERVICE

### SENSING UNIT ADJUSTMENT / WITH LCD CONTROL PANEL

With the ignition on, push the "LEVEL SENSOR ADJUST" button on Page 2 of the LCD panel. Place a bubble level in the center of the coach floor or upon whichever surface within the vehicle that is to be level. It is best if the level is placed close to the mounting area of the Central Control Module. Do not place the level inside of a slide-out. Use the raise and lower buttons on this screen to 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 sensing unit, the sensing unit is properly adjusted. If there are yellow LEVEL lights lit on the sensing unit, 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 ignition must be left on to adjust the sensing unit. When the system is on the "LEVEL SENSOR ADJUST" page, the sensing unit will be very sensitive. The LEDs on the sensing unit plate may flash on and off quickly 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, the sensing unit is adjusted. Push the "HOME" button on the LCD panel.

Level the vehicle by placing a bubble level in the center of the coach floor or upon whichever surface within the vehicle that is to be level. It is best if the level is placed close to the mounting area of the Central Control Module. Do not place the level inside of a slide-out. With the ignition on, push the "LEVEL SENSOR ADJUST" button on Page 2 of the LCD panel. Using the raise and lower buttons on this screen, level the vehicle until the bubble is centered.

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 LCD 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.**

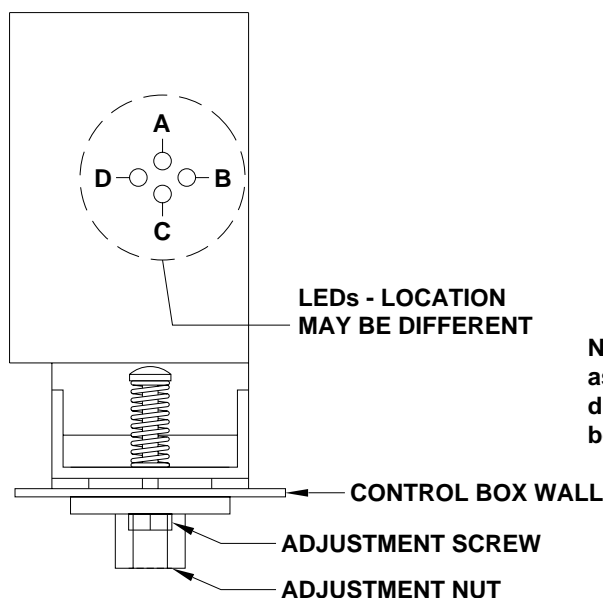
**If LED (C) is lit: Turn the adjustment screw CLOCKWISE until the LED is off.**

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

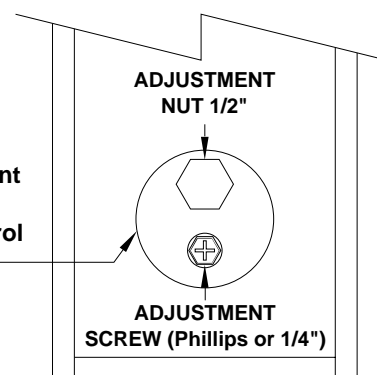
**If LED (D) is lit: Turn the adjustment nut CLOCKWISE until the LED is off.**

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 MANUAL AIR LEVELING screen. If necessary, go through the adjustment procedure again.

#### TOP VIEW - SENSING UNIT



#### SIDE VIEW - CONTROL BOX



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

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# MAINTENANCE

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## 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.

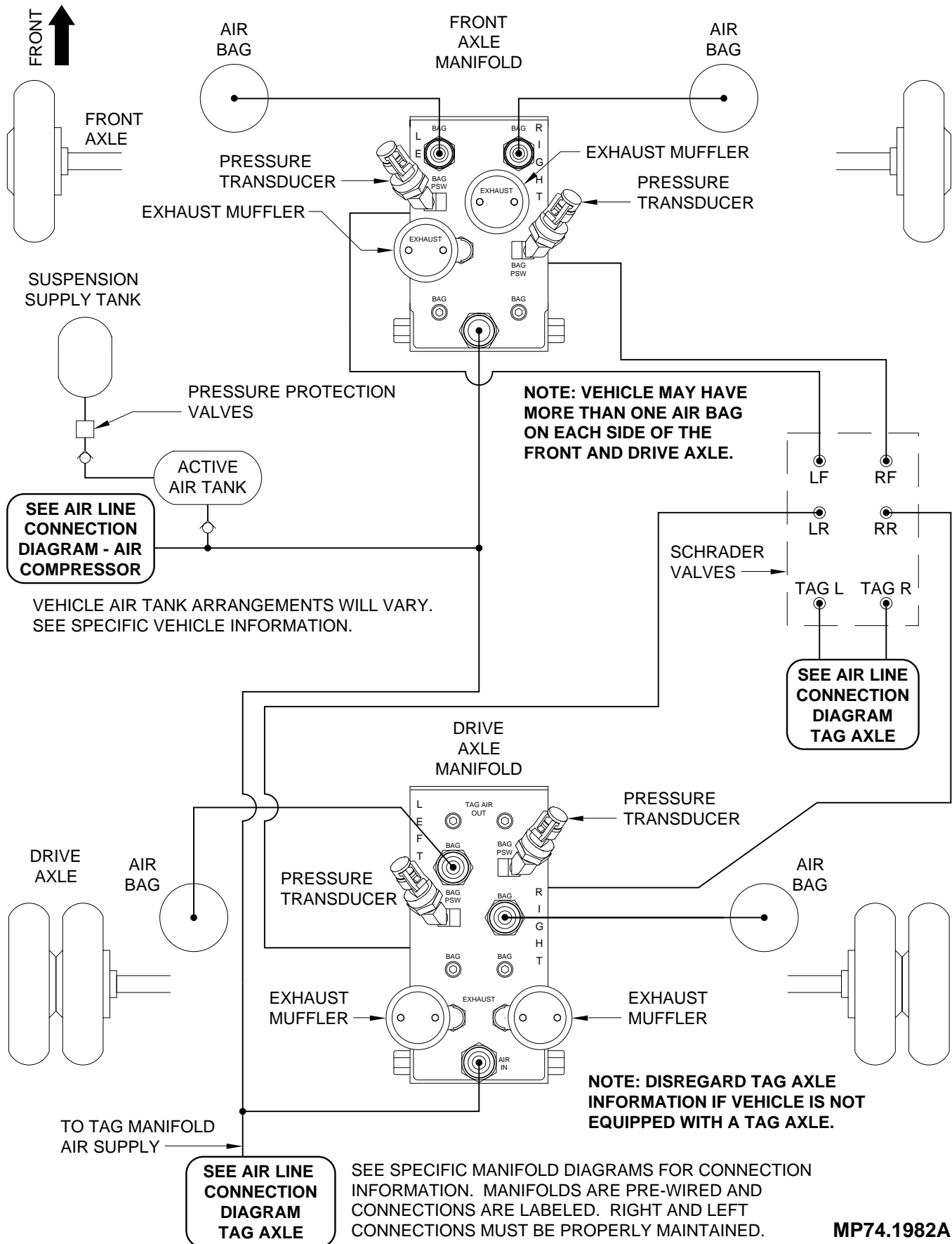
The vehicle can now be weighed, the ride height of the suspension can be checked, or the wheels can be aligned.

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.

# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR

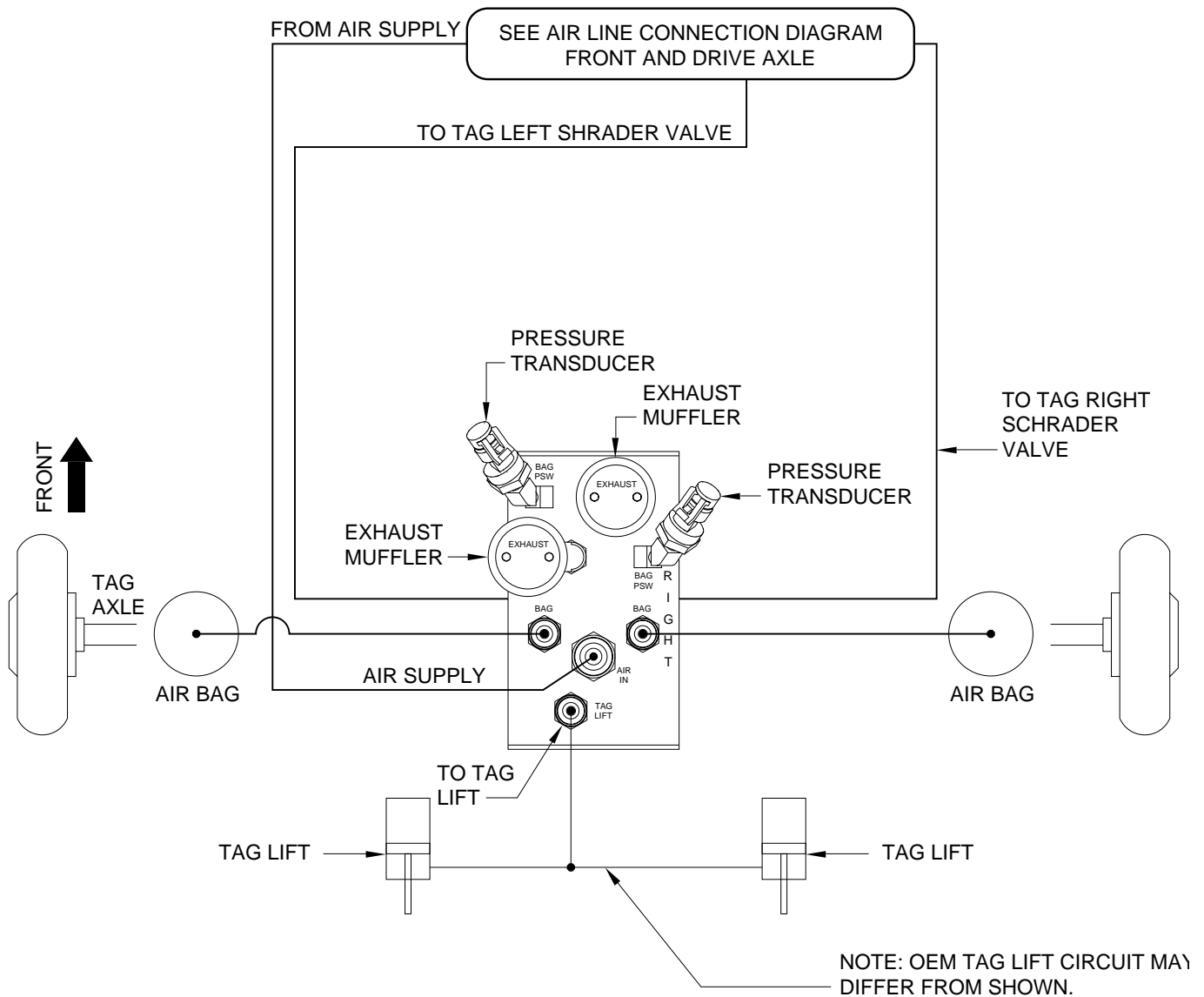
### FRONT AND DRIVE AXLES



# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR - TAG AXLE

### FOR VEHICLES WITH TAG AXLE



**IMPORTANT:** MANIFOLDS ARE PRE WIRED AND CONNECTIONS ARE LABELED. RIGHT AND LEFT CONNECTIONS MUST BE PROPERLY MAINTAINED

SEE SPECIFIC MANIFOLD DIAGRAMS FOR CONNECTION INFORMATION

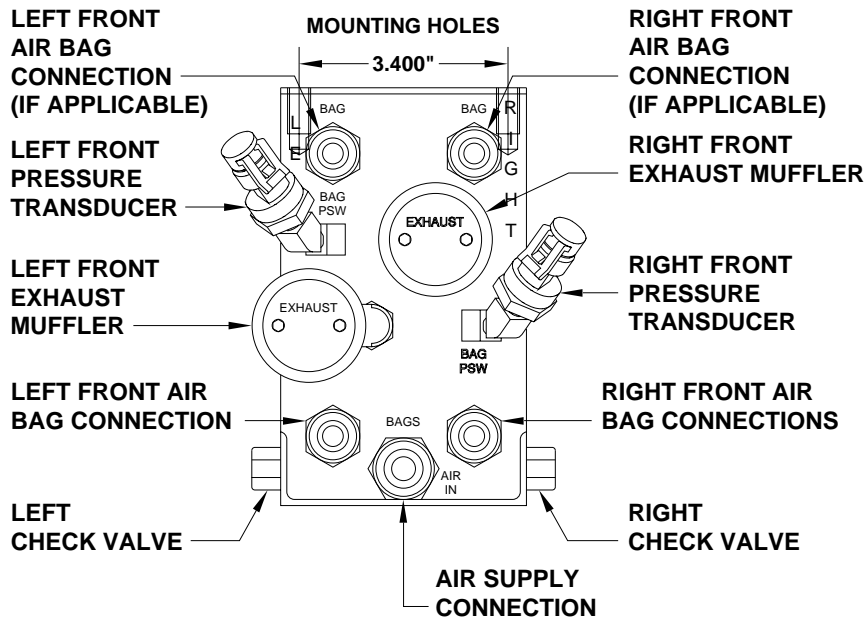
**NOTE: DISREGARD TAG LIFT INFORMATION IF VEHICLE IS NOT EQUIPPED WITH TAG LIFT OR IF TAG LIFT IS OPERATED SEPARATE FROM THE HWH ACTIVE AIR SYSTEM.**



# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR

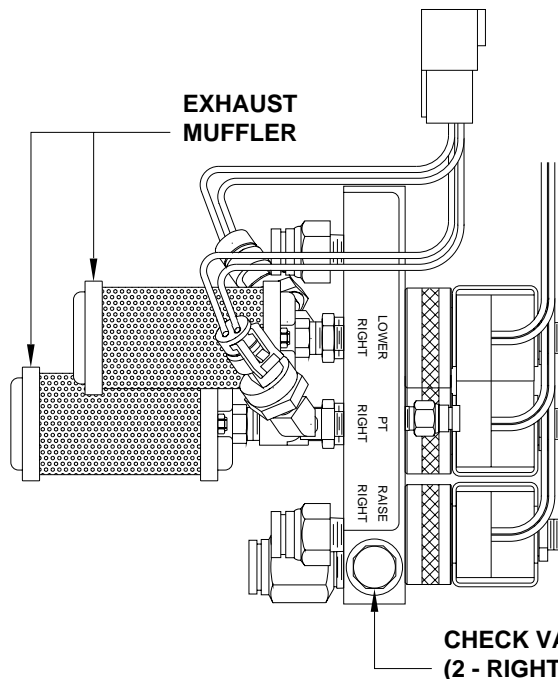
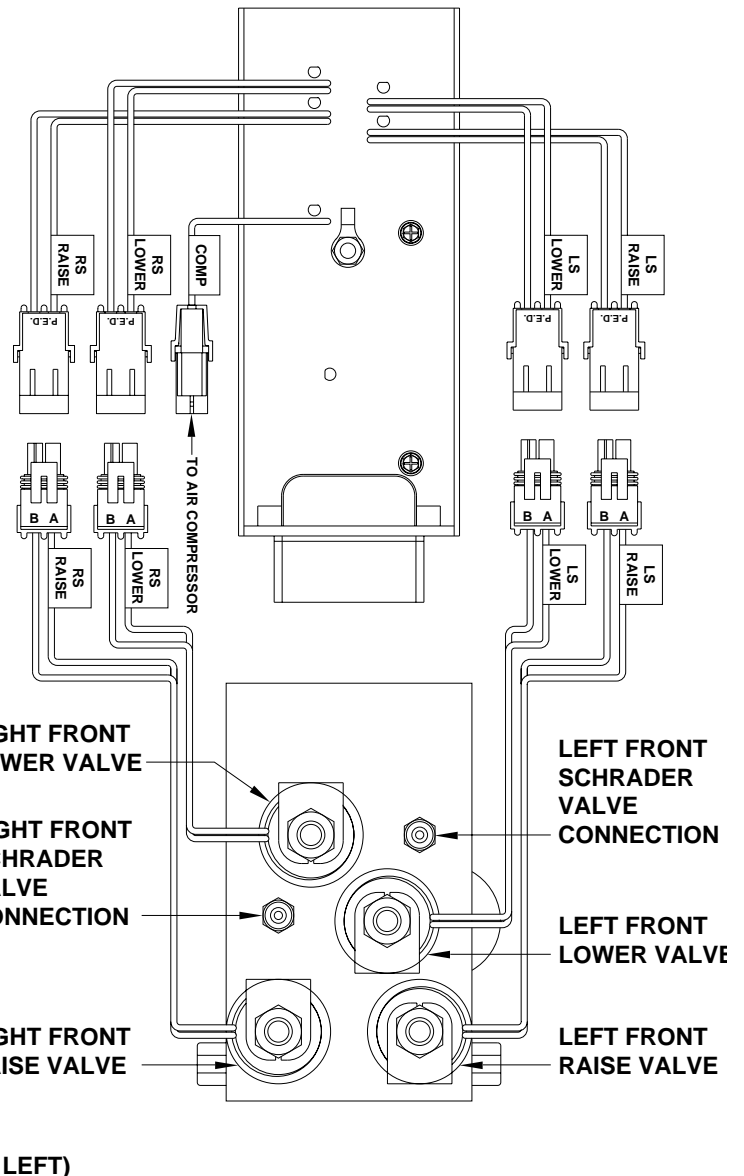
### FRONT AXLE AIR MANIFOLD ASSEMBLY



**IMPORTANT: LEFT AND RIGHT CONNECTIONS MUST BE MAINTAINED AS SHOWN. GROUND SUPPLY WIRES FOR PRESSURE TRANSDUCERS AND AIR SOLENOID VALVES CANNOT BE INTERCHANGED.**

**THE DUMP AND RAISE VALVES ARE DIFFERENT AND CANNOT BE INTERCHANGED.**

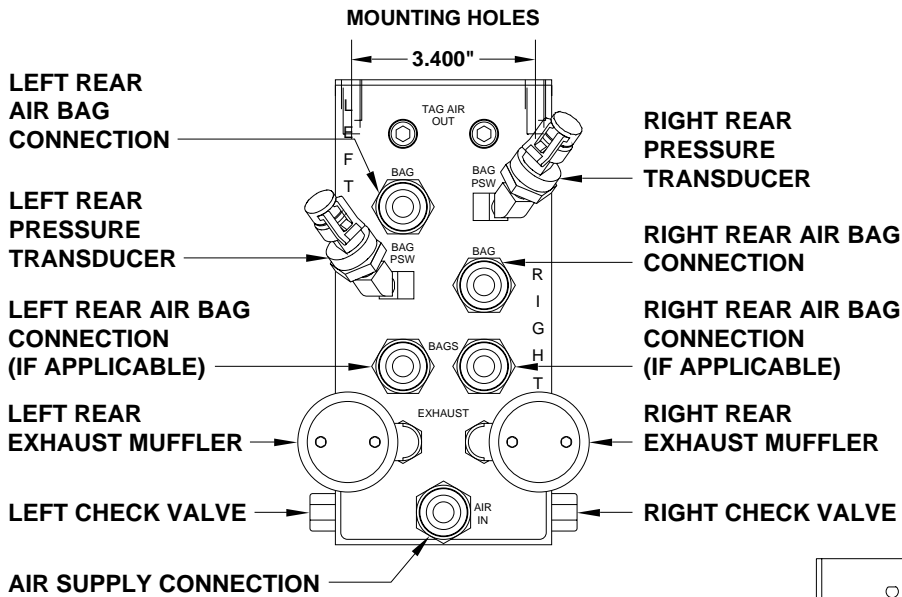
**NOTE: SOLENOID VALVES AND AIR LINE CONNECTIONS ARE LABELED.**



# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR

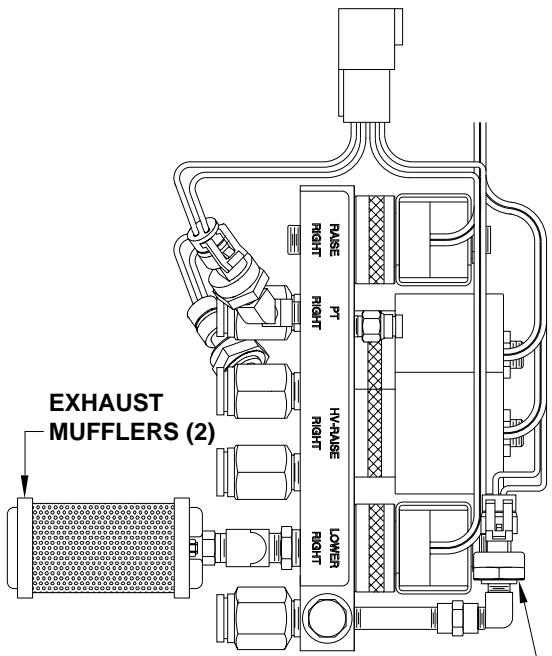
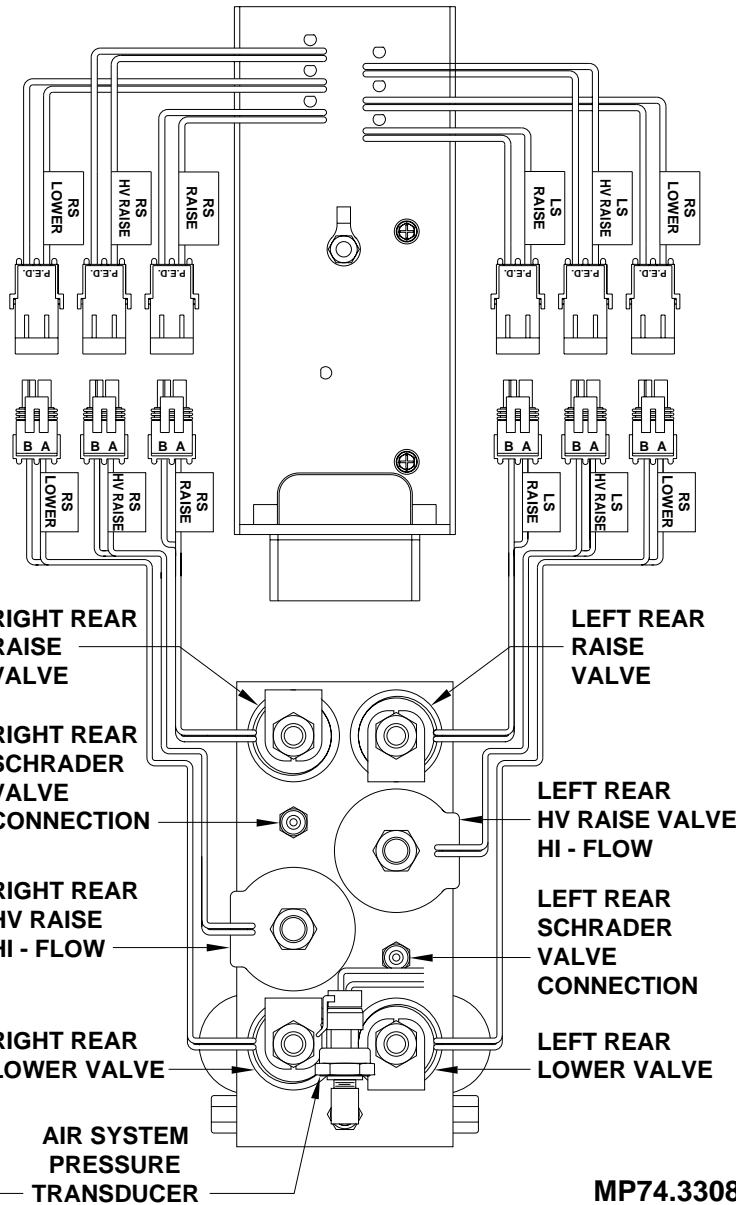
### DRIVE AXLE AIR MANIFOLD ASSEMBLY



**IMPORTANT: LEFT AND RIGHT CONNECTIONS MUST BE MAINTAINED AS SHOWN. GROUND SUPPLY WIRES FOR PRESSURE TRANSDUCERS AND AIR SOLENOID VALVES CANNOT BE INTERCHANGED.**

**THE DUMP AND RAISE VALVES ARE DIFFERENT AND CANNOT BE INTERCHANGED.**

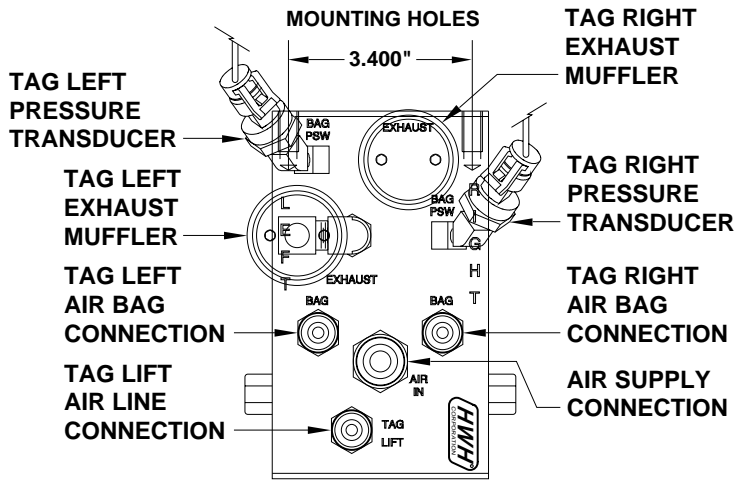
**NOTE: SOLENOID VALVES AND AIR LINE CONNECTIONS ARE LABELED.**



# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR - TAG AXLE AIR MANIFOLD ASSEMBLY

### FOR VEHICLES WITH TAG AXLE

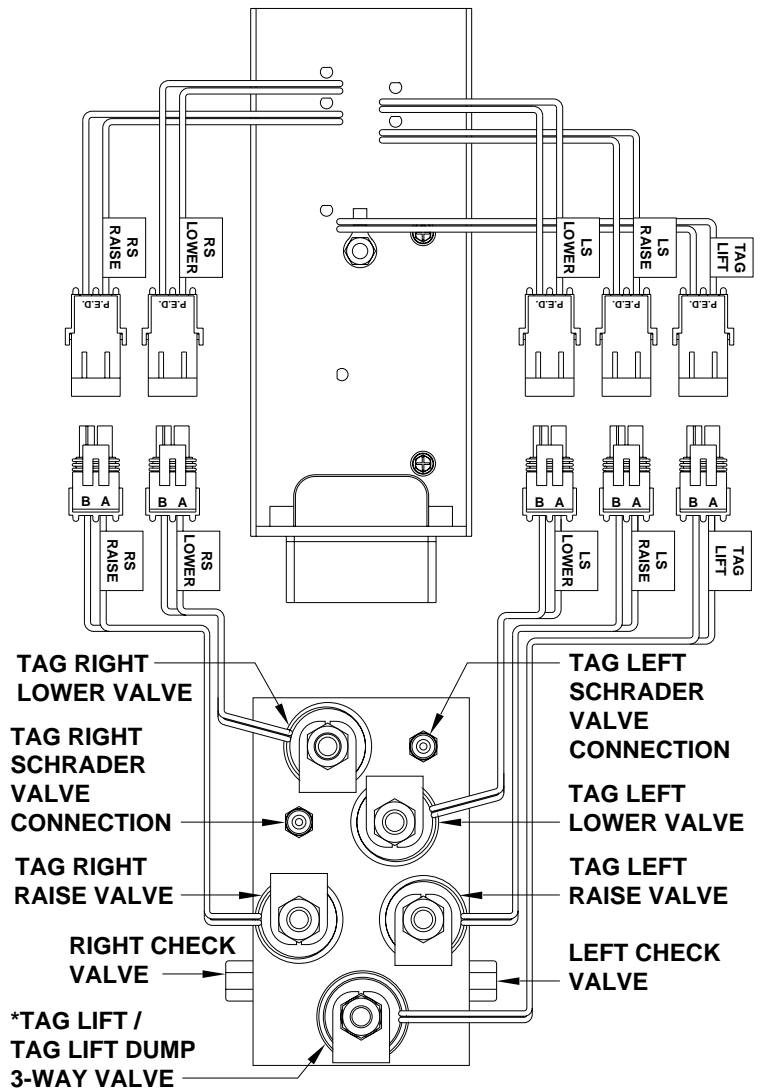
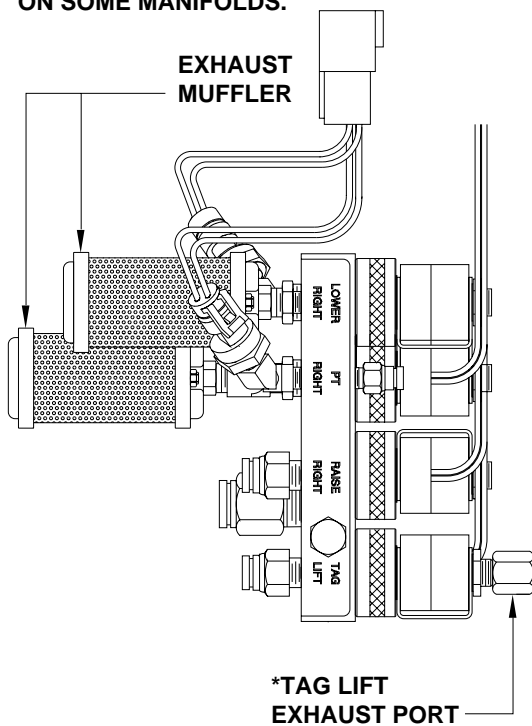


**IMPORTANT: LEFT AND RIGHT CONNECTIONS MUST BE MAINTAINED AS SHOWN. GROUND SUPPLY WIRES FOR PRESSURE TRANSDUCERS AND AIR SOLENOID VALVES CANNOT BE INTERCHANGED.**

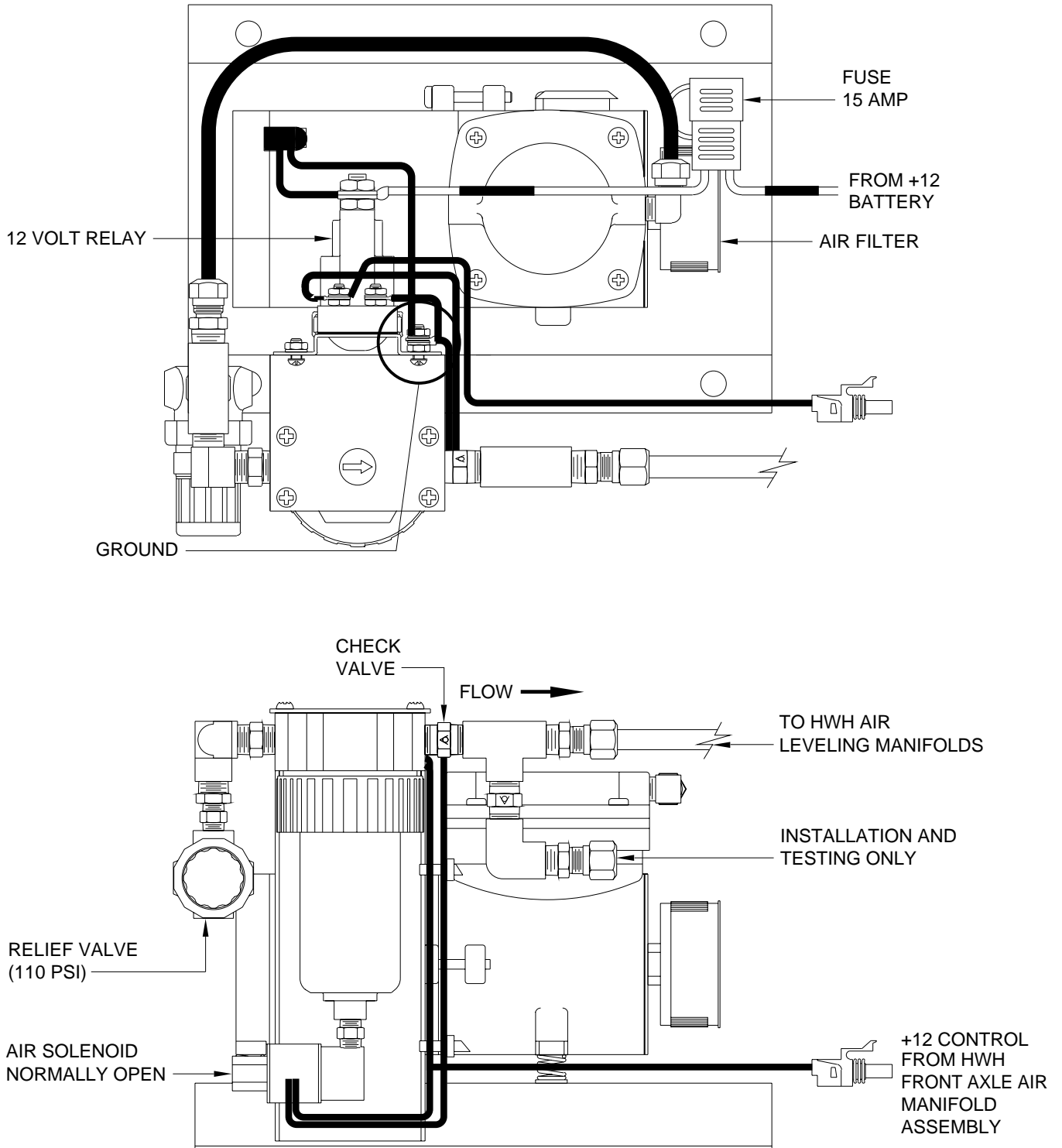
**THE DUMP AND RAISE VALVES ARE DIFFERENT AND CANNOT BE INTERCHANGED.**

**NOTE: SOLENOID VALVES AND AIR LINE CONNECTIONS ARE LABELED.**

**\* TAG LIFT VALVE MAY NOT BE PRESENT ON SOME MANIFOLDS.**

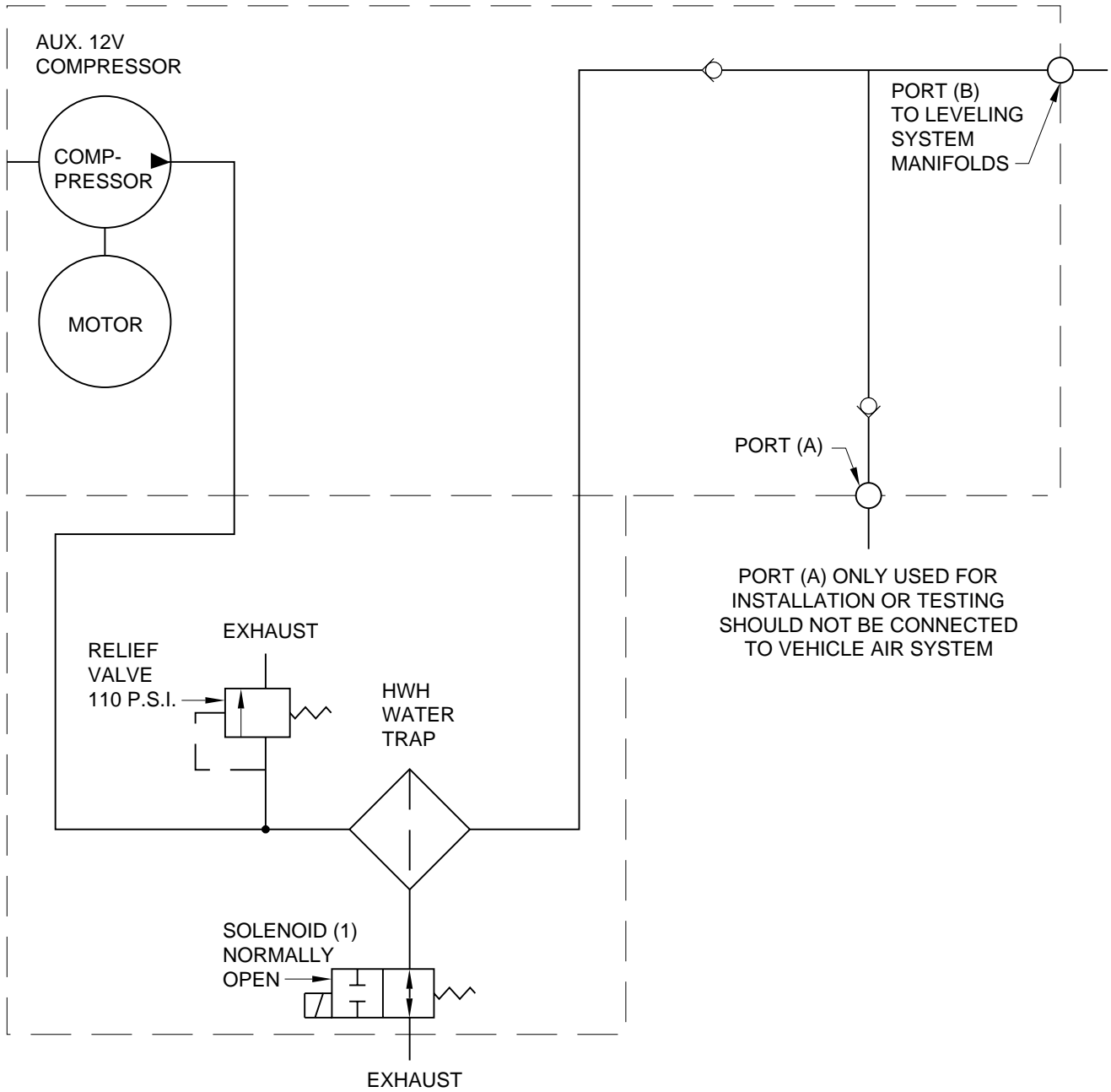


# AIR LINE CONNECTION DIAGRAM HWH AIR COMPRESSOR



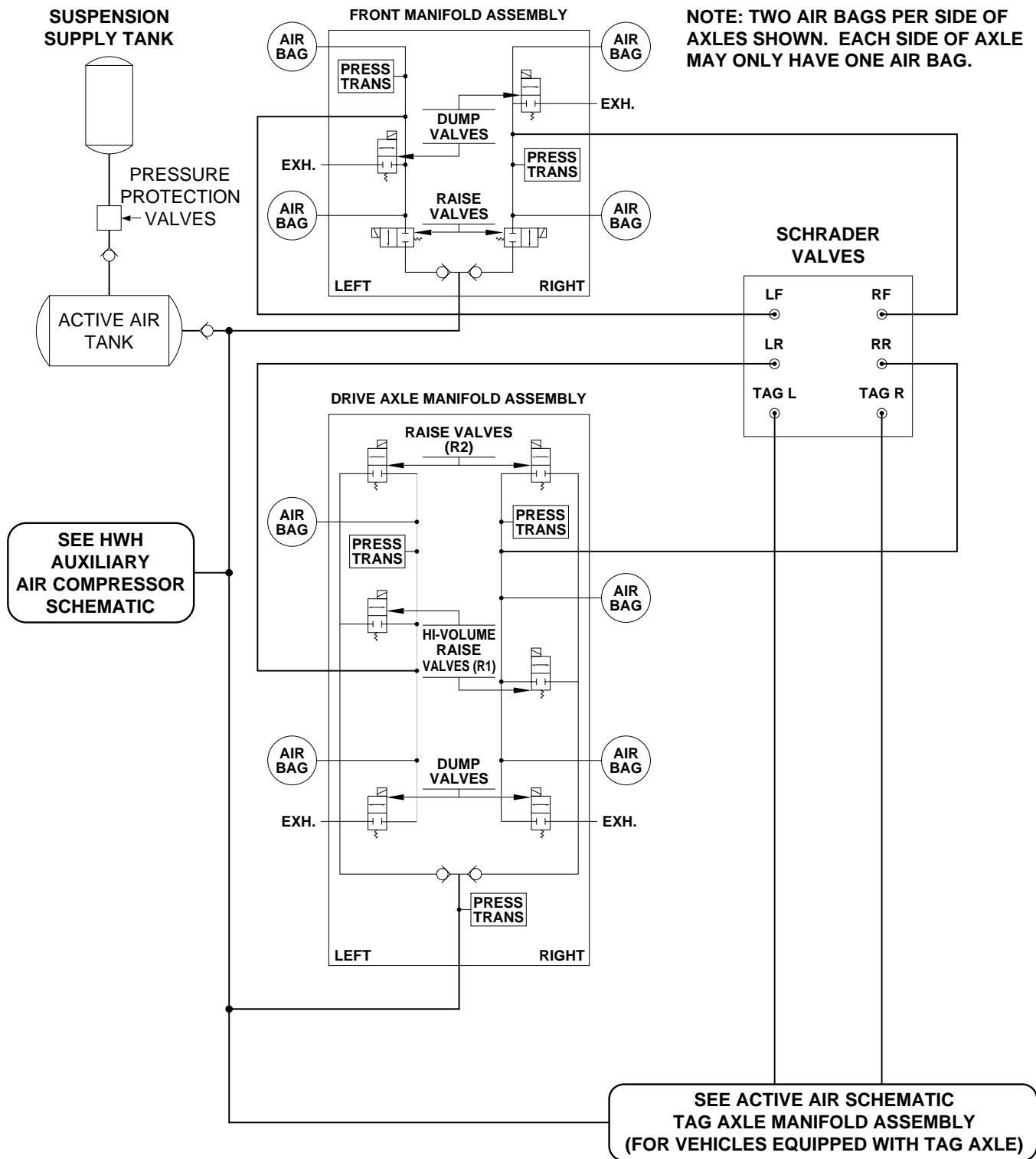
# AIR CONNECTION DIAGRAM

## AIR COMPRESSOR SCHEMATIC

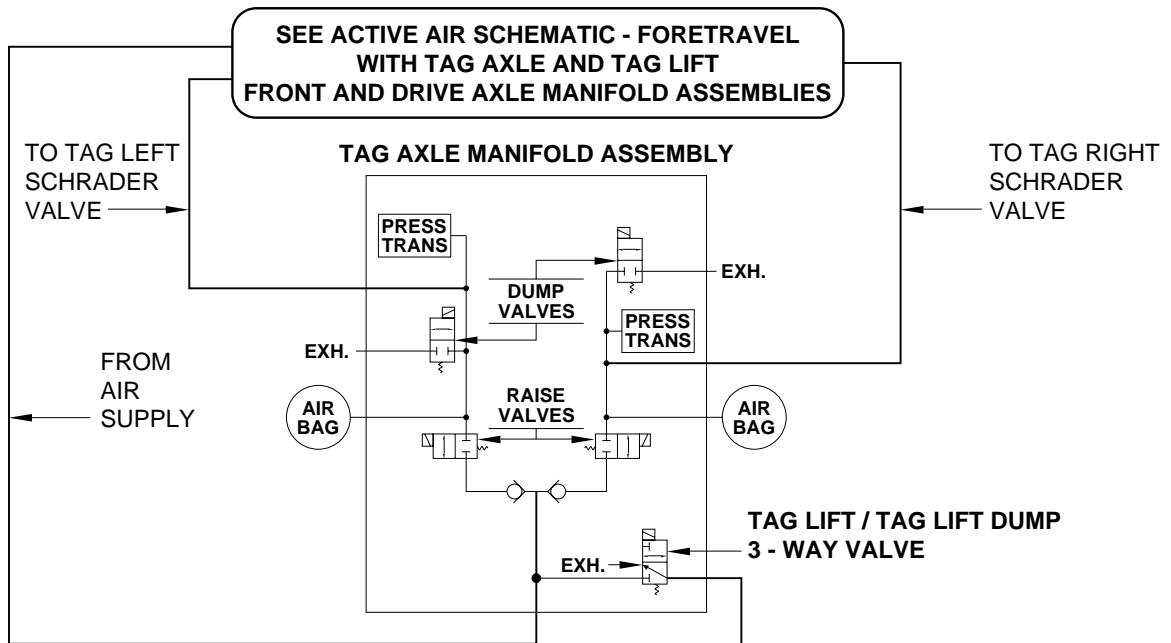


SOLENOID (1) DUMPS WATER OUT OF FILTER WHEN COMPRESSOR IS OFF.

# AIR LINE CONNECTION DIAGRAM WITH TAG AXLE AND TAG LIFT FRONT AND DRIVE AXLE MANIFOLD ASSEMBLIES



# AIR LINE CONNECTION DIAGRAM FOR VEHICLES WITH TAG AXLE AND TAG LIFT TAG AXLE MANIFOLD ASSEMBLIES



**NOTE: DISREGARD TAG LIFT INFORMATION IF VEHICLE IS NOT EQUIPPED WITH TAG LIFT OR IF TAG LIFT IS OPERATED SEPARATE FROM THE HWH ACTIVE AIR SYSTEM.**

