

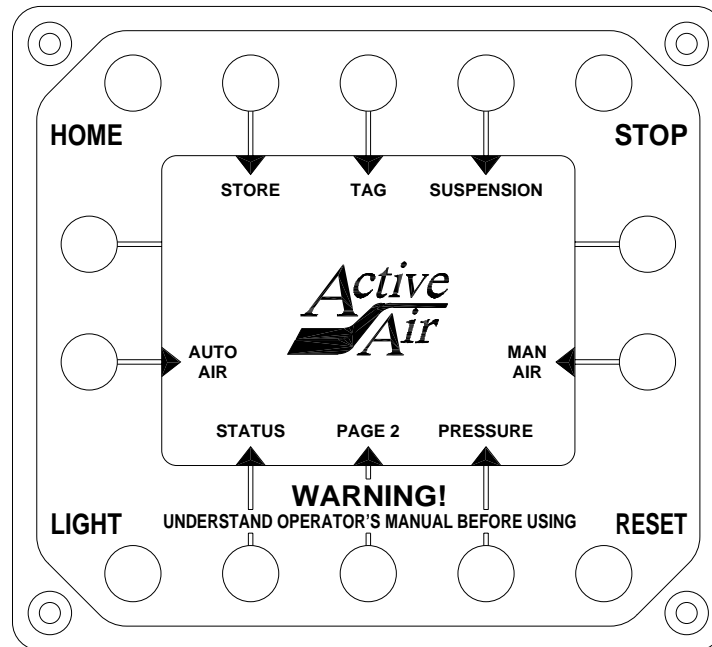


# OPERATOR'S MANUAL

## HWH® SYSTEMS CONTROL MODULE AND SPACEMAKER® ROOM EXTENSION SYSTEMS

### **FEATURING:**

*Active Air Suspension*  
*Computerized Air Leveling*  
*With / With Out Tag Axle*  
*Color LCD Panel*



### **HWH CORPORATION**

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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**

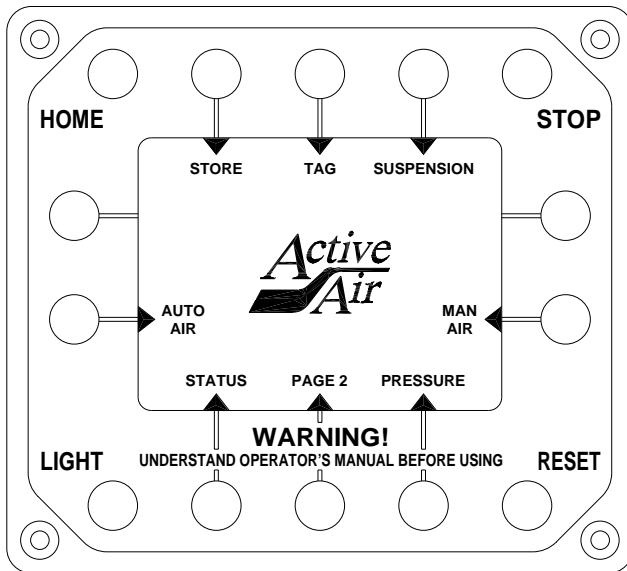
HWH CORPORATION strives to maintain the highest level of customer satisfaction. Therefore, if you discover a defect or problem, please do the following:

**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.

## 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: MP24.3980B** 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

**"STORE" 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. No matter what type of leveling was done, when the "STORE" button is pushed the first thing that happens is that air is pumped into all the suspension air bags for 10 seconds before the system returns to the Travel Mode.

## SCREEN BUTTONS AND LIGHTS

**"AUTO STORE" LIGHT:** This light will flash as "STORING" when the "AUTO STORE" button is pushed. If Air Leveling was used, this light will flash for approximately 80 seconds.

**"TAG" BUTTON:** This button will lift the tag axle. **SEE: MP34.0231A - Only present if the vehicle is equipped with a tag axle.**

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

**"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 "STORE" 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: MP34.3701A**

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

**"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.

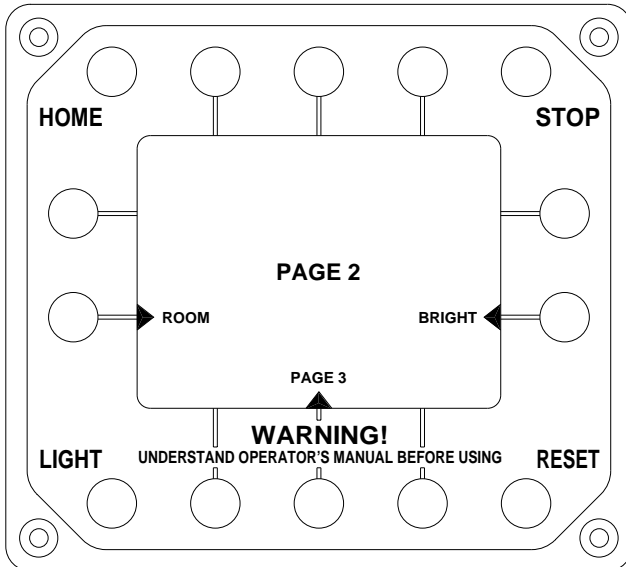
**SEE: MP24.3993A and MP24.3994A**

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

**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

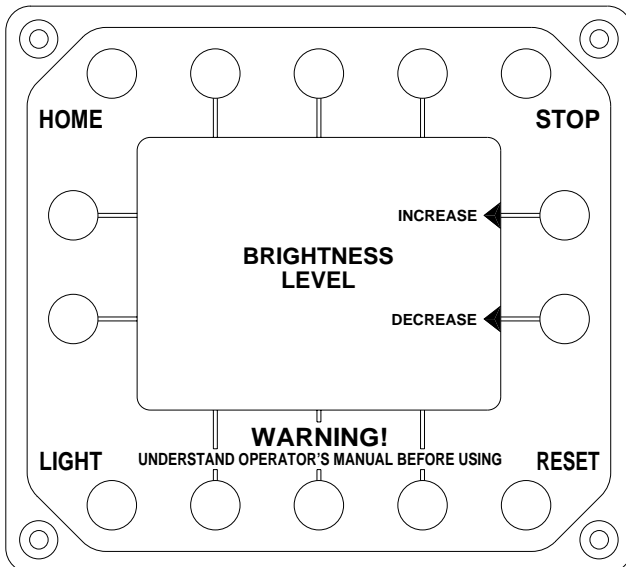
**"ROOM" BUTTON:** This button will bring up the room selection screen. Only rooms 1 and 4 are controlled with the LCD panel.

**"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.

**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.

## BRIGHTNESS LEVEL SCREEN

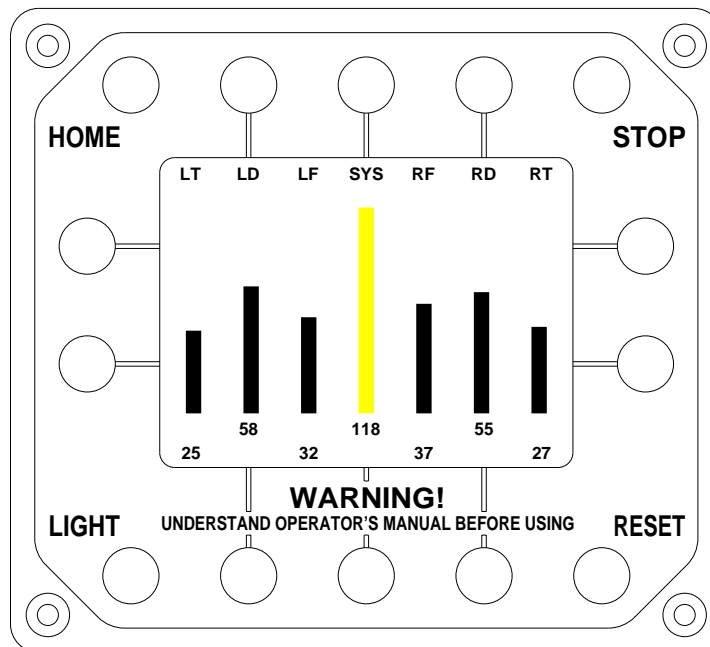


**"INCREASE / DECREASE" BUTTONS:** Increase or decrease the screen brightness in increments by pushing the corresponding button. When the desired screen brightness is achieved pressing the HOME button will set this as the user defined setting discussed under the "LIGHT" button on page MP24.3970A.

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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.**

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)

**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**

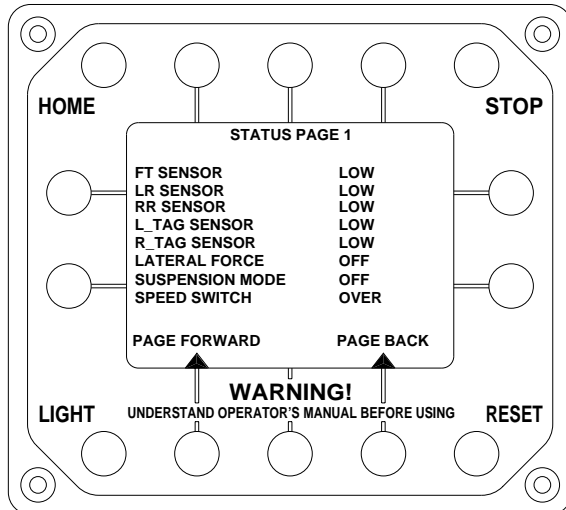
**RD - RIGHT SIDE DRIVE AXLE PRESSURE TRANSDUCER**

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

### 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)

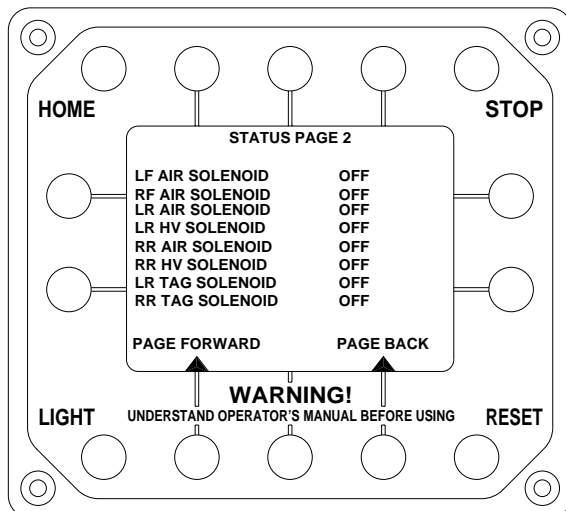
**FLY:** Active response to driving conditions.  
(Windy conditions or curvy roads)

### SPEED SWITCH:

**OVER:** Vehicle is over speed. System is allowed to 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**

**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.

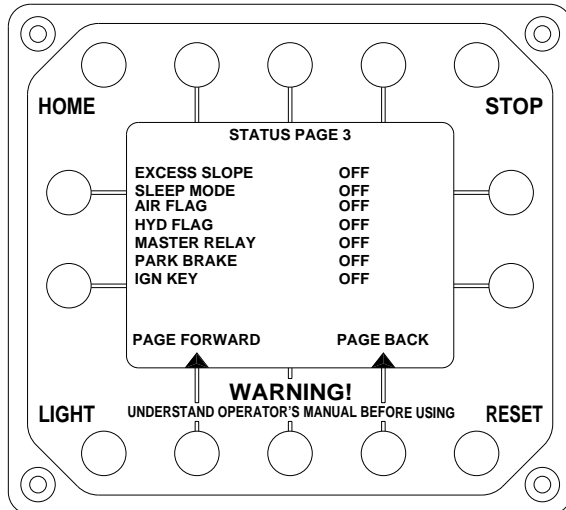
**OFF:** Solenoid valves are off.

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

### 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

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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 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.

## TAG LIFT

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

The ignition must be on, system air pressure must be at least approximately 50 psi and the vehicle cannot be traveling faster than approximately 10 mph for the tag lift feature to function.

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

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

## 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.

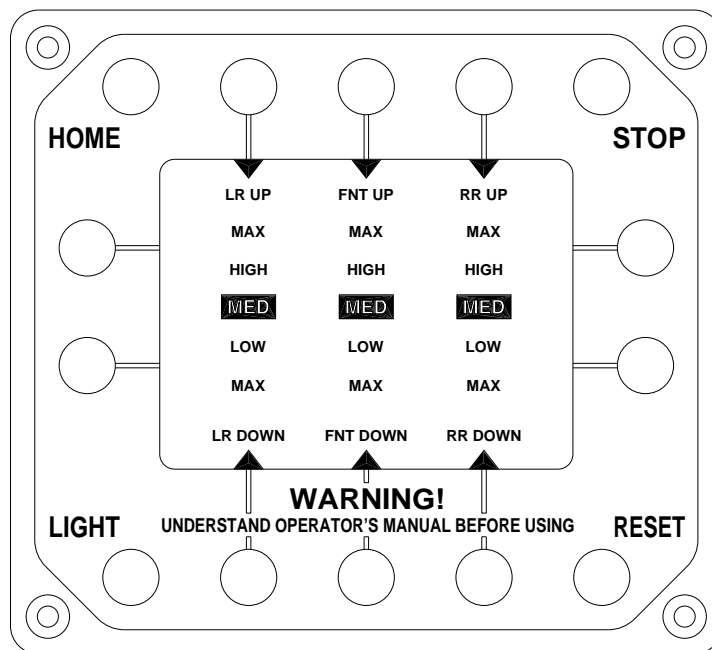
**NOTE:** With the HWH Active Air System OFF during towing, the air bags may be controlled only from the Schrader valves. Monitor and maintain proper travel height during towing using the Schrader valves.



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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 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.

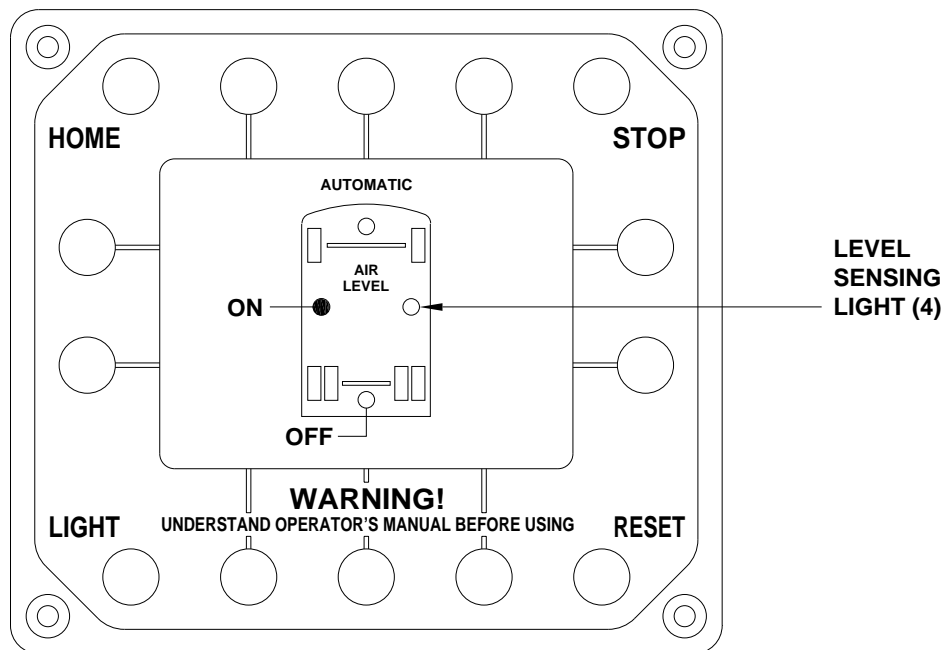
If either rear button is pushed to MAX UP or MAX DOWN, the other side will follow.

**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.

**NOTE:** It is recommended the tag axle (if so equipped) is in the travel position before using the air leveling system. If the tag lift function is on, push the "TAG" button to turn the tag lift feature off.

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 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 10 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.

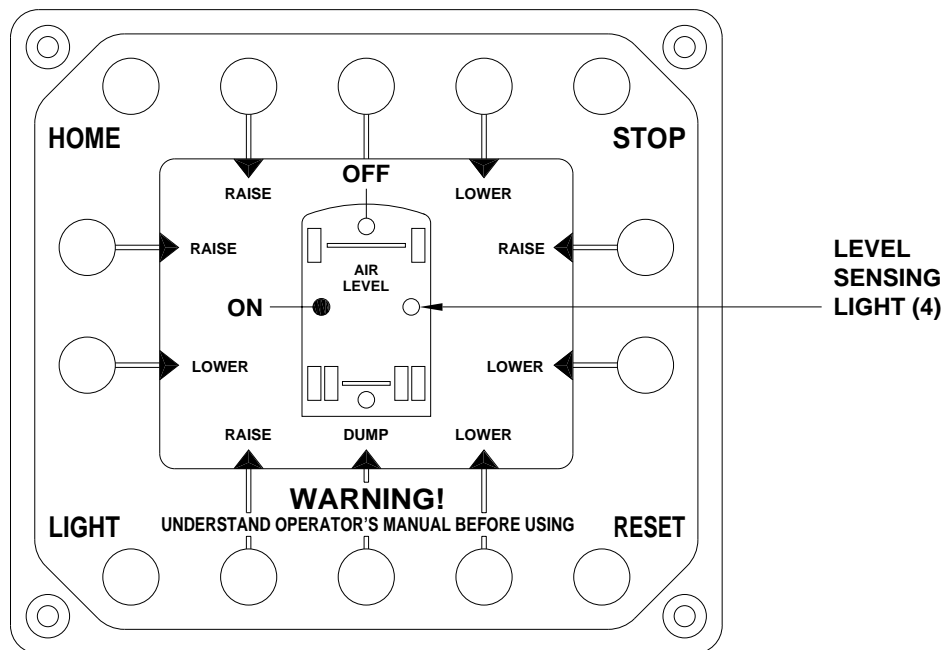
**NOTE:** The system will remain in the SLEEP MODE even with the screen off.

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 turn on and display the AUTOMATIC LEVELING SCREEN. 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 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:** It is recommended the tag axle is in the travel position before using the air leveling system. If the tag lift function is on, push the "TAG" button to turn the tag lift feature off.

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.

# INSTRUCTION SHEET

## SENSING UNIT MAINTENANCE/SERVICE

### SENSING UNIT ACCURACY TOLERANCE

The sensing unit has an accuracy tolerance of  $\pm 5.4$  inches front to rear and  $\pm 1$  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.**

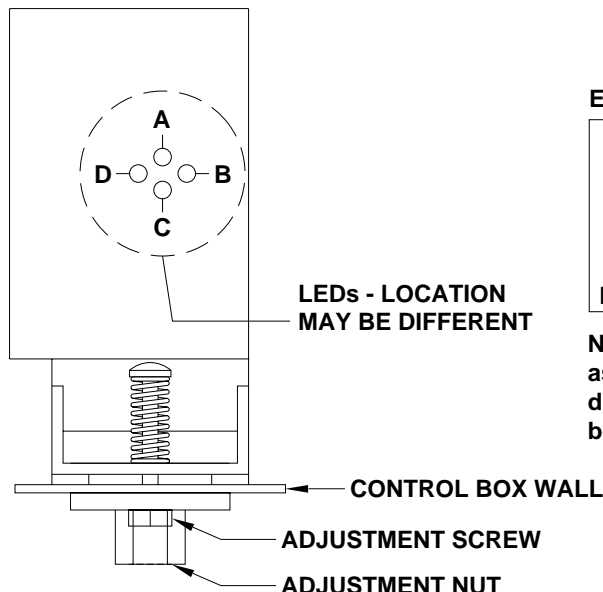
**If LED (C) is lit: Turn the adjustment screw CLOCKWISE until the LED is off.**

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

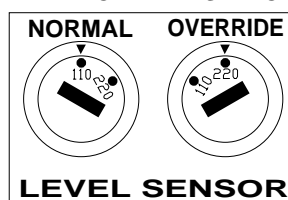
**If LED (D) is lit: Turn the adjustment nut CLOCKWISE until the LED is off.**

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

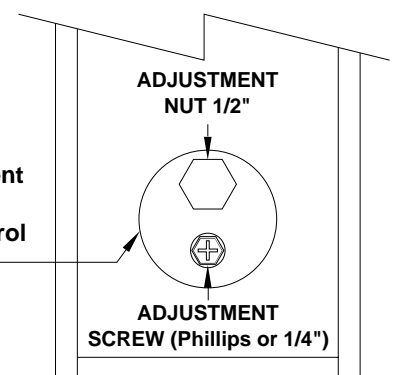


#### ADJUSTING ENHANCEMENT SWITCH



**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.

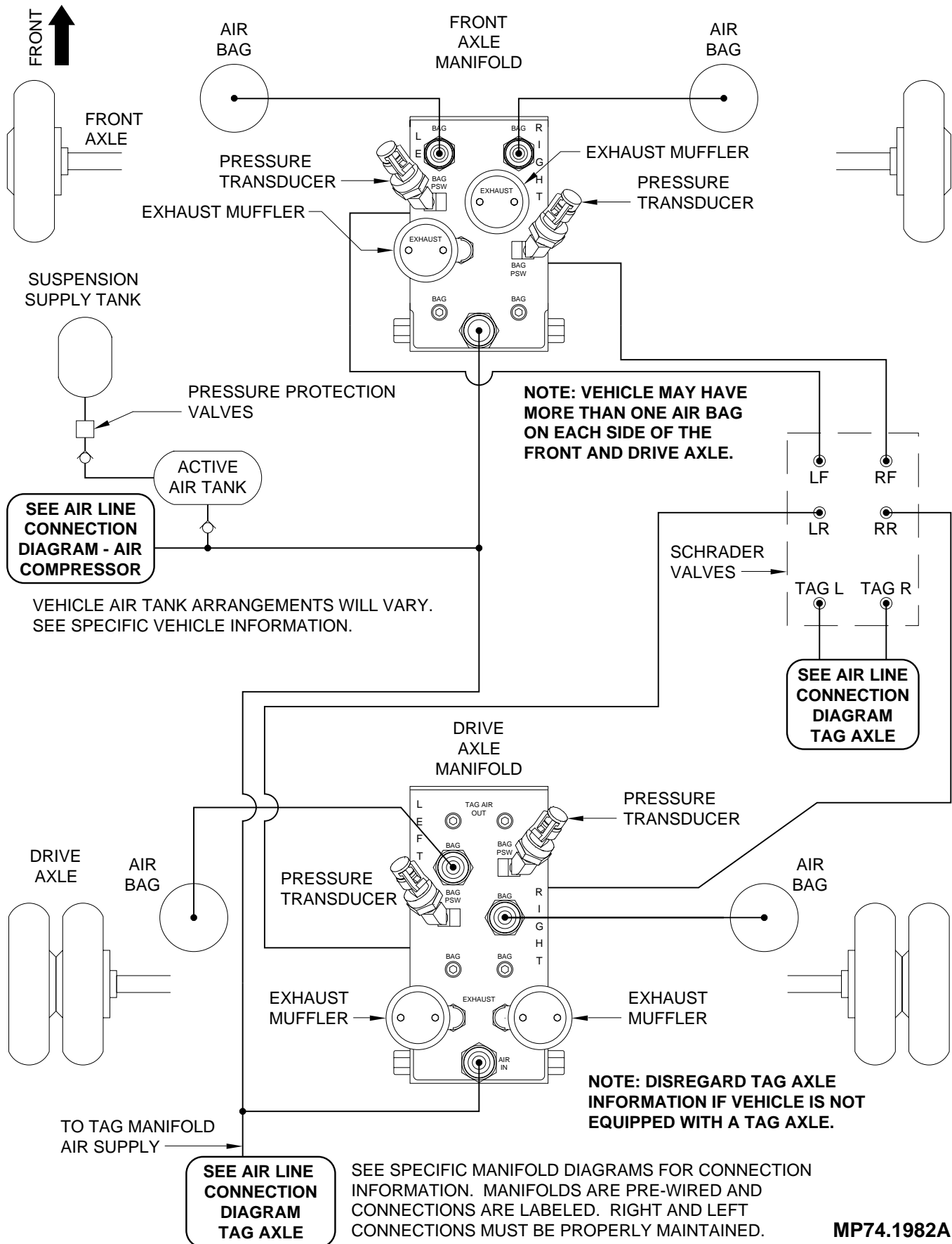
The vehicle can now be weighed, the ride height of the suspension can be checked, or the wheels can be aligned.

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.

# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR

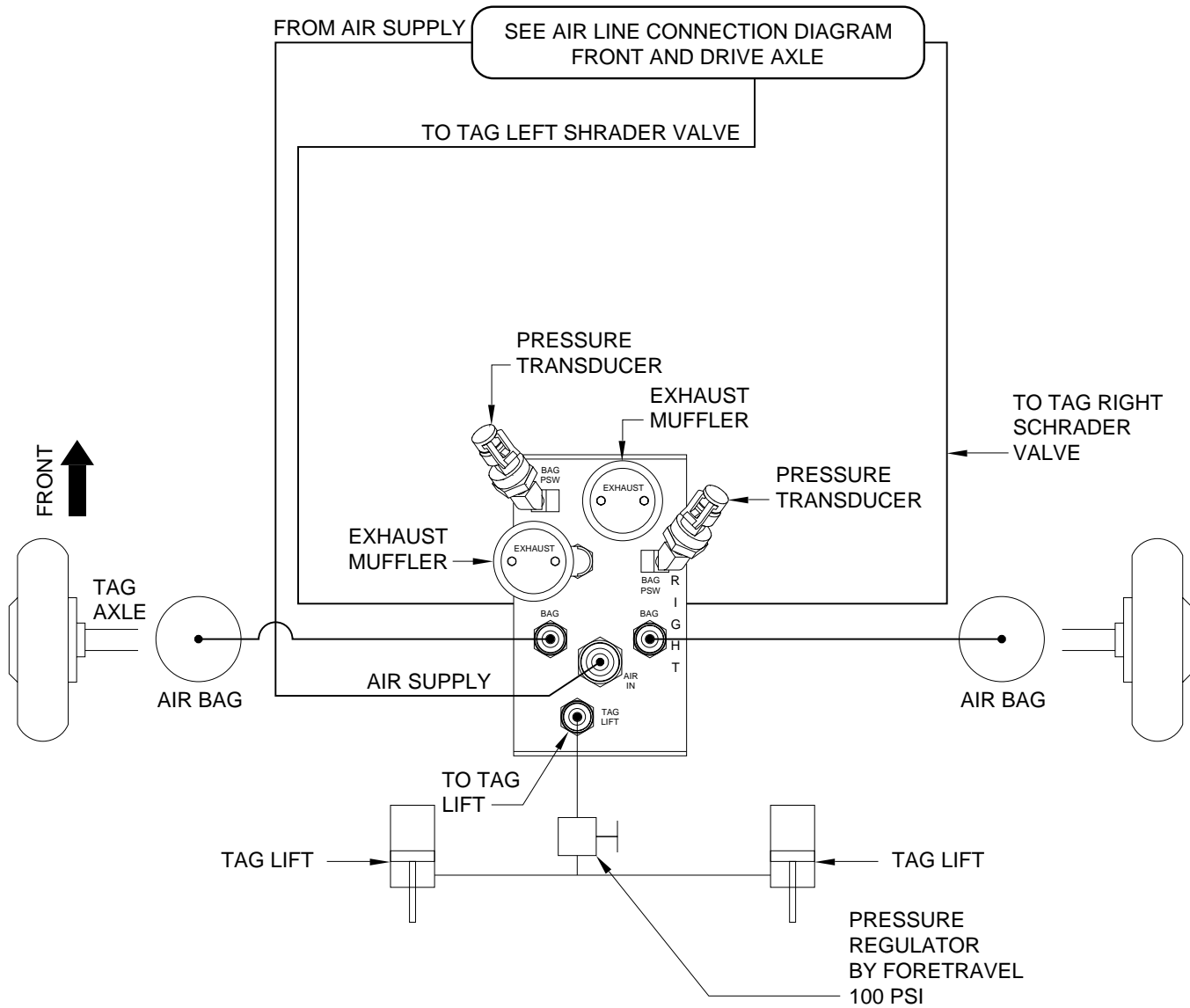
### FRONT AND DRIVE AXLES



# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR - TAG AXLE

### FOR VEHICLES WITH TAG AXLE



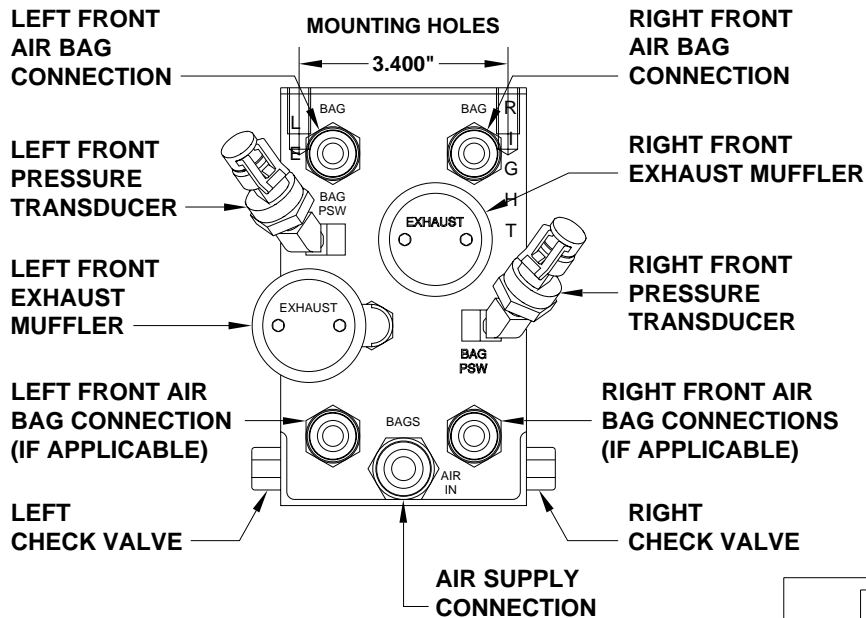
**IMPORTANT:** MANIFOLDS ARE PRE WIRED AND CONNECTIONS ARE LABELED. RIGHT AND LEFT CONNECTIONS MUST BE PROPERLY MAINTAINED

SEE SPECIFIC MANIFOLD DIAGRAMS FOR CONNECTION INFORMATION

# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR

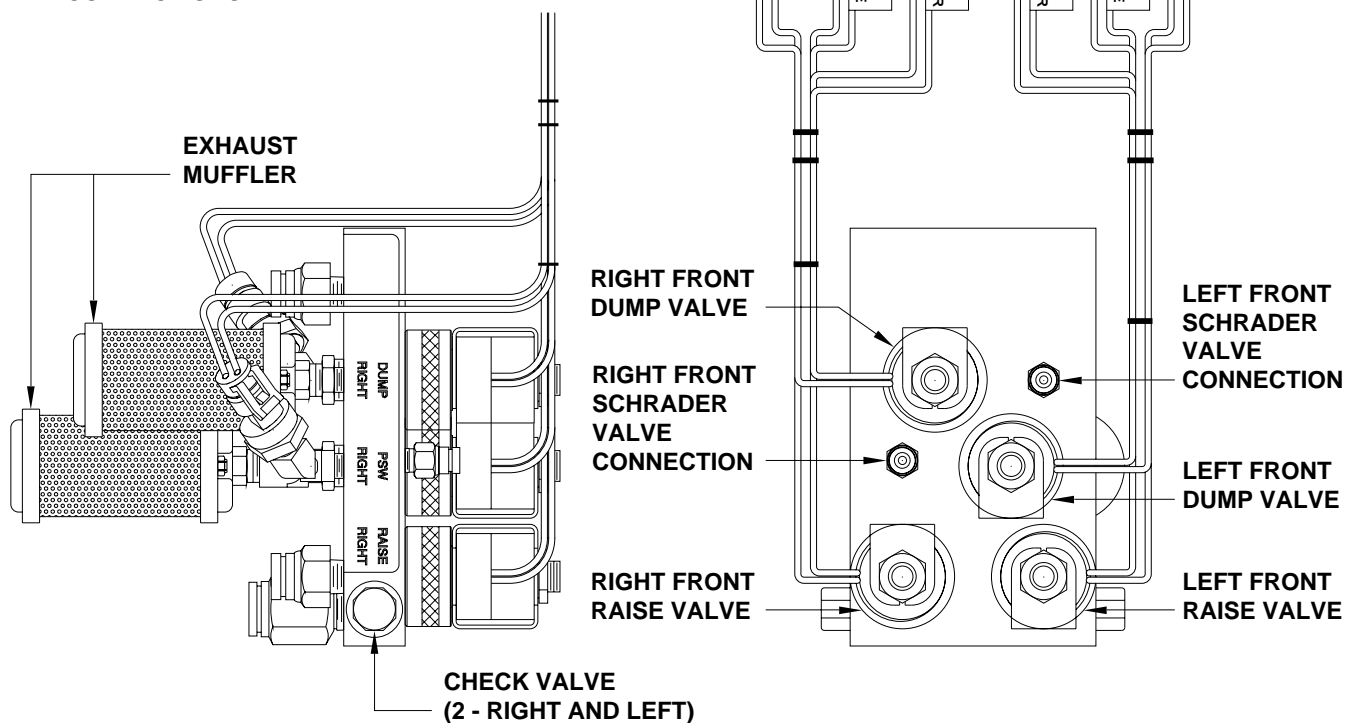
### FRONT AXLE AIR MANIFOLD ASSEMBLY



**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.**

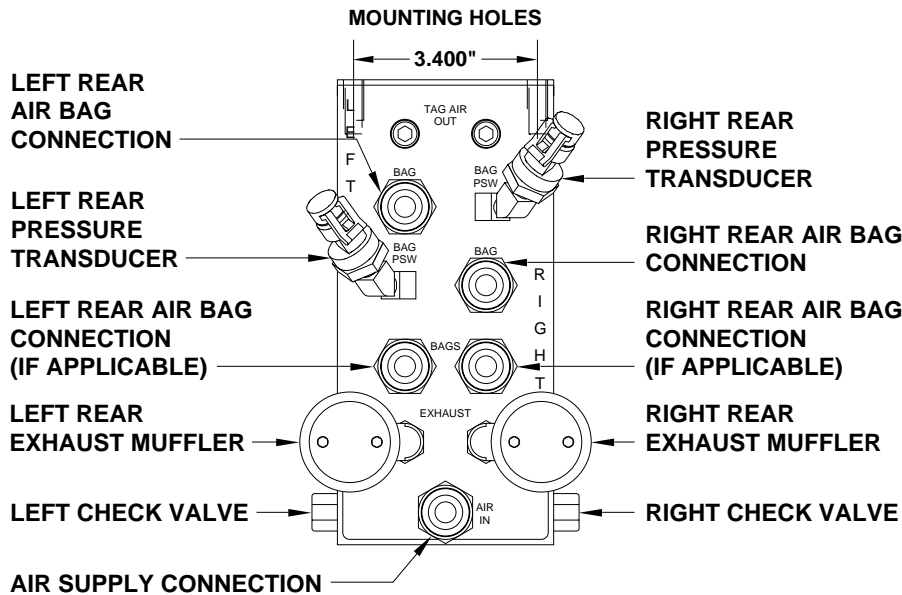




# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR

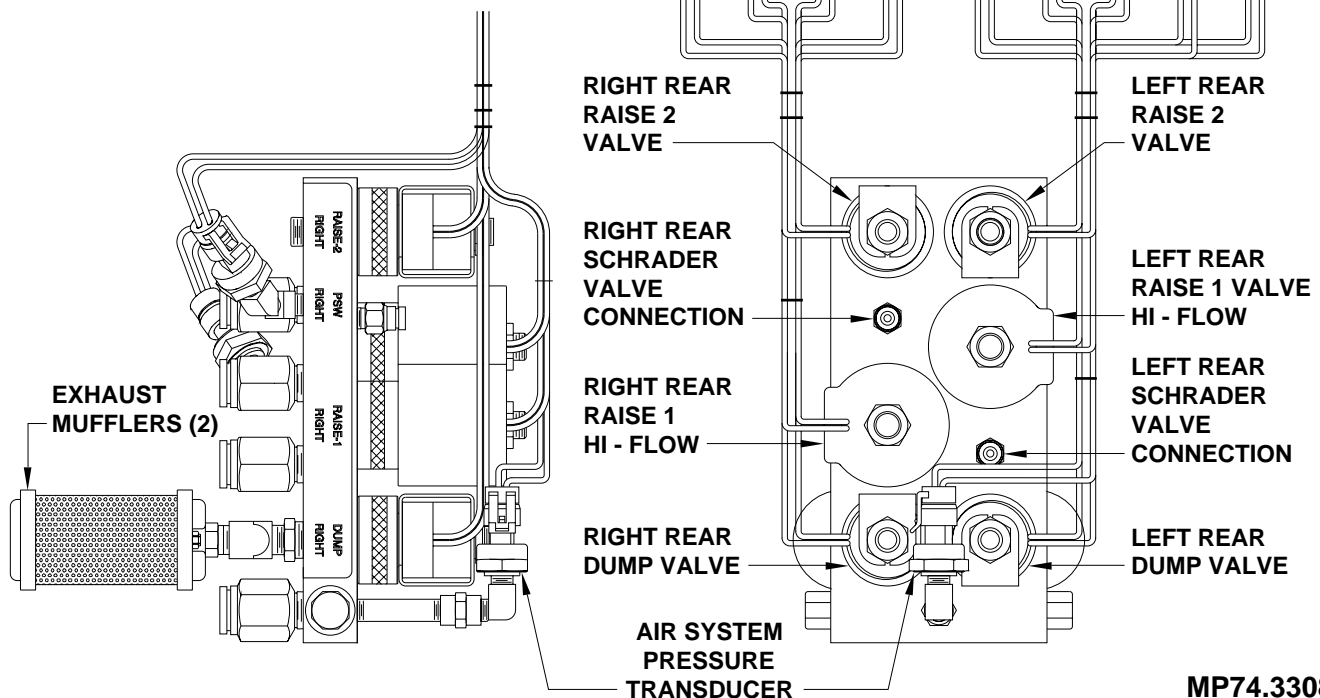
### DRIVE AXLE AIR MANIFOLD ASSEMBLY



**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.**

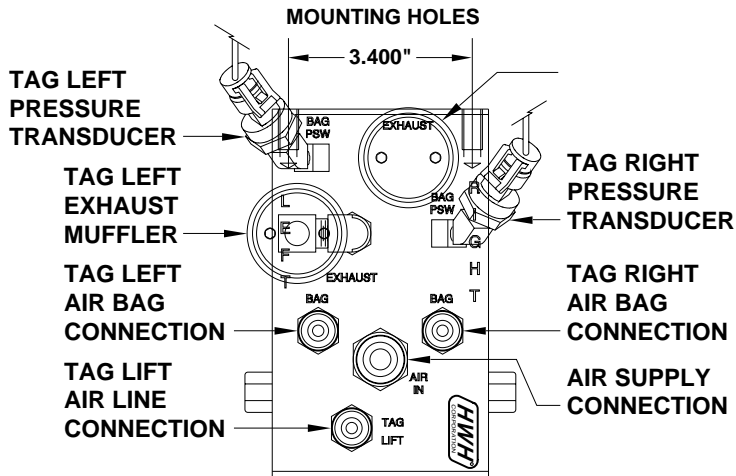
**NOTE: SOLENOID VALVES AND AIR LINE CONNECTIONS ARE LABELED.**



# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR - TAG AXLE AIR MANIFOLD ASSEMBLY

### FOR VEHICLES WITH TAG AXLE

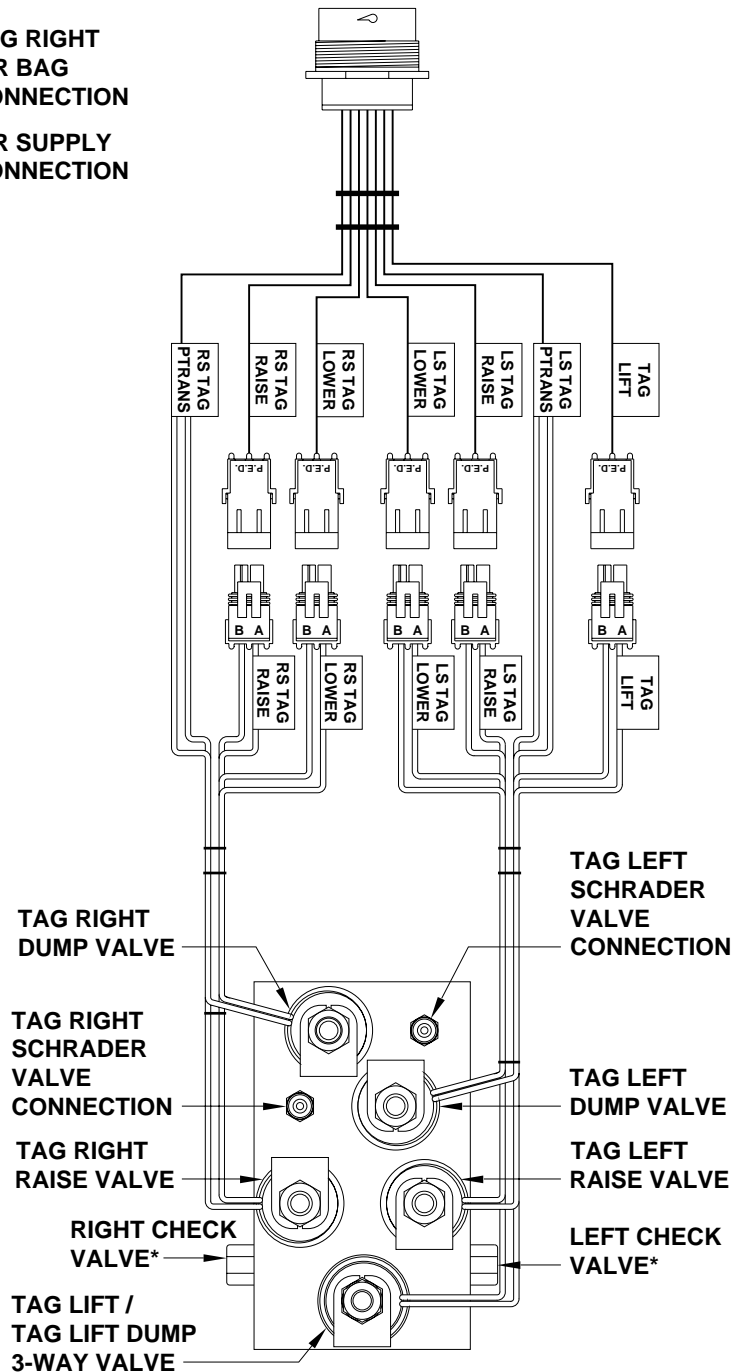
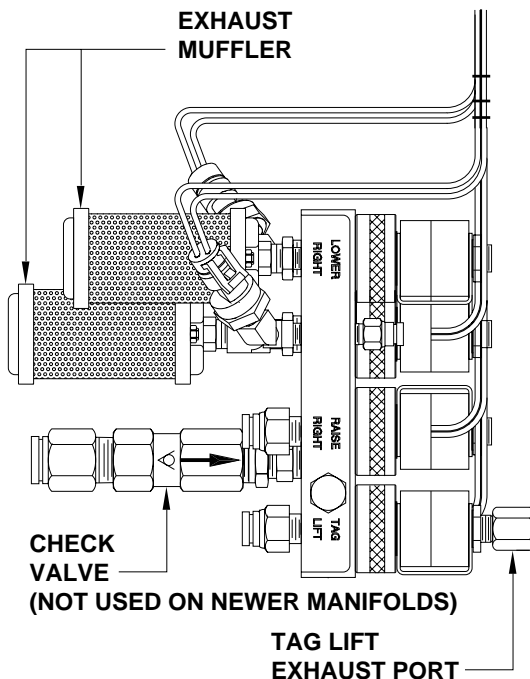


**IMPORTANT: LEFT AND RIGHT CONNECTIONS MUST BE MAINTAINED AS SHOWN. GROUND SUPPLY WIRES FOR PRESSURE TRANSDUCERS AND AIR SOLENOID VALVES CANNOT BE INTERCHANGED.**

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

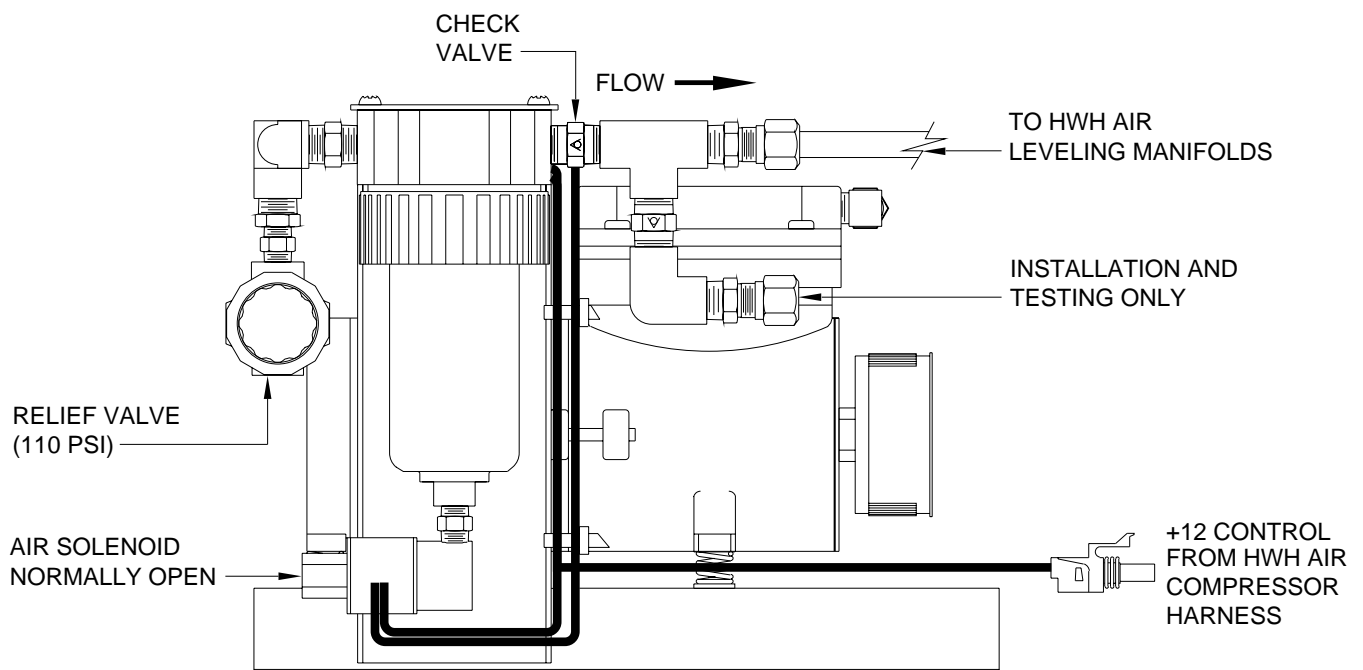
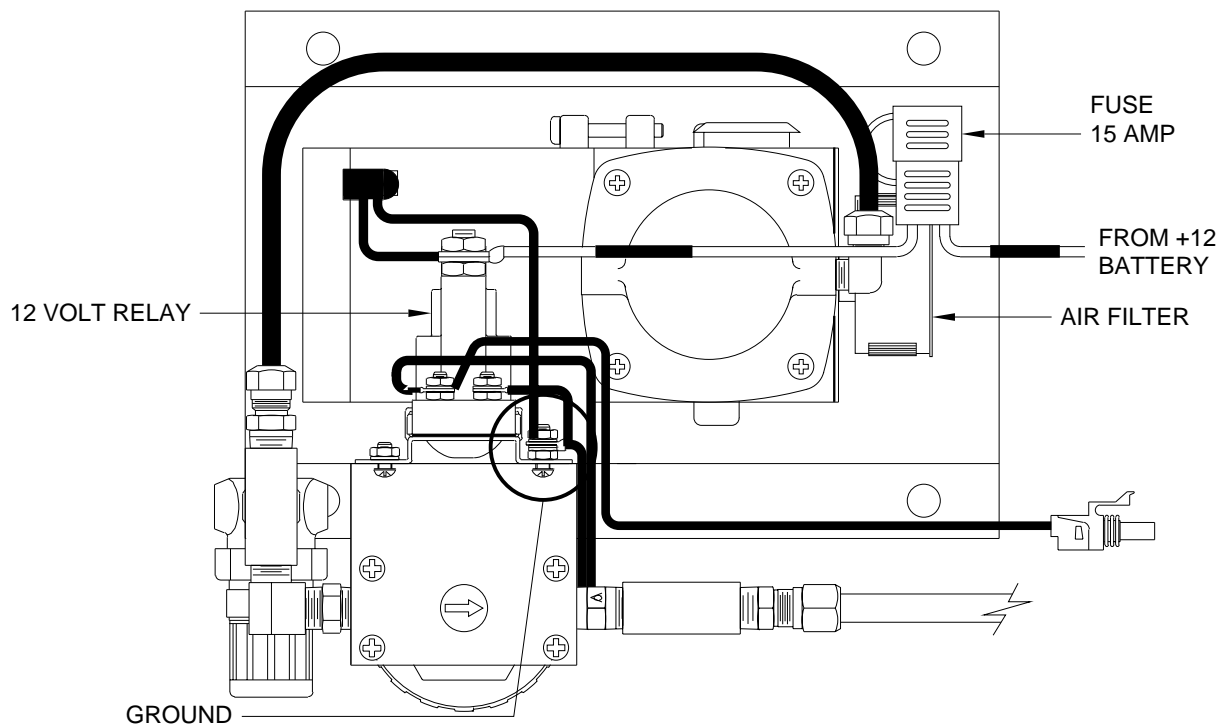
**NOTE: SOLENOID VALVES AND AIR LINE CONNECTIONS ARE LABELED.**

**\* CHECK VALVE CAPS ARE NOT PRESENT ON OLDER MANIFOLDS.**



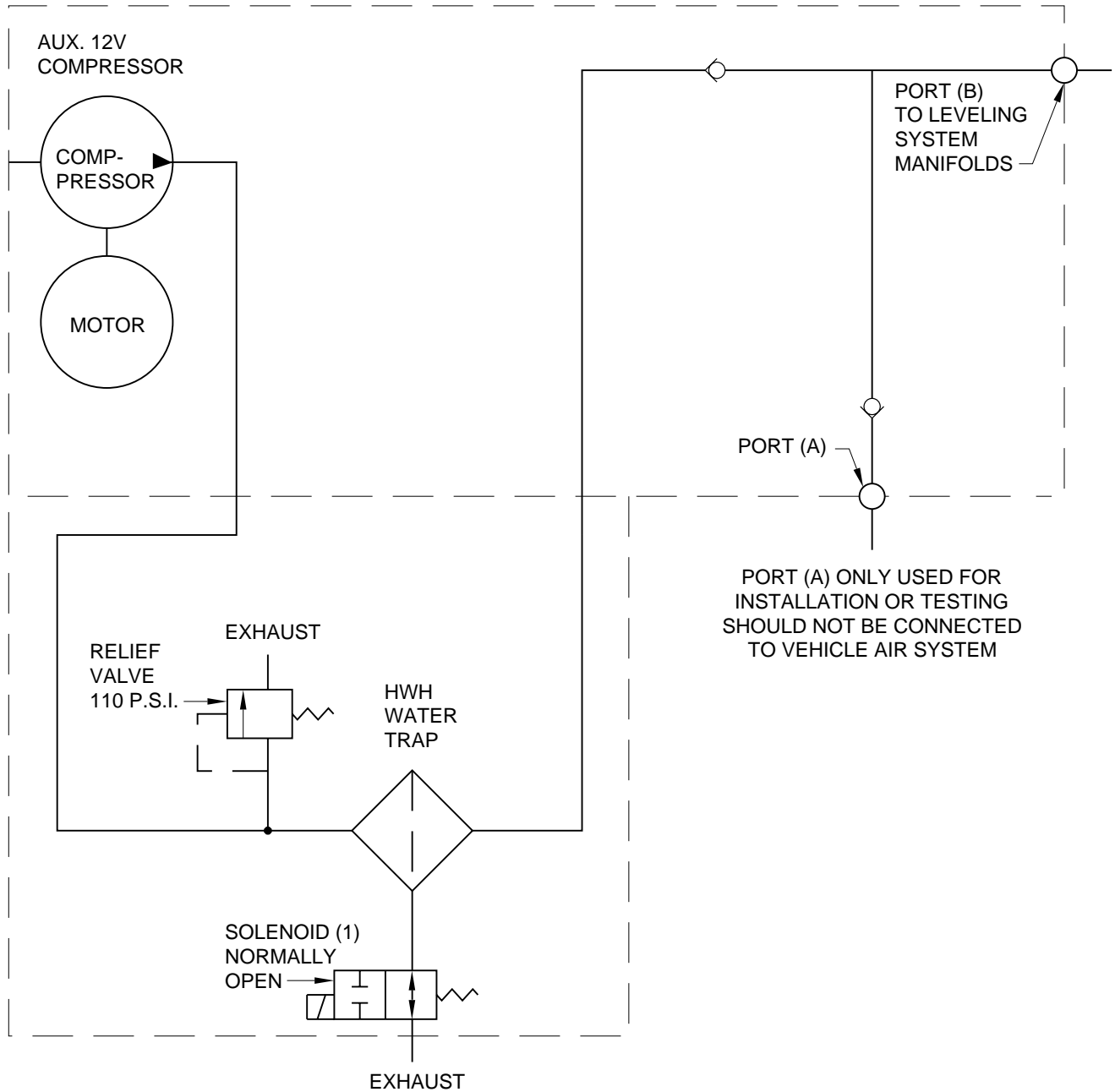
# AIR LINE CONNECTION DIAGRAM

## HWH AIR COMPRESSOR



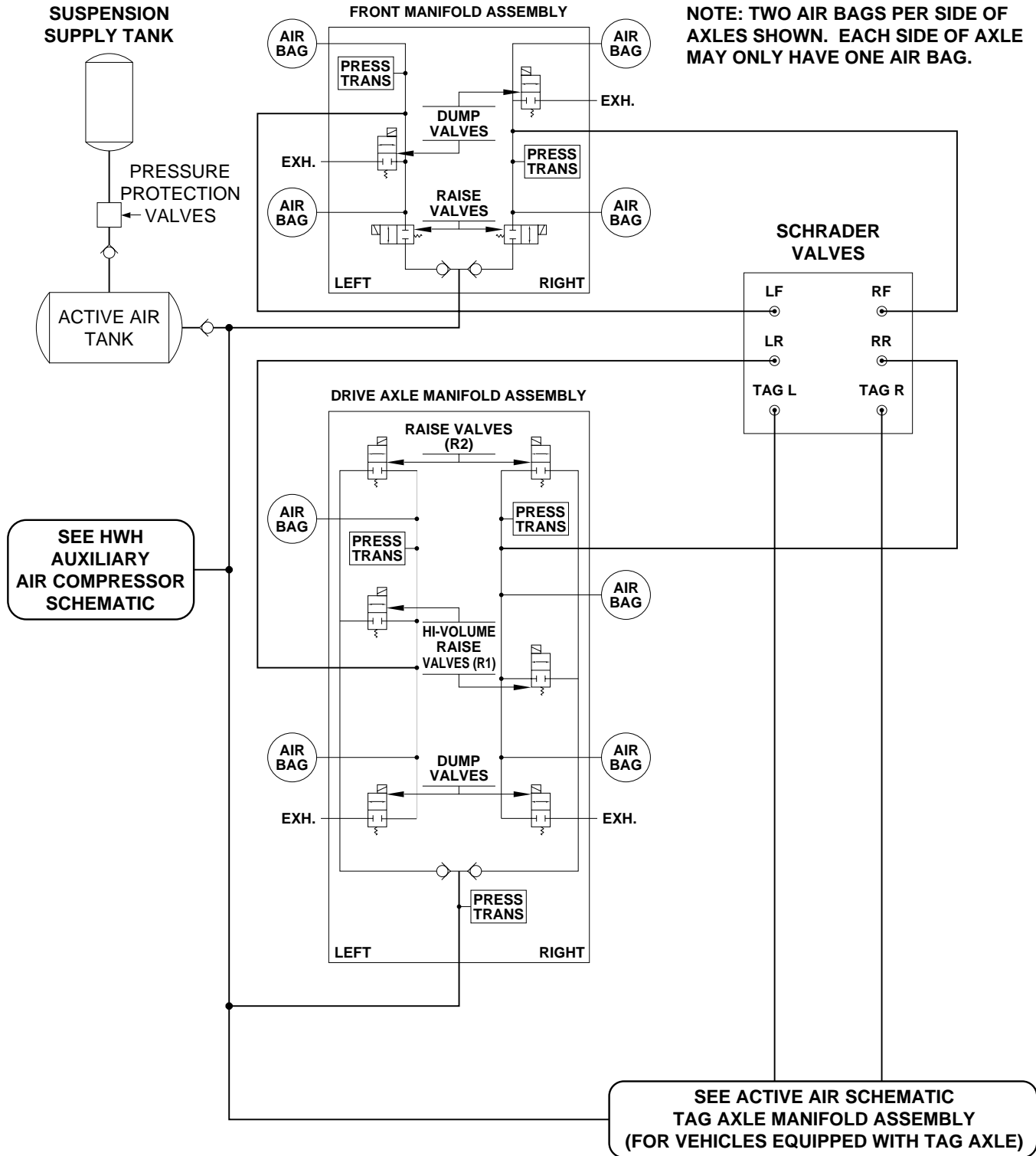
# AIR CONNECTION DIAGRAM

## AIR COMPRESSOR SCHEMATIC

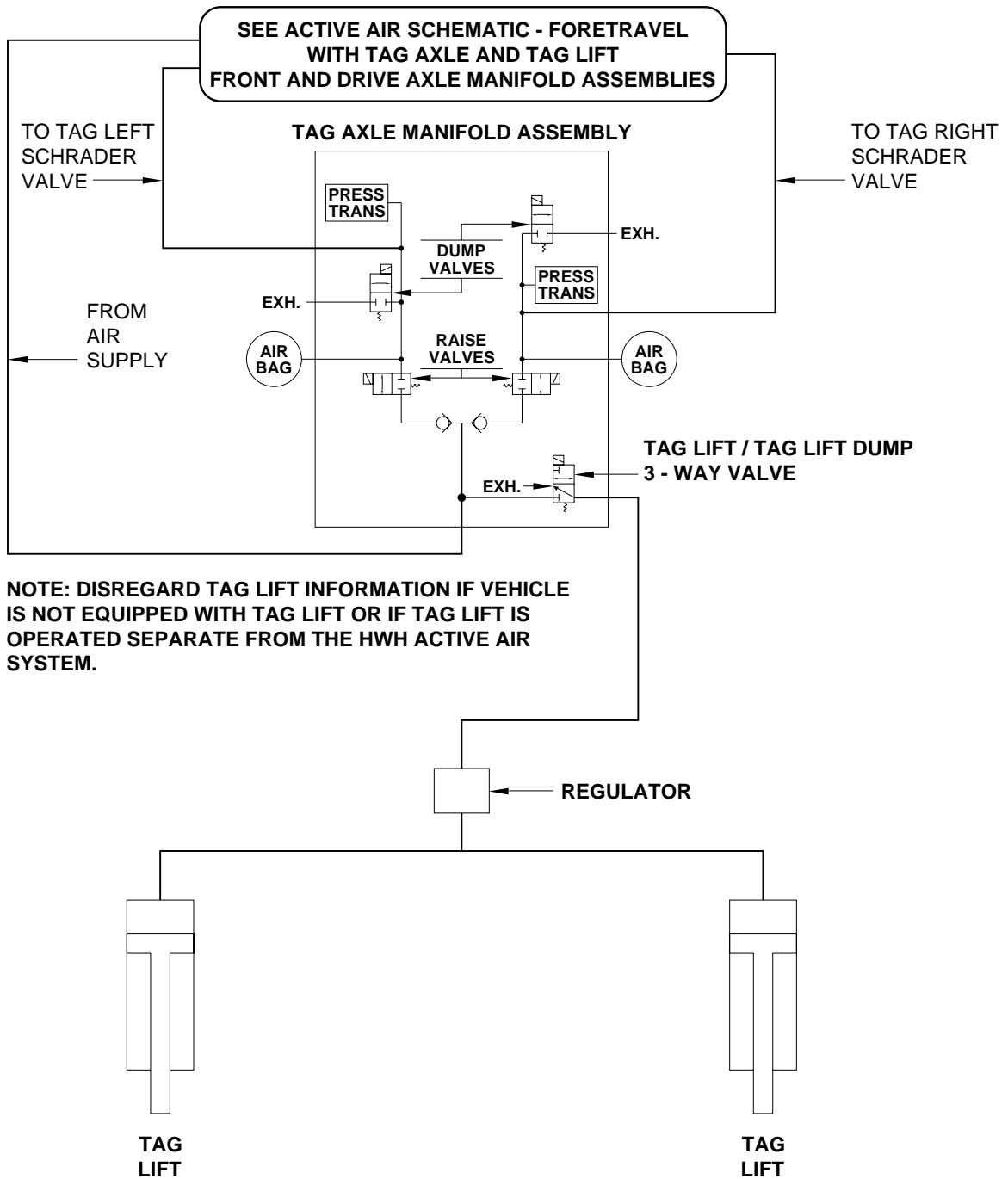


SOLENOID (1) DUMPS WATER OUT OF  
FILTER WHEN COMPRESSOR IS OFF.

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



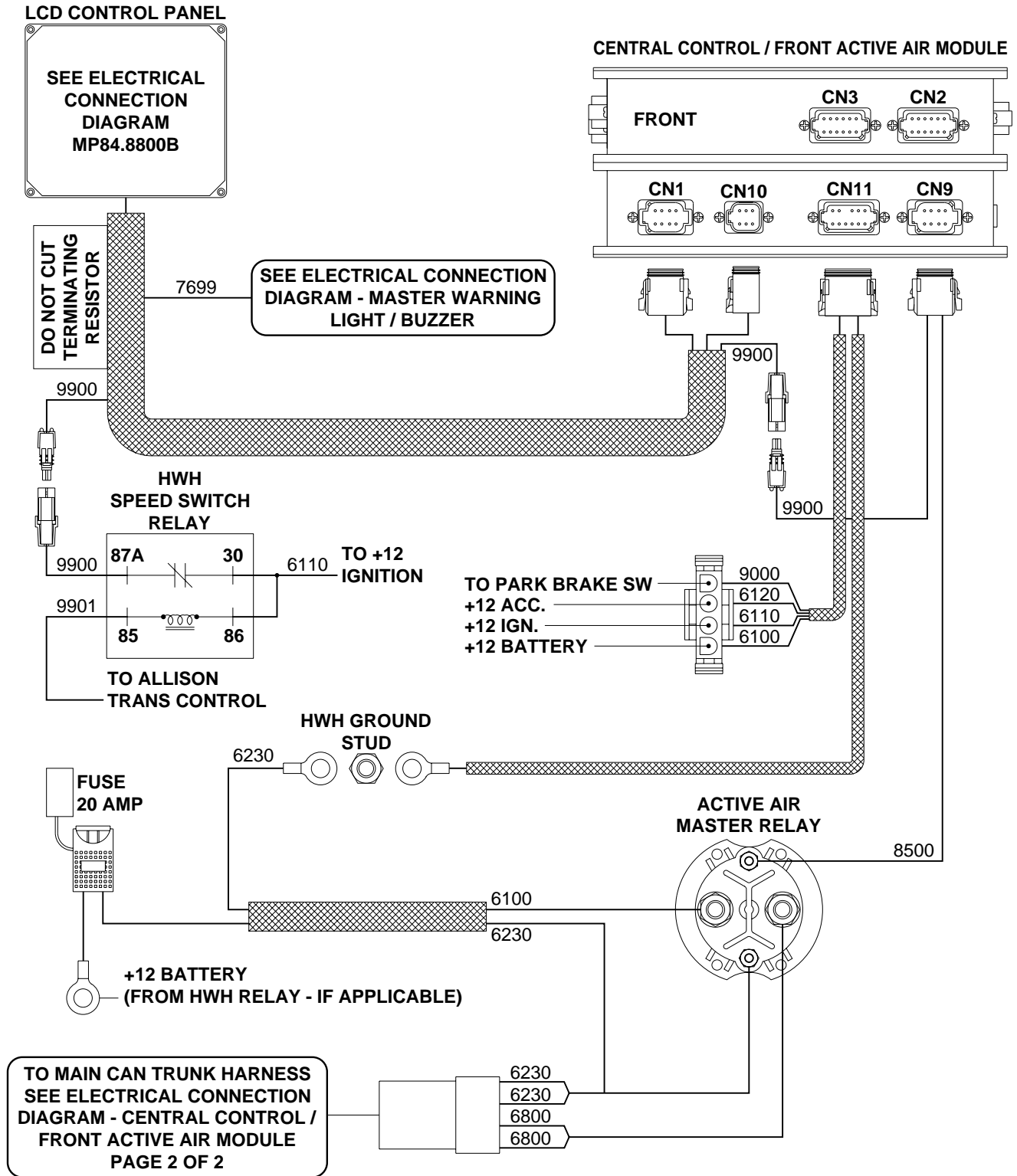
# AIR LINE CONNECTION DIAGRAM FOR VEHICLES WITH TAG AXLE AND TAG LIFT TAG AXLE MANIFOLD ASSEMBLIES



# ELECTRICAL CONNECTION DIAGRAM

## CENTRAL CONTROL / FRONT ACTIVE AIR MODULE

### PAGE 1 OF 2

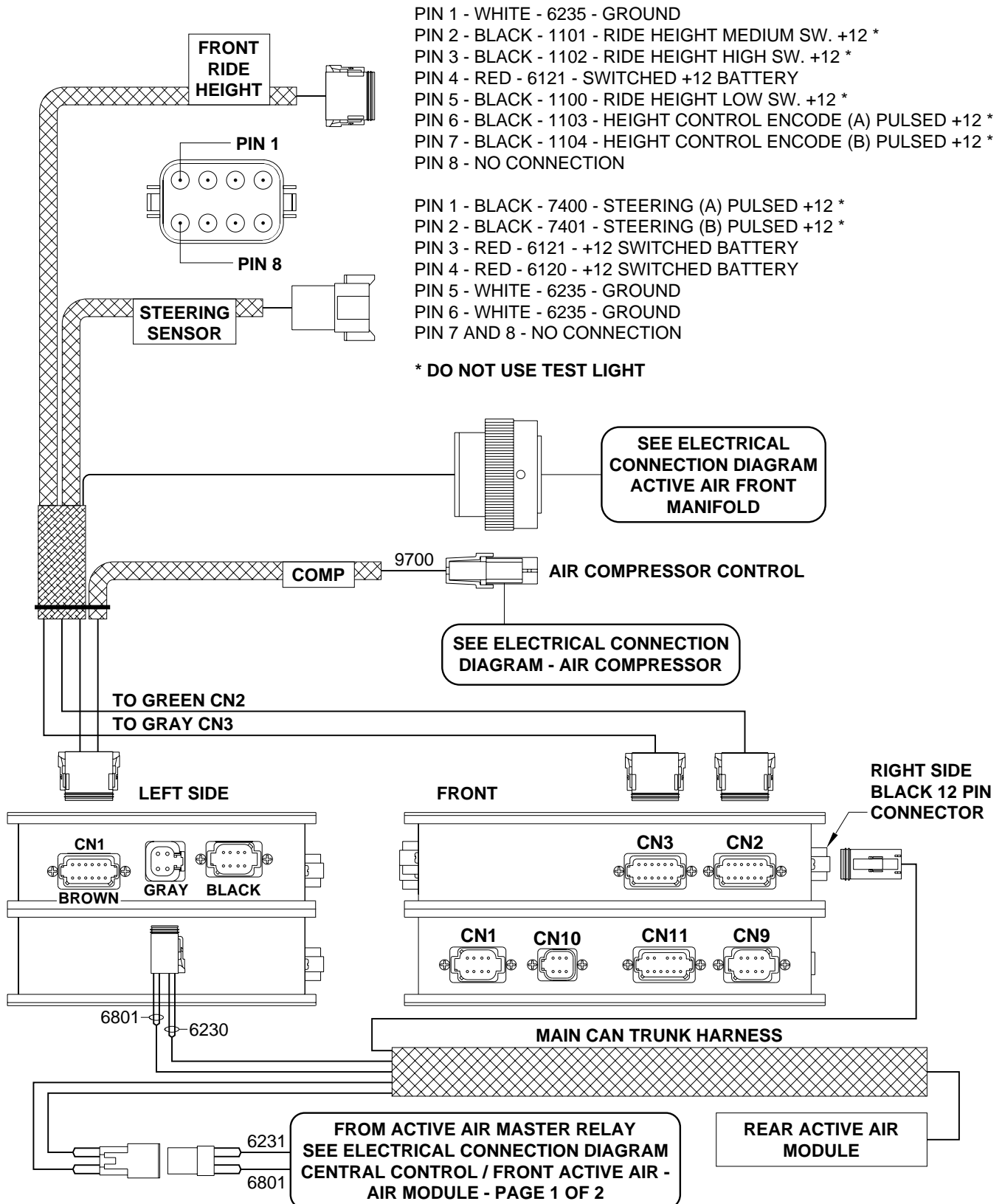


NOTE: FOR MODULE CONNECTION PIN AND WIRE INFORMATION SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTOR INFORMATION - CENTRAL CONTROL / FRONT ACTIVE AIR MODULE - PAGE 1 OF 5

# ELECTRICAL CONNECTION DIAGRAM

## CENTRAL CONTROL / FRONT ACTIVE AIR MODULE

### PAGE 2 OF 2



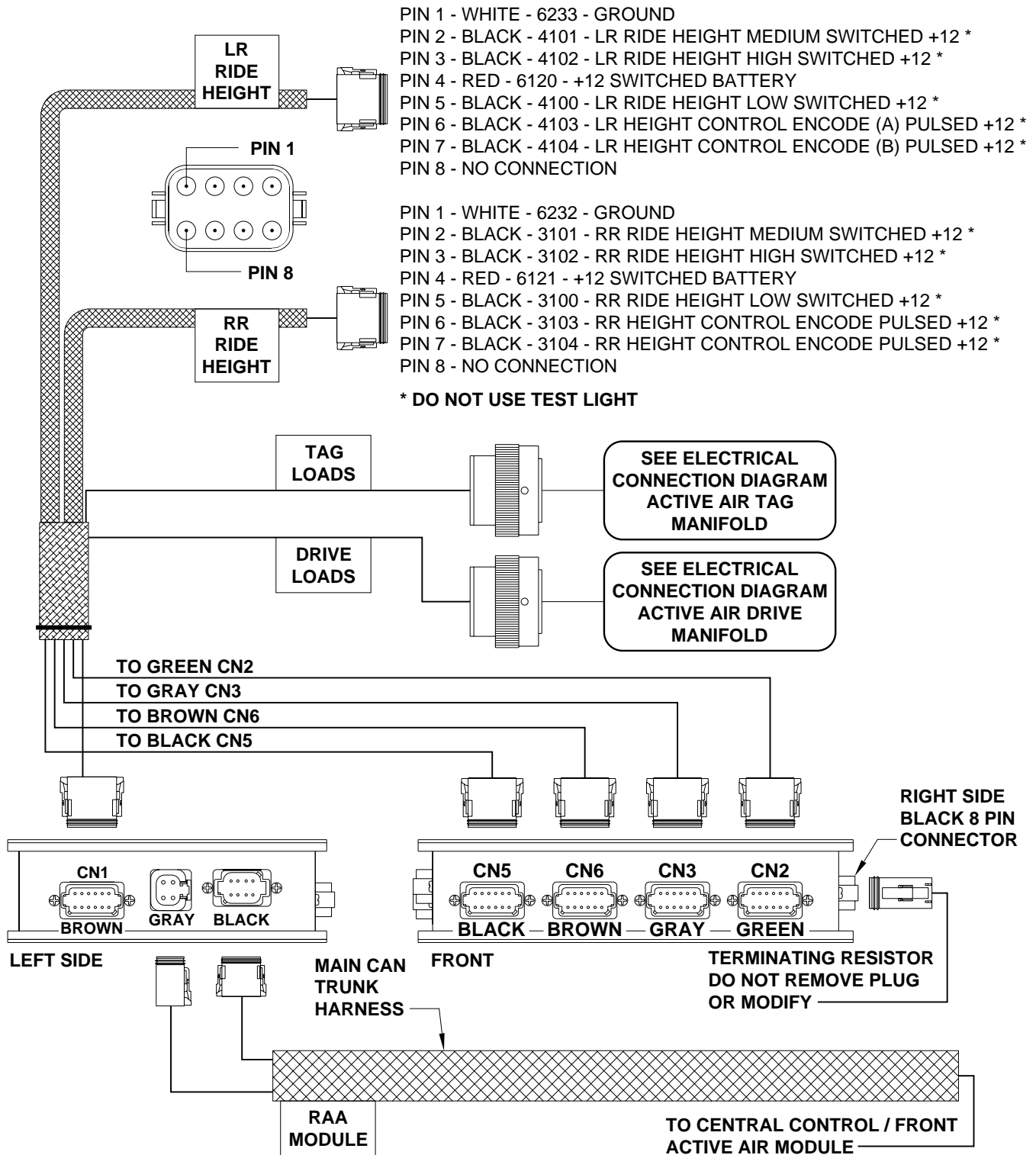
**NOTE: FOR MODULE CONNECTION PIN AND WIRE INFORMATION SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTOR INFORMATION - CENTRAL CONTROL / FRONT ACTIVE AIR MODULE - PAGE 1 OF 5**



# ELECTRICAL CONNECTION DIAGRAM

## REAR ACTIVE AIR - ROOMS 2 AND 3 MODULE

### PAGE 2 OF 2

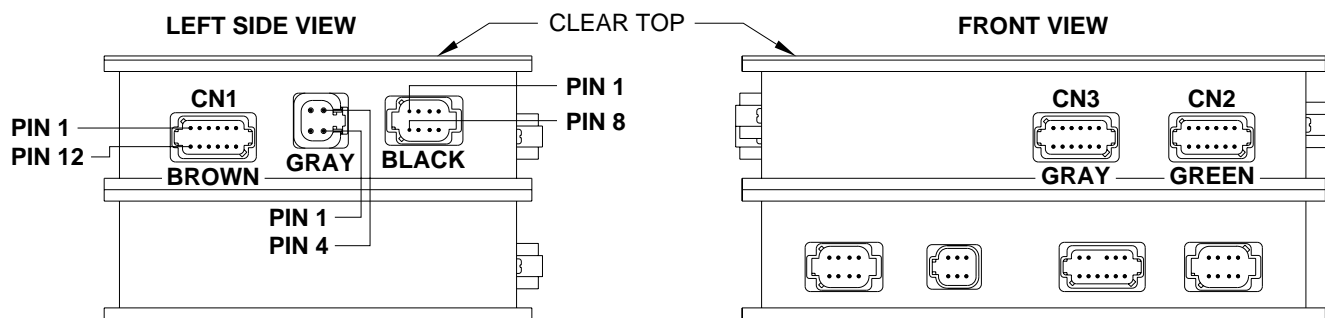


**NOTE: FOR MODULE CONNECTION PIN AND WIRE INFORMATION SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTOR INFORMATION - CENTRAL CONTROL / REAR ACTIVE AIR MODULE - PAGE 1 & 2 OF 5**

# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION

### CENTRAL CONTROL / FRONT ACTIVE AIR MODULE - PAGE 1 OF 5

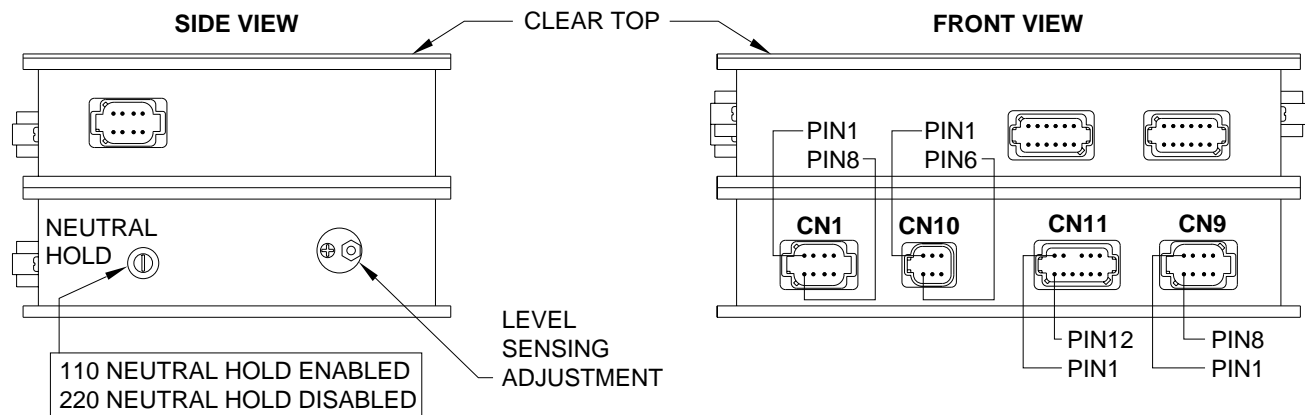


PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>CN1 — 12 PIN BROWN CONNECTOR</b>			
1	BLACK	1500	LEFT FRONT RAISE SWITCHED +12
2	BLACK	1600	LEFT FRONT LOWER SWITCHED +12
3	BLACK	2500	RIGHT FRONT RAISE SWITCHED +12
4	BLACK	2600	RIGHT FRONT LOWER SWITCHED +12
5	BLACK	9700	COMPRESSOR CONTROL SWITCHED +12
6 THRU 10			NO CONNECTION
11	WHITE	6254	GROUND FOR SOLENOID VALVES
12			NO CONNECTION
<b>GRAY — 4 PIN GRAY CONNECTOR</b>			
1	BLACK	6800	SWITCHED +12 FROM MASTER RELAY
2	BLACK	6800	SWITCHED +12 FROM MASTER RELAY
3	WHITE	6230	GROUND FROM GROUND STUD - FOR SOLENOID VALVES
4	WHITE	6230	GROUND FROM GROUND STUD - FOR SOLENOID VALVES
<b>NOTE: 4 PIN GRAY MAY BE ROTATED 180°. REFERENCE PIN LOCATION TO THE PLUG LATCH.</b>			
<b>BLACK — 8 PIN BLACK CONNECTOR LEFT SIDE</b>			
<b>THE BLACK 8 PIN HARNESS CONNECTOR CAN BE PLUGGED INTO THE LEFT OR RIGHT SIDE BLACK 8 PIN CONNECTOR</b>			
1 AND 2			NO CONNECTION
3	RED	6800	SWITCHED BATTERY +12
4	WHITE	6230	GROUND
5	N/A	N/A	CAN SHIELD
6	RED	6110	+12 IGNITION
7	GREEN	N/A	CAN LOW
8	YELLOW	N/A	CAN HIGH
<b>CN2 — 12 PIN GREEN CONNECTOR</b>			
1	RED	6120	SWITCHED +12 BATTERY
2	BLACK	6900	LEFT FRONT PRESS. TRANSDUCER SUPPLY +5 VOLTS *
3	BLACK	6901	RIGHT FRONT PRESS. TRANSDUCER SUPPLY +5 VOLTS *
4 AND 5			NO CONNECTION
6	WHITE	6235	GROUND
7	RED	6121	SWITCHED +12 BATTERY
8 THRU 10			NO CONNECTION
11	BLACK	2220	SIGNAL FROM RIGHT FRONT PRESS. TRANSDUCER *
12	BLACK	1220	SIGNAL FROM LEFT FRONT PRESS. TRANSDUCER *
<b>CN3 — 12 PIN GRAY CONNECTOR</b>			
1	BLACK	1100	HEIGHT CONTROL RIDE HEIGHT LOW SWITCHED +12 *
2	BLACK	1101	HEIGHT CONTROL RIDE HEIGHT MEDIUM SWITCHED +12 *
3	BLACK	1102	HEIGHT CONTROL RIDE HEIGHT HIGH SWITCHED +12 *
4	BLACK	1103	HEIGHT CONTROL ENCODE (A) PULSED +12 *
5	BLACK	1104	HEIGHT CONTROL ENCODE (B) PULSED +12 *
6 AND 7			NO CONNECTION
8	BLACK	7400	STEERING SENSOR (A) PULSED +12 *
9	BLACK	7401	STEERING SENSOR (B) PULSED +12 *
10 THRU 12			NO CONNECTION

# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION

### CENTRAL CONTROL / FRONT ACTIVE AIR MODULE - PAGE 2 OF 5

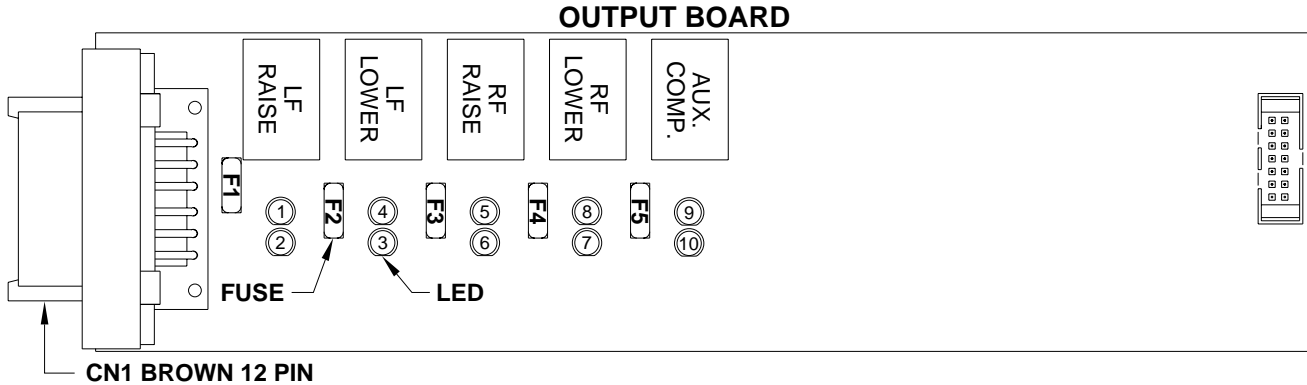


PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>CN1</b>			
<b>8 PIN BLACK CONNECTOR</b>			
1 AND 2	---	---	NO CONNECTION
3	RED	6800	SWITCHED +12 BATTERY
4	WHITE	6230	GROUND TO TOUCH PANEL
5	NA	NA	SHIELD WIRE FOR CAN CABLE
6	---	---	NO CONNECTION
7	GREEN	NA	CAN DATA LINE LOW-DO NOT MODIFY
8	YELLOW	NA	CAN DATA LINE HIGH-DO NOT MODIFY
<b>CN10</b>			
<b>6 PIN GRAY CONNECTOR</b>			
1	---	---	NO CONNECTION
2	RED	6100	RESET SUPPLY +12
3	BLACK	7550	RESET OUTPUT +12
4 AND 5	---	---	NO CONNECTION
6	BLACK	7699	WARNING LIGHT CONTROL - SWITCHED GROUND
<b>CN11</b>			
<b>12 PIN GRAY CONNECTOR</b>			
1	RED	6110	SWITCHED +12 FROM IGNITION
2 THRU 4	---	---	NO CONNECTION (PIN 3 - KEY PIN)
5	RED	6120	SWITCHED +12 FROM IGNITION
6	RED	6100	HOUSE BATTERY +12
7	WHITE	6230	GROUND FOR PROCESSOR FROM GROUND STUD
8 THRU 10	---	---	NO CONNECTION
11	BLACK	9000	FROM PARK BRAKE SWITCH - SWITCHED GROUND
12	RED	6100	HOUSE BATTERY +12
<b>CN9</b>			
<b>8 PIN GREEN CONNECTOR</b>			
1	BLACK	8500	MASTER RELAY CONTROL - SWITCHED +12
2 THRU 4	---	---	NO CONNECTION
5	BLACK	9900	SPEED SWITCH +12 WITH IGNITION ON BELOW 9 MPH
6 THRU 8	---	---	NO CONNECTION

# ELECTRICAL CONNECTION DIAGRAM

## LED - FUSE LOCATION AND DESCRIPTION

### CENTRAL CONTROL / FRONT ACTIVE AIR MODULE - PAGE 3 OF 5



LED	RELAY DESCRIPTION	FUSE	BROWN
1-YELLOW	LEFT FRONT RAISE COIL	F1 - 15AMP	PIN1
2-RED	LEFT FRONT RAISE CONTACT		PIN2
3-RED	LEFT FRONT LOWER COIL	F2 - 15AMP	PIN2
4-YELLOW	LEFT FRONT LOWER CONTACT		PIN2
5-YELLOW	RIGHT FRONT RAISE COIL	F3 - 15AMP	PIN3
6-RED	RIGHT FRONT RAISE CONTACT		PIN4
7-RED	RIGHT FRONT LOWER COIL	F4 - 15AMP	PIN4
8-YELLOW	RIGHT FRONT LOWER CONTACT		PIN4
9-YELLOW	AUX. COMPRESSOR COIL	F5 - 15AMP	PIN5
10-RED	AUX. COMPRESSOR CONTACT		PIN5

**NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTION INFORMATION - CENTRAL CONTROL / FRONT ACTIVE AIR MODULE PAGE 1 OF 5.**

**NOTE: A LIT YELLOW LED INDICATES THERE IS A GROUND SIGNAL TO TURN THE CORRESPONDING RELAY ON.**

**A LIT RED LED INDICATES THERE IS VOLTAGE ON IT'S CORRESPONDING PIN.**

**IF A YELLOW LED IS LIT AND THE CORRESPONDING RED LED IS OFF, EITHER IT'S FUSE IS BLOWN OR THE RELAY IS BAD.**

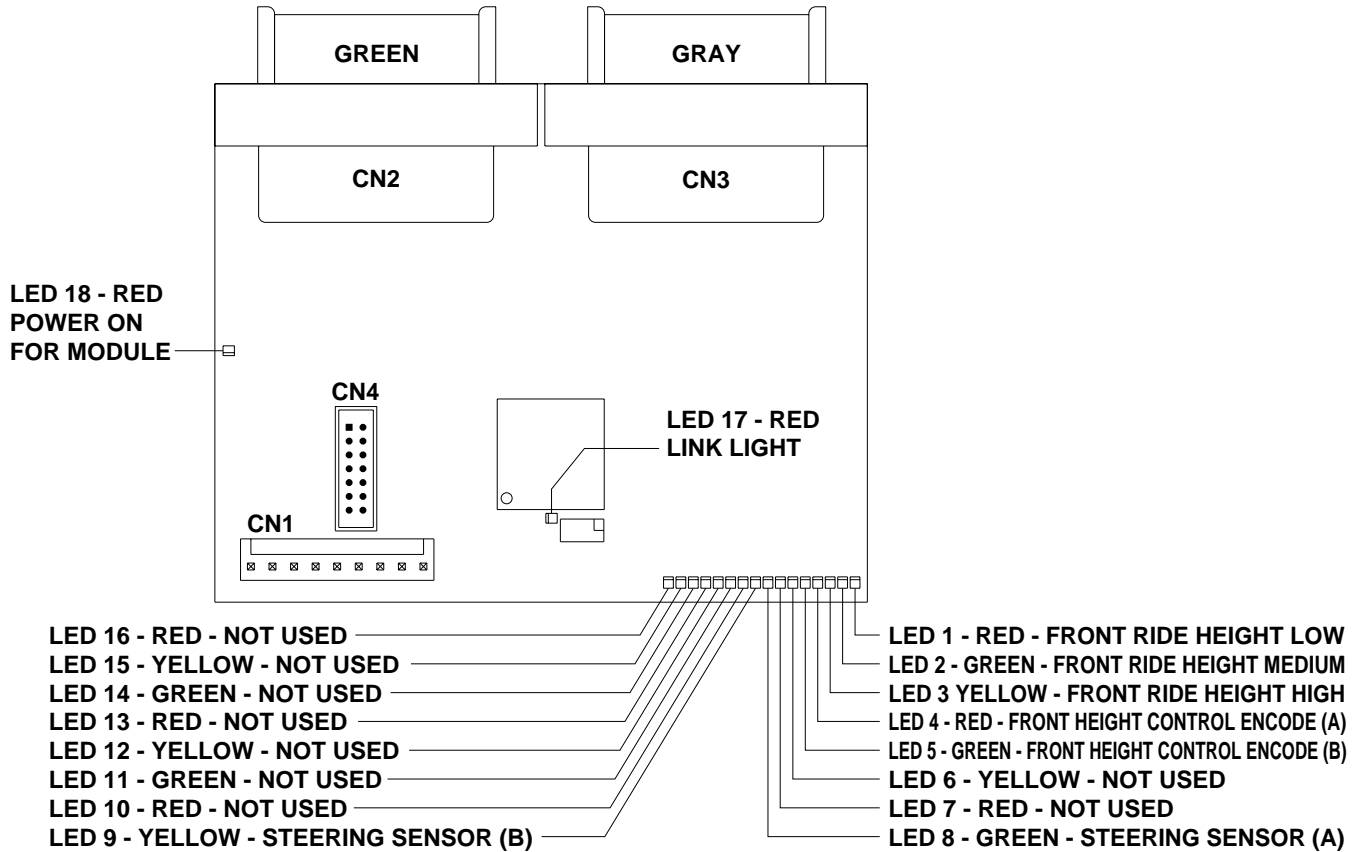
**IF THE YELLOW LEDS ARE WORKING BUT NO RED LED IS COMING ON THERE MAY BE A PROBLEM WITH INPUT VOLTAGE IN THE 4-PIN CONNECTOR ON THE TOP RING.**

**IF A YELLOW LED IS NOT LIT, THIS INDICATES A PROBLEM WITH A MODULE.**

# ELECTRICAL CONNECTION DIAGRAM

## LED - FUSE LOCATION AND DESCRIPTION

### CENTRAL CONTROL / FRONT ACTIVE AIR MODULE - PAGE 4 OF 5



LED	DESCRIPTION	CN AND PIN
1 - RED	FRONT RIDE HEIGHT LOW	CN3 - PIN 1
2 - GREEN	FRONT RIDE HEIGHT MEDIUM	CN3 - PIN 2
3 - YELLOW	FRONT RIDE HEIGHT HIGH	CN3 - PIN 3
4 - RED	FRONT HEIGHT CONTROL ENCODE (A)	CN3 - PIN 4
5 - GREEN	FRONT HEIGHT CONTROL ENCODE (B)	CN3 - PIN 5
6 - YELLOW	NOT USED	
7 - RED	NOT USED	
8 - GREEN	STEERING SENSOR (A)	CN3 - PIN 8
9 - YELLOW	STEERING SENSOR (B)	CN3 - PIN 9
10 - RED	NOT USED	
11 - GREEN	NOT USED	
12 - YELLOW	NOT USED	
13 - RED	NOT USED	
14 - GREEN	NOT USED	
15 - YELLOW	NOT USED	
16 - RED	NOT USED	
17 - RED	LINK LIGHT	N/A
18 - RED	POWER TO I/O BOARD	N/A

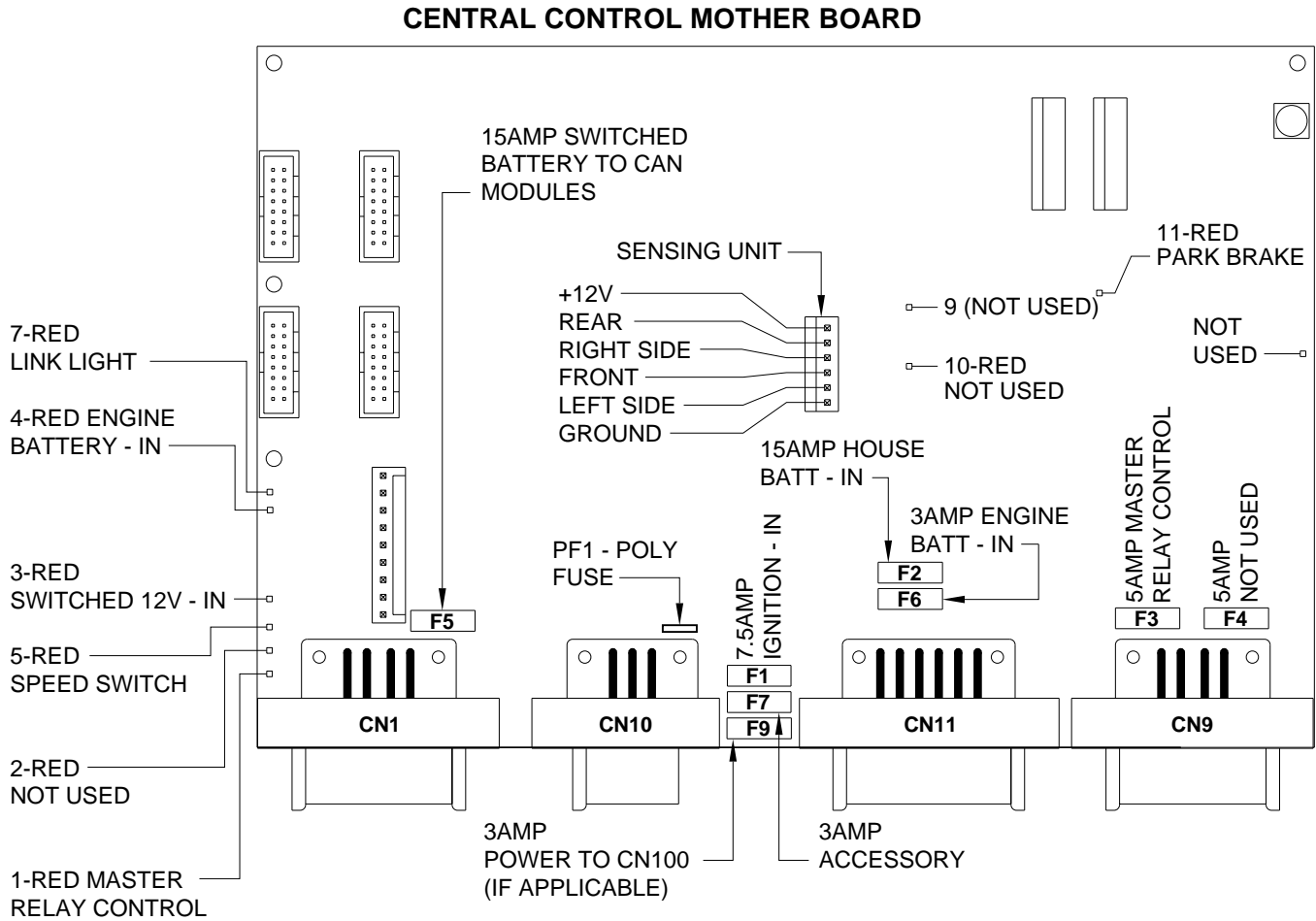
**LED 18 ON INDICATES THAT THERE IS POWER TO THE BOARD FROM THE CAN TRUNK HARNESS**

**NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTION INFORMATION - CENTRAL CONTROL / FRONT ACTIVE AIR MODULE PAGE 1 OF 5.**

# ELECTRICAL CONNECTION DIAGRAM

## LED - FUSE LOCATION AND DESCRIPTION

### CENTRAL CONTROL / FRONT ACTIVE AIR MODULE - PAGE 5 OF 5



LED	DESCRIPTION	CN AND PIN	FUSE DESCRIPTION
1-RED	MASTER RELAY CONTROL	CN 9 - PIN 1	PF1 - POLY FUSE - POWER TO MASTER WARNING LIGHT AND RESET SWITCH F1 - 7.5AMP IGNITION - IN F2 - 15AMP HOUSE BATTERY - IN F3 - 5AMP MASTER RELAY CONTROL F4 - NOT USED F5 - 15AMP SWITCHED BATTERY - IN F6 - 3AMP RESET OUT F7 - 3AMP ACCESSORY - IN F9 - NOT USED
2-RED	NOT USED		
3-RED	SWITCHED 12V FROM MASTER RELAY	CN 1 - PIN 3	
4-RED	ENGINE BATTERY - IN	CN 11 - PIN 12	
5-RED	SPEED SWITCH*	CN 9 - PIN 5	
7-RED	LINK LIGHT	CN 1 - PIN 7 & 8	
8-RED	NOT USED	CN 11 - PIN 8 & 9	
9-NOT USED	NOT USED		
10-RED	NOT USED		
11-RED	PARK PRAKE - ON	CN 11 - PIN 11	

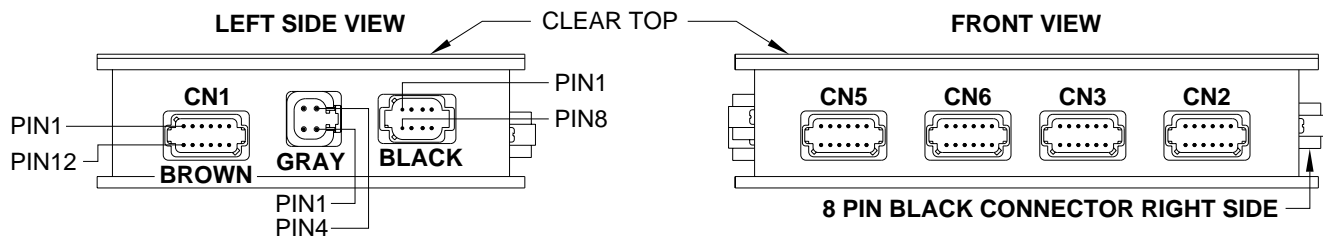
**NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTION INFORMATION - CENTRAL CONTROL / FRONT ACTIVE AIR MODULE PAGE 2 OF 5.**

\* LED 5 INDICATES A +12 SIGNAL FROM THE SPEED SWITCH - IGNITION ON COACH SPEED LESS THAN 10 MPH

# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION

### REAR ACTIVE AIR MODULE - PAGE 1 OF 5

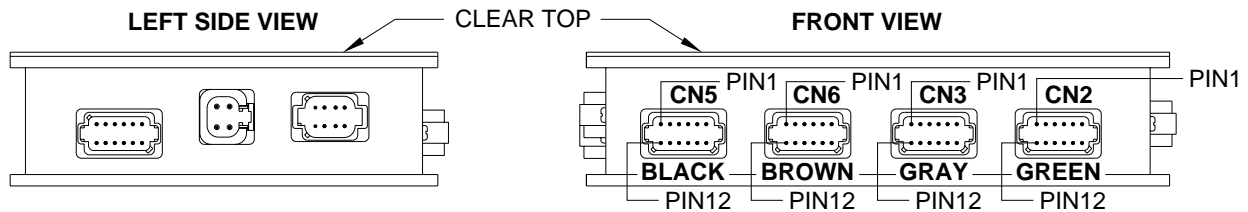


PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>CN1 ————— 12 PIN BROWN CONNECTOR</b>			
1	— — — BLACK	— — — 4500	— — — LEFT REAR RAISE 2 VALVE SWITCHED +12
2	— — — BLACK	— — — 4600	— — — LEFT REAR LOWER VALVE SWITCHED +12
3	— — — BLACK	— — — 4550	— — — LEFT REAR RAISE 1 VALVE HI FLOW SWITCHED +12
4	— — — BLACK	— — — 4601	— — — LEFT TAG LOWER VALVE SWITCHED +12
5	— — — BLACK	— — — 3500	— — — RIGHT REAR RAISE 2 VALVE SWITCHED +12
6	— — — BLACK	— — — 3600	— — — RIGHT REAR LOWER VALVE SWITCHED +12
7	— — — BLACK	— — — 3550	— — — RIGHT REAR RAISE 1 VALVE HI FLOW SWITCHED +12
8	— — — BLACK	— — — 3601	— — — RIGHT TAG LOWER VALVE SWITCHED +12
9	— — — BLACK	— — — 4501	— — — LEFT TAG RAISE VALVE SWITCHED +12
10	— — — BLACK	— — — 3501	— — — RIGHT TAG RAISE VALVE SWITCHED +12
11	— — — WHITE	— — — 6258	— — — GROUND FOR SOLENOID VALVES
12	— — — BLACK	— — — 3800	— — — TAG LIFT ON SWITCHED +12
<b>GRAY ————— 4 PIN GRAY CONNECTOR</b>			
1	— — — BLACK	— — — 6800	— — — SWITCHED +12 FROM MASTER RELAY
2	— — — BLACK	— — — 6800	— — — SWITCHED +12 FROM MASTER RELAY
3	— — — WHITE	— — — 6230	— — — GROUND FROM GROUND STUD - FOR SOLENOID VALVES
4	— — — WHITE	— — — 6230	— — — GROUND FROM GROUND STUD - FOR SOLENOID VALVES
<b>NOTE: 4 PIN GRAY MAY BE ROTATED 180°. REFERENCE PIN LOCATION TO THE PLUG LATCH.</b>			
<b>BLACK ————— 8 PIN BLACK CONNECTOR LEFT SIDE</b>			
1 & 2	— — — — —	— — — — —	— — — NO CONNECTION
3	— — — RED	— — — 6800	— — — SWITCHED BATTERY +12
4	— — — WHITE	— — — 6230	— — — GROUND
5	— — — N/A	— — — N/A	— — — CAN SHIELD
6	— — — RED	— — — 6110	— — — +12 IGNITION
7	— — — GREEN	— — — N/A	— — — CAN LOW
8	— — — YELLOW	— — — N/A	— — — CAN HIGH
<b>BLACK ————— 8 PIN BLACK CONNECTOR RIGHT SIDE</b>			
1 THRU 6	— — — — —	— — — — —	— — — NO CONNECTION
7	— — — — —	— — — — —	— — — 120 OHM RESISTOR (DO NOT REMOVE OR MODIFY)
8	— — — — —	— — — — —	— — — 120 OHM RESISTOR (DO NOT REMOVE OR MODIFY)

# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION

### REAR ACTIVE AIR MODULE - PAGE 2 OF 5



**\* LOW VOLTAGE OR HALL EFFECT SWITCH - DO NOT USE TEST LIGHT**

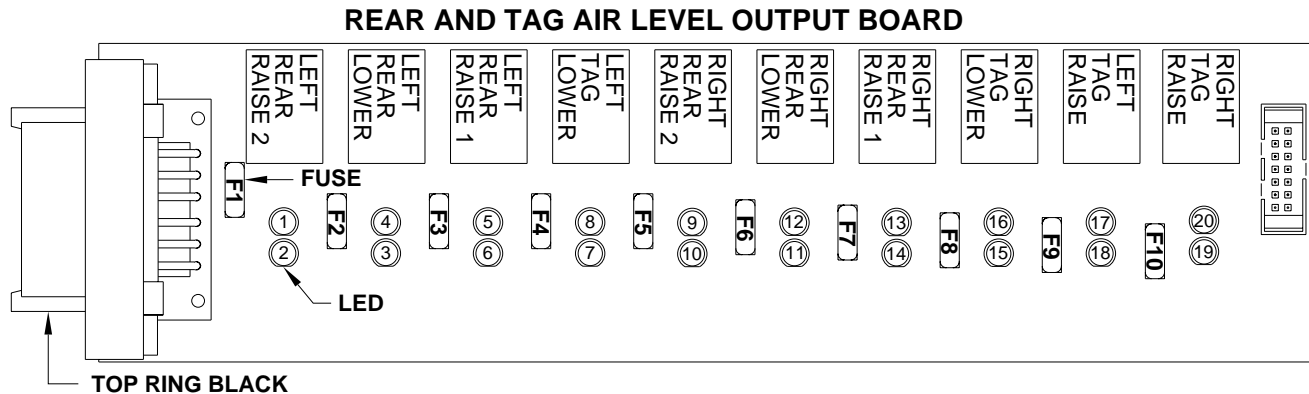
PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>CN5 ————— 12 PIN BLACK CONNECTOR</b>			
1 — — —	BLACK — — —	3100 — — —	RIGHT REAR RIDE HEIGHT LOW SWITCHED +12 *
2 — — —	BLACK — — —	3101 — — —	RIGHT REAR RIDE HEIGHT MEDIUM SWITCHED +12 *
3 — — —	BLACK — — —	3102 — — —	RIGHT REAR RIDE HEIGHT HIGH SWITCHED +12 *
4 — — —	BLACK — — —	3103 — — —	RIGHT REAR HEIGHT CONTROL ENCODE (A) PULSED +12 *
5 — — —	BLACK — — —	3104 — — —	RIGHT REAR HEIGHT CONTROL ENCODE (B) PULSED +12 *
6 THRU 12	— — — — —	— — — — —	NO CONNECTION
<b>CN6 ————— 12 PIN BROWN CONNECTOR</b>			
1 — — —	RED — — —	6121 — — —	SWITCHED +12 BATTERY
2 — — —	BLACK — — —	6908 — — —	+5 VOLT SUPPLY FOR RIGHT REAR PRESSURE TRANSDUCER
3 — — —	BLACK — — —	6909 — — —	+5 VOLT SUPPLY FOR RIGHT TAG AND SYSTEM PRESSURE TRANSDUCER
4 AND 5	— — — — —	— — — — —	NO CONNECTION
6 — — —	WHITE — — —	6230 — — —	GROUND
7 THRU 9	— — — — —	— — — — —	NO CONNECTION
10 — — —	BLACK — — —	3225 — — —	SYSTEM PRESSURE TRANSDUCER SIGNAL WIRE
11 — — —	BLACK — — —	3221 — — —	RIGHT TAG PRESSURE TRANSDUCER SIGNAL WIRE
12 — — —	BLACK — — —	3220 — — —	RIGHT REAR PRESSURE TRANSDUCER SIGNAL WIRE
<b>CN3 ————— 12 PIN GRAY CONNECTOR</b>			
1 — — —	BLACK — — —	4100 — — —	LEFT REAR RIDE HEIGHT LOW SWITCHED +12 *
2 — — —	BLACK — — —	4101 — — —	LEFT REAR RIDE HEIGHT MEDIUM SWITCHED +12 *
3 — — —	BLACK — — —	4102 — — —	LEFT REAR RIDE HEIGHT HIGH SWITCHED +12 *
4 — — —	BLACK — — —	4103 — — —	LEFT REAR HEIGHT CONTROL ENCODE (A) PULSED +12 *
5 — — —	BLACK — — —	4104 — — —	LEFT REAR HEIGHT CONTROL ENCODE (B) PULSED +12 *
6 THRU 12	— — — — —	— — — — —	NO CONNECTION
<b>CN2 ————— 12 PIN GREEN CONNECTOR</b>			
1 — — —	RED — — —	6120 — — —	SWITCHED +12 BATTERY
2 — — —	BLACK — — —	6912 — — —	+5 VOLT SUPPLY FOR LEFT REAR PRESSURE TRANSDUCER
3 — — —	BLACK — — —	6913 — — —	+5 VOLT SUPPLY FOR LEFT TAG AND SYSTEM PRESSURE TRANSDUCER
4 AND 5	— — — — —	— — — — —	NO CONNECTION
6 — — —	WHITE — — —	6233 — — —	GROUND
7 THRU 10	— — — — —	— — — — —	NO CONNECTION
11 — — —	BLACK — — —	4221 — — —	LEFT TAG PRESSURE TRANSDUCER SIGNAL WIRE
12 — — —	BLACK — — —	4220 — — —	LEFT REAR PRESSURE TRANSDUCER SIGNAL WIRE



# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION

### REAR ACTIVE AIR MODULE - PAGE 3 OF 5



LED	RELAY DESCRIPTION	FUSE	BLACK
1-YELLOW	LEFT REAR RAISE 2	F1 - 5 AMP	PIN 1
2-RED	LEFT REAR RAISE 2		PIN 2
3-RED	LEFT REAR LOWER	F2 - 5 AMP	
4-YELLOW	LEFT REAR LOWER		
5-YELLOW	LEFT REAR RAISE 1 H-V	F3-5 AMP	PIN 3
6-RED	LEFT REAR RAISE 1 H-V		
7-RED	LEFT TAG LOWER	F4-5 AMP	PIN 4
8-YELLOW	LEFT TAG LOWER		
9-YELLOW	RIGHT REAR RAISE 2	F5 - 5 AMP	PIN 5
10-RED	RIGHT REAR RAISE 2		PIN 6
11-RED	RIGHT REAR LOWER	F6 - 5 AMP	
12-YELLOW	RIGHT REAR LOWER		
13-YELLOW	RIGHT REAR RAISE 1 H-V	F7 - 5 AMP	PIN 7
14-RED	RIGHT REAR RAISE 1 H-V		
15-RED	RIGHT TAG LOWER	F8 - 5 AMP	PIN 8
16-YELLOW	RIGHT TAG LOWER		
17-YELLOW	LEFT TAG RAISE	F9 - 5 AMP	PIN 9
18-RED	LEFT TAG RAISE		
19-RED	RIGHT TAG RAISE	F10-5 AMP	PIN 10
20-YELLOW	RIGHT TAG RAISE		

**NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTION INFORMATION - REAR ACTIVE AIR MODULE PAGE 1 OF 5.**

**NOTE: A LIT YELLOW LED INDICATES THERE IS A GROUND SIGNAL TO TURN THE CORRESPONDING RELAY ON.**

**A LIT RED LED INDICATES THERE IS VOLTAGE ON IT'S CORRESPONDING CN1 PIN.**

**IF A YELLOW LED IS LIT AND THE CORRESPONDING RED LED IS OFF, EITHER IT'S FUSE IS BLOWN OR THE RELAY IS BAD.**

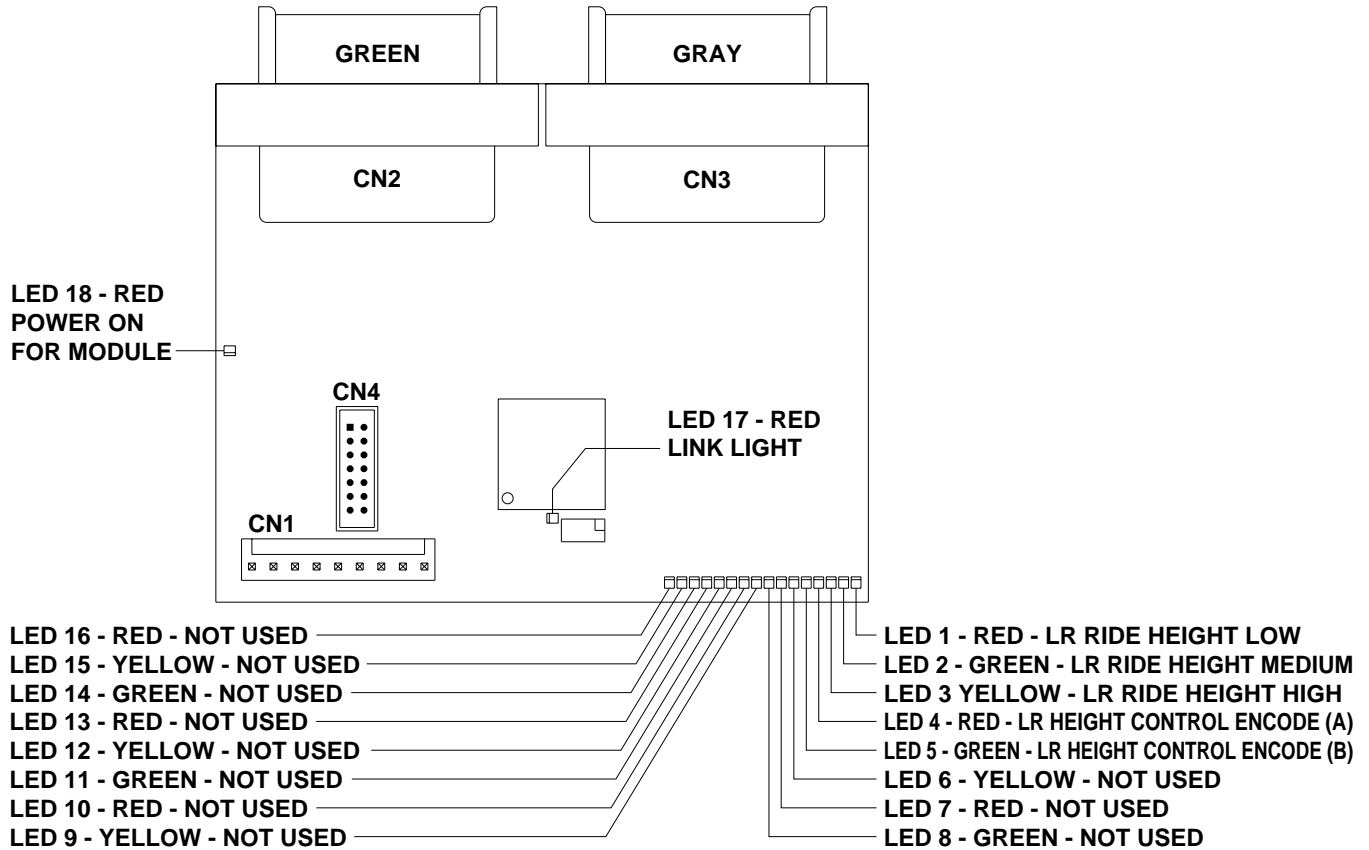
**IF THE YELLOW LEDS ARE WORKING BUT NO RED LED IS COMING ON THERE IS A PROBLEM WITH INPUT VOLTAGE IN THE 4-PIN CONNECTOR ON THE TOP RING.**

**IF A YELLOW LED IS NOT LIT, THIS INDICATES A PROBLEM WITH A MODULE.**

# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION

### REAR ACTIVE AIR MODULE - PAGE 4 OF 5



LED	DESCRIPTION	CN AND PIN
1 - RED	LEFT REAR RIDE HEIGHT LOW	CN3 - PIN 1
2 - GREEN	LEFT REAR RIDE HEIGHT MEDIUM	CN3 - PIN 2
3 - YELLOW	LEFT REAR RIDE HEIGHT HIGH	CN3 - PIN 3
4 - RED	LEFT REAR HEIGHT CONTROL ENCODE (A)	CN3 - PIN 4
5 - GREEN	LEFT REAR HEIGHT CONTROL ENCODE (B)	CN3 - PIN 5
6 - YELLOW	NOT USED	
7 - RED	NOT USED	
8 - GREEN	NOT USED	
9 - YELLOW	NOT USED	
10 - RED	NOT USED	
11 - GREEN	NOT USED	
12 - YELLOW	NOT USED	
13 - RED	NOT USED	
14 - GREEN	NOT USED	
15 - YELLOW	NOT USED	
16 - RED	NOT USED	
17 - RED	LINK LIGHT	N/A
18 - RED	POWER TO I/O BOARD	N/A

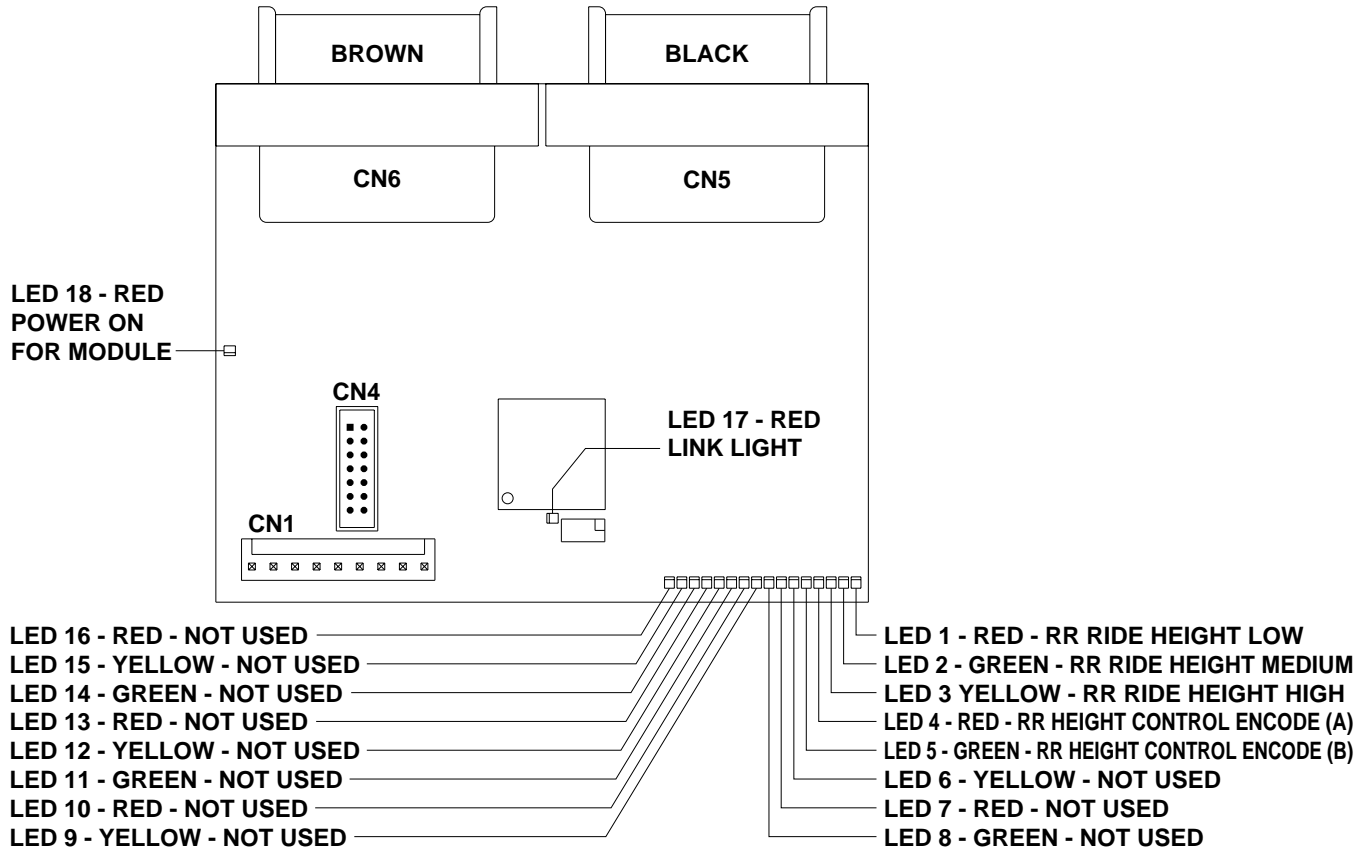
LED 18 ON INDICATES THAT THERE IS POWER TO THE BOARD FROM THE CAN TRUNK HARNESS

NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTION INFORMATION - REAR ACTIVE AIR MODULE PAGE 2 OF 5

# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION

### REAR ACTIVE AIR MODULE - PAGE 5 OF 5



LED	DESCRIPTION	CN AND PIN
1 - RED	RIGHT REAR RIDE HEIGHT LOW	CN5 - PIN 1
2 - GREEN	RIGHT REAR RIDE HEIGHT MEDIUM	CN5 - PIN 2
3 - YELLOW	RIGHT REAR RIDE HEIGHT HIGH	CN5 - PIN 3
4 - RED	RIGHT REAR HEIGHT CONTROL ENCODE (A)	CN5 - PIN 4
5 - GREEN	RIGHT REAR HEIGHT CONTROL ENCODE (B)	CN5 - PIN 5
6 - YELLOW	NOT USED	
7 - RED	NOT USED	
8 - GREEN	NOT USED	
9 - YELLOW	NOT USED	
10 - RED	NOT USED	
11 - GREEN	NOT USED	
12 - YELLOW	NOT USED	
13 - RED	NOT USED	
14 - GREEN	NOT USED	
15 - YELLOW	NOT USED	
16 - RED	NOT USED	
17 - RED	LINK LIGHT	N/A
18 - RED	POWER TO I/O BOARD	N/A

**LED 18 ON INDICATES THAT THERE IS POWER TO THE BOARD FROM THE CAN TRUNK HARNESS**

**NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTION INFORMATION - REAR ACTIVE AIR MODULE PAGE 2 OF 5**

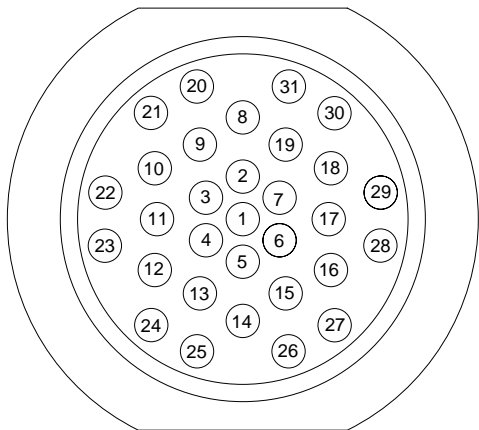
# ELECTRICAL CONNECTION DIAGRAM

## AIR MANIFOLD PIGTAIL CONNECTION INFORMATION

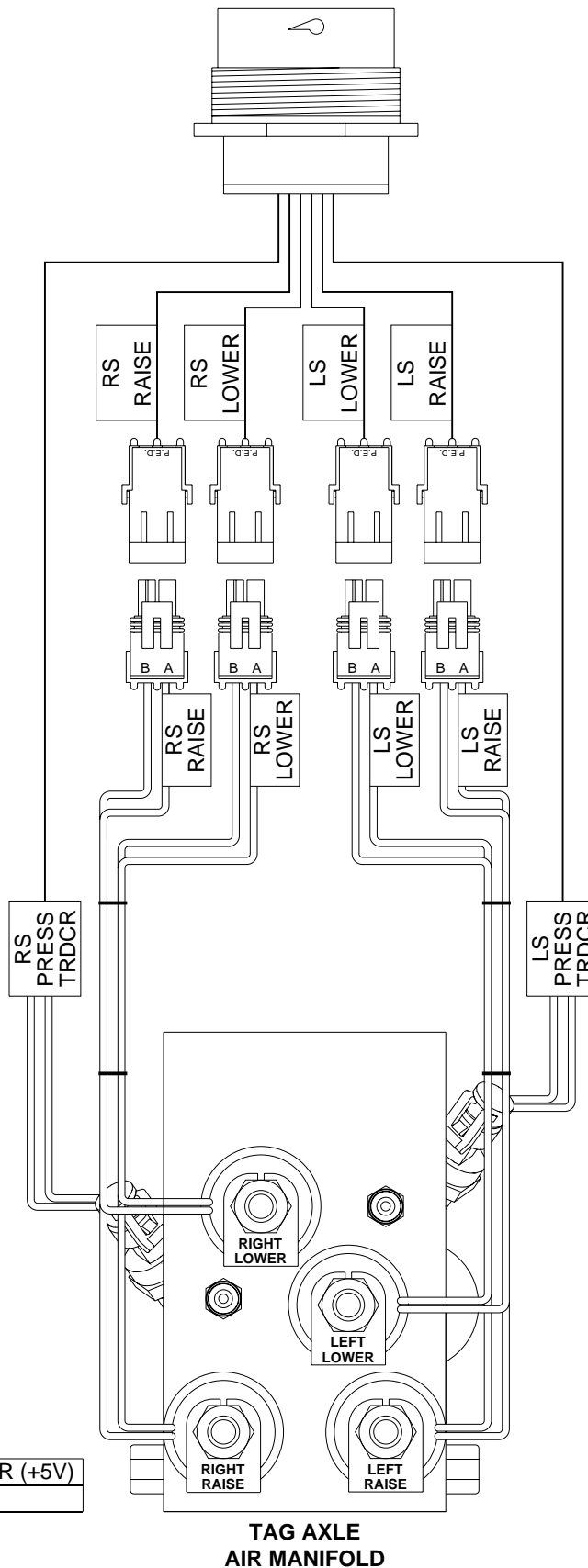
### FRONT AXLE MANIFOLD

**NOTE: HARNESS AND VALVE CONNECTIONS ARE LABELED LEFT AND RIGHT. CONNECTIONS MUST BE MAINTAINED AS SHOWN.**

**PIGTAIL WIRES ARE NOT NUMBERED. NUMBERS CORRESPOND TO MAIN HARNESS WIRES.**



PIN	COLOR	WIRE #	DESCRIPTION
1	N/A	N/A	NO CONNECTION
2	BLACK	6901	RF TRANSDUCER POWER (+5V)
3	BLACK	2220	RF TRANSDUCER
4	WHITE	6235	TRANSDUCER GROUND
5	BLACK	2500	RF RAISE
6	WHITE	6254	GROUND
7	BLACK	2600	RF LOWER
8	WHITE	6254	GROUND
9	BLACK	1500	LF RAISE
10	WHITE	6254	GROUND
11	BLACK	1600	LF LOWER
12	WHITE	6254	GROUND
13	N/A	N/A	NO CONNECTION
14	N/A	N/A	NO CONNECTION
15	BLACK	1220	LF TRANSDUCER
16	WHITE	6235	TRANSDUCER GROUND
17	BLACK	6900	LF TRANSDUCER POWER (+5V)
18 - 31 NO CONNECTION			



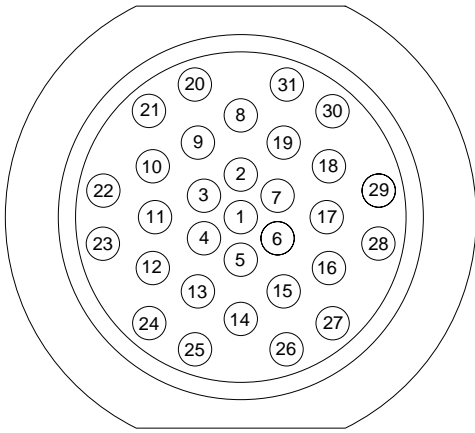
# ELECTRICAL CONNECTION DIAGRAM

## AIR MANIFOLD PIGTAIL CONNECTION INFORMATION

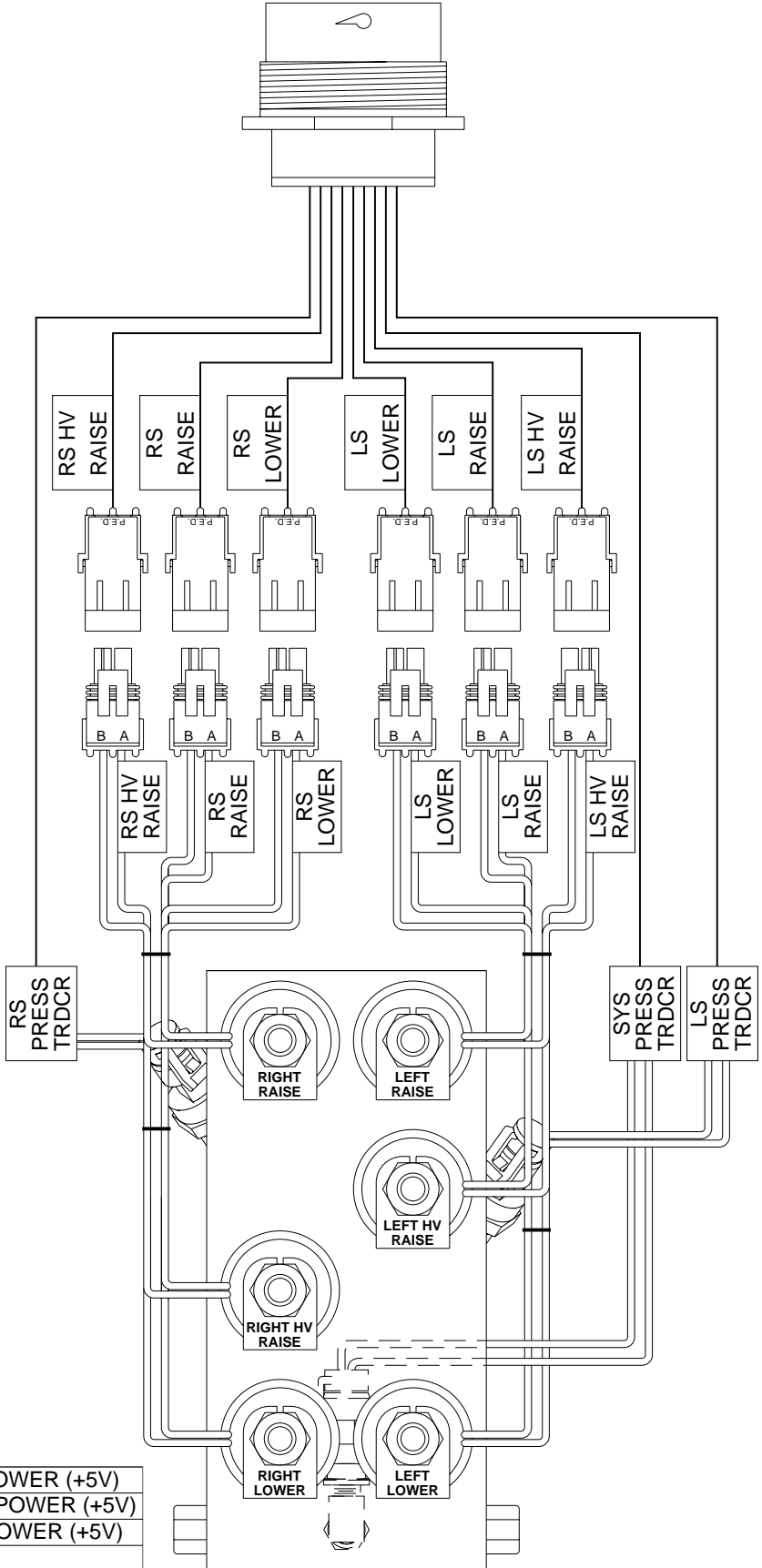
### DRIVE AXLE MANIFOLD

**NOTE: HARNESS AND VALVE CONNECTIONS ARE LABELED LEFT AND RIGHT. CONNECTIONS MUST BE MAINTAINED AS SHOWN.**

**PIGTAIL WIRES ARE NOT NUMBERED. NUMBERS CORRESPOND TO MAIN HARNESS WIRES.**



PIN	COLOR	WIRE #	DESCRIPTION
1	BLACK	3550	RR HV RAISE
2	WHITE	6258	GROUND
3	BLACK	3220	RR TRANSDUCER
4	WHITE	6232	TRANSDUCER GROUND
5	BLACK	3500	RR RAISE
6	WHITE	6258	GROUND
7	BLACK	3600	RR LOWER
8	WHITE	6258	GROUND
9	BLACK	4500	LR RAISE
10	WHITE	6258	GROUND
11	BLACK	4600	LR LOWER
12	WHITE	6258	GROUND
13	BLACK	4550	LR HV RAISE
14	WHITE	6258	GROUND
15	BLACK	4220	LR TRANSDUCER
16	WHITE	6233	TRANSDUCER GROUND
17	BLACK	3225	SYS TRANSDUCER
18	WHITE	6232	TRANSDUCER GROUND
19	BLACK	6912	LS TRANSDUCER POWER (+5V)
20	BLACK	6909	SYS TRANSDUCER POWER (+5V)
21	BLACK	6908	RS TRANSDUCER POWER (+5V)
22 - 31 NO CONNECTION			



**DRIVE AXLE  
AIR MANIFOLD**

**MP84.8660  
08JUL10**

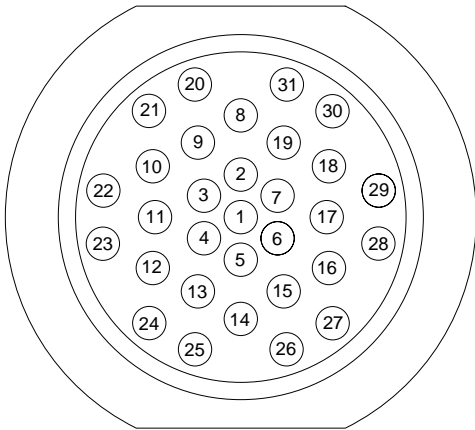
# ELECTRICAL CONNECTION DIAGRAM

## AIR MANIFOLD PIGTAIL CONNECTION INFORMATION

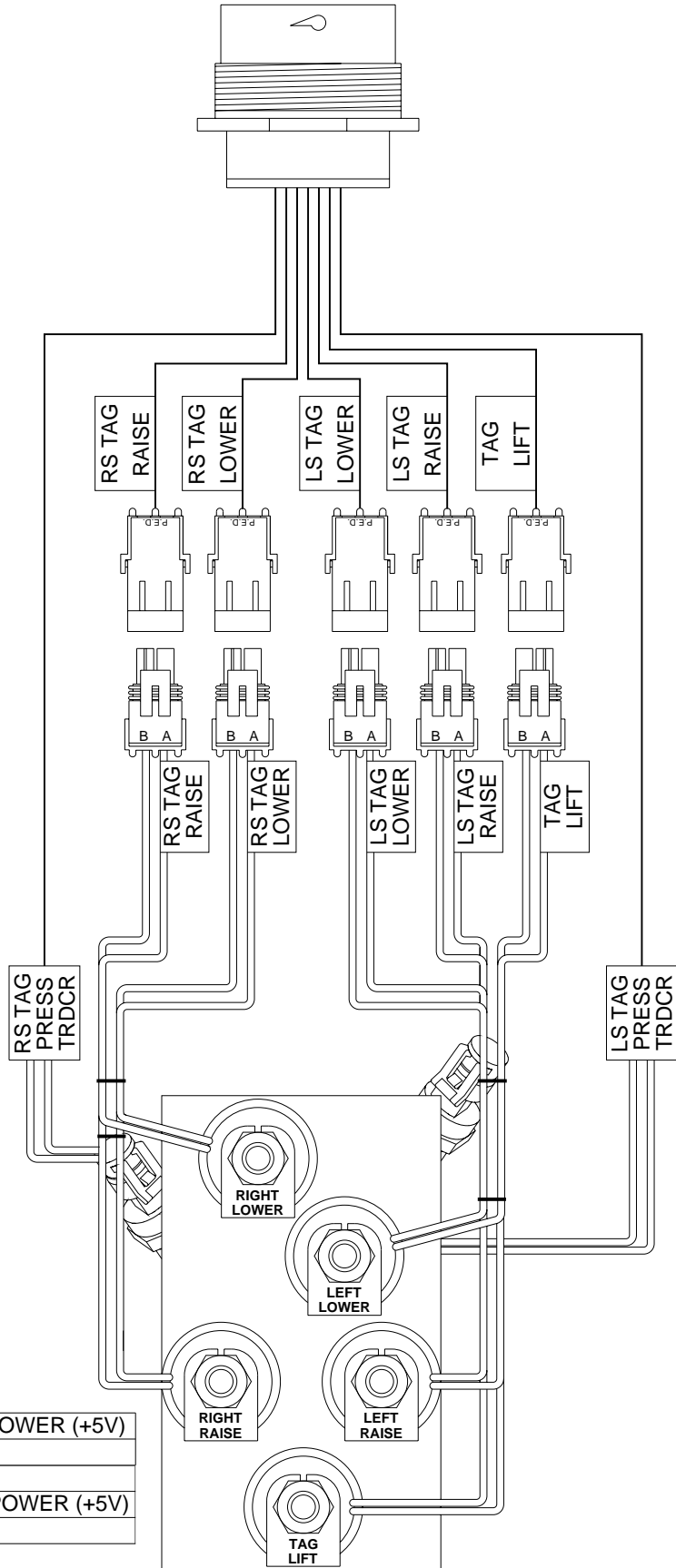
### TAG AXLE MANIFOLD

**NOTE: HARNESS AND VALVE CONNECTIONS ARE LABELED LEFT AND RIGHT. CONNECTIONS MUST BE MAINTAINED AS SHOWN.**

**PIGTAIL WIRES ARE NOT NUMBERED. NUMBERS CORRESPOND TO MAIN HARNESS WIRES.**



PIN	COLOR	WIRE #	DESCRIPTION
1	N/A	N/A	NO CONNECTION
2	N/A	N/A	NO CONNECTION
3	BLACK	3501	RS TAG RAISE
4	WHITE	6258	GROUND
5	BLACK	3800	TAG LIFT
6	WHITE	6258	GROUND
7	BLACK	3601	RS TAG LOWER
8	WHITE	6258	GROUND
9	N/A	N/A	NO CONNECTION
10	N/A	N/A	NO CONNECTION
11	BLACK	4601	LS TAG LOWER
12	WHITE	6258	GROUND
13	BLACK	4501	LS TAG RAISE
14	WHITE	6258	GROUND
15	BLACK	4221	LS TAG TRANSDUCER
16	WHITE	6233	TRANSDUCER GROUND
17	BLACK	6913	LS TAG TRANSDUCER POWER (+5V)
18	BLACK	3221	RS TAG TRANSDUCER
19	WHITE	6932	TRANSDUCER GROUND
20	BLACK	6909	RS TAG TRANSDUCER POWER (+5V)
21 - 31 NO CONNECTION			

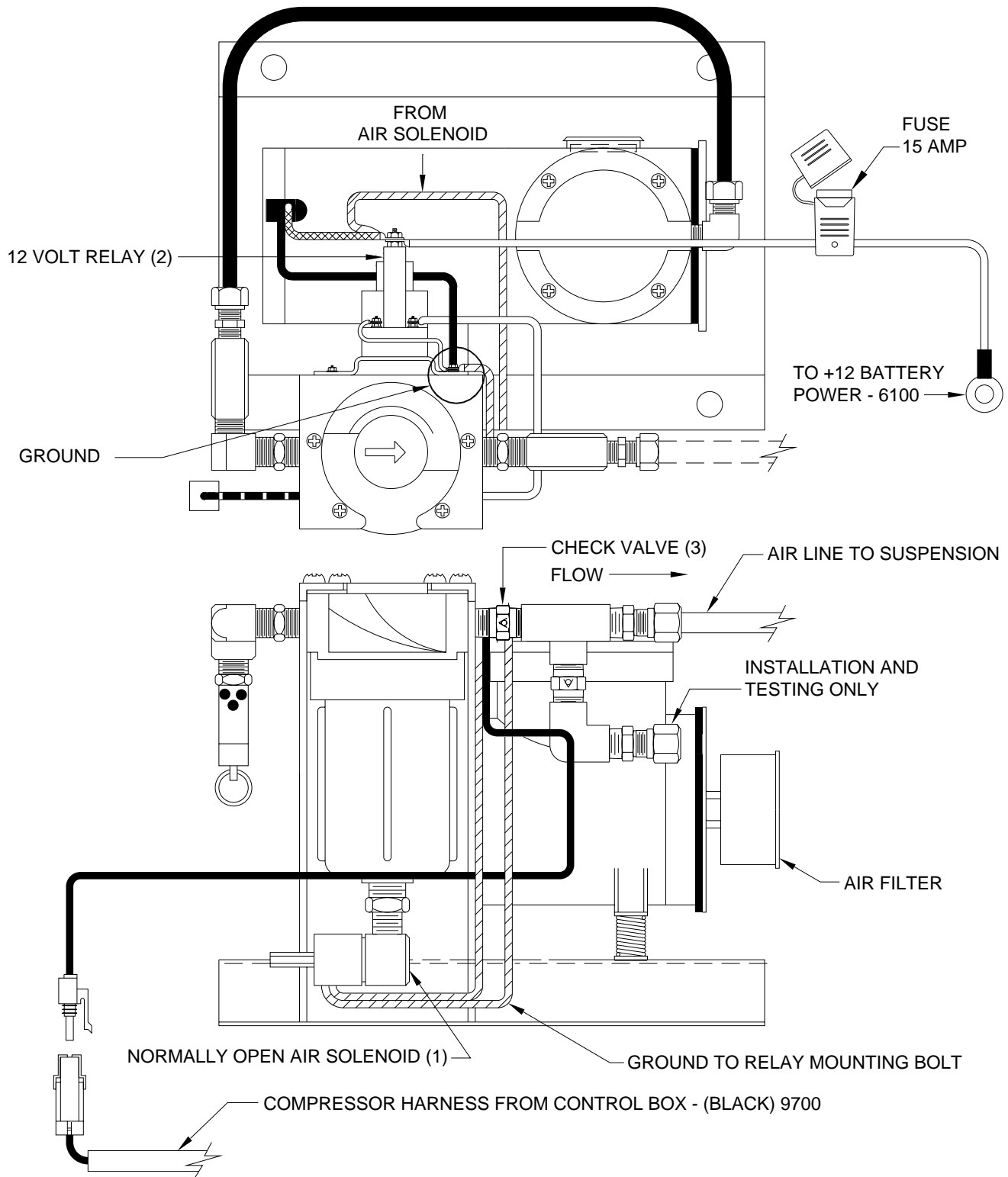


**TAG AXLE  
AIR MANIFOLD**

**MP84.8670  
08JUL10**

# ELECTRICAL CONNECTION DIAGRAM

## AIR COMPRESSOR

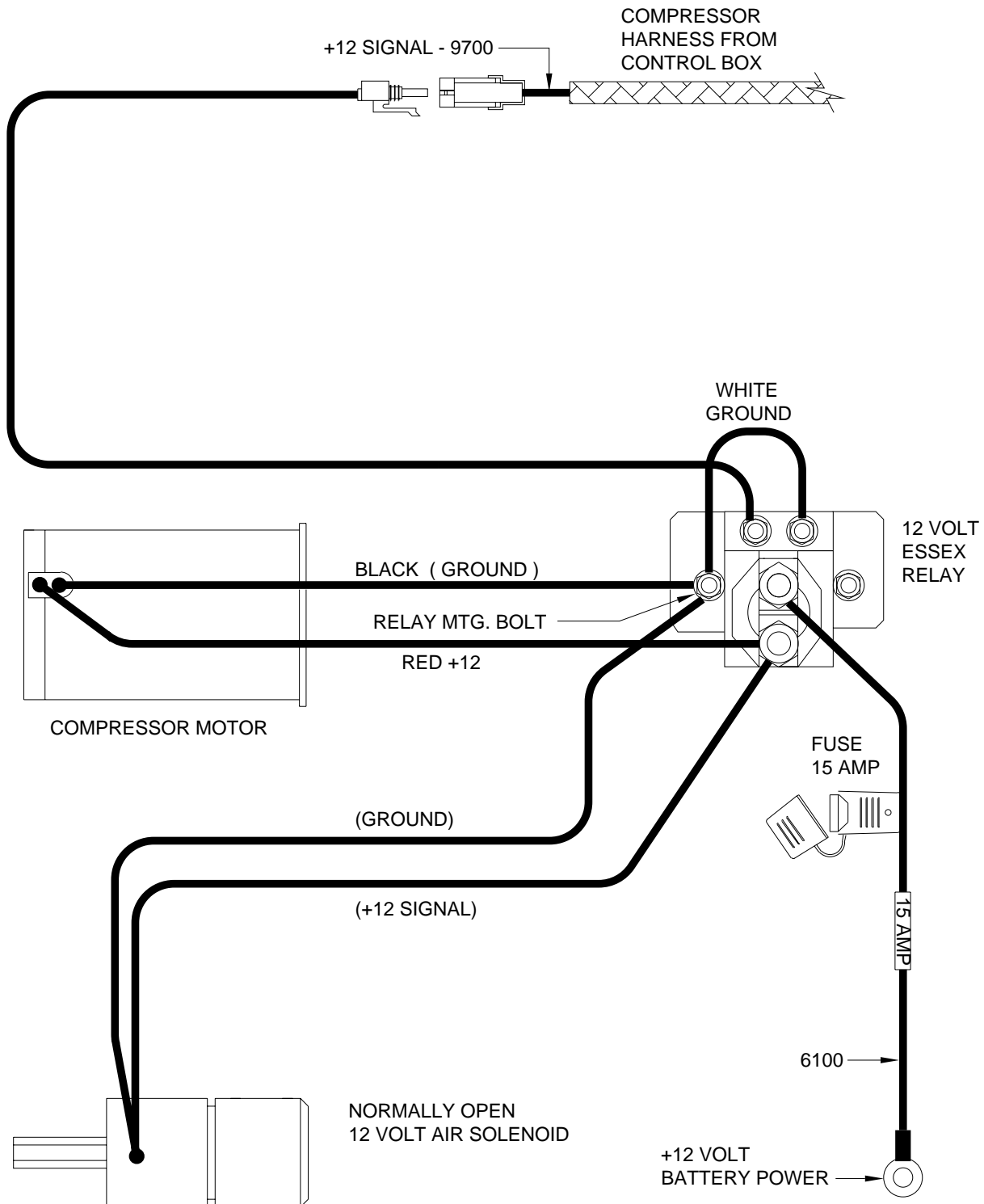


The control box sends a +12 signal to the normally open 12 volt relay. The 12 volt relay (2) will energize and the compressor will run. The normally open air solenoid (1) will close allowing the compressor to build pressure.

The normally open air solenoid (1) will open any time the compressor is not running, allowing internal pressure & moisture to bleed off. The check valve (3) will keep the suspension air from bleeding back to the compressor.

# ELECTRICAL CONNECTION DIAGRAM

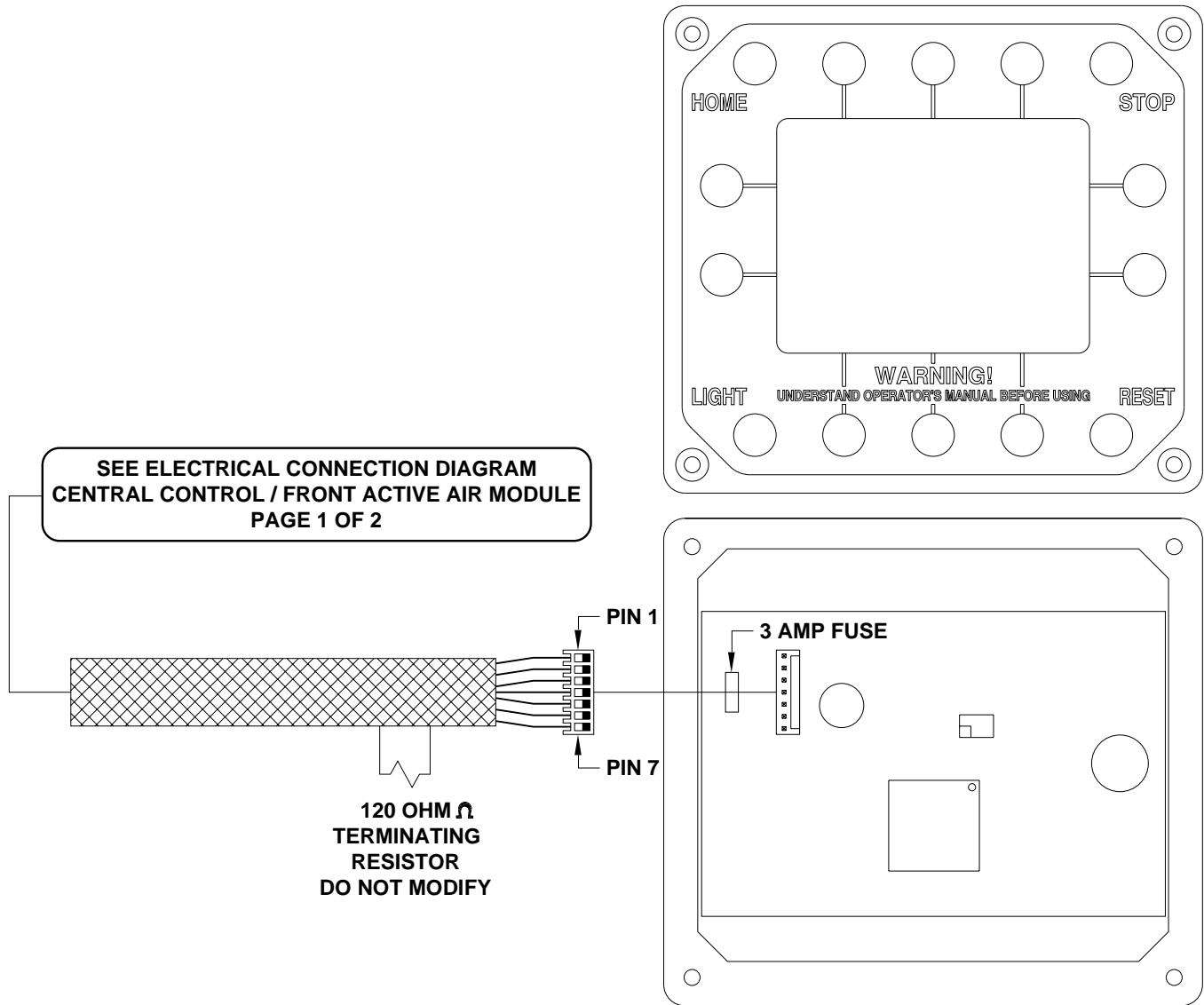
## AIR COMPRESSOR





# ELECTRICAL CONNECTION DIAGRAM

## LCD SYSTEM CONTROL PANEL



PIN	COLOR	NUMBER	DESCRIPTION
1	WHITE	6100	+12 IN FOR RESET
2	WHITE	7550	SW +12 OUT FOR RESET
3	YELLOW	----	CAN HIGH
4	GREEN	----	CAN LOW
5	-----	----	CAN SHIELD WIRE
6	GREEN	6230	GROUND
7	BLACK	6800	SW +12 BATT FOR LCD PANEL