

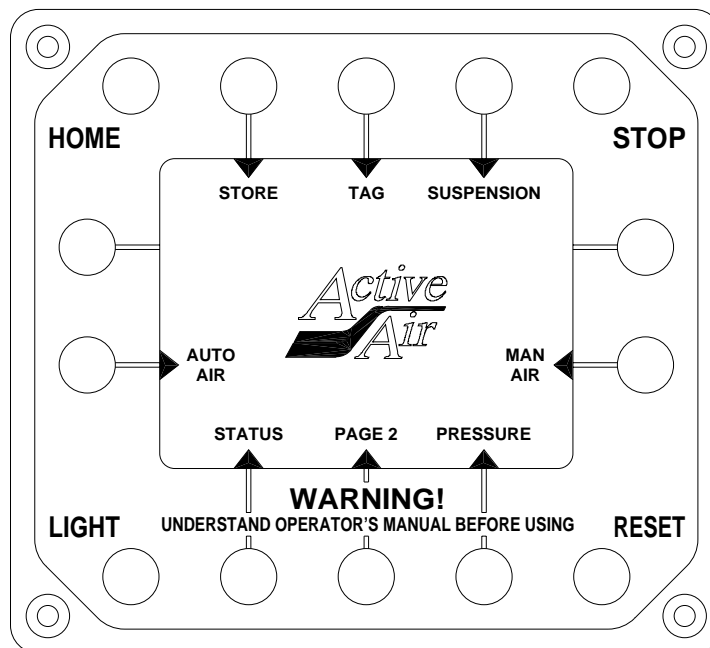


# OPERATOR'S MANUAL

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

### FEATURING:

*Active Air Suspension*  
*Computerized Air Leveling*  
*Multiple Room Extensions (with Air Seals)*  
*Color LCD Panel*



**HWH CORPORATION**  
(On I-80, Exit 267 South)  
2096 Moscow Road | Moscow, Iowa 52760  
Ph: 800/321-3494 (or) 563/724-3396 | Fax: 563/724-3408  
[www.hwh.com](http://www.hwh.com)

---

# OPERATOR'S MANUAL

---

## WARNING !

**READ THE ENTIRE OPERATOR'S MANUAL BEFORE OPERATING.**

**BLOCK FRAME AND TIRES SECURELY BEFORE CRAWLING UNDER VEHICLE. DO NOT USE LEVELING JACKS OR AIR SUSPENSION TO SUPPORT VEHICLE WHILE UNDER VEHICLE OR CHANGING TIRES. VEHICLE MAY DROP AND/OR MOVE FORWARD OR BACKWARD WITHOUT WARNING CAUSING INJURY OR DEATH.**

**KEEP ALL PEOPLE CLEAR OF VEHICLE WHILE LEVELING SYSTEM AND ROOM EXTENSION ARE BEING OPERATED.**

**NEVER PLACE HANDS OR OTHER PARTS OF THE BODY NEAR HYDRAULIC LEAKS. OIL MAY PENETRATE SKIN CAUSING INJURY OR DEATH.**

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

**WEAR SAFETY GLASSES WHEN INSPECTING OR SERVICING THE SYSTEM TO PROTECT EYES FROM DIRT, METAL CHIPS, OIL LEAKS, ETC. FOLLOW ALL OTHER APPLICABLE SHOP SAFETY PRACTICES.**

**IMPORTANT: IF COACH IS EQUIPPED WITH A ROOM EXTENSION, READ ROOM EXTENSION SECTION BEFORE OPERATING LEVELING SYSTEM.**

## HOW TO OBTAIN WARRANTY SERVICE

### THIS IS NOT TO BE INTERPRETED AS A STATEMENT OF WARRANTY

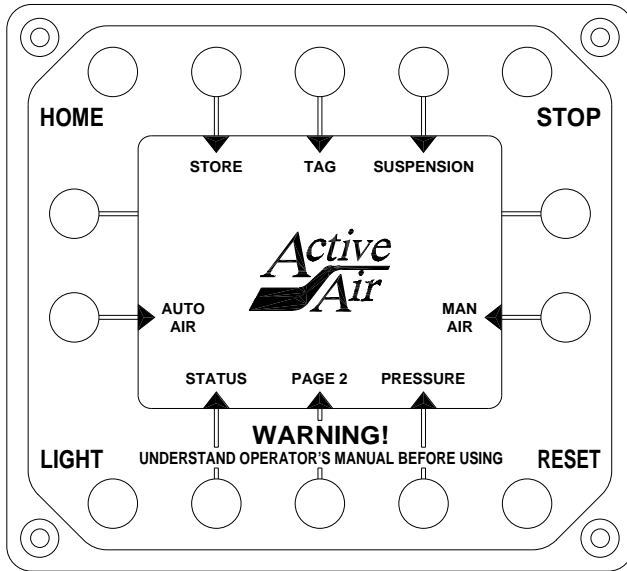
HWH CORPORATION strives to maintain the highest level of customer satisfaction. Therefore, if you discover a defect or problem, please do the following:

**FIRST:** Notify the dealership where you purchased the vehicle or had the leveling system installed. Dealership management people are in the best position to resolve the problem quickly. If the dealer has difficulty solving the problem, he should immediately contact the Customer Service Department, at HWH CORPORATION.

**SECOND:** If your dealer cannot or will not solve the problem, notify the Customer Service Department:  
HWH CORPORATION 2096 Moscow Rd. Moscow IA. 52760  
(563) 724-3396 OR (800) 321-3494. Give your name and address, coach manufacturer and model year, date the coach was purchased, or the date of system installation,

description of the problem, and where you can be reached during business hours (8:00 a.m. till 5:00 p.m. c.s.t.). HWH CORPORATION personnel will contact you to determine whether or not your claim is valid. If it is, HWH CORPORATION will authorize repair or replacement of the defective part, either by appointment at the factory or by the authorization of an independent service facility, to be determined by HWH CORPORATION. All warranty repairs must be performed by an independent service facility authorized by HWH CORPORATION, or at the HWH CORPORATION factory, unless prior written approval has been obtained from proper HWH CORPORATION personnel.

# CONTROL IDENTIFICATION



## HOME PAGE

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

## PANEL BUTTONS

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

**"LIGHT" BUTTON:** Screen starts at default brightness. Push the button once for user defined setting. **SEE: MP24.3980A** 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.

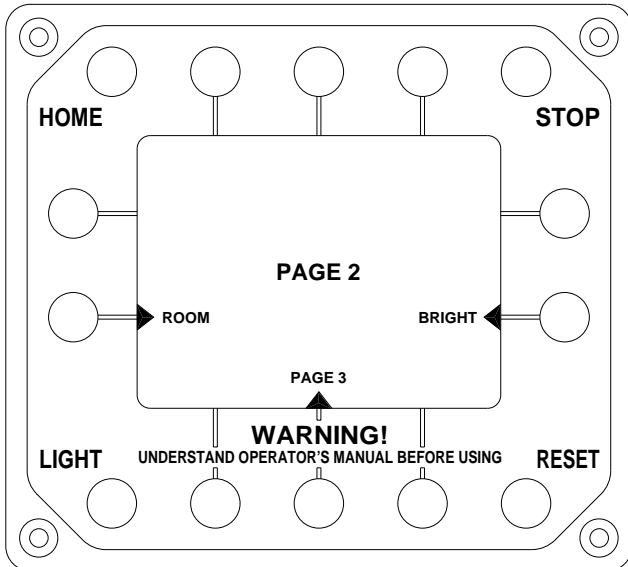
**"STATUS" BUTTON:** This button will bring up the first "STATUS" page. There will be multiple "STATUS" pages. The "PAGE FORWARD" button on a "STATUS" page will advance the screen to the next "STATUS" page. The "PAGE BACK" button on a "STATUS" page will move back one "STATUS" page. **SEE: MP24.3993A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



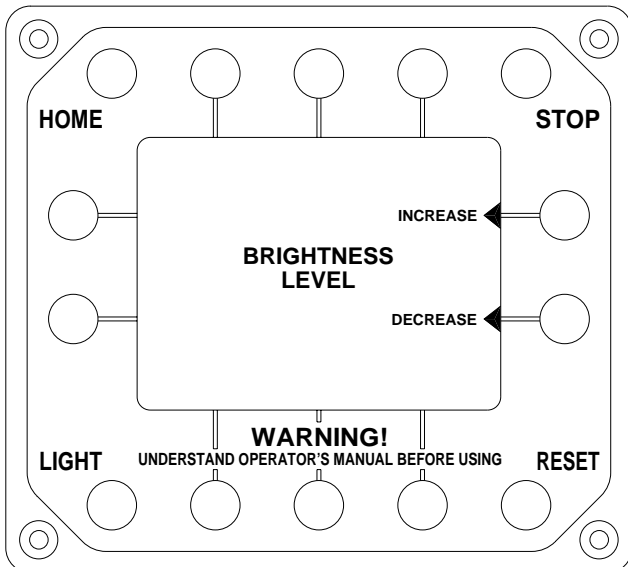
## SCREEN BUTTONS AND LIGHTS

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

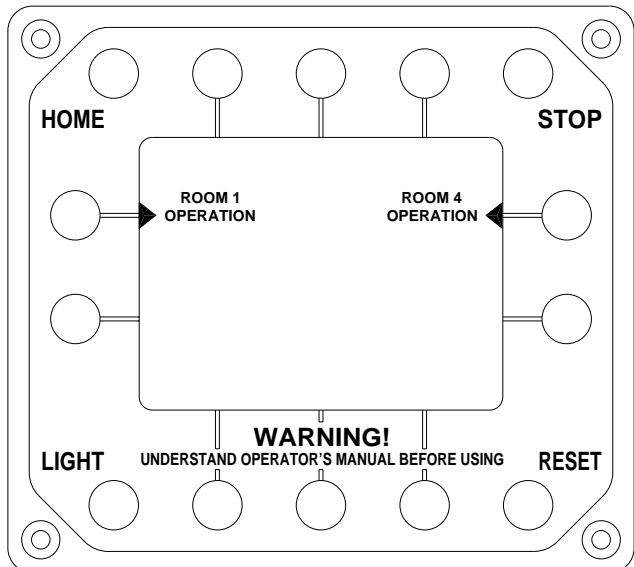
**"BRIGHT" BUTTON:** This button will bring up the brightness level screen.

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

## BRIGHTNESS LEVEL SCREEN



## ROOM SELECTION SCREEN



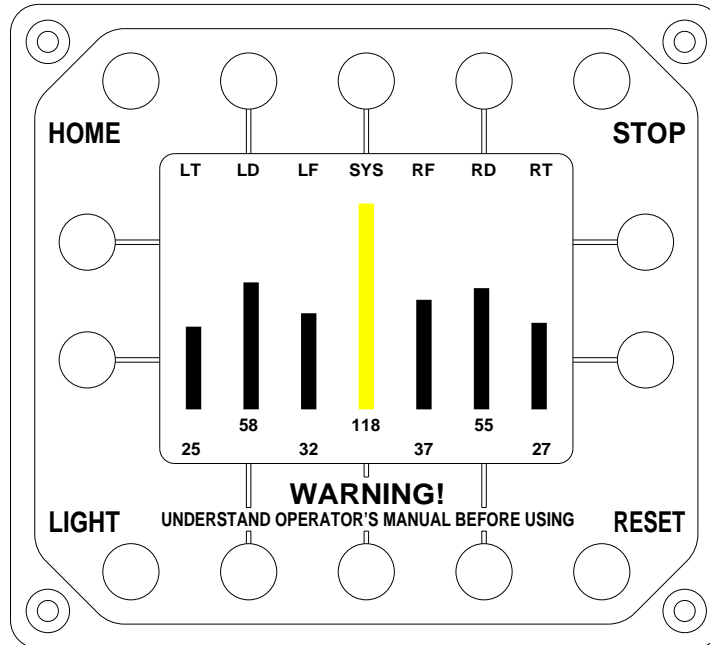
**"INCREASE / DECREASE" BUTTONS:** Increase or decrease the screen brightness in increments by pushing the corresponding button. When the desired screen brightness is achieved pressing the HOME button will set this as the user defined setting discussed under the "LIGHT" button on page MP24.3970A.

**"ROOM # OPERATION" BUTTON:** Select which room is to be operated. For extend / retract operations **SEE: MP34.4304**

---

# CONTROL IDENTIFICATION

---



## BAG / SYSTEM PRESSURE READINGS PAGE

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

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

Bag Columns: GREEN

System Column: YELLOW

Screen Background: BLUE (Economy Mode)

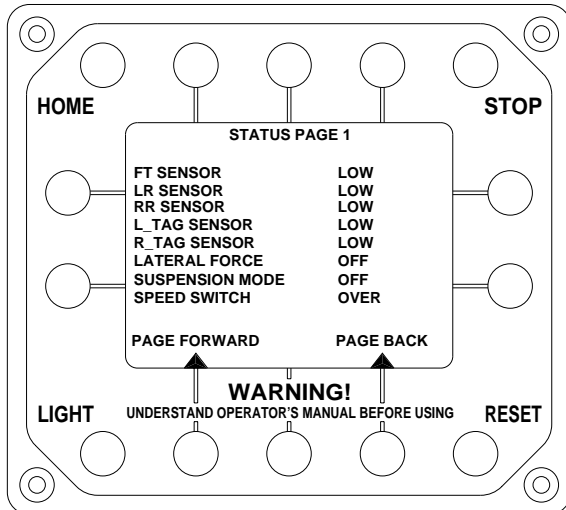
Screen Background: GREEN (Fly Mode)

- 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



## 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)

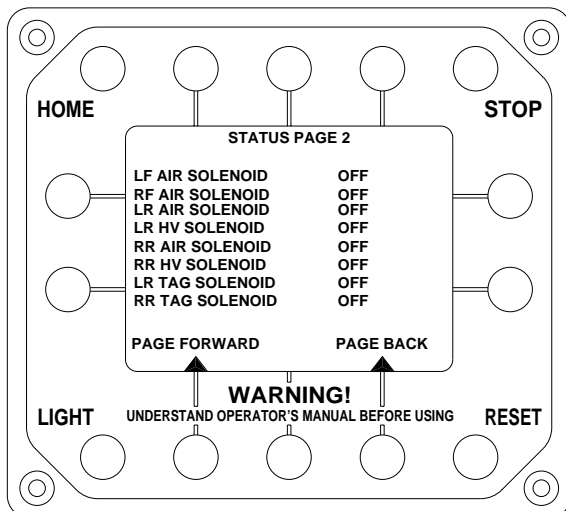
### SPEED SWITCH:

**OVER:** Vehicle is over speed. System is allowed to enter "FLY" mode.

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

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

## 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.

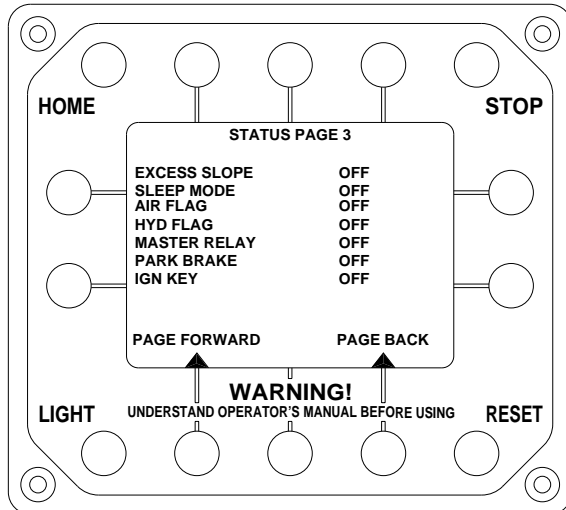
**OFF:** Solenoid valves are off.

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

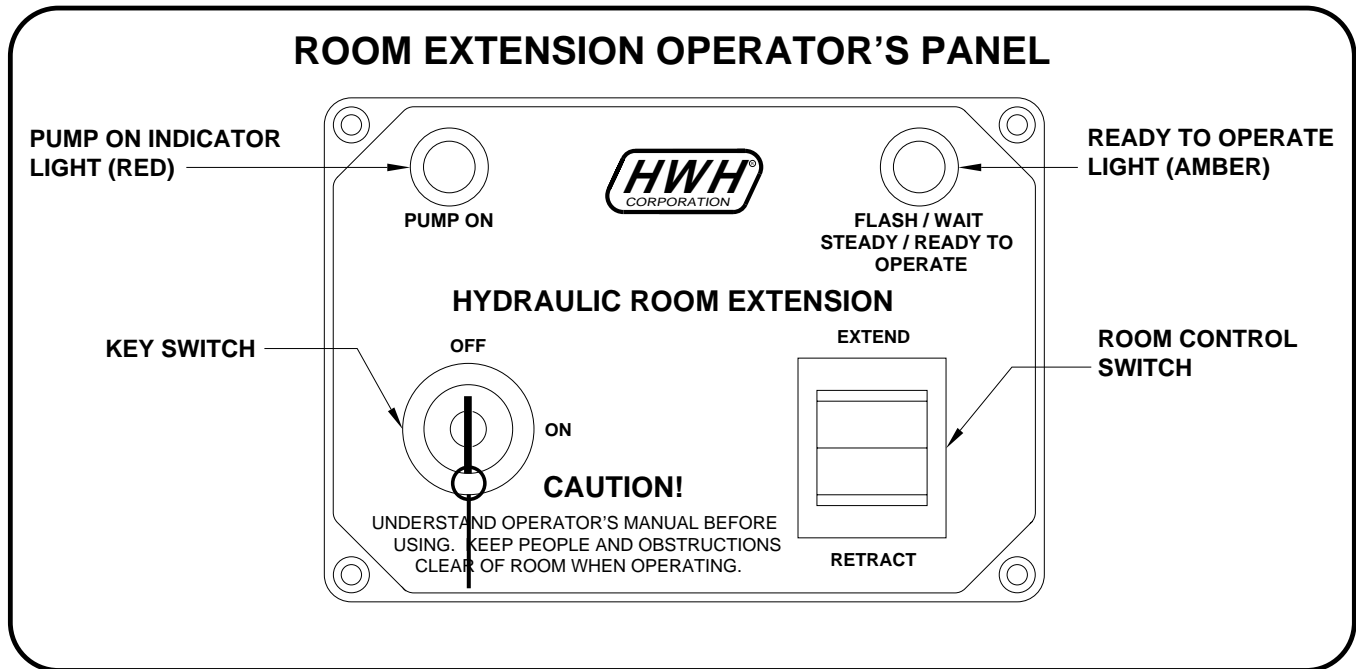
**ON:** Park brake is set

### IGN KEY:

**OFF:** Ignition key is off

**ON:** Ignition key is on

## CONTROL IDENTIFICATION



## CONTROL FUNCTIONS

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

**NOTE:** Any time the KEY SWITCH is ON, the network will be active and will not power down.

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

**PUMP ON INDICATOR LIGHT:** This light will be on when the pump is running.

**READY TO OPERATE LIGHT:** This light will flash for 20 seconds while the air seal deflates, after the KEY SWITCH is turned on. It will then glow steady. Except for EXCESS SLOPE situations, the room cannot be extended or retracted if this light is flashing.

If the "EXCESS SLOPE" light on the leveling system control panel is on, the READY TO OPERATE light will flash continuously after the key switch is turned ON. The room will not extend. The room will retract if the room control switch is pushed to "RETRACT".

If the PARK BRAKE is not set, the READY TO OPERATE light will not turn on and flash when the KEY SWITCH is turned "ON".

If a RAISE or LOWER function of the Leveling System is in use, MANUAL or AUTOMATIC operation, the READY TO OPERATE light will flash if the KEY SWITCH is in the "ON" position. The room will not operate.

## MASTER WARNING LIGHT

This light is on the dash, separate from the control panels. It can be on only if the ignition key is in the "ON" position.

The light will be on if a HWH low air pressure switch is on, if the Leveling System is on, if the Leveling System is not in the TRAVEL mode, or if a room in limit switch is not made.



---

# CONTROL IDENTIFICATION

## PUMP RUN TIME

---

### PUMP RUN TIME

Pump motors used with HWH leveling systems and room extension systems come in 3 different diameters; 3", 3.7" and 4.5". Contact the vehicle manufacturer or HWH for help with identifying the motor size. **It is important that any time the pump runs for more than three minutes with a 3" motor; or six minutes with a 3.7" or 4.5" motor that the motor is allowed to cool for thirty minutes before continuing. Continuous operation of the pump motor without allowing the motor to cool can damage the motor.** For cold weather information see "COLD WEATHER OPERATIONS" below.

The HWH systems with a computer processor monitor the pump run time and will turn the pump off if the run time exceeds a specified time. This time can vary with different systems. Due to available electronics or system design, the pump run time programs will also vary. Leveling systems and room extensions that are not controlled by a system processor have no pump run time protection. **DO NOT run the pump more than three or six minutes without allowing the pump motor to cool for thirty minutes.**

#### SYSTEM VARIATIONS FOR PUMP RUN TIME

Some systems with rooms run the rooms separate from the system processor. These systems do not monitor pump run time when operating the rooms. **DO NOT run the pump more than three or six minutes without allowing the pump motor to cool for thirty minutes.**

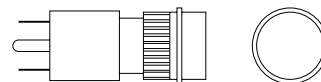
Some systems can be turned back on immediately after the processor turns the pump off. **DO NOT turn the system back on or run the pump without allowing the pump motor to cool for thirty minutes.**

When operating some leveling systems manually or operating the room extensions, the pump will turn off and back on while pushing the control button when the pump run time has been exceeded. **DO NOT continue without allowing the pump motor to cool for thirty minutes.**

With some systems, when the processor has turned the pump off because the run time has been exceeded, power to the HWH system must be turned off and back on before the system will operate. With motorized vehicles, turn the ignition off and back on. With non-motorized vehicles, turn the master power switch for the HWH system off and back on. **DO NOT continue without allowing the pump motor to cool for thirty minutes.**

Some HWH systems are equipped with a lighted reset switch. If the processor turns the pump off because the run time has been exceeded, the light in the reset switch will turn on. The system will not operate until the reset switch is pushed.

**DO NOT continue without allowing the pump motor to cool for thirty minutes.**



LIGHTED RESET SWITCH

**No matter what HWH system is on the vehicle, the pump should not be ran for more than three minutes (3" motors) or six minutes (3.7" or 4.5" motors) without allowing the pump motor to cool for thirty minutes. Continuous operation of the pump motor without allowing the motor to cool can damage the pump motor.**

Contact HWH corporation to get specific information about the system in this vehicle.

## COLD WEATHER OPERATIONS

HWH leveling and room extension systems are designed to function in cold weather down to 0 degrees Fahrenheit. Below freezing (32 degrees Fahrenheit) the jacks or rooms will operate slower than usual.

For operation in temperatures dropping below -20 degrees Fahrenheit, it is necessary that the system is equipped with oil designed for extreme cold weather application such as a synthetic oil. (Contact HWH for recommendations.)

**DO NOT run the pump motor continuously. It is important that any time the pump runs for more than three minutes with a 3" motor; or six minutes with a 3.7" or 4.5" motor that the motor is allowed to cool for thirty minutes before continuing. Continuous operation of the pump motor without allowing the motor to cool can damage the motor.** Continuous operation of the pump with slow moving jacks or rooms in cold weather, without allowing the pump motor to cool will cause the pump motor to burn up and damage the pump assembly.

---

# OPERATING PROCEDURES

---

## GENERAL INSTRUCTIONS

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

Push the "HOME" button to return the SYSTEM CONTROL panel to HOME PAGE 1. Any function that is to be operated from the SYSTEM CONTROL panel can only be accessed from HOME PAGE 1. Individual screen functions are explained in this section.

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

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

Push the "STOP" button to stop any function. Pushing the "STOP" button will turn the SYSTEM CONTROL panel off. Push the "RESET" button to turn the panel on if the "STOP" button is pushed. The ignition must be on for the "RESET" button to work.

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

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

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

## PREPARATION FOR TRAVEL

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

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

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

The SYSTEM CONTROL PANEL should be on when traveling.

**WARNING:** DO NOT RELY SOLELY UPON WARNING LIGHTS. IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT THE VEHICLE IS AT THE PROPER RIDE HEIGHT FOR TRAVELING. CONTACT MANUFACTURER TECHNICAL SERVICE BEFORE MOVING A VEHICLE THAT IS NOT AT PROPER TRAVEL HEIGHT. ALL ROOM EXTENSIONS OR GENERATOR SLIDES SHOULD BE FULLY RETRACED BEFORE TRAVELING.

## 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

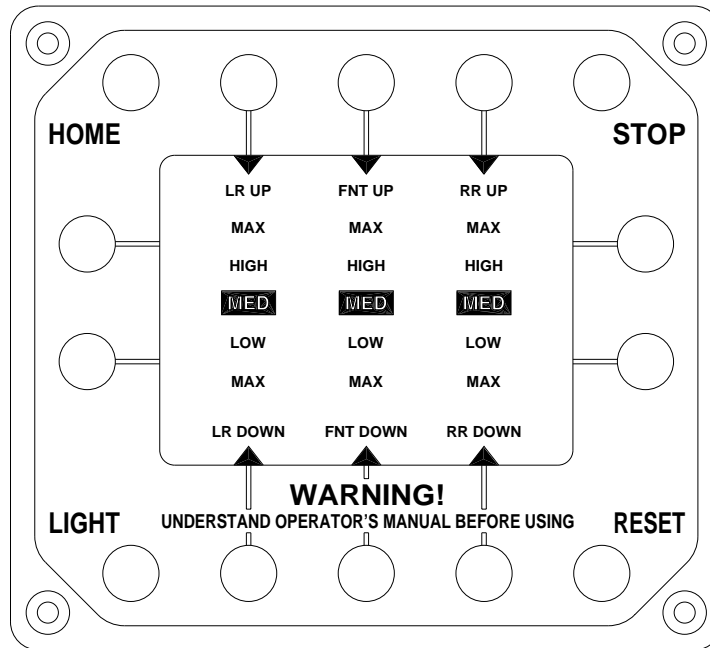
**NOTE:** A Schrader valve is the same type of valve used to inflate or deflate a tire.

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.

# OPERATING PROCEDURES



**SUSPENSION CONTROL SCREEN**

## INDICATORS

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

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

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

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

## BUTTONS

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

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

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

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

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

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

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

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

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

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

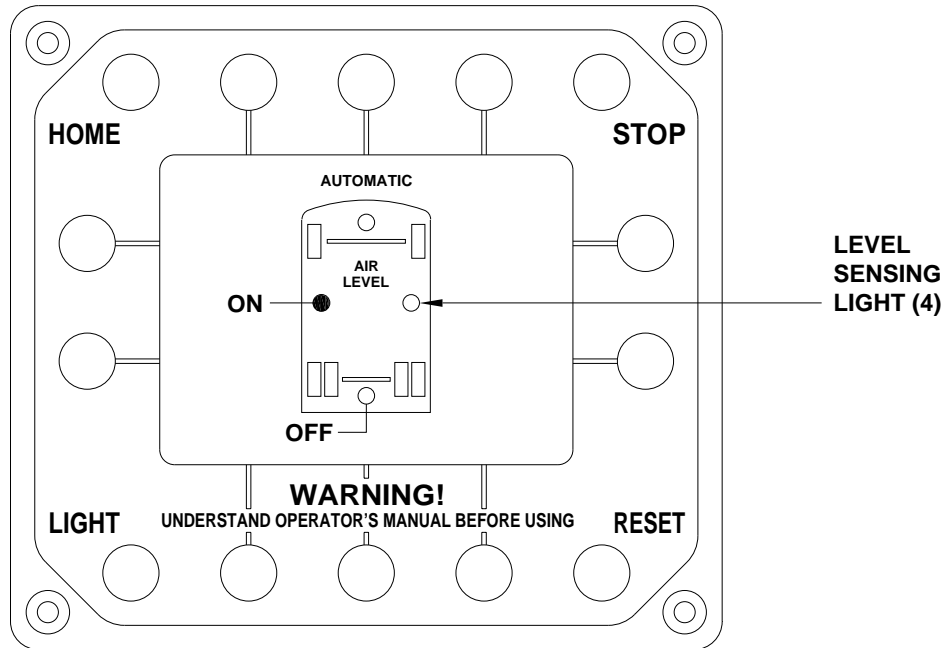
If either rear button is pushed to MAX UP or MAX DOWN, the other side will follow.

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

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

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

# OPERATING PROCEDURES



## AUTOMATIC AIR LEVELING

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

**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.

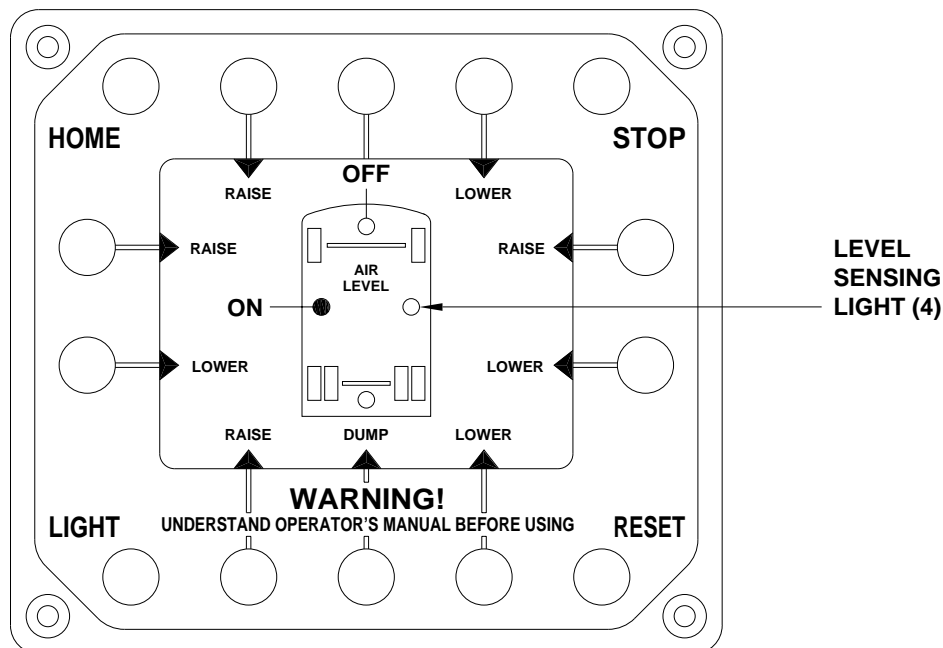
**NOTE:** The system will remain in the SLEEP MODE even with the screen off.

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.

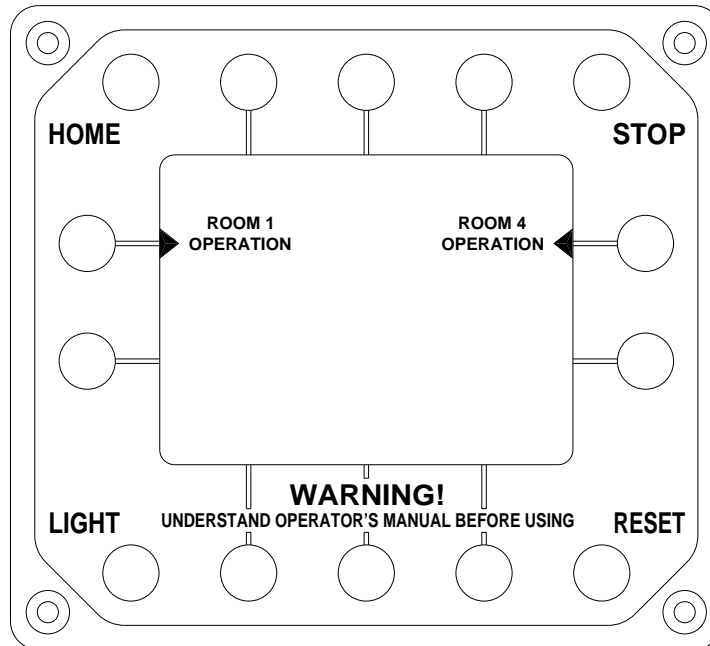
**NOTE:** Pushing and holding the "DUMP" button will exhaust air from all bags of the vehicle suspension.

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

---

# OPERATING PROCEDURES

---



## ROOM SELECTION

1. Push the "ROOM" button on the "HOME" page to access the ROOM SELECTION page.
2. Push the corresponding button to select a room extension that is to be operated. A ROOM OPERATION page will be displayed.

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

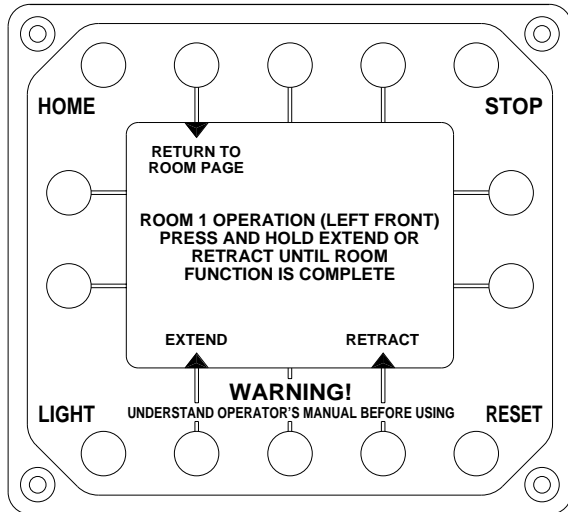
If an attempt to level the vehicle in an automatic leveling mode fails putting the system in an EXCESS SLOPE situation, rooms cannot be extended. Individual ROOM OPERATION pages can be accessed from the ROOM SELECTION page, but when the EXTEND button is pushed, a message will appear directing the operator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

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

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

# OPERATING PROCEDURES

## LCD ROOM CONTROL



### ROOM 1 EXTEND / RETRACT PAGE

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

It is recommended to complete the Leveling Procedure before operating room extensions.

1. Unlock all room-locking devices.

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

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

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

2. To extend the room, press and hold the "EXTEND" button until the room is fully extended.

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

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

**NOTE:** Releasing the "EXTEND" button will halt the operation of the room.

### ROOM RETRACT PROCEDURE

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

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

1. To extend the room, press and hold the "RETRACT" button until the room is fully extended.

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

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

**NOTE:** Releasing the room "EXTEND" button will halt the operation of the room.

2. Engage all room-locking devices.

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

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

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

---

# OPERATING PROCEDURES

---

## ROOM EXTEND PROCEDURE - HWH KEY SWITCH PANEL

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

1. The park brake must be set for the room to be operated. If the "EXCESS SLOPE" light on the touch panel is on, the room cannot be extended.

**Make sure the door or a window is open while extending a room.**

**IMPORTANT:** If the "EXCESS SLOPE" light is ON, the vehicle must be re-leveled so all yellow LEVEL indicator lights on the touch panel are OFF before the room can be extended. If any of the four yellow LEVEL indicator lights cannot be put out, the vehicle should be moved to a more level location before using the room extension.

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

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

2. Insert the KEY into the KEY SWITCH on the room extension operator's panel and turn it to the "ON" position. The READY TO OPERATE light will flash. When the amber light is on steady the room can be operated.

**NOTE:** Anytime the KEY SWITCH is on, the room air seal will deflate.

**NOTE:** If the Leveling System is being operated, the room will not extend. If the room panel KEY SWITCH is on, the "READY TO OPERATE" light will flash while the Leveling System is being operated.

3. To extend the room, push and hold the ROOM CONTROL SWITCH in the extend position. The red PUMP ON light will come on. There may be a delay of several seconds (no more than 10 seconds) before the PUMP ON light comes on after the switch is pushed. When the room is fully extended, the pump will automatically shut off. The red PUMP ON light will go out. Do not release the ROOM CONTROL SWITCH, until the red PUMP ON light goes out. **If the red PUMP ON light remains on 30 seconds after the room is fully extended release the room control switch.**

**NOTE:** The room is equipped with an air seal, the air seal is monitored by a vacuum switch to make sure the air seal is deflated. This may cause a delay in room operation when the Room Control switch is pushed. While the Room Control Switch is being pushed a loss of vacuum in the air seal will not halt the movement of the room unless the Room Control switch is released. The Room Control switch will not work until the vacuum switch is made.

**NOTE:** Under normal operation of the room, the direction of movement should not be reversed. If the movement of the room must be reversed, do not try to re-extend the room until the room has been fully retracted.

**IMPORTANT:** IF EITHER SIDE OF THE ROOM STOPS MOVING, RELEASE THE ROOM CONTROL SWITCH IMMEDIATELY. THE ROOM OPERATION WILL HALT. DO NOT FORCE THE ROOM. DO NOT REVERSE DIRECTION OF THE ROOM. BINDING OF ROOM CAN CAUSE ROOM DAMAGE. CONTACT HWH CORPORATION CUSTOMER SERVICE FOR ASSISTANCE.

**NOTE:** The READY TO OPERATE light will flash when the room control switch is pushed if the "EXCESS SLOPE" light on the Leveling System panel is ON. The room will not extend.

4. Turn the KEY SWITCH to the "OFF" position and remove the key. The READY TO OPERATE light will go out. The air seal will inflate.

**NOTE:** If the KEY SWITCH is left "ON" the air seal will not inflate and the Network will stay active and not power down.



---

# OPERATING PROCEDURES

---

## ROOM RETRACT PROCEDURE - HWH KEY SWITCH PANEL

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

Make sure the door or a window is open while extending a room.

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

1. The park brake must be set for the room to be operated.

2. Insert the KEY into the KEY SWITCH on the room extension operator's panel and turn it to the "ON" position. The air seal will deflate. The READY TO OPERATE light will flash. When the amber light is on steady the room can be operated.

**NOTE:** If the Leveling System is being operated, the room will not retract. If the room panel KEY SWITCH is on, the "READY TO OPERATE" light will flash while the Leveling System is being operated.

3. To retract the room, push and hold the ROOM CONTROL SWITCH in the retract position. The red PUMP ON light will come on. There may be a delay of several seconds (no more than 10 seconds) before the PUMP ON light comes on after the switch is pushed. When the room is fully retracted, the pump will automatically shut off. The red PUMP ON light will go out. Do not release the ROOM CONTROL SWITCH, until the red PUMP ON light goes out. **If the red PUMP ON light remains on 30 seconds after the room is fully retracted release the room control switch.**

**NOTE:** The room is equipped with an air seal, the air seal is monitored by a vacuum switch to make sure the air seal is deflated. This may cause a delay in room operation when the Room Control switch is pushed. While the Room Control Switch is being pushed a loss of vacuum in the air seal will not halt the movement of the room unless the Room Control switch is released. The Room Control switch will not work until the vacuum switch is made.

**NOTE:** Under normal operation of the room, the direction of movement should not be reversed. If the movement of the room must be reversed, do not try to retract the room until the room has been fully extended.

**IMPORTANT:** IF EITHER SIDE OF THE ROOM STOPS MOVING, RELEASE THE ROOM CONTROL SWITCH IMMEDIATELY. THE ROOM OPERATION WILL HALT. DO NOT FORCE THE ROOM. DO NOT REVERSE DIRECTION OF THE ROOM. BINDING OF ROOM CAN CAUSE ROOM DAMAGE. CONTACT HWH CORPORATION CUSTOMER SERVICE FOR ASSISTANCE.

4. Turn the KEY SWITCH to the "OFF" position and remove the key. The READY TO OPERATE light will go out. The air seal will inflate.

**NOTE:** If the KEY SWITCH is left "ON" the air seal will not inflate and the Network will stay active and not power down.

**IN THE EVENT OF THE FAILURE OF THE ROOM TO RETRACT, CONTACT HWH CORPORATION CUSTOMER SERVICE AT 1-800-321-3494 FOR ASSISTANCE.**

---

# OPERATING PROCEDURES

---

## GENERATOR SLIDE EXTEND PROCEDURE

**WARNING:** KEEP PEOPLE AND OBSTRUCTIONS CLEAR OF SLIDE WHEN OPERATING.

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

1. **THE PARK BRAKE MUST BE SET FOR THE SLIDE TO OPERATE.**

2. To extend the slide, press and hold the GENERATOR SLIDE CONTROL SWITCH in the "EXTEND" position. When the slide is fully extended, release the GENERATOR SLIDE CONTROL SWITCH.

**IMPORTANT:** Do not hold the GENERATOR SLIDE CONTROL SWITCH in the "EXTEND" position for more than ten seconds after the slide is fully extended or stops moving. **DO NOT FORCE THE SLIDE.**

**NOTE:** Releasing the GENERATOR SLIDE CONTROL SWITCH will halt the operation of the slide.

## GENERATOR SLIDE RETRACT PROCEDURE

1. **THE PARK BRAKE MUST BE SET FOR THE SLIDE TO OPERATE.**

2. To retract the slide, press and hold the GENERATOR SLIDE CONTROL SWITCH in the "RETRACT" position. When the slide is fully retracted, release the GENERATOR SLIDE CONTROL SWITCH.

**IMPORTANT:** Do not hold the GENERATOR SLIDE CONTROL SWITCH in the "RETRACT" position for more than ten seconds after the slide is fully retracted or stops moving. **DO NOT FORCE THE SLIDE.**

**NOTE:** Releasing the GENERATOR SLIDE CONTROL SWITCH will halt the operation of the slide.

3. If the slide will not retract see the MANUAL SLIDE RETRACT PROCEDURE.

# MANUAL ROOM AND GENERATOR SLIDE RETRACT PROCEDURE

(USE ONLY WHEN THE ROOM WILL NOT RETRACT WITH THE ROOM CONTROL SWITCH)

## OVERVIEW

The room can be retracted manually if a hydraulic or electric failure prevents the room from being retracted using the CONTROL SWITCH. For normal retract sequence see the ROOM SLIDE RETRACT PROCEDURES. Refer to the vehicle manufacturer for storage location of the retract device and information for connecting the device to the room.

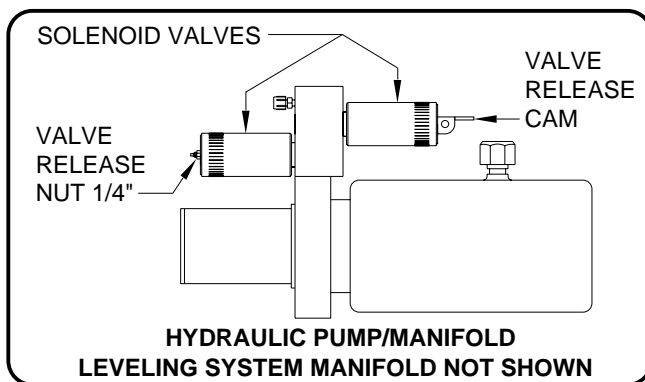
**IMPORTANT:** If the vehicle is not equipped with a winch, DO NOT use other pulling devices to retract the room. Follow steps 2 and 3 and try pushing the room in. Contact the vehicle manufacturer or HWH Customer Service at 1-800-321-3494 or 563-724-3396 for assistance.

**WARNING:** A MANUAL RETRACT WINCH PROVIDED BY HWH IS EQUIPPED FOR MANUALLY RETRACTING THE ROOM ONLY. IT IS NOT TO BE USED FOR LIFTING OR ANY OTHER APPLICATION. HIGH FORCES ARE CREATED WHEN USING A WINCH, CREATING POTENTIAL SAFETY HAZARDS. FAILURE TO FOLLOW ALL WARNINGS AND INSTRUCTIONS MAY CAUSE FAILURE OF THE MANUAL RETRACT WINCH OR CONNECTIONS RESULTING IN DAMAGE OR PERSONAL INJURY. MAINTAIN A FIRM GRIP ON THE WINCH HANDLE AT ALL TIMES. NEVER RELEASE THE HANDLE WHEN RATCHET LEVER IS IN THE OFF POSITION AND THE WINCH IS LOADED. THE WINCH HANDLE COULD SPIN VIOLENTLY AND CAUSE PERSONAL INJURY. CHECK THE WINCH AND STRAPS FOR DAMAGE OR WEAR, AND CHECK FOR PROPER RATCHET OPERATION ON EACH USE OF THE WINCH. DO NOT USE IF DAMAGED OR WORN.

1. Retract jacks following the LEVELING SYSTEM RETRACT PROCEDURE.

**NOTE :** When manually retracting the room, it is recommended the jacks are retracted before retracting the room.

2. Locate the HYDRAULIC PUMP and/or MANIFOLD unit. Some systems may have a remote manifold.



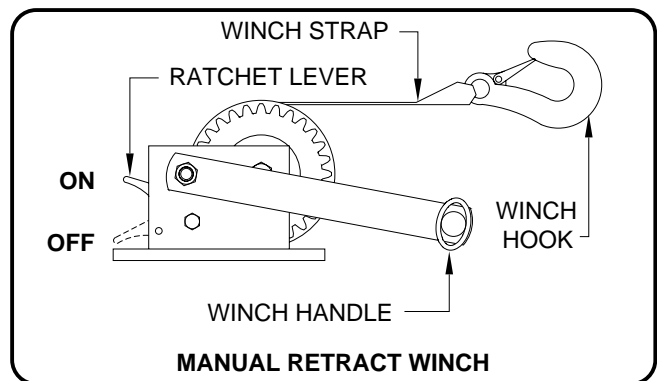
3. Open Nut Style Solenoid Valves by slowly turning the valve release nut counter clockwise using a 1/4" nut driver.

**IMPORTANT:** Only open the valves enough to retract the room. DO NOT turn the release nuts more than 4 and 1/2 turns. Turning the nuts more could damage the valves.

Open Cam Style Solenoid Valves by following the instructions located on the last page of this manual MP84.9999.

**NOTE:** The room may move slightly as the SOLENOID VALVES are opened and internal pressure is released.

4. Locate the MANUAL RETRACT DEVICE and connect it to the room according to the vehicle manufacturer's instructions. To extend a WINCH STRAP firmly grasp WINCH HANDLE, place RATCHET LEVER in its OFF position, and slowly rotate the WINCH HANDLE counter clockwise, keeping a firm grip on the handle. When enough WINCH STRAP is extended, place the RATCHET LEVER in its ON position and slowly rotate the WINCH HANDLE clockwise until the RATCHET LEVER locks.



5. Slowly winch the room in by turning the WINCH HANDLE clockwise. The RATCHET LEVER should produce a loud, sharp, clicking noise.

**NOTE:** Winching the room in quickly will raise pressure in the hydraulic fluid and make winching more difficult.

**WARNING:** OPERATE THE MANUAL RETRACT WINCH BY HAND POWER ONLY. IF THE WINCH CANNOT BE CRANKED EASILY WITH ONE HAND IT IS PROBABLY OVERLOADED. IF WINCHING BECOMES TO DIFFICULT STOP AND CHECK FOR OBSTRUCTIONS/RESTRICTIONS ON THE ROOM AND ROOM EXTENSION MECHANISM.

6. When the room is fully retracted, engage the room locking devices. Leave the retract winch engaged and the solenoid valves open.

**WARNING:** THE ROOM EXTENSION SOLENOID VALVE RELEASE MUST BE IN THE OPEN POSITION WHEN THE MANUAL RETRACT WINCH IS ENGAGED.

7. The system should be repaired before using again.

**NOTE:** After repairs are made, when closing the VALVE RELEASE NUTS, do not over tighten the nuts.

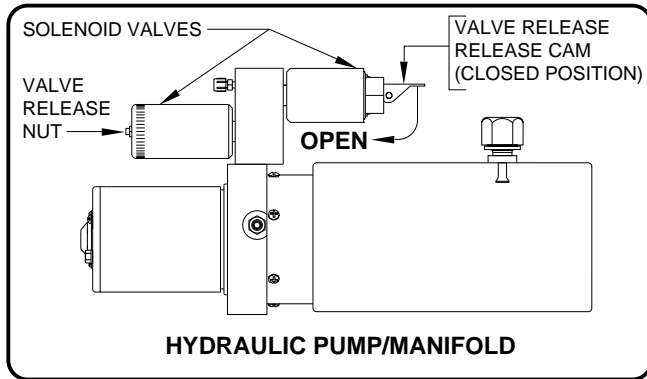
# OPERATING PROCEDURES

## "UNIVERSAL STRAIGHT OUT" ROOM EXTENSION MECHANISM

### MANUAL ROOM RETRACTION PROCEDURES

1. Determine which extend and retract solenoid valves are assigned to the room. Manually open the valve release nuts for the extend and retract solenoid valves by turning the 1/4" release nuts counter clockwise 4 and 1/2 turns. Turning the nuts more could damage the valves. If equipped with valve release cams, move the cams to the OPEN position.

**NOTE: The breather cap dip stick is also a 1/4" nut driver.**



2. Start both threaded rods until resistance is met, one for the front and one for the rear mechanism should be provided.

**NOTE: For location of the threaded rods and to access the threaded blocks refer to vehicle manufacturer.**

3. **Do Not use an impact wrench.** Using wrench provided, a personal wrench or a tire iron with a 1-1/8" opening rotate either mechanism's threaded rod clockwise 6 complete turns.

4. Move to the other room extension mechanism, rotate the threaded rod clockwise 12 complete turns.

5. Return to the first room extension mechanism and rotate the threaded rod clockwise 12 complete turns.

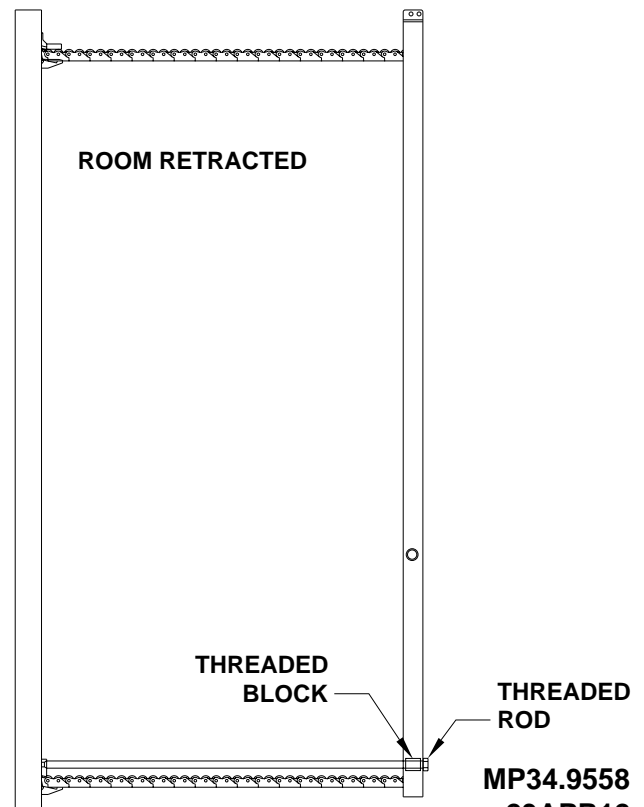
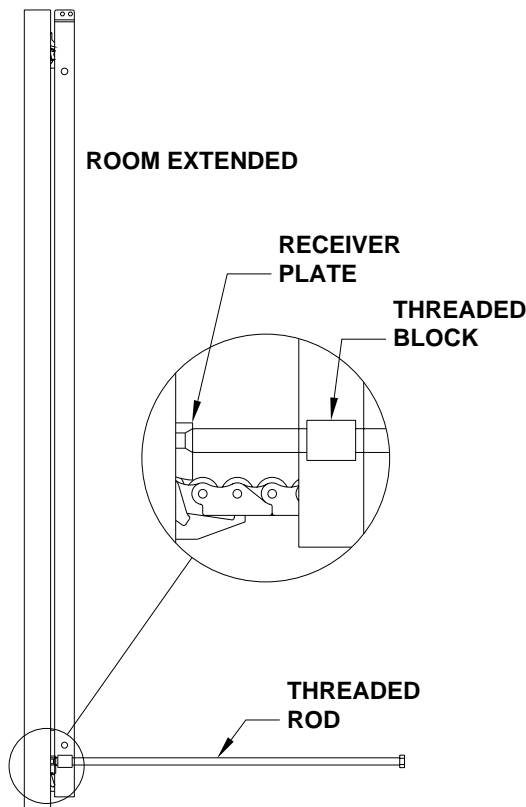
6. Repeat steps 4 and 5 alternating from mechanism to mechanism rotating each threaded rod 12 complete turns until room is sealed. (DO NOT exceed 15 ft.lbs) Make sure the room does not bind.

**IMPORTANT: If at any stage something is not understood or if the room begins to bind DO NOT force the room, contact HWH Customer Service for assistance 1-800-321-3494.**

**NOTE: Leave the solenoid valves open and the threaded rods in place until the room has been serviced.**

**IMPORTANT: DO NOT EXTEND THE ROOM UNTIL THE ROOM HAS BEEN SERVICED. ANY SOLENOID VALVES LEFT OPEN SHOULD BE CLOSED AND THE THREADED RODS SHOULD BE COMPLETELY REMOVED.**

**NOTE: If there is not enough room to remove both threaded rods completely, alternate backing the threaded rods out and slightly extending the room. Be careful to not extend the room so far that the threaded rods impact the coach wall or the mechanism.**



# 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.**

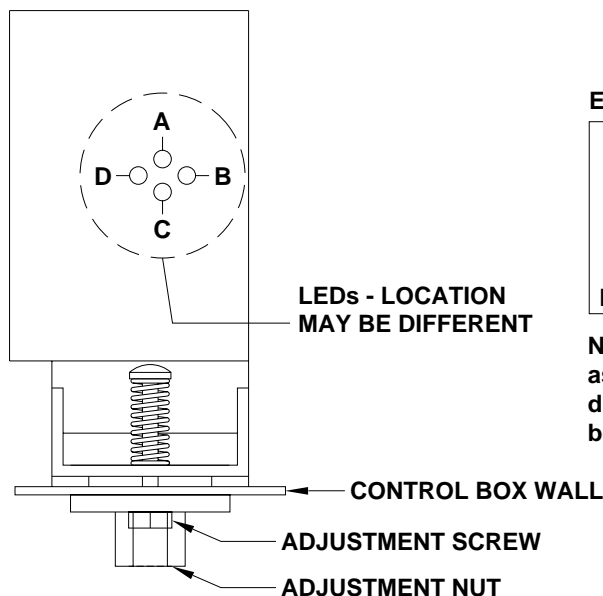
**If LED (C) is lit: Turn the adjustment screw CLOCKWISE until the LED is off.**

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

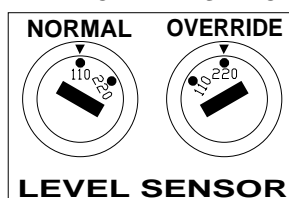
**If LED (D) is lit: Turn the adjustment nut CLOCKWISE until the LED is off.**

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

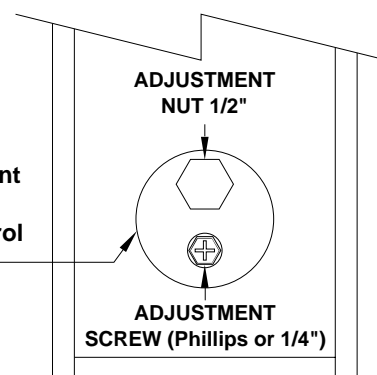


#### ADJUSTING ENHANCEMENT SWITCH



**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

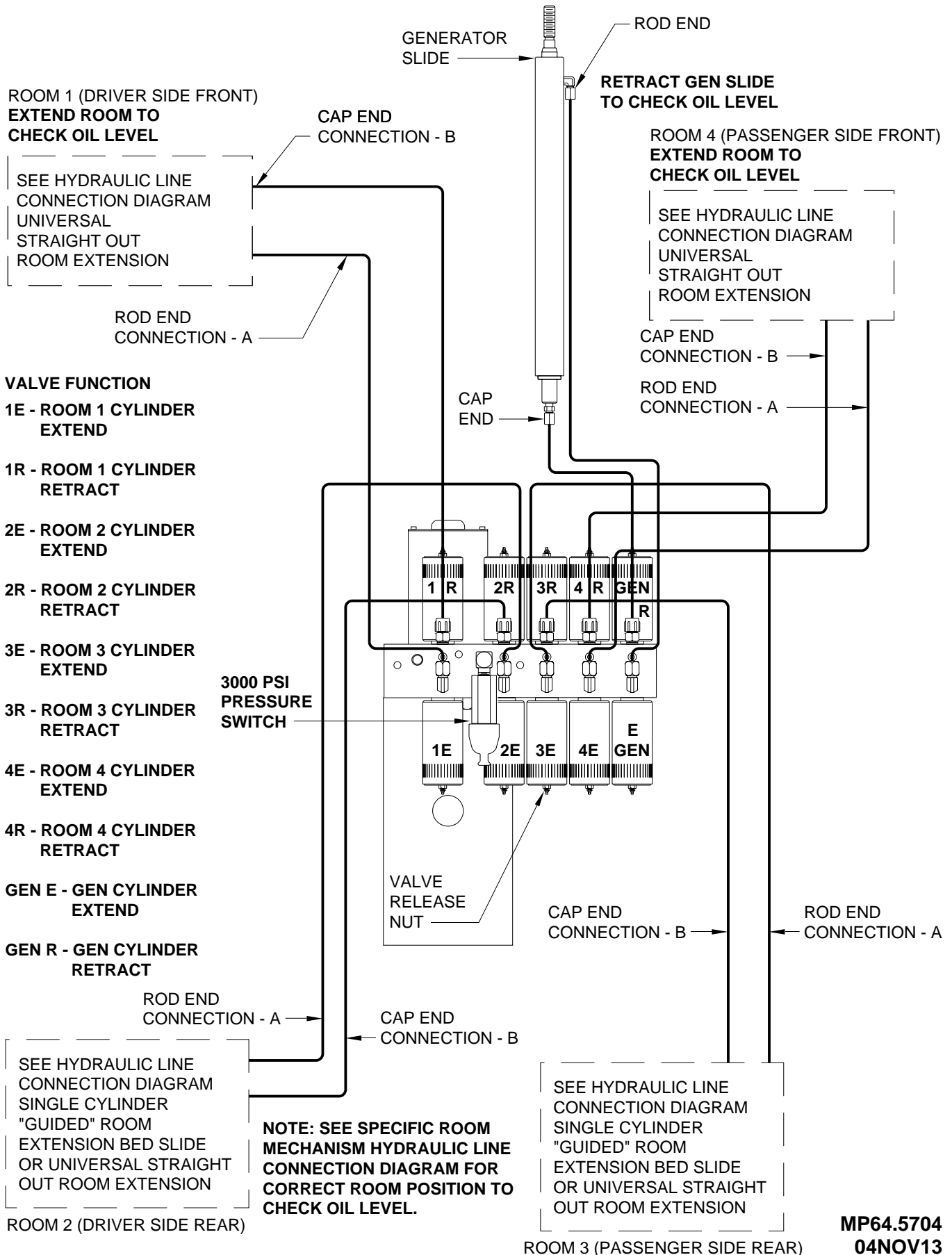
**WARNING:** DO NOT CRAWL UNDER A VEHICLE UNLESS THE FRAME OF THE VEHICLE IS PROPERLY SUPPORTED. DO NOT USE THE AIR SUSPENSION OR LEVELING JACKS TO SUPPORT THE VEHICLE WHILE UNDER THE VEHICLE.

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.

# HYDRAULIC LINE CONNECTION DIAGRAM MULTIPLE EXTENSIONS



---

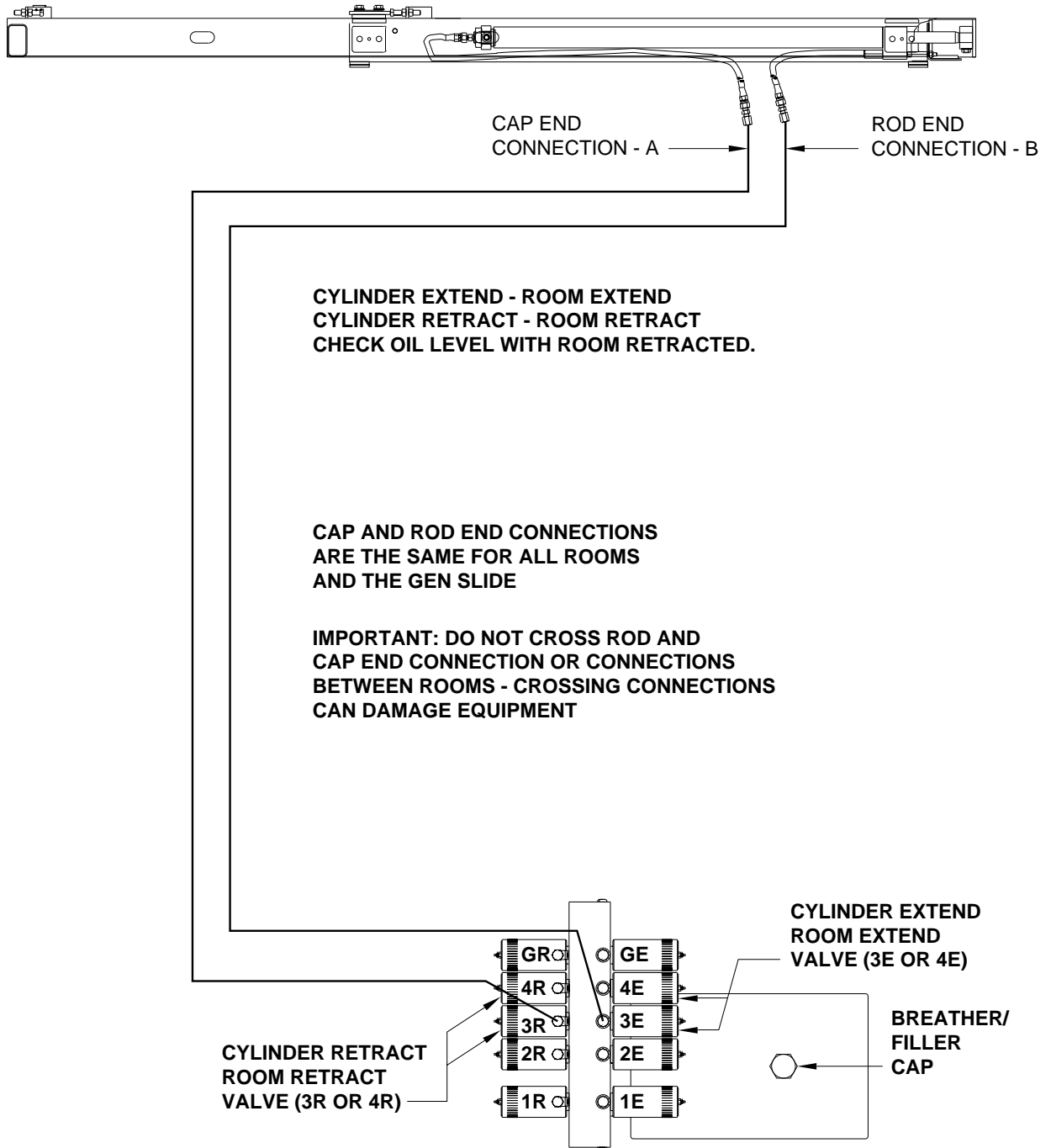
# HYDRAULIC LINE CONNECTION DIAGRAM

## SINGLE CYLINDER "GUIDED" ROOM EXTENSION

### BED SLIDE

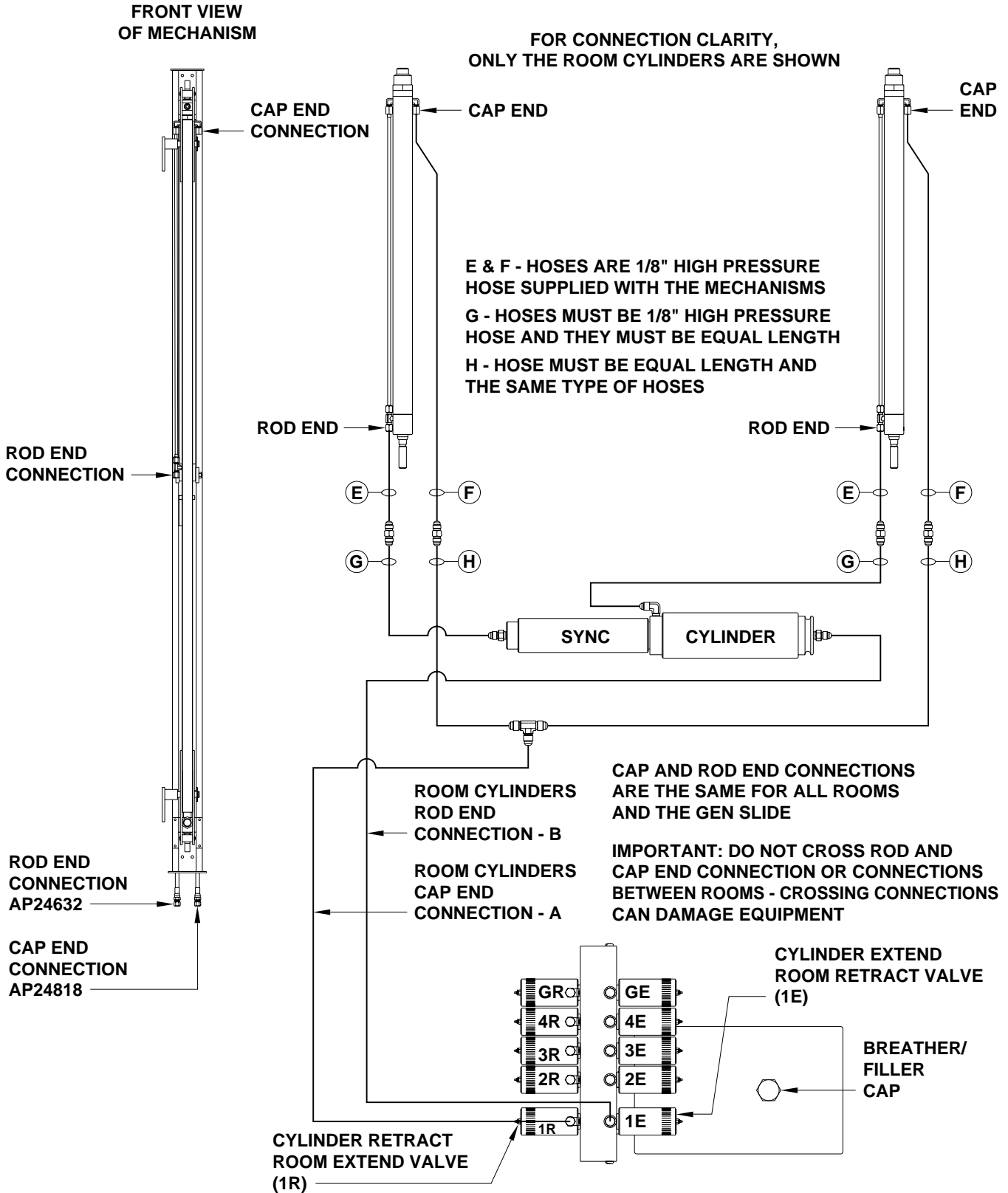
---

**NOTE:** THE ROD END CONNECTION FROM THE MANIFOLD TO THE ROOM CYLINDER IS ALWAYS PRESSURIZED.





# HYDRAULIC LINE CONNECTION DIAGRAM UNIVERSAL STRAIGHT OUT ROOM EXTENSION

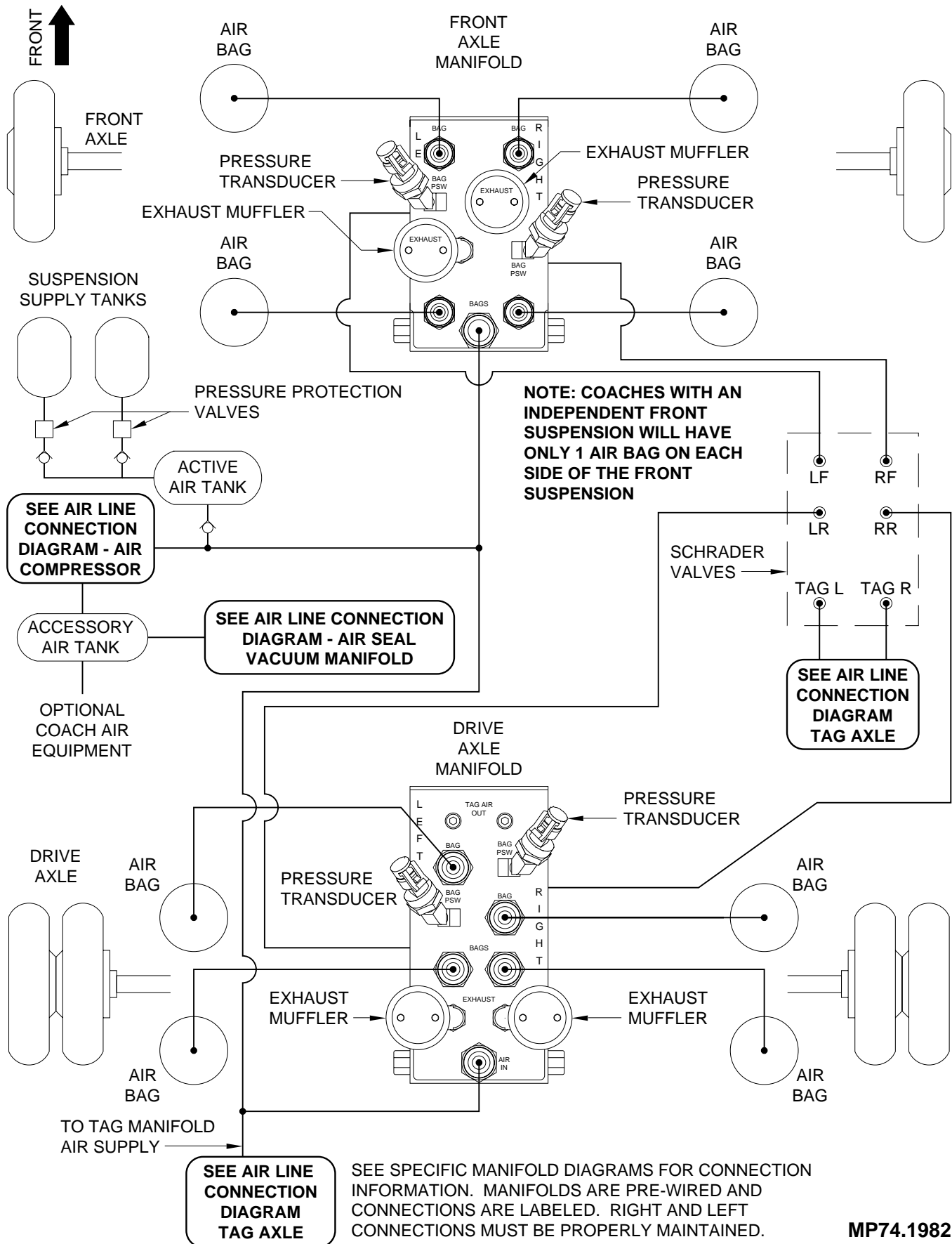


CYLINDER EXTEND - ROOM RETRACT  
CYLINDER RETRACT - ROOM EXTEND  
CHECK OIL LEVEL WITH ROOM EXTENDED

# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR - FORETRAVEL

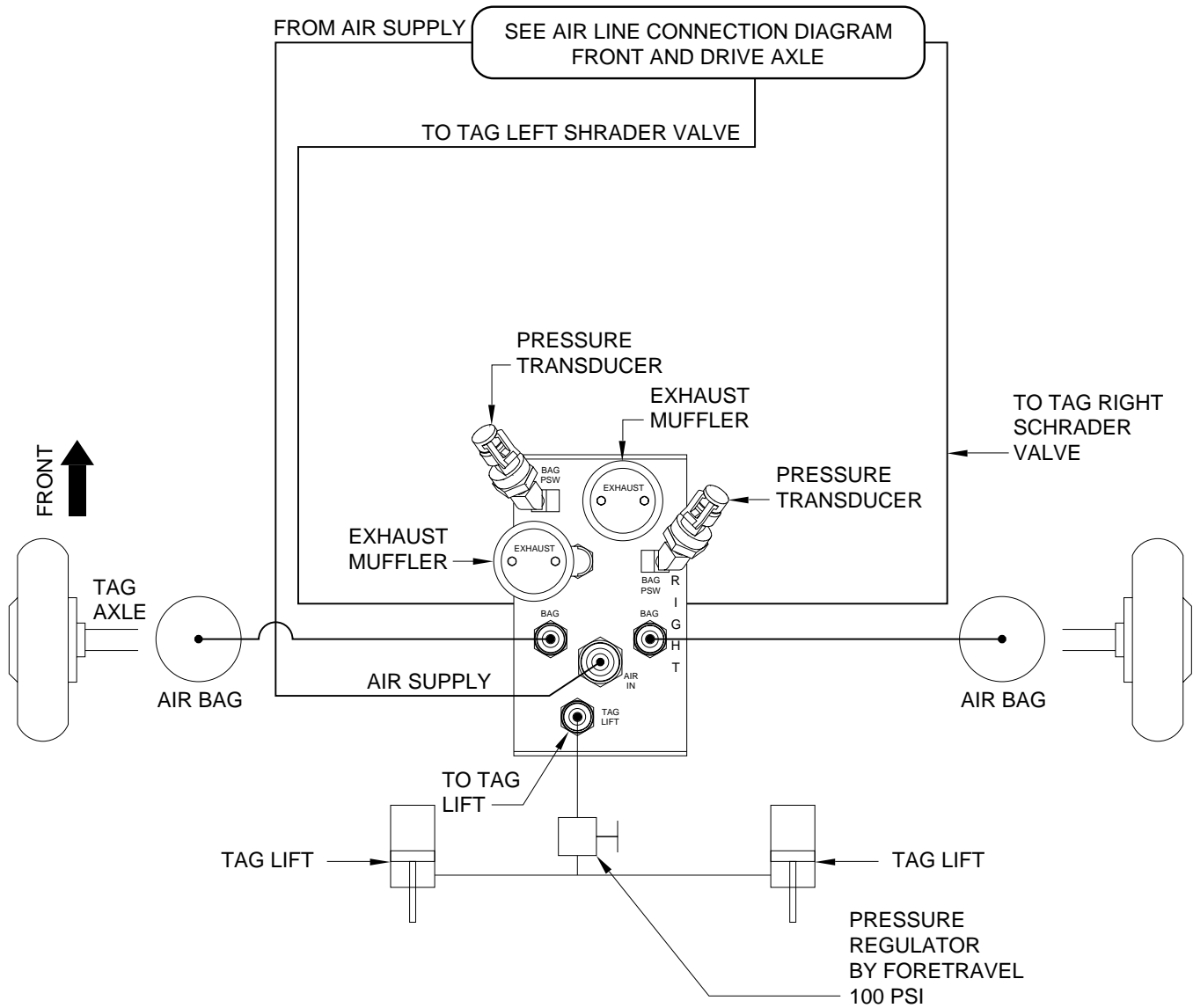
### FRONT AND DRIVE AXLES



# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR - FORETRAVEL

### TAG AXLE



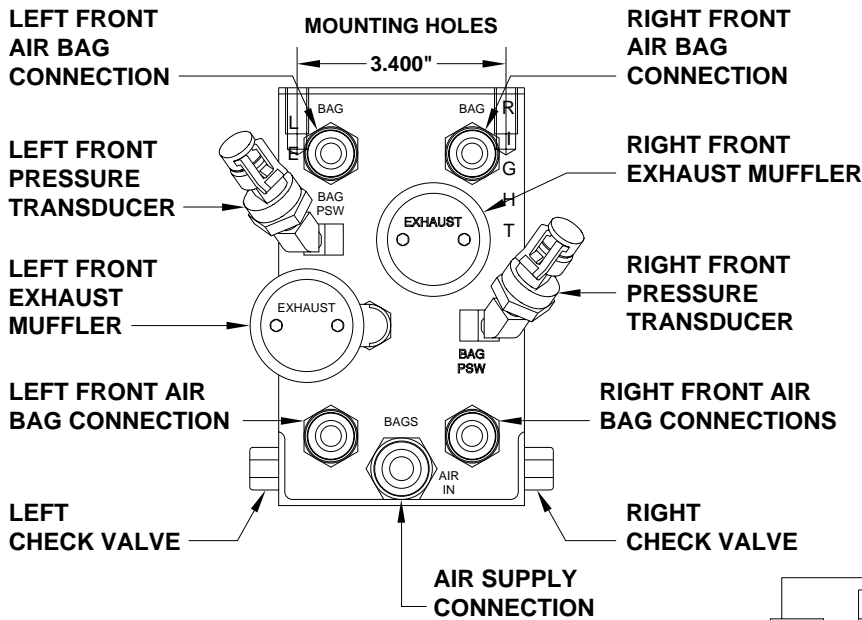
**IMPORTANT:** MANIFOLDS ARE PRE WIRED AND CONNECTIONS ARE LABELED. RIGHT AND LEFT CONNECTIONS MUST BE PROPERLY MAINTAINED

SEE SPECIFIC MANIFOLD DIAGRAMS FOR CONNECTION INFORMATION

# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR - FORETRAVEL

### FRONT AXLE AIR MANIFOLD ASSEMBLY

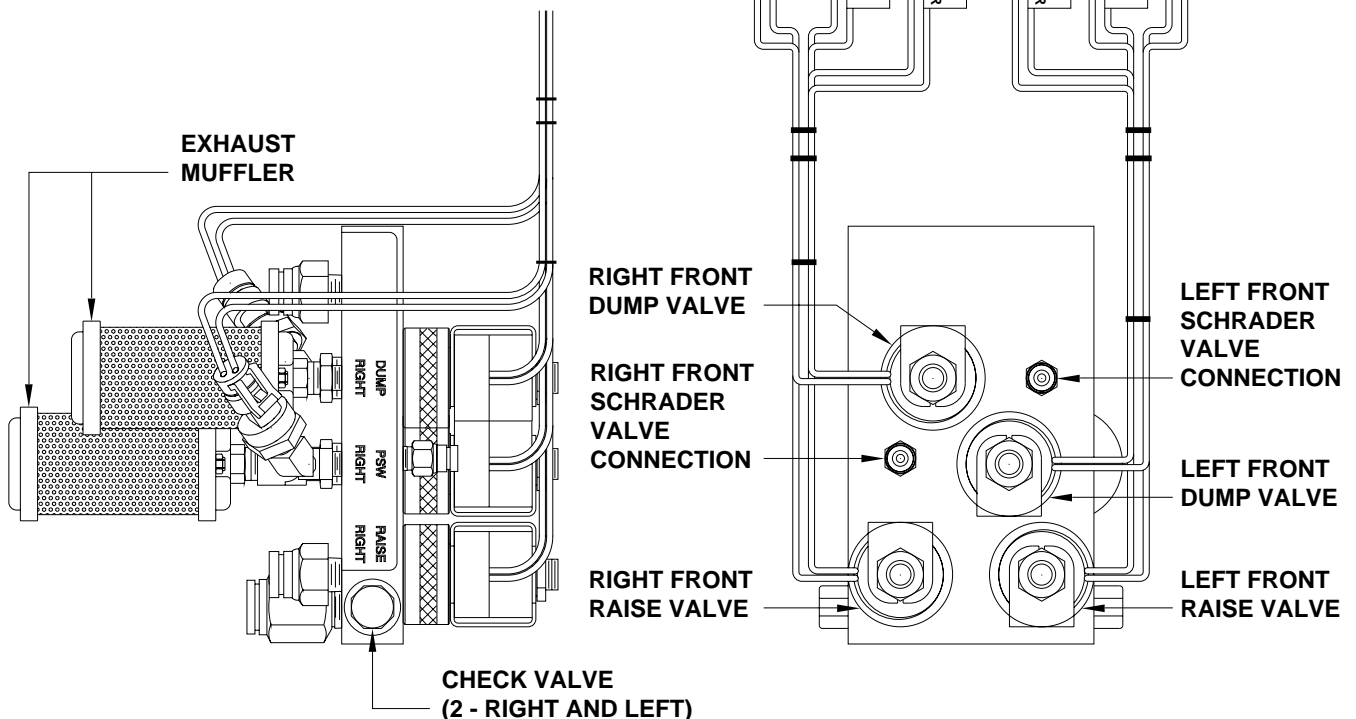
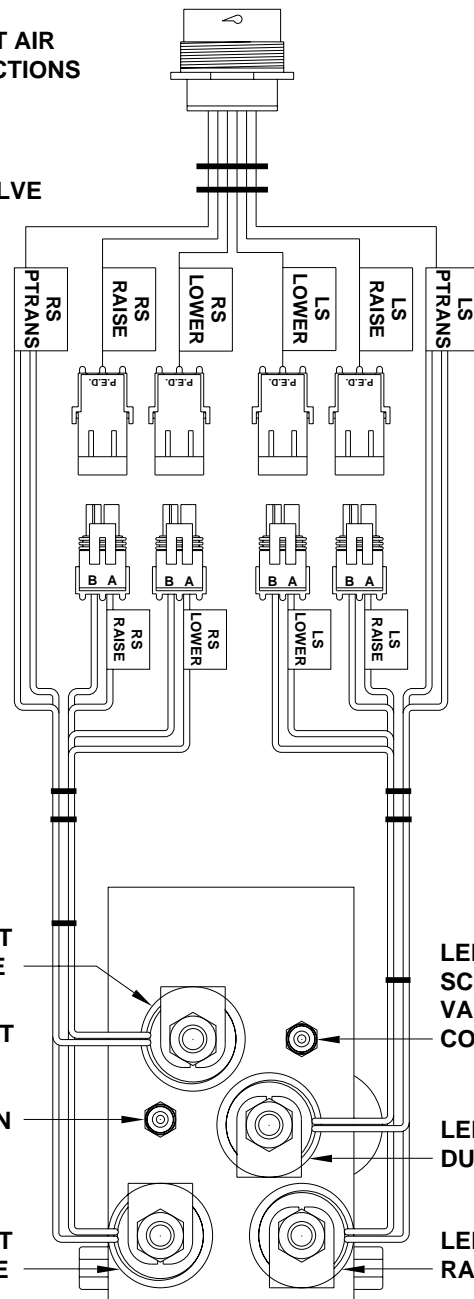


**NOTE: COACHES WITH INDEPENDENT FRONT SUSPENSION WILL USE ONLY 1 RIGHT AND 1 LEFT AIR BAG CONNECTION**

**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.**

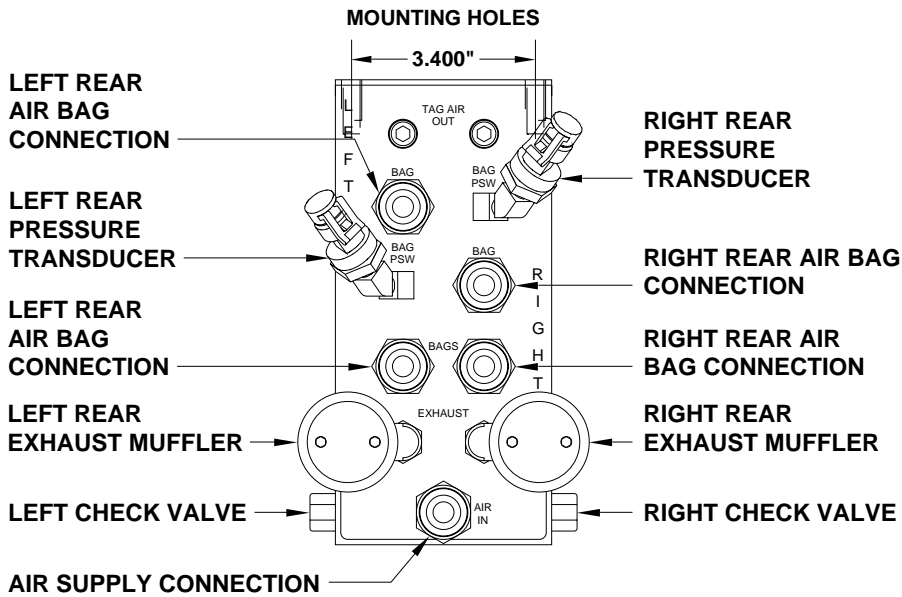
**NOTE: SOLENOID VALVES AND AIR LINE CONNECTIONS ARE LABELED.**



# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR - FORETRAVEL

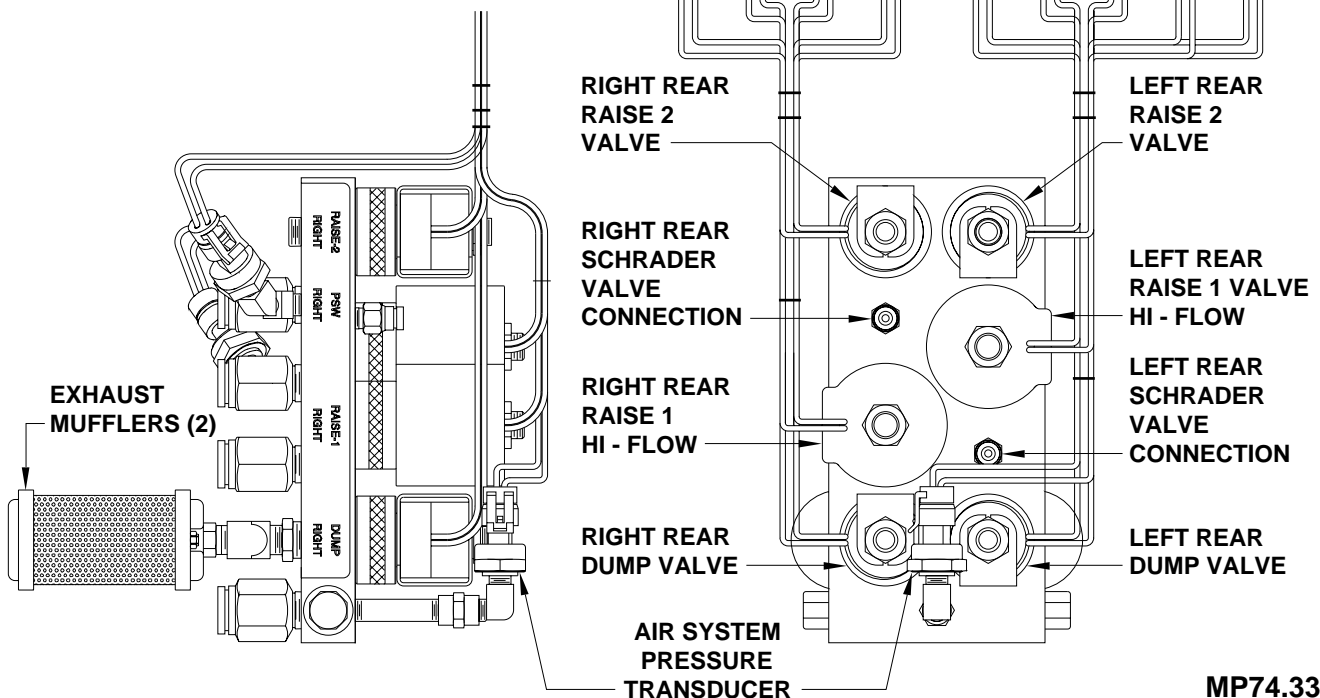
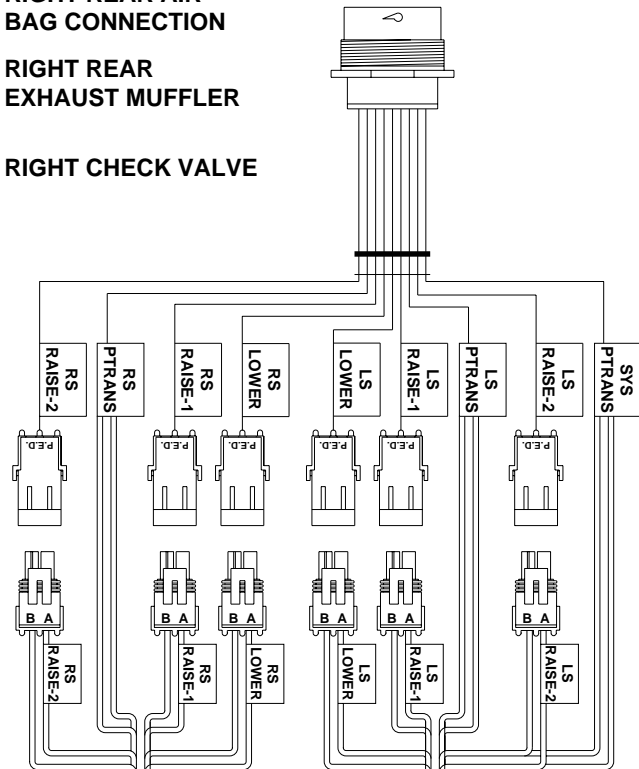
### DRIVE AXLE AIR MANIFOLD ASSEMBLY



**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.**

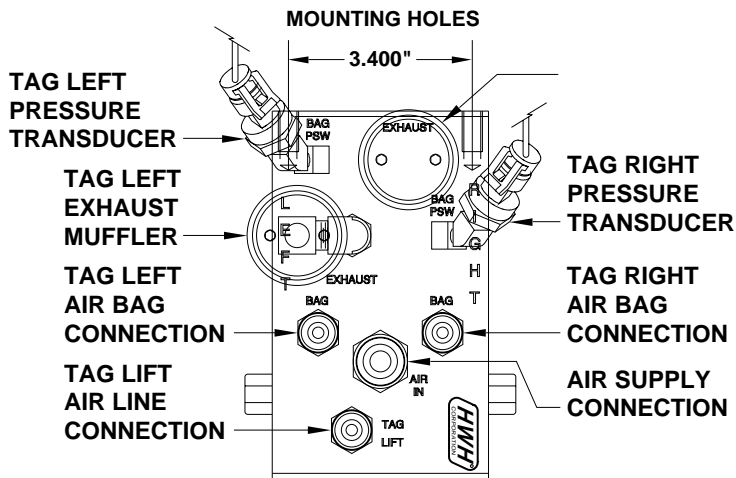
**NOTE: SOLENOID VALVES AND AIR LINE CONNECTIONS ARE LABELED.**



# AIR LINE CONNECTION DIAGRAM

## ACTIVE AIR - FORETRAVEL

### TAG AXLE AIR MANIFOLD ASSEMBLY

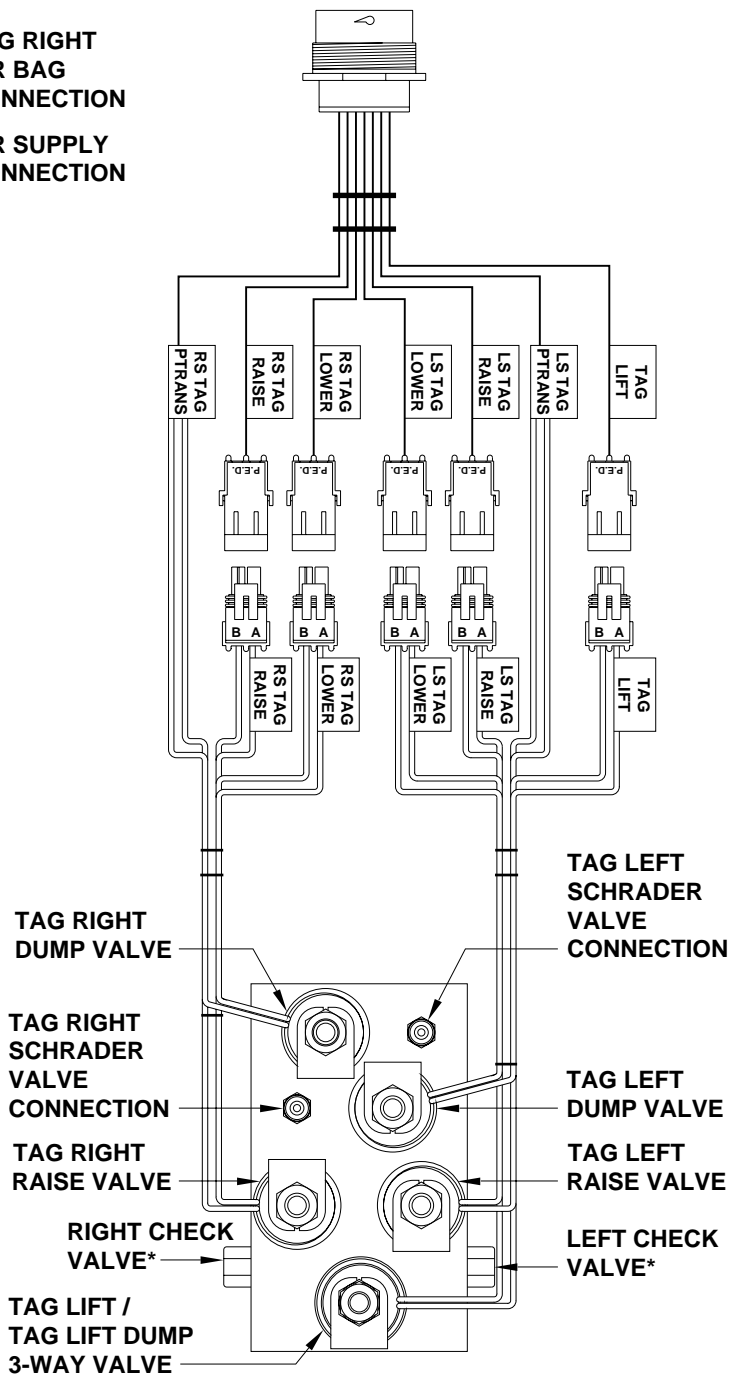
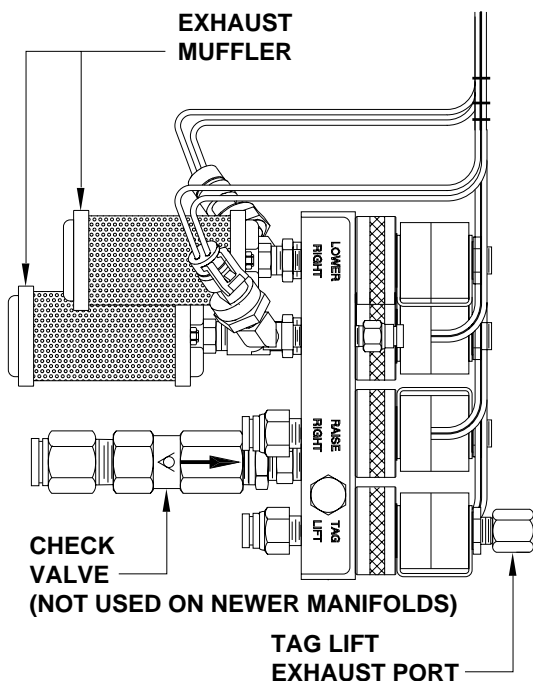


**IMPORTANT: LEFT AND RIGHT CONNECTIONS MUST BE MAINTAINED AS SHOWN. GROUND SUPPLY WIRES FOR PRESSURE TRANSDUCERS AND AIR SOLENOID VALVES CANNOT BE INTERCHANGED.**

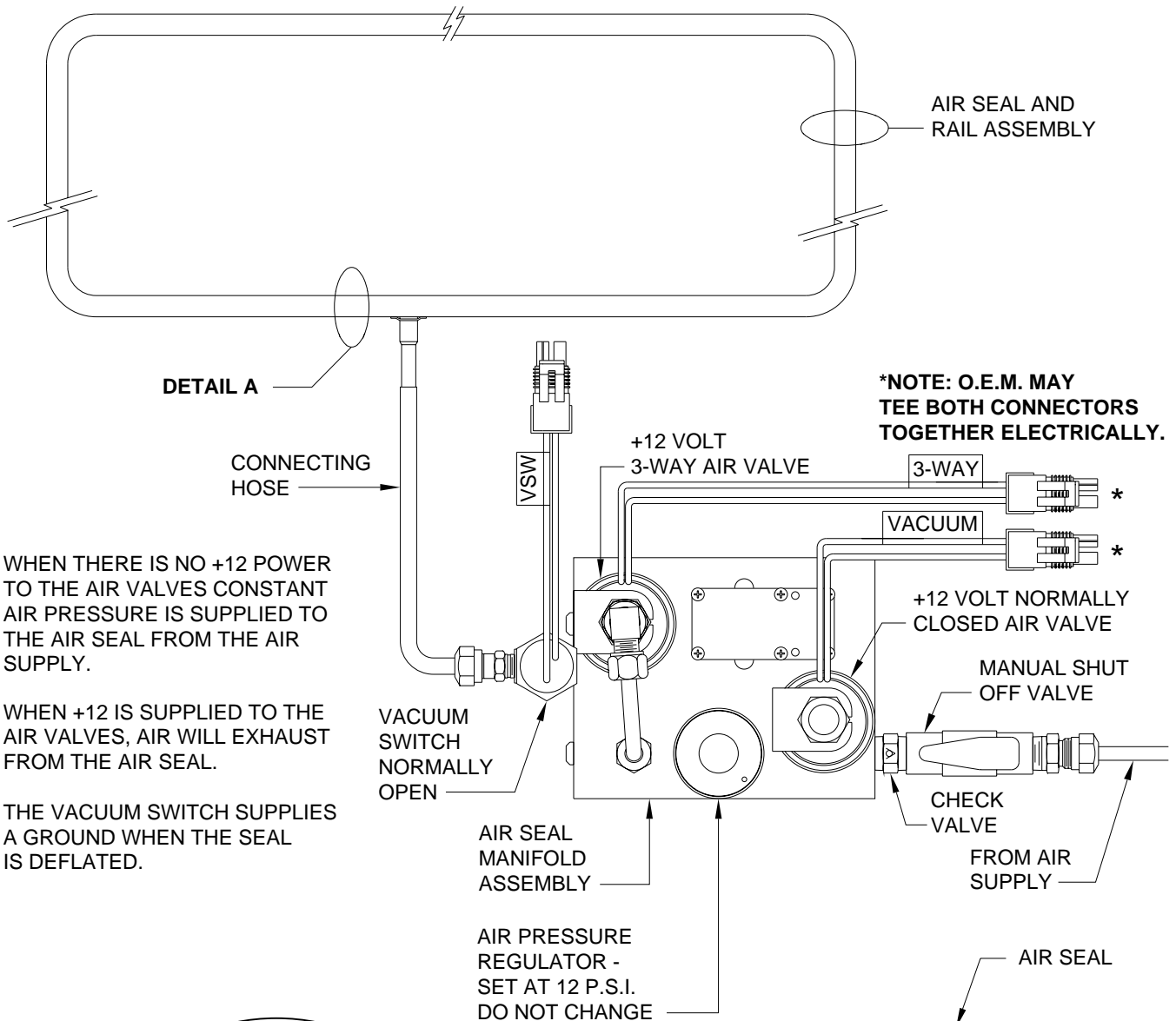
**THE DUMP AND RAISE VALVES ARE DIFFERENT AND CANNOT BE INTERCHANGED.**

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

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



# AIR SEAL CONNECTION DIAGRAM



**\*NOTE: O.E.M. MAY TEE BOTH CONNECTORS TOGETHER ELECTRICALLY.**

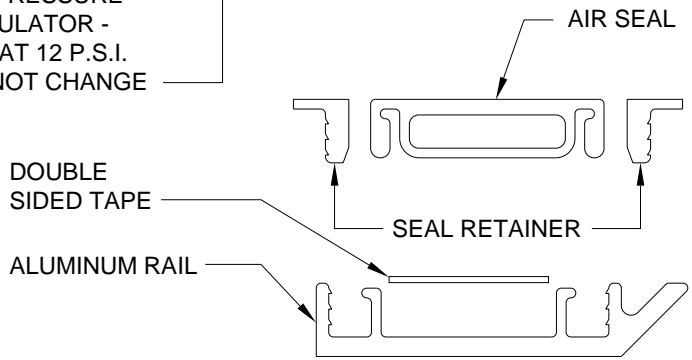
WHEN THERE IS NO +12 POWER TO THE AIR VALVES CONSTANT AIR PRESSURE IS SUPPLIED TO THE AIR SEAL FROM THE AIR SUPPLY.

WHEN +12 IS SUPPLIED TO THE AIR VALVES, AIR WILL EXHAUST FROM THE AIR SEAL.

THE VACUUM SWITCH SUPPLIES A GROUND WHEN THE SEAL IS DEFLATED.

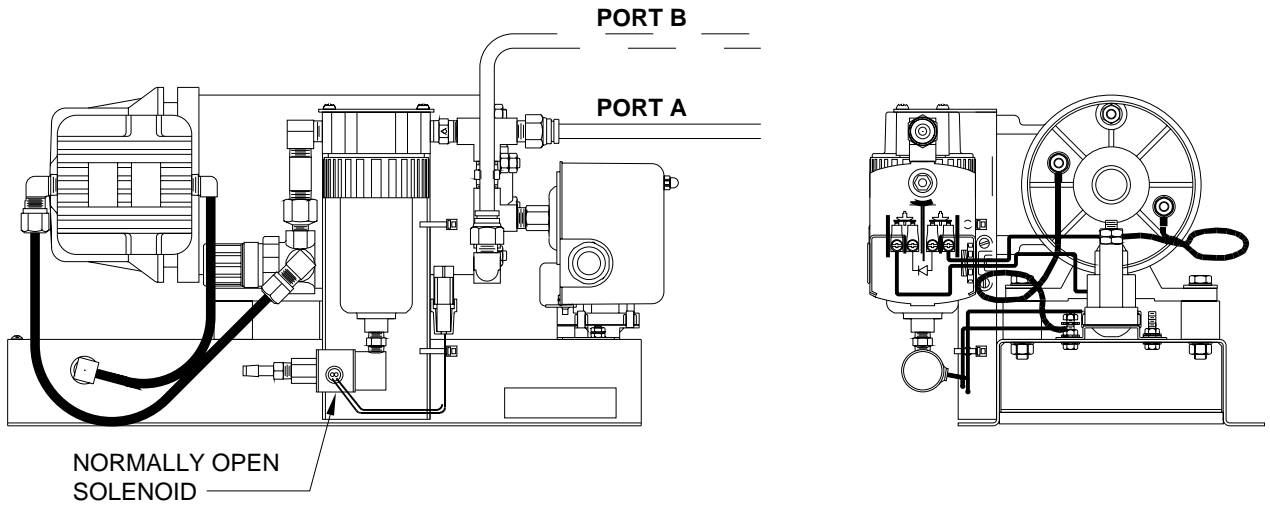
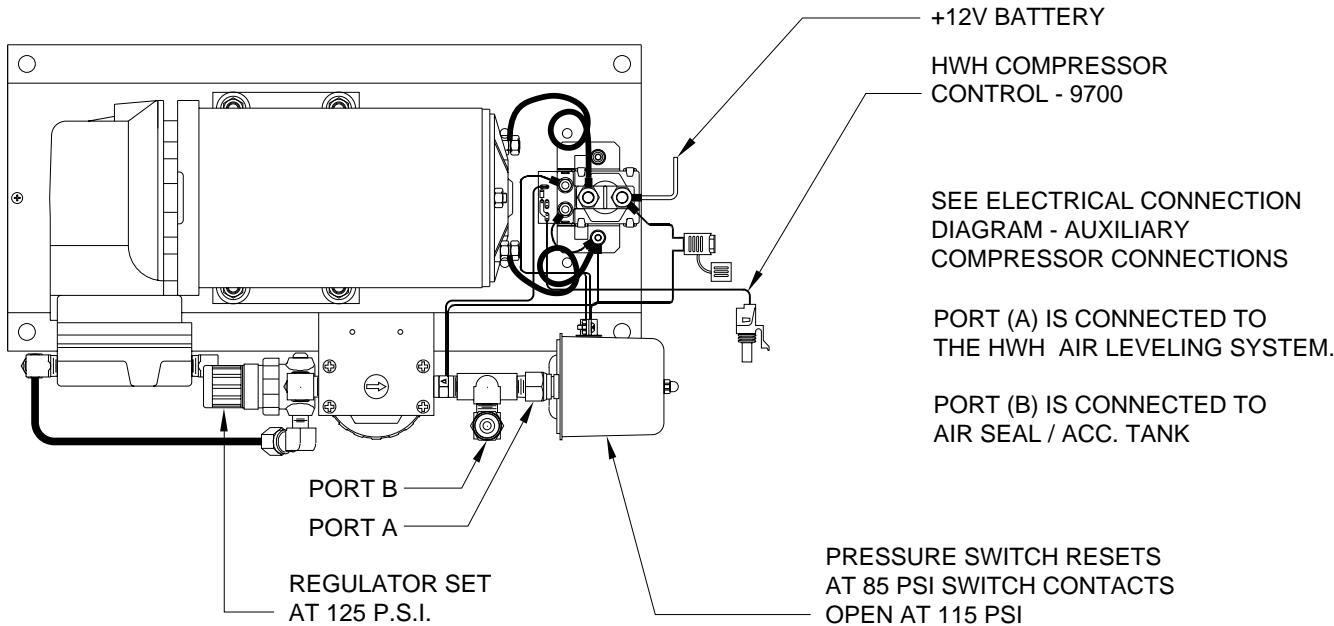


**DETAIL A**



**EXPLODED VIEW**

# AIR CONNECTION DIAGRAM AUXILIARY COMPRESSOR

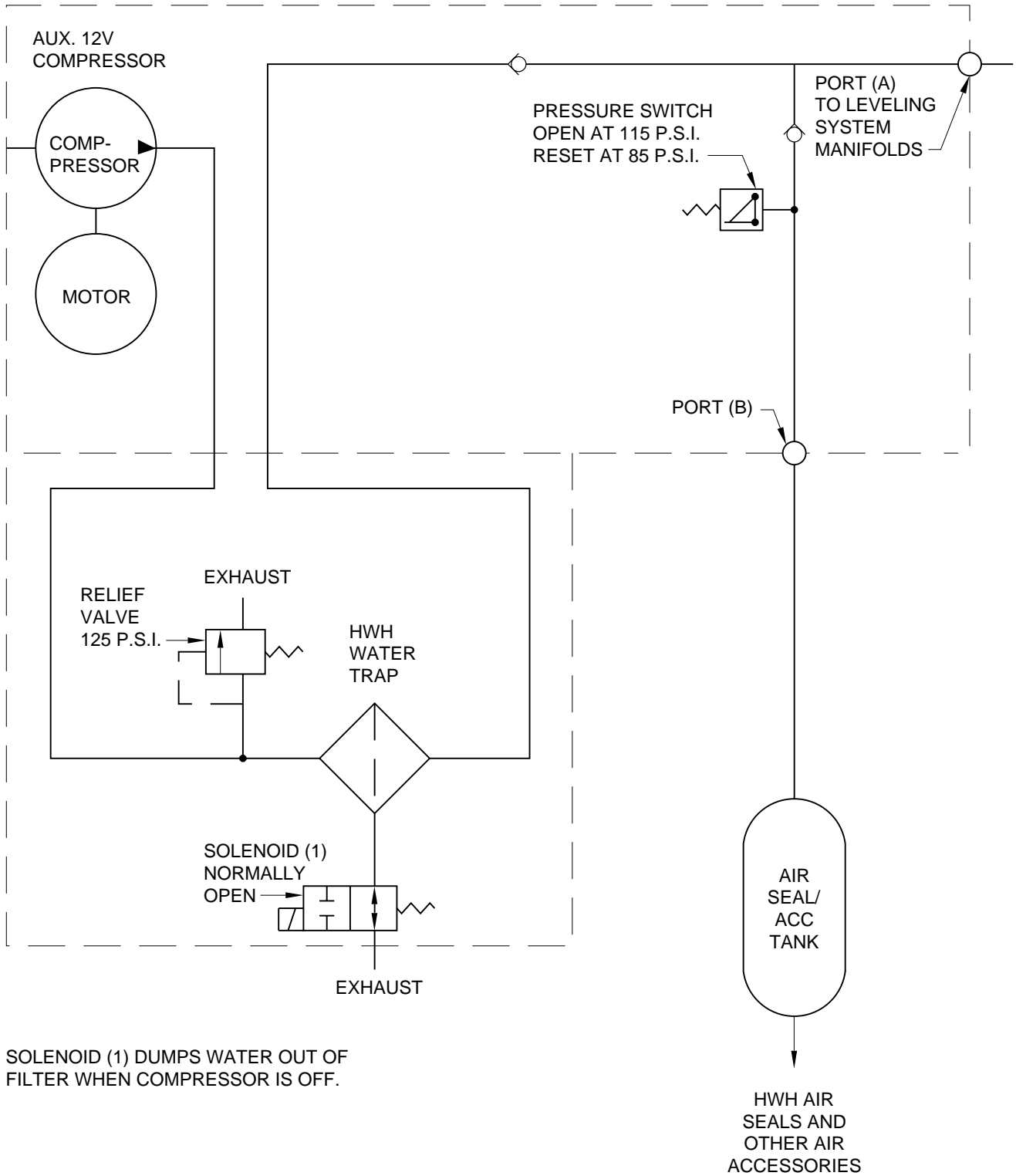


THE AIR COMPRESSOR RUNS WHENEVER THE PRESSURE SWITCH RESETS. THIS MAINTAINS THE AIR SEAL/ACC. TANK AT A MINIMUM OF 85 PSI.



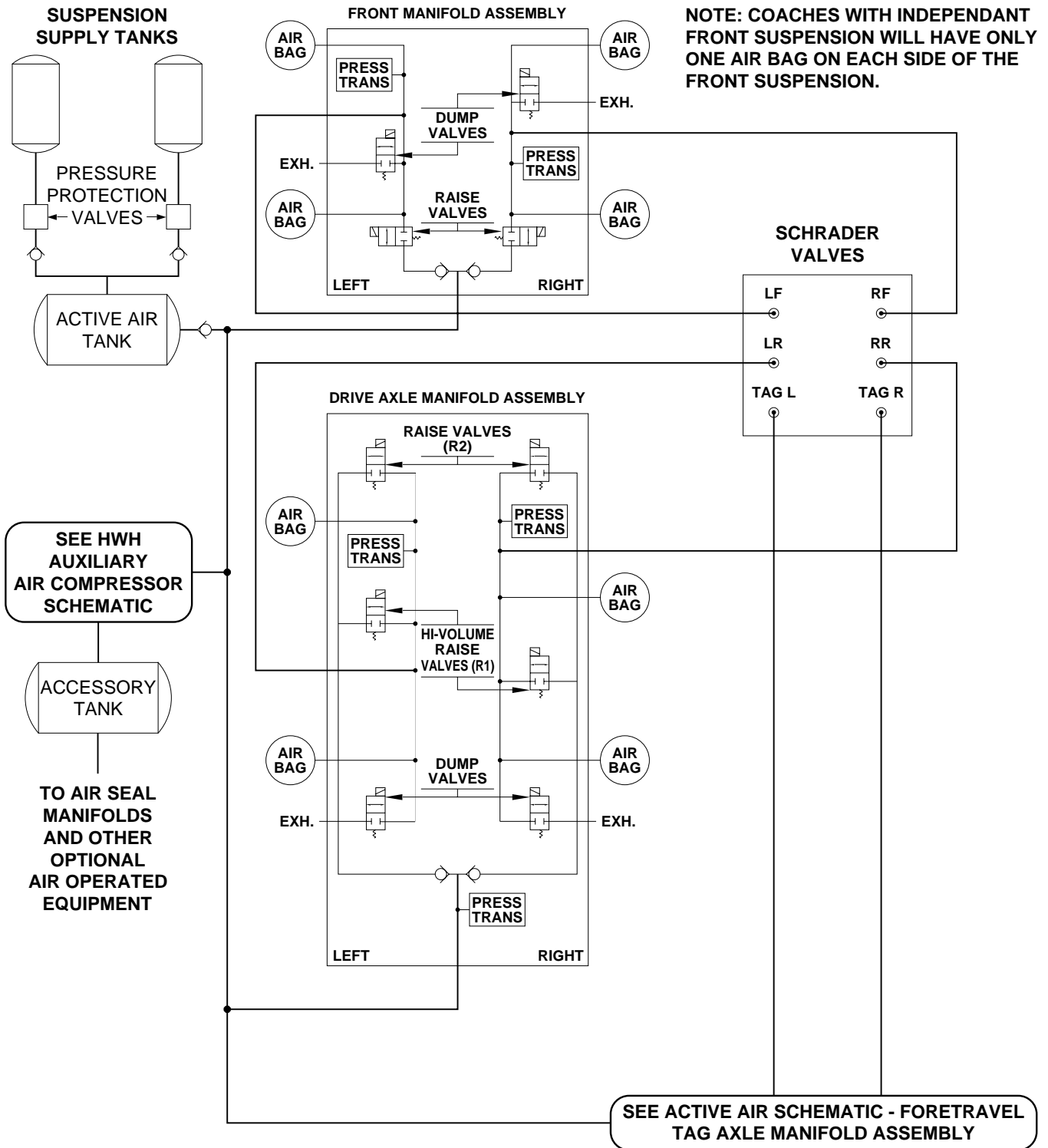
# AIR CONNECTION DIAGRAM

## AIR COMPRESSOR SCHEMATIC

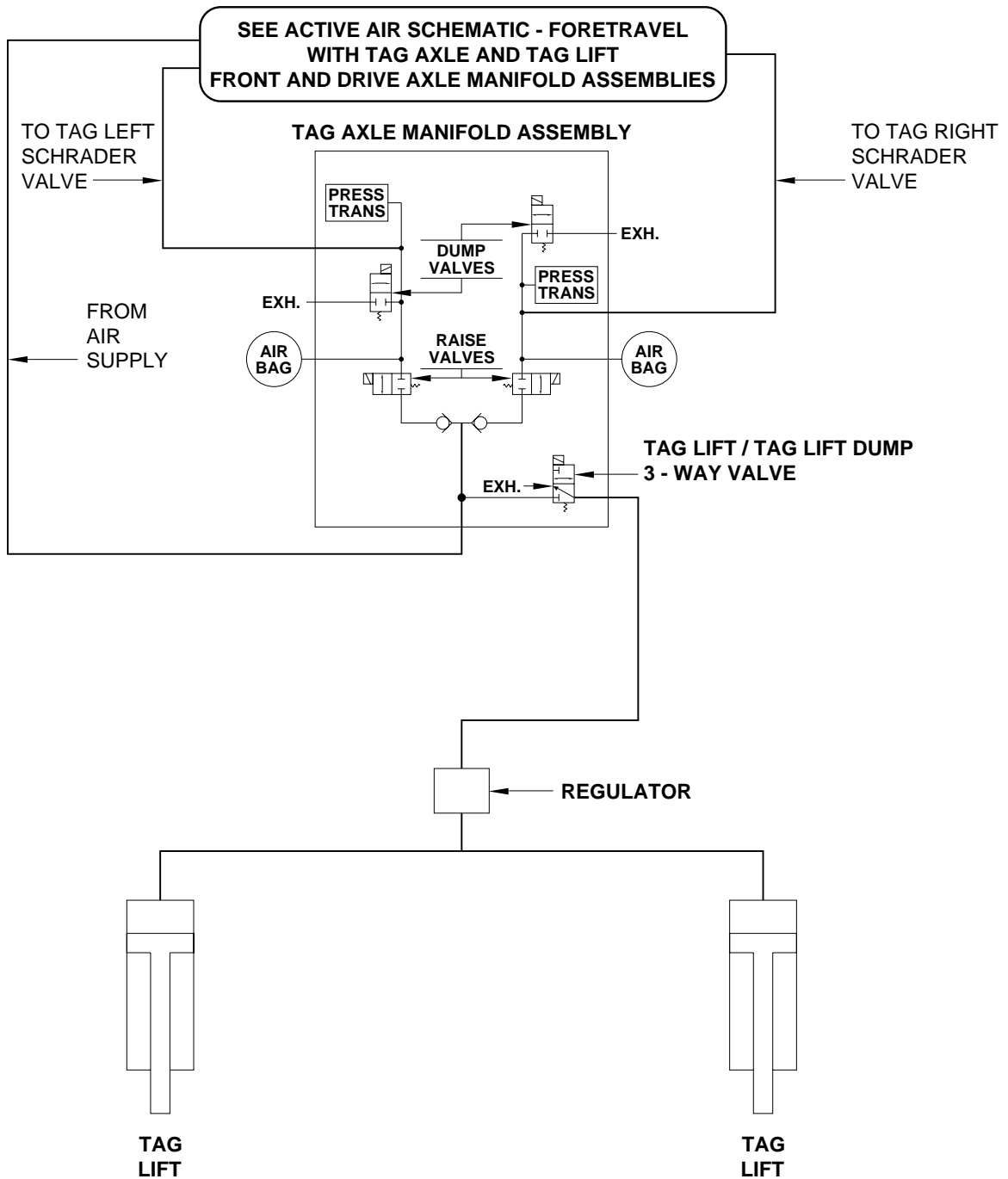


SOLENOID (1) DUMPS WATER OUT OF FILTER WHEN COMPRESSOR IS OFF.

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



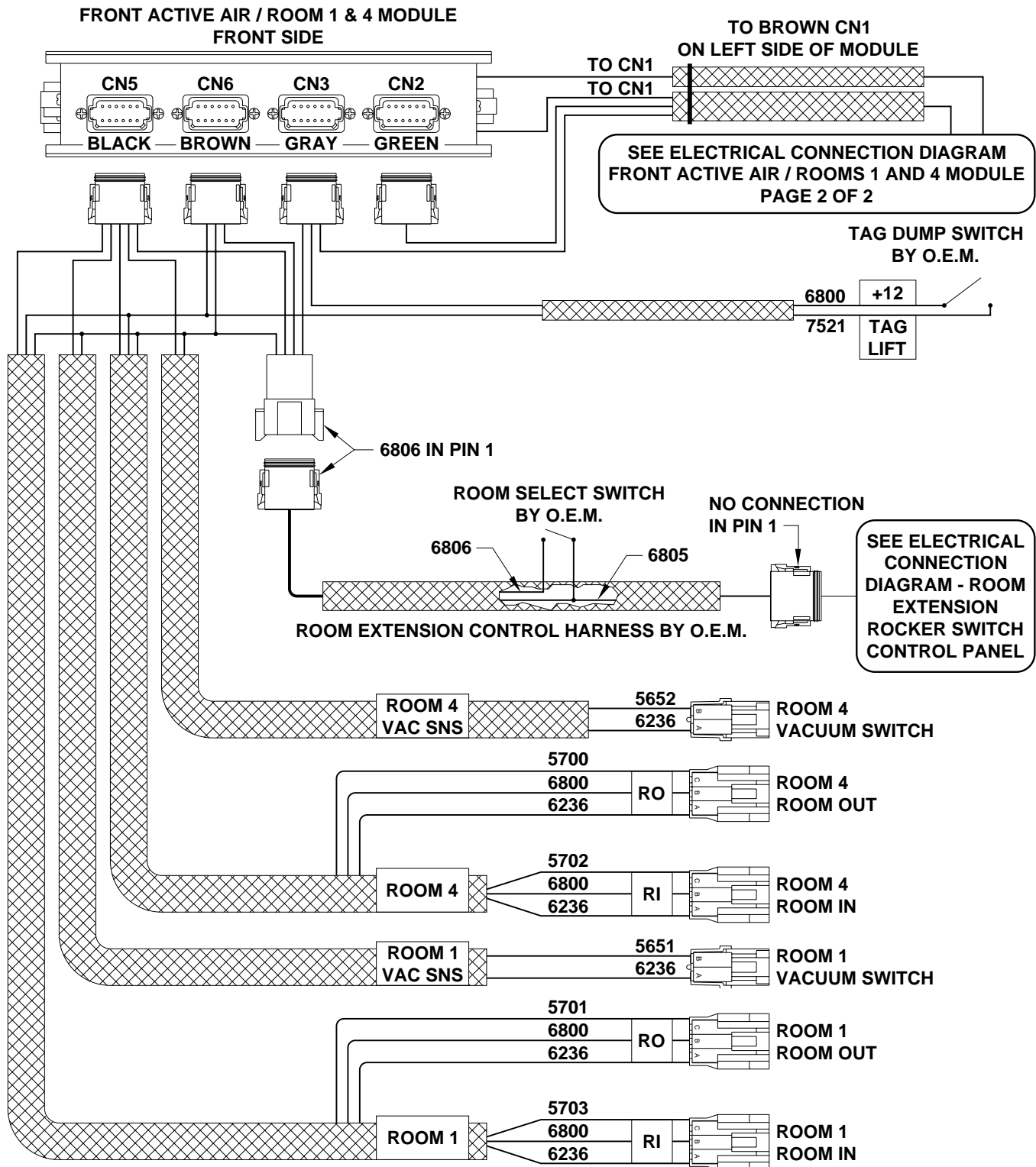
# AIR LINE CONNECTION DIAGRAM WITH TAG AXLE AND TAG LIFT TAG AXLE MANIFOLD ASSEMBLIES



# ELECTRICAL CONNECTION DIAGRAM

## FRONT ACTIVE AIR - ROOMS 1 AND 4 MODULE

PAGE 1 OF 2



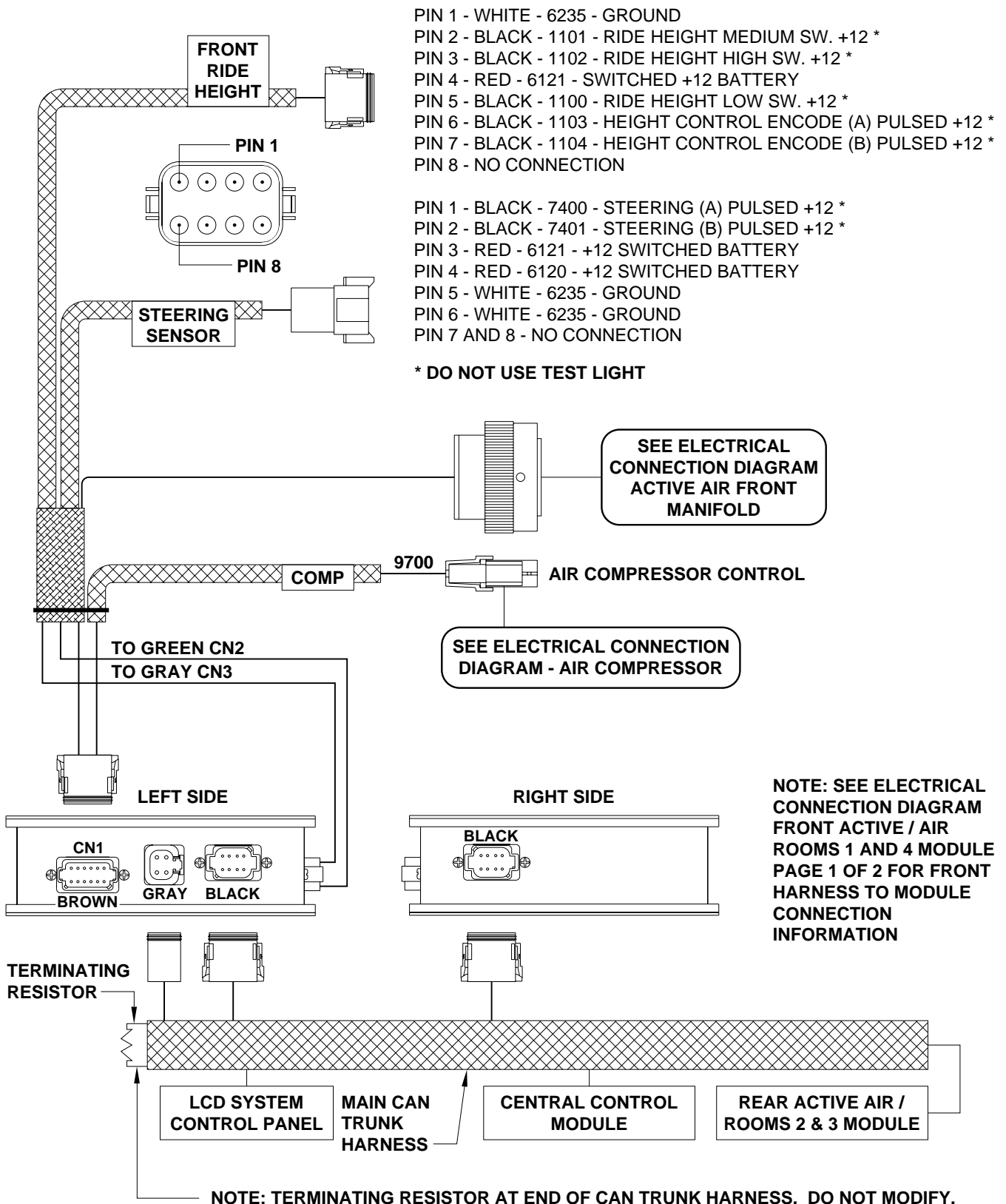
SEE ELECTRICAL CONNECTION DIAGRAM - FRONT ACTIVE AIR / ROOMS 1 AND 4 MODULE PAGE 2 OF 2 FOR LEFT AND RIGHT SIDE HARNESS TO MODULE CONNECTION INFORMATION

NOTE: FOR MODULE CONNECTION PIN AND WIRE INFORMATION SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTOR INFORMATION - FRONT ACTIVE AIR / ROOMS 1 AND 4 MODULE - PAGE 2 OF 5

# ELECTRICAL CONNECTION DIAGRAM

## FRONT ACTIVE AIR - ROOMS 1 AND 4 MODULE

PAGE 2 OF 2



PIN 1 - WHITE - 6235 - GROUND  
 PIN 2 - BLACK - 1101 - RIDE HEIGHT MEDIUM SW. +12 \*  
 PIN 3 - BLACK - 1102 - RIDE HEIGHT HIGH SW. +12 \*  
 PIN 4 - RED - 6121 - SWITCHED +12 BATTERY  
 PIN 5 - BLACK - 1100 - RIDE HEIGHT LOW SW. +12 \*  
 PIN 6 - BLACK - 1103 - HEIGHT CONTROL ENCODE (A) PULSED +12 \*  
 PIN 7 - BLACK - 1104 - HEIGHT CONTROL ENCODE (B) PULSED +12 \*  
 PIN 8 - NO CONNECTION

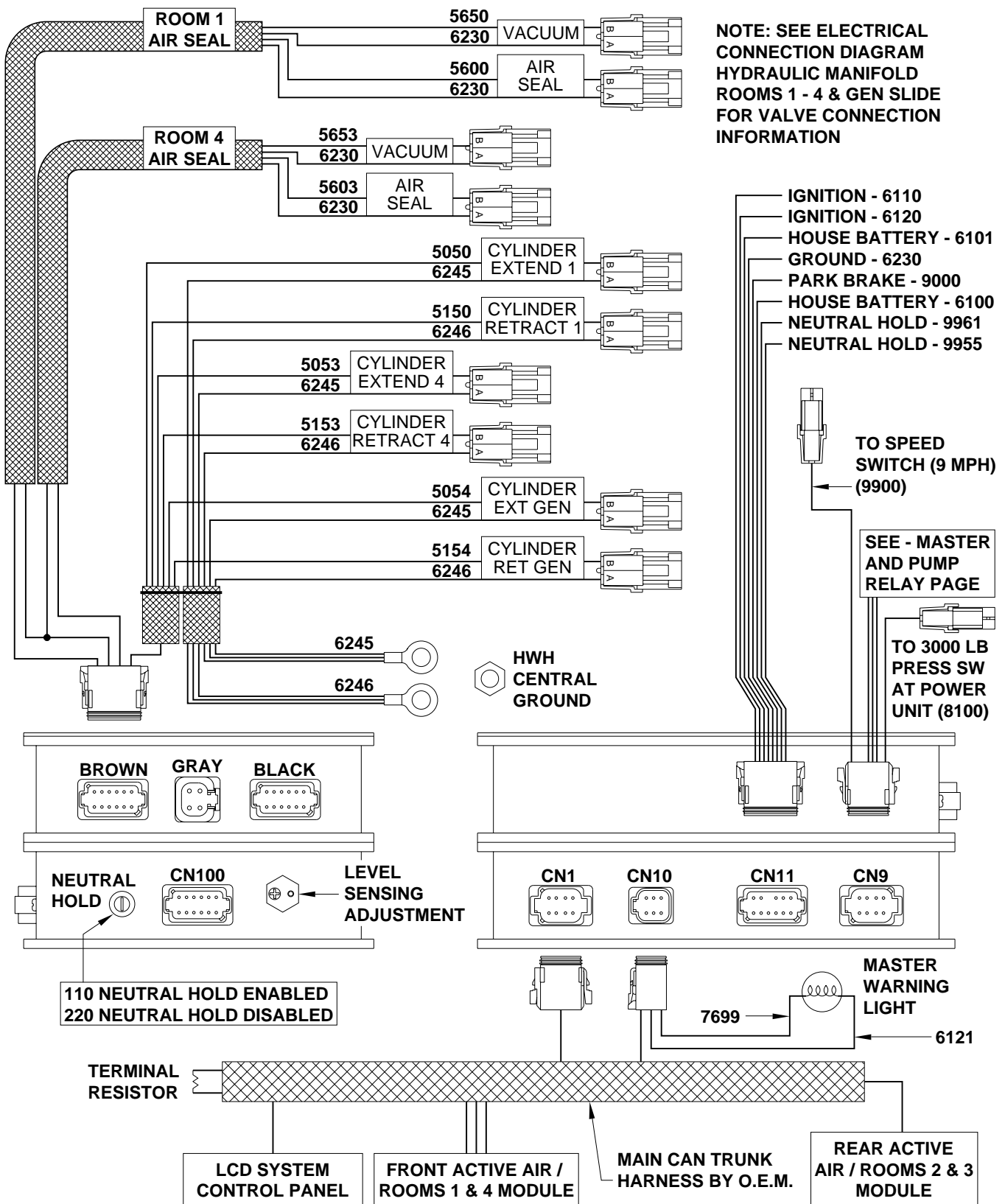
PIN 1 - BLACK - 7400 - STEERING (A) PULSED +12 \*  
 PIN 2 - BLACK - 7401 - STEERING (B) PULSED +12 \*  
 PIN 3 - RED - 6121 - +12 SWITCHED BATTERY  
 PIN 4 - RED - 6120 - +12 SWITCHED BATTERY  
 PIN 5 - WHITE - 6235 - GROUND  
 PIN 6 - WHITE - 6235 - GROUND  
 PIN 7 AND 8 - NO CONNECTION

**\* DO NOT USE TEST LIGHT**

**NOTE: FOR MODULE CONNECTION PIN AND WIRE INFORMATION SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTOR INFORMATION - FRONT ACTIVE AIR / ROOMS 1 & 4 MODULE - PAGE 1 OF 5**

# ELECTRICAL CONNECTION DIAGRAM CENTRAL CONTROL MODULE

PAGE 1 OF 2



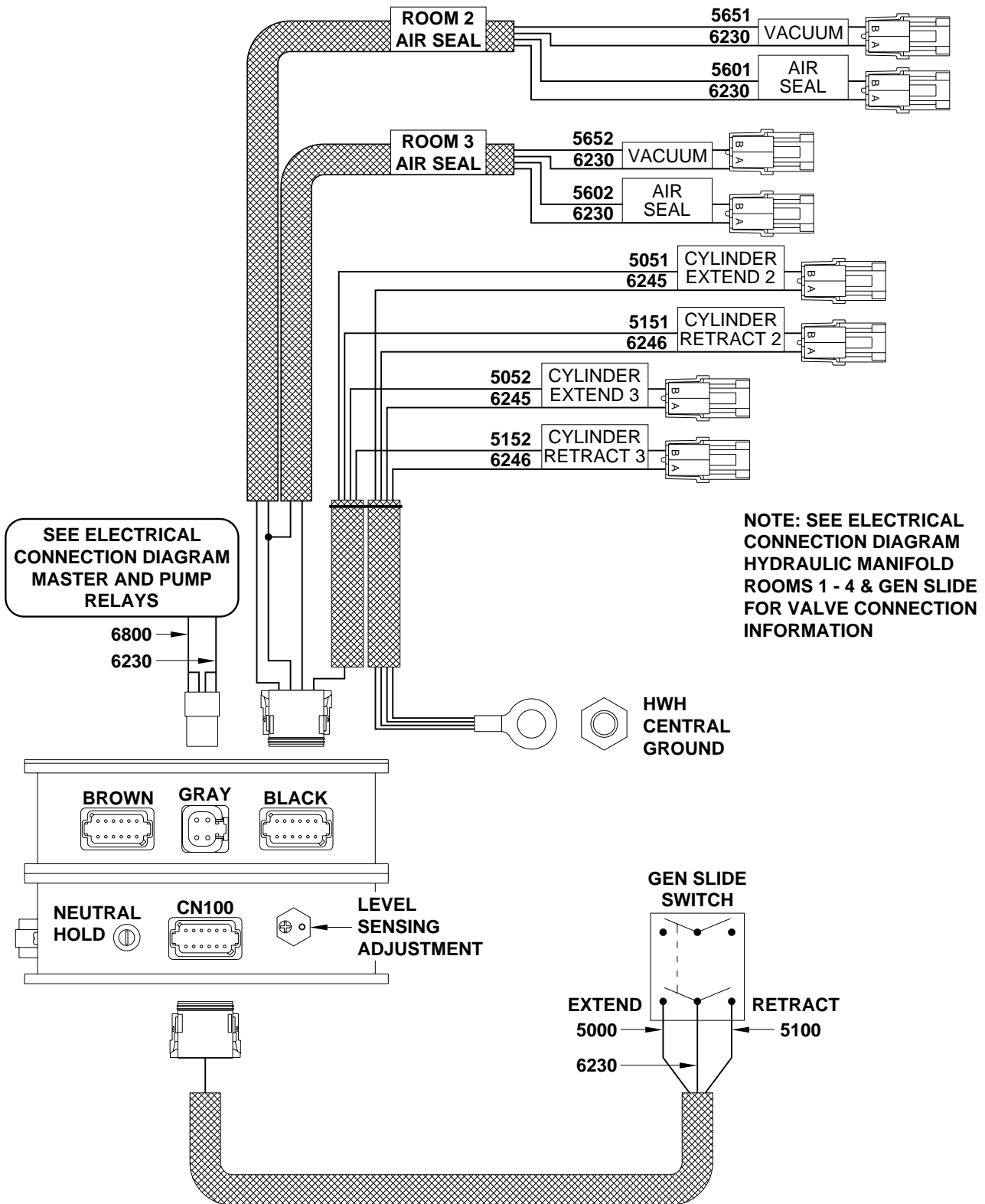
**NOTE: TERMINATING RESISTOR AT THE END OF THE TRUNK HARNESS DO NOT MODIFY**

**NOTE: FOR MODULE CONNECTION PIN AND WIRE INFORMATION - SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTOR INFORMATION - CENTRAL CONTROL MODULE - PAGES 1 & 2 OF 5**

# ELECTRICAL CONNECTION DIAGRAM

## CENTRAL CONTROL MODULE

PAGE 2 OF 2



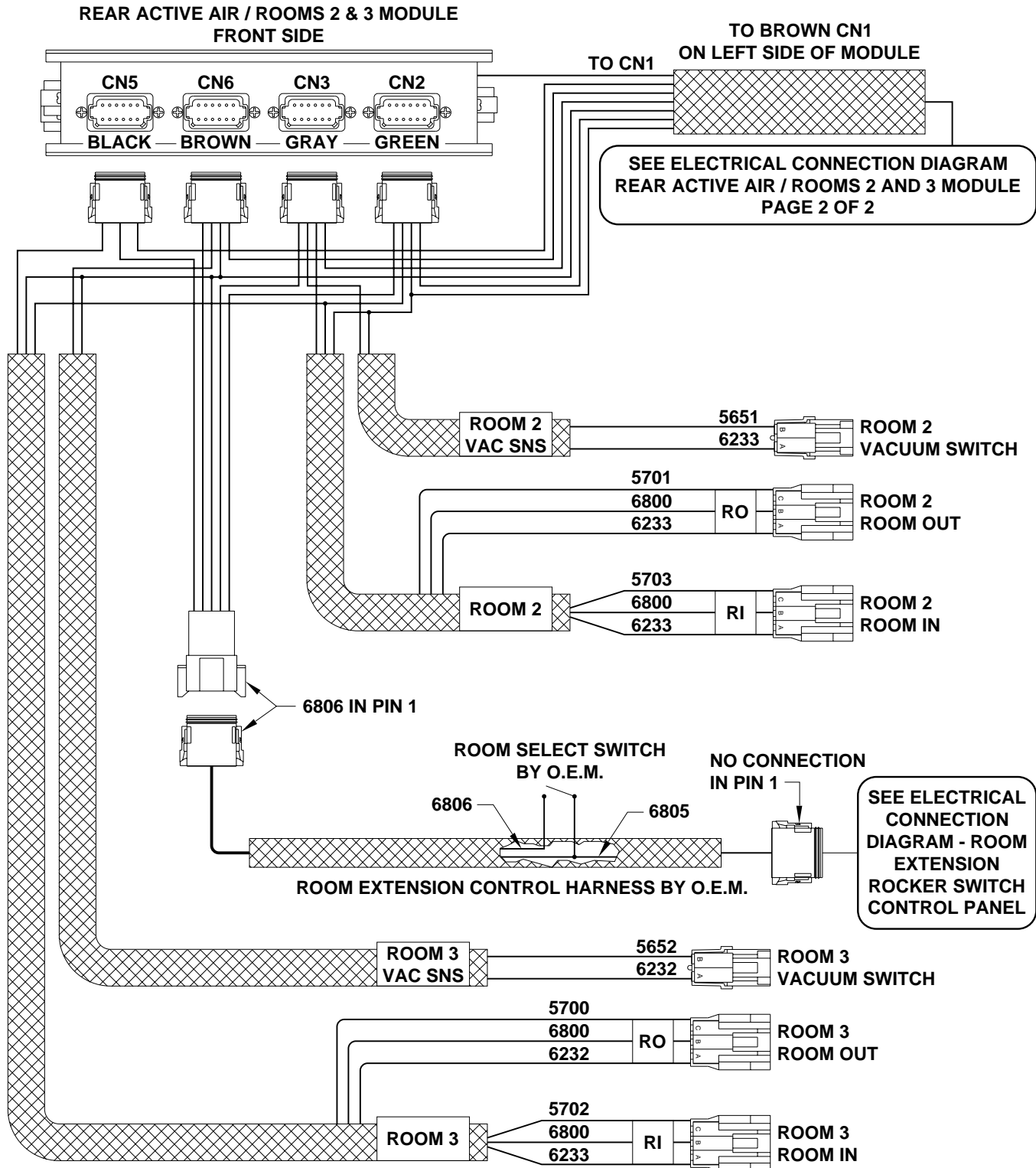
**NOTE: SEE ELECTRICAL CONNECTION DIAGRAM HYDRAULIC MANIFOLD ROOMS 1 - 4 & GEN SLIDE FOR VALVE CONNECTION INFORMATION**

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

# ELECTRICAL CONNECTION DIAGRAM

## REAR ACTIVE AIR - ROOMS 2 AND 3 MODULE

### PAGE 1 OF 2



SEE ELECTRICAL CONNECTION DIAGRAM - REAR ACTIVE AIR / ROOMS 2 AND 3 MODULE PAGE 2 OF 2 FOR LEFT AND RIGHT SIDE HARNESS TO MODULE CONNECTION INFORMATION

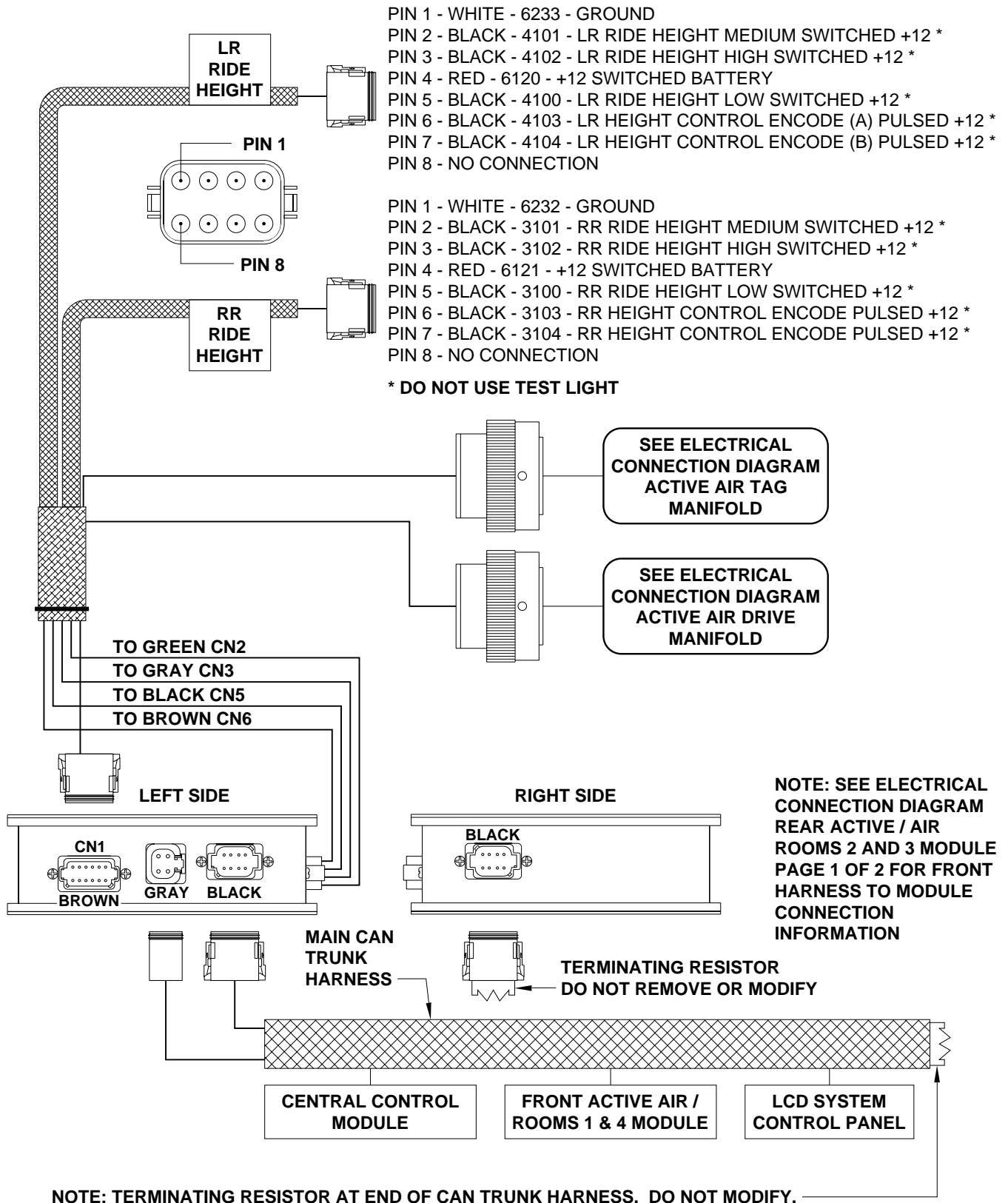
NOTE: FOR MODULE CONNECTION PIN AND WIRE INFORMATION SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTOR INFORMATION - REAR ACTIVE AIR / ROOMS 2 AND 3 MODULE - PAGE 2 OF 5



# ELECTRICAL CONNECTION DIAGRAM

## REAR ACTIVE AIR - ROOMS 2 AND 3 MODULE

PAGE 2 OF 2



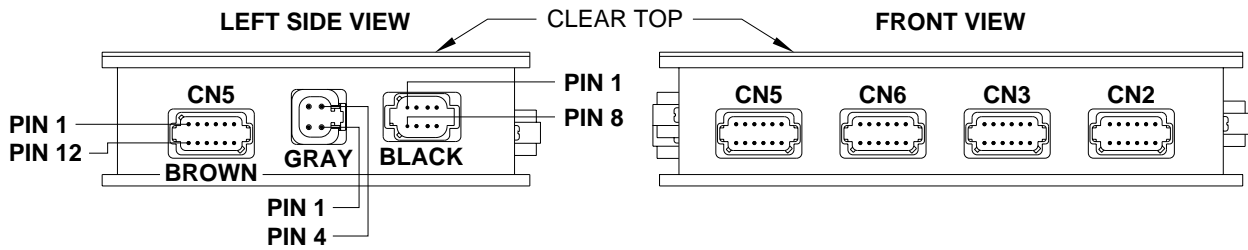
NOTE: TERMINATING RESISTOR AT END OF CAN TRUNK HARNESS. DO NOT MODIFY.

NOTE: FOR MODULE CONNECTION PIN AND WIRE INFORMATION SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTOR INFORMATION - REAR ACTIVE AIR / ROOMS 2 & 3 MODULE - PAGES 1 & 2 OF 5

# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION

### FRONT ACTIVE AIR / ROOMS 1 AND 4 MODULE - PAGE 1 OF 5

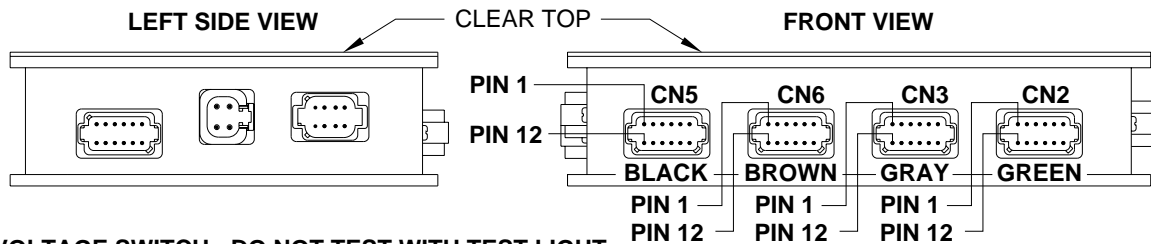


PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>CN1 ————— 12 PIN BROWN CONNECTOR</b>			
1	BLACK	1500	LEFT FRONT RAISE SWITCHED +12
2	BLACK	1600	LEFT FRONT LOWER SWITCHED +12
3	BLACK	2500	RIGHT FRONT RAISE SWITCHED +12
4	BLACK	2600	RIGHT FRONT LOWER SWITCHED +12
5	BLACK	9700	COMPRESSOR CONTROL 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	RED	6800	SWITCHED +12 FROM MASTER RELAY
2	RED	6800	SWITCHED +12 FROM MASTER RELAY
3	GREEN	6230	GROUND FROM GROUND STUD - FOR SOLENOID VALVES
4	GREEN	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 AND 2			NO CONNECTION
3	RED	6800	SWITCHED BATTERY +12
4	GREEN	6230	GROUND
5	N/A	N/A	CAN SHIELD
6			NO CONNECTION
7	GREEN	N/A	CAN LOW
8	YELLOW	N/A	CAN HIGH

# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION

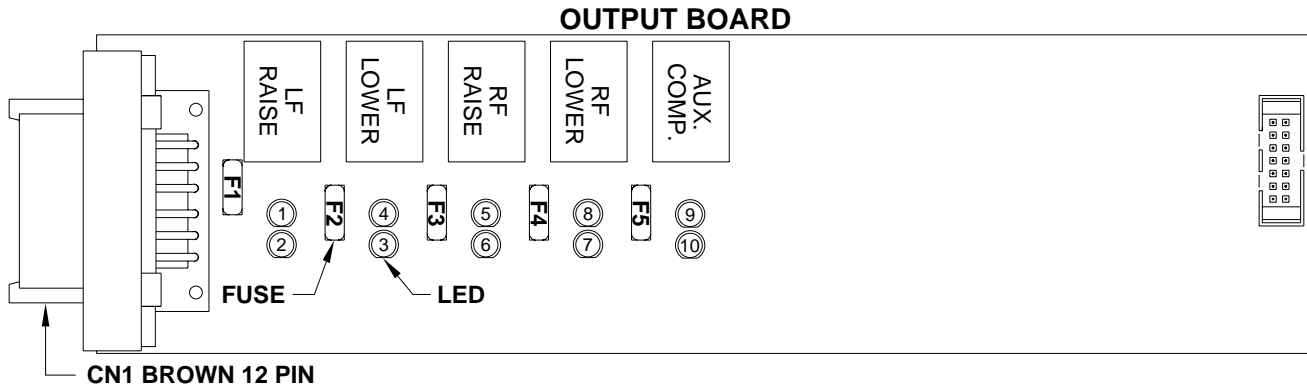
### FRONT ACTIVE AIR / ROOMS 1 AND 4 MODULE - PAGE 2 OF 5



\* LOW VOLTAGE SWITCH - DO NOT TEST WITH TEST LIGHT

PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>CN2</b> ————— <b>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</b> ————— <b>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	BLACK	7521	TAG LIFT SWITCHED +12 FROM TAG LIFT SWITCH
11			NO CONNECTION
12	BLACK	6806	FRONT ROOM SELECT +12 VOLTS ROOM 4 (0 VOLTS ROOM 1)
<b>CN6</b> ————— <b>12 PIN BROWN CONNECTOR</b>			
1	BLACK	6800	SWITCHED +12 VOLTS
2 AND 3			NO CONNECTION
4	BLACK	7510	FRONT ROOM PANEL READY TO OPERATE LIGHT CONTROL SW. +12
5	BLACK	7530	FRONT ROOM PANEL PUMP ON LIGHT CONTROL SW. +12
6	WHITE	6236	GROUND TO ROOM PANEL KEY SWITCH
7	BLACK	6805	SWITCHED +12 BATT. TO ROOM PANEL KEY SWITCH
8	BLACK	7696	SYSTEM WAKE UP SWITCHED GROUND FROM ROOM PANEL KEY SW.
9 THRU 12			NO CONNECTION
<b>CN5</b> ————— <b>12 PIN BLACK CONNECTOR</b>			
1	BLACK	5703	ROOM 1 IN SW. GND. FROM ROOM 1 ROOM IN LIMIT SWITCH *
2	BLACK	5701	ROOM 1 OUT SW. GND. FROM ROOM 1 ROOM OUT LIMIT SWITCH *
3	BLACK	5651	ROOM 1 AIR SEAL VACUUM SENSOR SWITCHED GROUND
4	BLACK	5702	ROOM 4 IN SW. GND. FROM ROOM 4 ROOM IN LIMIT SWITCH *
5	BLACK	5700	ROOM 4 OUT SW. GND. FROM ROOM 4 ROOM OUT LIMIT SWITCH *
6	WHITE	7501	ROOM 1 & 4 EXTEND SWITCH +12 FROM ROOM CONTROL PANEL
7	WHITE	7502	ROOM 1 & 4 RETRACT SWITCH +12 FROM ROOM CONTROL PANEL
8	BLACK	5652	ROOM 4 AIR SEAL VACUUM SENSOR SWITCHED GROUND
9 THRU 12			NO CONNECTION

**ELECTRICAL CONNECTION DIAGRAM**  
**LED - FUSE LOCATION AND DESCRIPTION**  
**FRONT ACTIVE AIR / ROOMS 1 AND 4 MODULE - PAGE 3 OF 5**



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

**NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTION INFORMATION - FRONT ACTIVE AIR / ROOMS 1 & 4 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.**

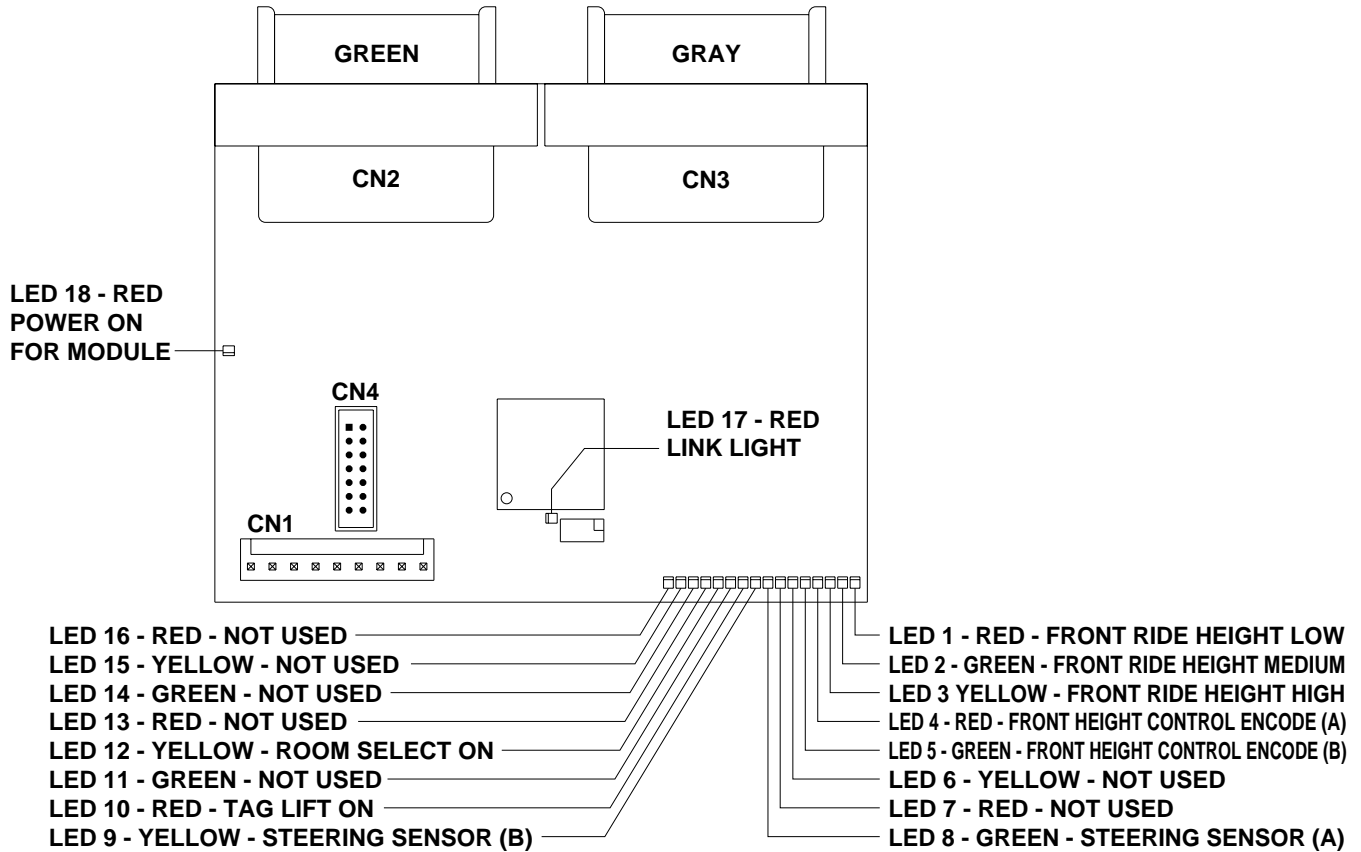
**IF THE YELLOW LEDS ARE WORKING BUT NO RED LED IS COMING ON THERE IS A PROBLEM WITH INPUT VOLTAGE IN THE 4-PIN CONNECTOR ON THE TOP RING.**

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

# ELECTRICAL CONNECTION DIAGRAM

## LED - FUSE LOCATION AND DESCRIPTION

### FRONT ACTIVE AIR / ROOMS 1 AND 4 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	TAG LIFT ON	CN3 - PIN 10
11 - GREEN	NOT USED	
12 - YELLOW	ROOM SELECT ON	CN3 - PIN 12
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

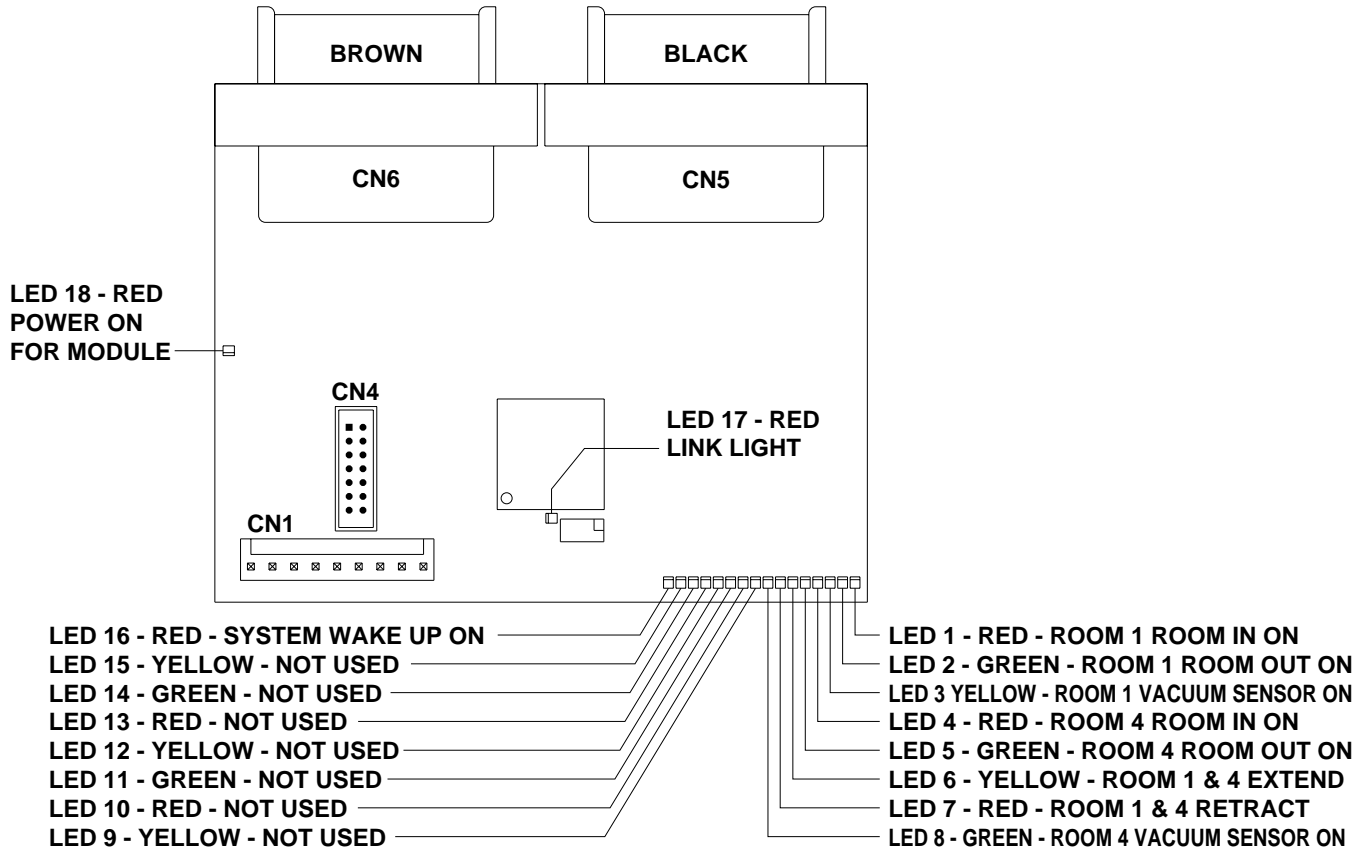
**LED 18 ON INDICATES THAT THERE IS POWER TO THE BOARD FROM THE CAN TRUNK HARNESS**

**NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTION INFORMATION - FRONT ACTIVE AIR / ROOM 1 & 4 MODULE - PAGE 2 OF 5.**

# ELECTRICAL CONNECTION DIAGRAM

## LED - FUSE LOCATION AND DESCRIPTION

### FRONT ACTIVE AIR / ROOMS 1 AND 4 MODULE - PAGE 5 OF 5



LED	DESCRIPTION	CN AND PIN
1 - RED	ROOM 1 ROOM IN ON	CN5 - PIN 1
2 - GREEN	ROOM 1 ROOM OUT ON	CN5 - PIN 2
3 - YELLOW	ROOM 1 VACUUM SWITCH ON	CN5 - PIN 3
4 - RED	ROOM 4 ROOM IN ON	CN5 - PIN 4
5 - GREEN	ROOM 4 ROOM OUT ON	CN5 - PIN 5
6 - YELLOW	ROOM 1 & 4 EXTEND	CN5 - PIN 6
7 - RED	ROOM 1 & 4 RETRACT	CN5 - PIN 7
8 - GREEN	ROOM 4 VACUUM SWITCH ON	CN5 - PIN 8
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	SYSTEM WAKE UP ON	CN6 - PIN 8
17 - RED	LINK LIGHT	N/A
18 - RED	POWER TO I/O BOARD	N/A

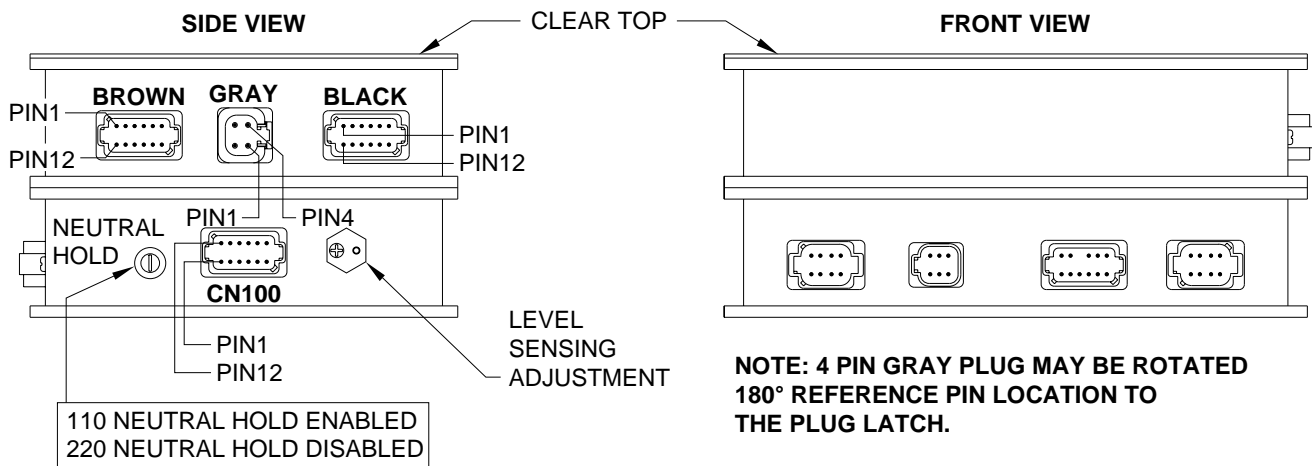
**LED 18 ON INDICATES THAT THERE IS POWER TO THE BOARD FROM THE CAN TRUNK HARNESS**

**NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTION INFORMATION - FRONT ACTIVE AIR / ROOM 1 & 4 MODULE - PAGE 2 OF 5.**

# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION

### CENTRAL CONTROL MODULE - PAGE 1 OF 5

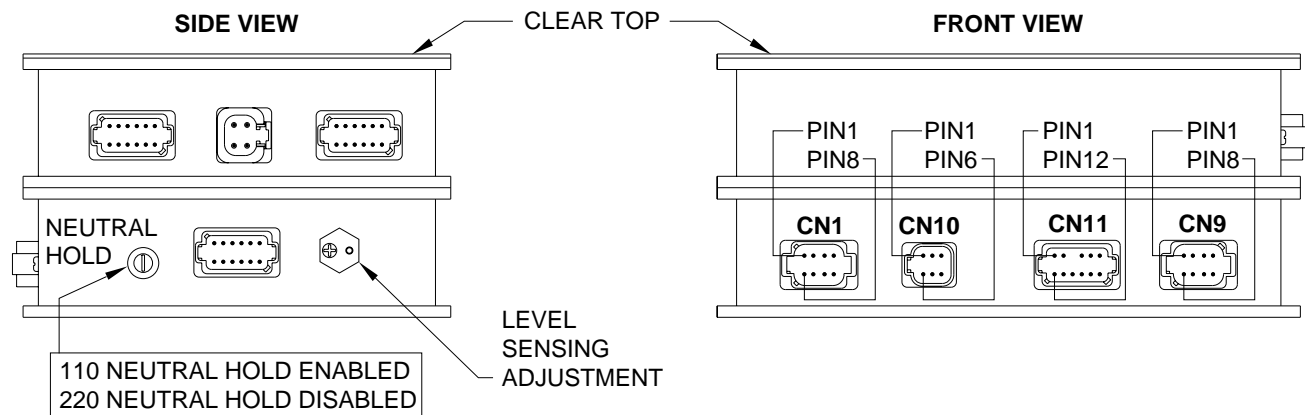


PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>BROWN</b>			<b>12 PIN BROWN CONNECTOR</b>
1	BLACK	5050	ROOM 1 CYLINDER EXTEND SOLENOID VALVE SWITCHED +12
2	BLACK	5150	ROOM 1 CYLINDER RETRACT SOLENOID VALVE SWITCHED +12
3	BLACK	5600	ROOM 1 AIR SEAL 3 WAY VALVE SWITCHED +12
4	BLACK	5650	ROOM 1 AIR SEAL VACUUM SWITCHED +12
5	BLACK	5053	ROOM 4 CYLINDER EXTEND SOLENOID VALVE SWITCHED +12
6	BLACK	5153	ROOM 4 CYLINDER RETRACT SOLENOID VALVE SWITCHED +12
7	BLACK	5603	ROOM 4 AIR SEAL 3 WAY VALVE SWITCHED +12
8	BLACK	5653	ROOM 4 AIR SEAL VACUUM SWITCHED +12
9	BLACK	5054	GEN SLIDE CYLINDER EXTEND SOLENOID VALVE SWITCHED +12
10	BLACK	5154	GEN SLIDE CYLINDER RETRACT SOLENOID VALVE SWITCHED +12
11	WHITE	6230	GROUND FOR ROOM 1 AND 4 AIR SEAL VALVES
12			NO CONNECTION
<b>GRAY</b>			<b>4 PIN GRAY CONNECTOR</b>
1	O.E.M.	6800	SWITCHED +12 FROM MASTER RELAY
2	O.E.M.	6800	SWITCHED +12 FROM MASTER RELAY
3	O.E.M.	6230	GROUND FROM GROUND STUD
4	O.E.M.	6230	GROUND FROM GROUND STUD
<b>BLACK</b>			<b>12 PIN BLACK CONNECTOR</b>
1	BLACK	5051	ROOM 2 CYLINDER EXTEND SOLENOID VALVE SWITCHED +12
2	BLACK	5151	ROOM 2 CYLINDER RETRACT SOLENOID VALVE SWITCHED +12
3	BLACK	5601	ROOM 2 AIR SEAL 3 WAY VALVE SWITCHED +12
4	BLACK	5651	ROOM 2 AIR SEAL VACUUM SWITCHED +12
5	BLACK	5052	ROOM 3 CYLINDER EXTEND SOLENOID VALVE SWITCHED +12
6	BLACK	5152	ROOM 3 CYLINDER RETRACT SOLENOID VALVE SWITCHED +12
7	BLACK	5602	ROOM 3 AIR SEAL 3 WAY VALVE SWITCHED +12
8	BLACK	5652	ROOM 3 AIR SEAL VACUUM SWITCHED +12
9 AND 10			NO CONNECTION
11	WHITE	6230	GROUND
12			NO CONNECTION
<b>CN100</b>			<b>12 PIN GRAY CONNECTOR</b>
1	BLACK	5000	EXTEND GEN SLIDE SWITCHED +12
2 THRU 5			NO CONNECTION
6	WHITE	6230	GROUND
2 THRU 11			NO CONNECTION
12	BLACK	5100	RETRACT GEN SLIDE SWITCHED +12

# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION

### CENTRAL CONTROL MODULE - PAGE 2 OF 5



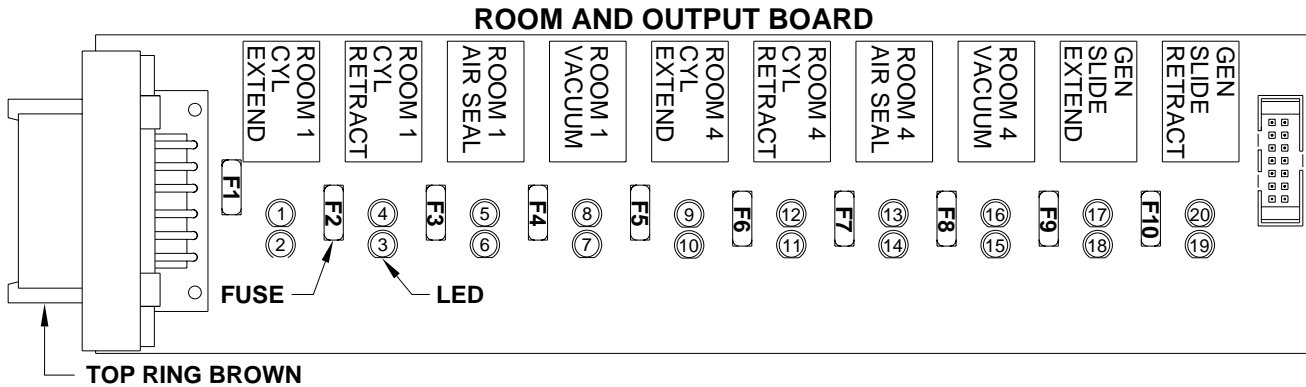
PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>CN1</b>			<b>8 PIN BLACK CONNECTOR</b>
1	O.E.M.	7696	SYSTEM WAKE UP SWITCHED GROUND
2			NO CONNECTION
3	O.E.M.	6800	SWITCHED +12 BATTERY
4	O.E.M.	6230	GROUND TO TOUCH PANEL
5			SHIELD WIRE FOR CAN CABLE
6			NO CONNECTION
7	O.E.M.		CAN DATA LINE LOW-DO NOT MODIFY
8	O.E.M.		CAN DATA LINE HIGH-DO NOT MODIFY
<b>CN10</b>			<b>6 PIN GRAY CONNECTOR</b>
1	BLACK	7599	RESET SWITCH LIGHT CONTROL-SWITCHED +12
2	RED	6100	RESET SWITCH SUPPLY +12
3	BLACK	7550	RESET SWITCH OUTPUT +12
4	RED	6121	WARNING LIGHT SUPPLY +12
5	WHITE	6230	RESET SWITCH LIGHT GROUND
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	GREEN	6230	GROUND FOR PROCESSOR FROM GROUND STUD
8	WHITE	9961	NEUTRAL HOLD - GROUND FROM TRANS. ECU
9	WHITE	9955	NEUTRAL HOLD - GROUND TO TRANS. ECU
10			NO CONNECTION
11	WHITE	9000	FROM PARK BRAKE SWITCH - SWITCHED GROUND
12	RED	6101	HOUSE BATTERY +12
<b>CN9</b>			<b>8 PIN GREEN CONNECTOR</b>
1	BLACK	8500	MASTER RELAY CONTROL - SWITCHED +12
2	BLACK	8100	SYSTEM PRESSURE SWITCH-SWITCHED GROUND
3			NO CONNECTION
4	BLACK	8600	PUMP RELAY CONTROL - SWITCHED +12
5	BLACK	9900	SPEED SWITCH +12 WITH IGNITION ON BELOW 9 MPH
6	BLACK	9901	PUMP MONITOR-SWITCHED +12 FROM PUMP RELAY
7 AND 8			NO CONNECTION



# ELECTRICAL CONNECTION DIAGRAM

## LED - FUSE LOCATION AND DESCRIPTION

### CENTRAL CONTROL MODULE - PAGE 3 OF 5



LED	RELAY DESCRIPTION	FUSE	BROWN
1-YELLOW	ROOM 1 CYL EXTEND		
2-RED	ROOM 1 CYL EXTEND	F1 - 15AMP	PIN1
3-RED	ROOM 1 CYL RETRACT	F2 - 15AMP	PIN2
4-YELLOW	ROOM 1 CYL RETRACT		
5-YELLOW	ROOM 1 AIR SEAL		
6-RED	ROOM 1 AIR SEAL	F3 - 15AMP	PIN3
7-RED	ROOM 1 VACUUM	F4 - 15AMP	PIN4
8-YELLOW	ROOM 1 VACUUM		
9-YELLOW	ROOM 4 CYL EXTEND		
10-RED	ROOM 4 CYL EXTEND	F5 - 15AMP	PIN5
11-RED	ROOM 4 CYL RETRACT	F6 - 15AMP	PIN6
12-YELLOW	ROOM 4 CYL RETRACT		
13-YELLOW	ROOM 4 AIR SEAL		
14-RED	ROOM 4 AIR SEAL	F7 - 15AMP	PIN7
15-RED	ROOM 4 VACUUM	F8 - 15AMP	PIN8
16-YELLOW	ROOM 4 VACUUM		
17-YELLOW	GEN SLIDE CYL EXTEND		
18-RED	GEN SLIDE CYL EXTEND	F9 - 15AMP	PIN9
19-RED	GEN SLIDE CYL RETRACT	F10 - 15AMP	PIN10
20-YELLOW	GEN SLIDE CYL RETRACT		

**NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - WIRE AND CONNECTION INFORMATION - CENTRAL CONTROL 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.**

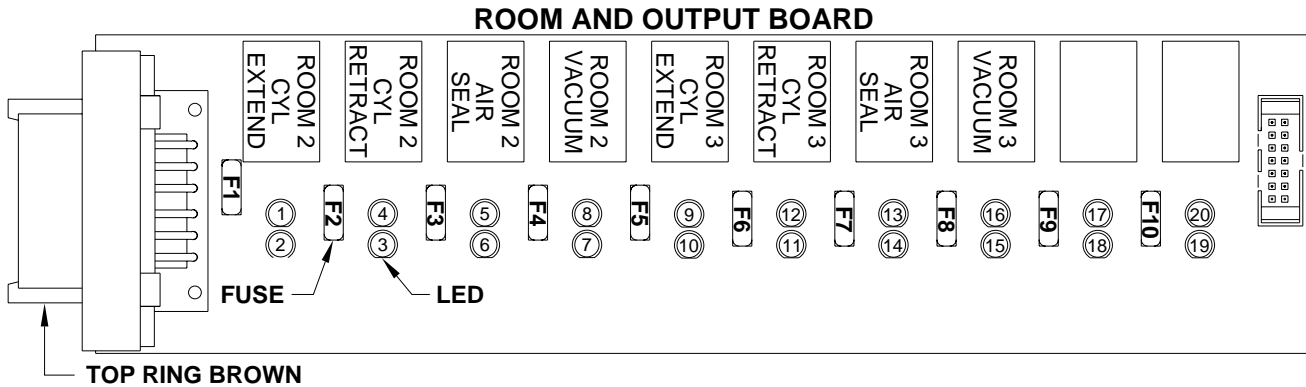
**IF THE YELLOW LEDS ARE WORKING BUT NO RED LED IS COMING ON THERE IS A PROBLEM WITH INPUT VOLTAGE IN THE 4-PIN CONNECTOR ON THE TOP RING.**

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

# ELECTRICAL CONNECTION DIAGRAM

## LED - FUSE LOCATION AND DESCRIPTION

### CENTRAL CONTROL MODULE - PAGE 4 OF 5



LED	RELAY DESCRIPTION	FUSE	BROWN
1-YELLOW	ROOM 2 CYL EXTEND		
2-RED	ROOM 2 CYL EXTEND	F1 - 15AMP	PIN1
3-RED	ROOM 2 CYL RETRACT	F2 - 15AMP	PIN2
4-YELLOW	ROOM 2 CYL RETRACT		
5-YELLOW	ROOM 2 AIR SEAL		
6-RED	ROOM 2 AIR SEAL	F3 - 15AMP	PIN3
7-RED	ROOM 2 VACUUM	F4 - 15AMP	PIN4
8-YELLOW	ROOM 2 VACUUM		
9-YELLOW	ROOM 3 CYL EXTEND		
10-RED	ROOM 3 CYL EXTEND	F5 - 15AMP	PIN5
11-RED	ROOM 3 CYL RETRACT	F6 - 15AMP	PIN6
12-YELLOW	ROOM 3 CYL RETRACT		
13-YELLOW	ROOM 3 AIR SEAL		
14-RED	ROOM 3 AIR SEAL	F7 - 15AMP	PIN7
15-RED	ROOM 3 VACUUM	F8 - 15AMP	PIN8
16-YELLOW	ROOM 3 VACUUM		
17-YELLOW	NOT USED		
18-RED	NOT USED	F9 - 15AMP	PIN9
19-RED	NOT USED	F10 - 15AMP	PIN10
20-YELLOW	NOT USED		

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

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

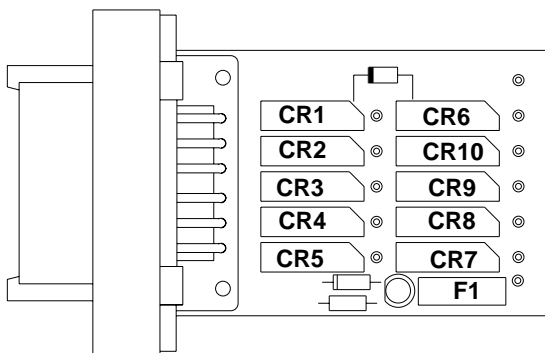
**A LIT RED LED INDICATES THERE IS VOLTAGE ON IT'S CORRESPONDING PIN.**

**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 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.**

#### CN 100 GRAY 12 PIN CONNECTOR



LED 1 - ON INDICATES THERE IS POWER TO THE CN 100 BOARD

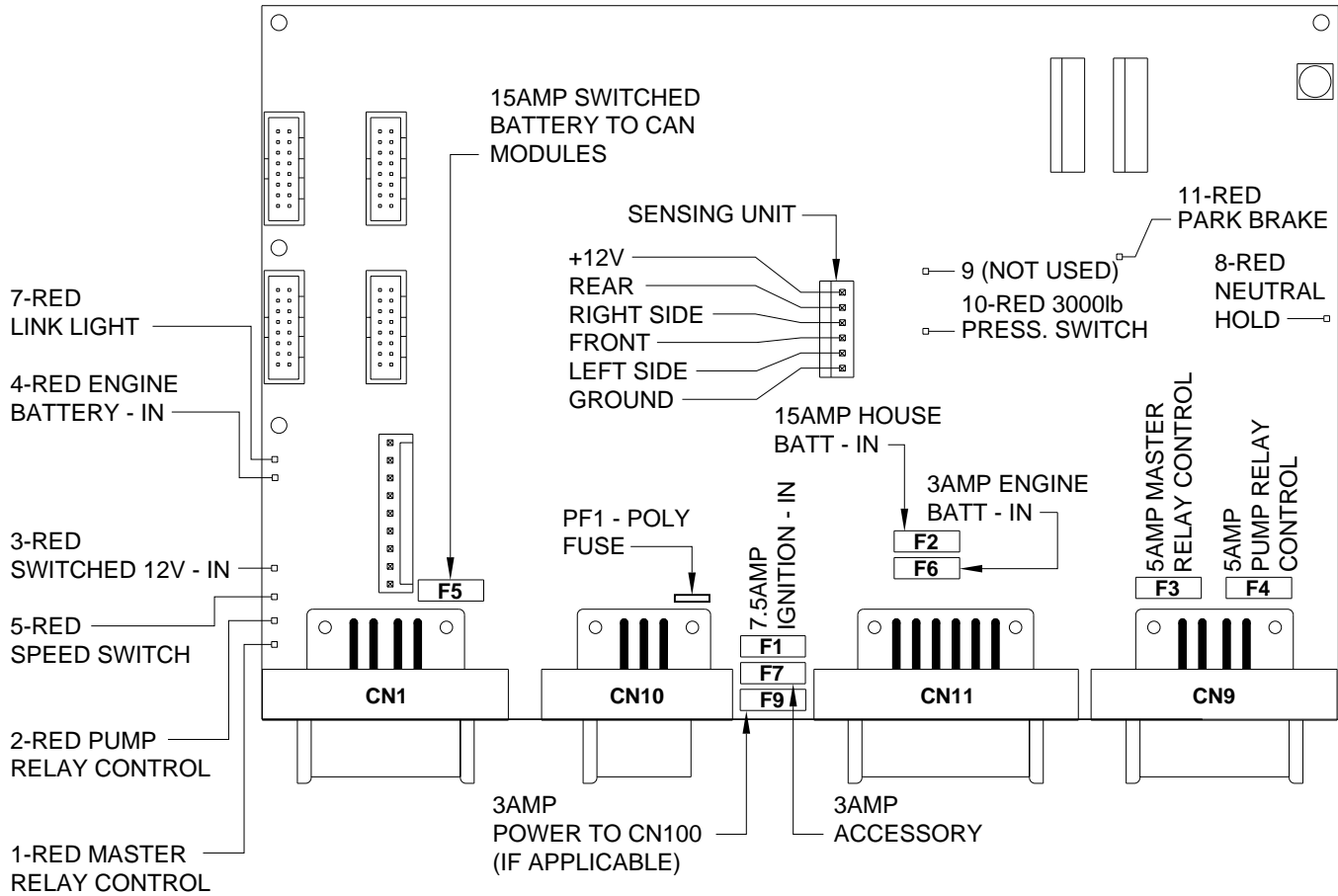
F1 - 3AMP FUSE PROTECTS CN100 BOARD COMPONENTS AND POWER OUT ON PIN 7

PIN	REED SW.	DESCRIPTION
1	CR1	EXTEND GEN SLIDE SWITCHED +12
2	CR2	NOT USED
3	CR3	NOT USED
4	CR4	NOT USED
5	CR5	NOT USED
6	---	GROUND
7	---	NOT USED
8	CR7	NOT USED
9	CR8	NOT USED
10	CR9	NOT USED
11	CR10	NOT USED
12	CR6	RETRACT GEN SLIDE SWITCHED +12

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

# ELECTRICAL CONNECTION DIAGRAM LED - FUSE LOCATION AND DESCRIPTION CENTRAL CONTROL MODULE PAGE 5 OF 5

## CENTRAL CONTROL MOTHER BOARD



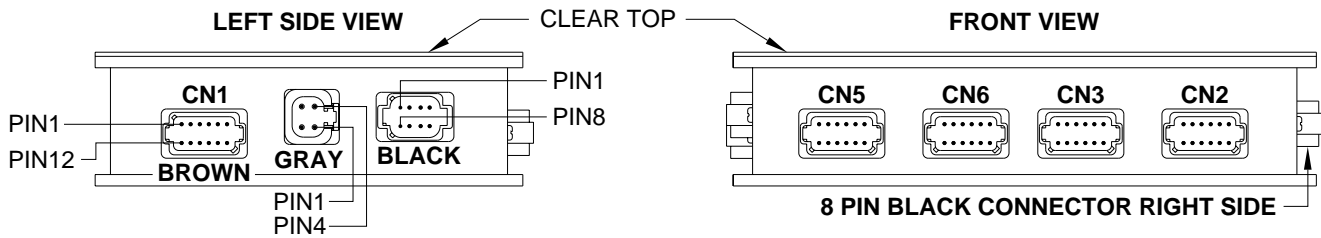
LED	DESCRIPTION	CN AND PIN	FUSE DESCRIPTION
1-RED	MASTER RELAY CONTROL	CN 9 - PIN 1	PF1 - POLY FUSE - POWER TO MASTER WARNING LIGHT AND RESET SWITCH F1 - 7.5AMP IGNITION - IN F2 - 15AMP HOUSE BATTERY - IN F3 - 5AMP MASTER RELAY CONTROL F4 - 5AMP PUMP RELAY CONTROL F5 - 15AMP SWITCHED BATTERY - IN F6 - 3AMP RESET OUT F7 - 3AMP ACCESSORY - IN F9 - 3AMP POWER TO CN100
2-RED	PUMP RELAY CONTROL	CN 9 - PIN 4	
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	NEUTRAL HOLD**	CN 11 - PIN 8 & 9	
9-NOT USED	NOT USED	NOT USED	
10-RED	3000 LBS PRESS SWITCH - ON	CN 9 - PIN 2	
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 MODULE PAGE 2 OF 5.**

\* LED 5 INDICATES A +12 SIGNAL FROM THE SPEED SWITCH - IGNITION ON COACH SPEED LESS THAN 10 MPH  
 \*\* LED 8 INDICATES TRANSMISSION IS DISABLED WHEN LIT.

# ELECTRICAL CONNECTION DIAGRAM

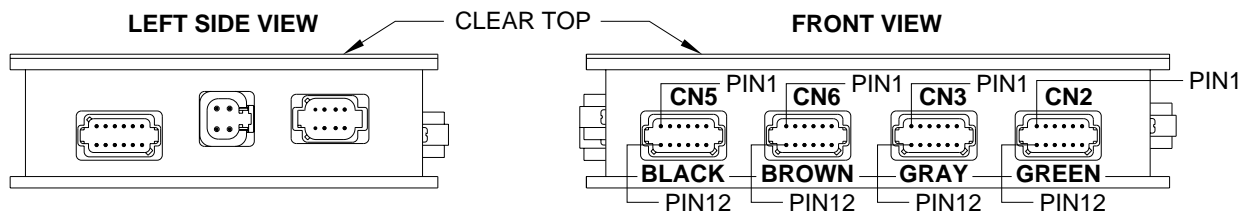
## WIRE AND CONNECTION INFORMATION - REAR ACTIVE AIR ROOM 2 AND 3 MODULE - PAGE 1 OF 5



PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>CN1</b>			<b>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</b>			<b>4 PIN GRAY CONNECTOR</b>
1	RED	6800	SWITCHED +12 FROM MASTER RELAY
2	RED	6800	SWITCHED +12 FROM MASTER RELAY
3	GREEN	6230	GROUND FROM GROUND STUD - FOR SOLENOID VALVES
4	GREEN	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</b>			<b>8 PIN BLACK CONNECTOR LEFT SIDE</b>
1 & 2			NO CONNECTION
3	RED	6800	SWITCHED BATTERY +12
4	GREEN	6230	GROUND
5	N/A	N/A	CAN SHIELD
6			NO CONNECTION
7	GREEN	N/A	CAN LOW
8	YELLOW	N/A	CAN HIGH
<b>BLACK</b>			<b>8 PIN BLACK CONNECTOR RIGHT SIDE</b>
1 THRU 6			NO CONNECTION
7			
8			120 OHM RESISTOR (DO NOT REMOVE OR MODIFY)

# ELECTRICAL CONNECTION DIAGRAM

## WIRE AND CONNECTION INFORMATION - REAR ACTIVE AIR ROOM 2 AND 3 MODULE - PAGE 2 OF 5

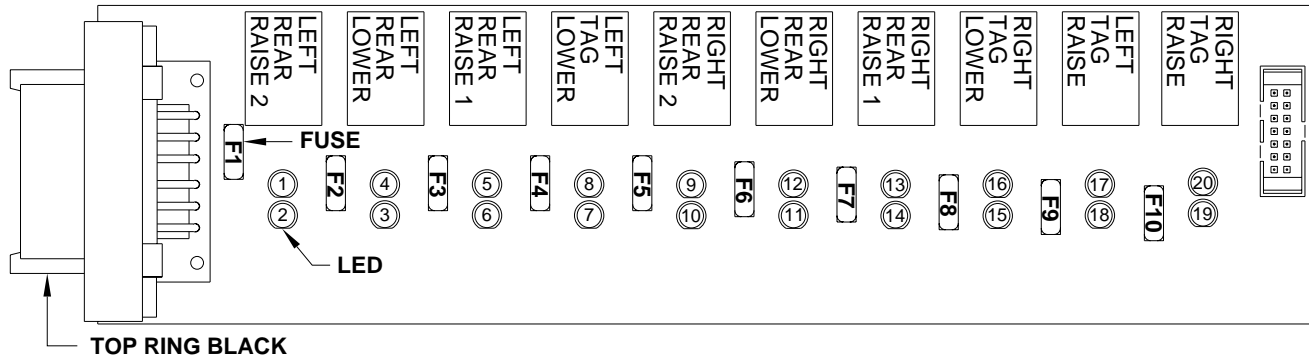


**\* LOW VOLTAGE OR HALL EFFECT SWITCH - DO NOT USE TEST LIGHT**

PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
<b>CN5</b>			<b>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	BLACK	6806	ROOM 2 & 3 SELECT (0) VOLTS ROOM 2 (+12) VOLTS ROOM 3
7 THRU 9			NO CONNECTION
10	BLACK	5702	ROOM 3 ROOM IN LIMIT SWITCH ON SWITCHED GROUND *
11	BLACK	5700	ROOM 3 ROOM OUT LIMIT SWITCH ON SWITCHED GROUND *
12	BLACK	5652	ROOM 3 AIR SEAL VACUUM SWITCH ON SWITCHED GROUND
<b>CN6</b>			<b>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	RED	6805	SWITCHED +12 BATTERY
8 AND 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</b>			<b>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	BLACK	7501	EXTEND ROOM 2 AND 3 SWITCHED +12
7	BLACK	7502	RETRACT ROOM 2 AND 3 SWITCHED +12
8 AND 9			NO CONNECTION
10	BLACK	5703	ROOM 2 ROOM IN LIMIT SWITCH ON SWITCHED GROUND *
11	BLACK	5701	ROOM 2 ROOM OUT LIMIT SWITCH ON SWITCHED GROUND *
12	BLACK	5651	ROOM 2 VACUUM SWITCH ON SWITCHED GROUND
<b>CN2</b>			<b>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	BLACK	7510	REAR ROOM PANEL READY TO OPERATE LIGHT CONTROL SWITCHED +12
5	BLACK	7530	REAR ROOM PANEL PUMP ON LIGHT CONTROL SWITCHED +12
6	WHITE	6233	GROUND
7	BLACK	6800	SWITCHED +12 BATTERY
8	BLACK	7696	SYSTEM WAKE UP SWITCHED GROUND FROM REAR ROOM PANEL
9 AND 10			NO CONNECTION
11	BLACK	4221	LEFT TAG PRESSURE TRANSDUCER SIGNAL WIRE
12	BLACK	4220	LEFT REAR PRESSURE TRANSDUCER SIGNAL WIRE

**ELECTRICAL CONNECTION DIAGRAM**  
**LED - FUSE LOCATION AND DESCRIPTION**  
**REAR ACTIVE AIR - ROOM 2 AND 3 MODULE**  
**PAGE 3 OF 5**

**REAR AND TAG AIR LEVEL OUTPUT BOARD**



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

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

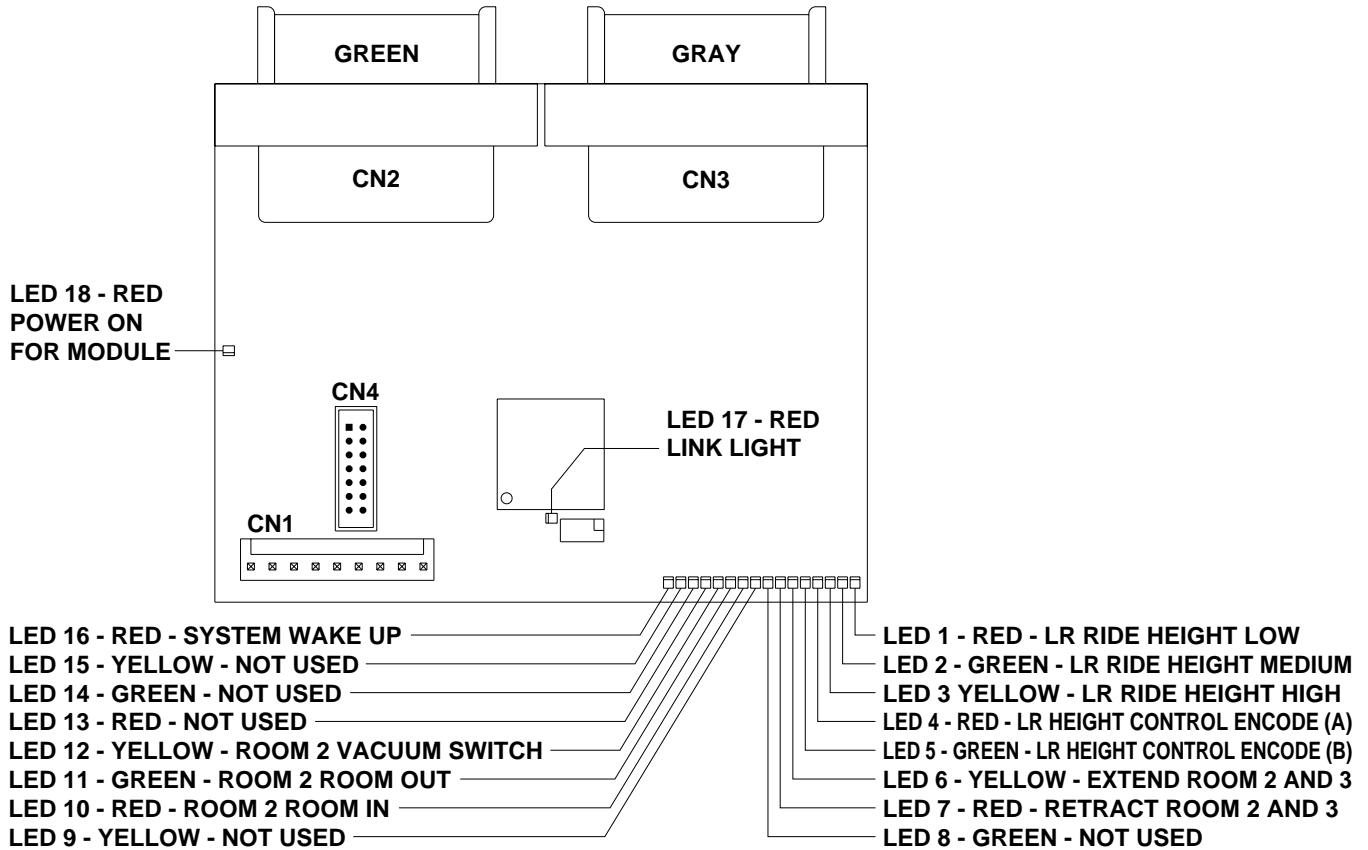
**A LIT RED LED INDICATES THERE IS VOLTAGE ON IT'S CORRESPONDING CN1 PIN.**

**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**  
**LED LOCATION AND DESCRIPTION**  
**REAR ACTIVE AIR - ROOM 2 AND 3 MODULE**  
**PAGE 4 OF 5**



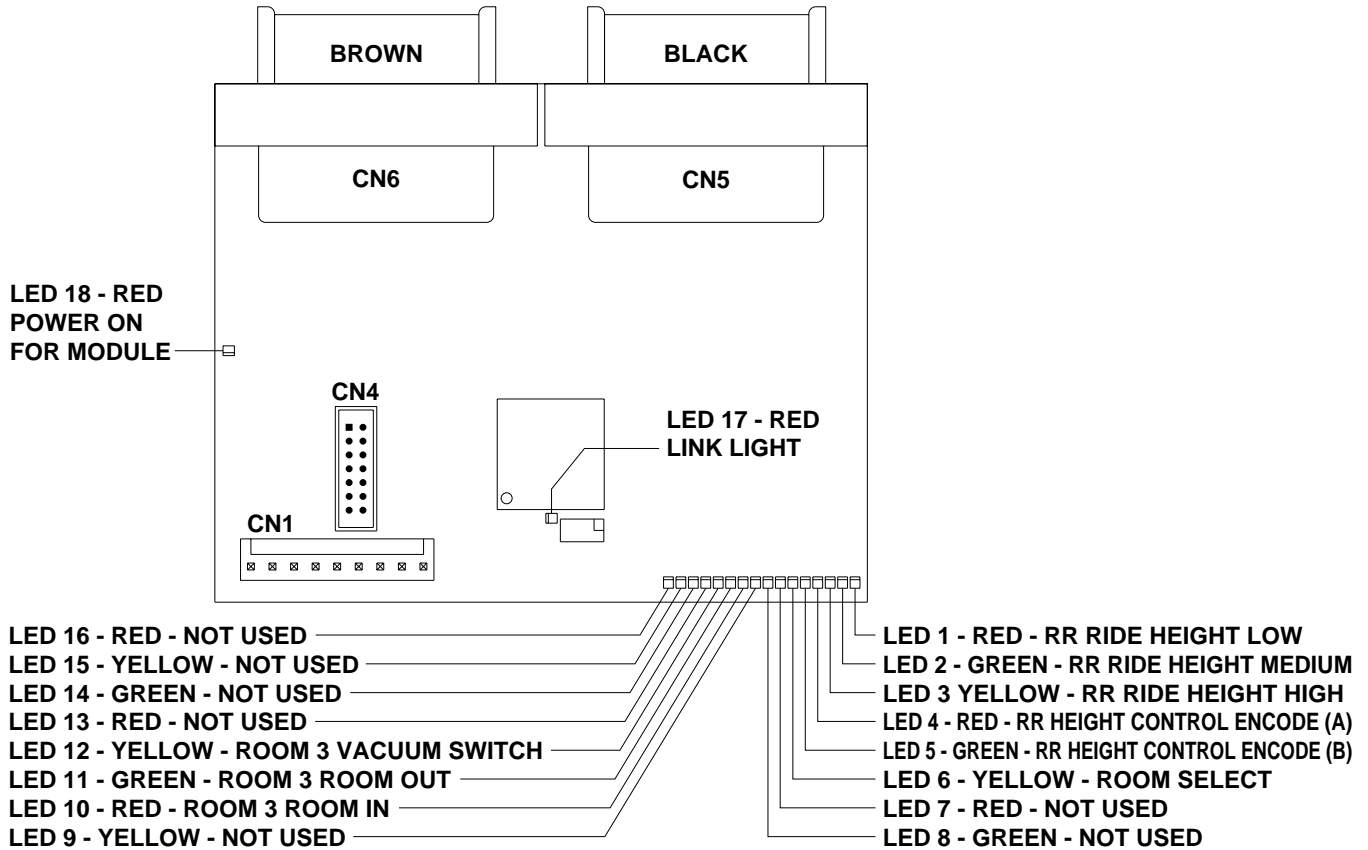
- LED 18 - RED POWER ON FOR MODULE
- LED 17 - RED LINK LIGHT
- LED 16 - RED - SYSTEM WAKE UP
- LED 15 - YELLOW - NOT USED
- LED 14 - GREEN - NOT USED
- LED 13 - RED - NOT USED
- LED 12 - YELLOW - ROOM 2 VACUUM SWITCH
- LED 11 - GREEN - ROOM 2 ROOM OUT
- LED 10 - RED - ROOM 2 ROOM IN
- LED 9 - YELLOW - NOT USED
- LED 8 - GREEN - NOT USED
- LED 7 - RED - RETRACT ROOM 2 AND 3
- LED 6 - YELLOW - EXTEND ROOM 2 AND 3
- LED 5 - GREEN - LR HEIGHT CONTROL ENCODE (B)
- LED 4 - RED - LR HEIGHT CONTROL ENCODE (A)
- LED 3 YELLOW - LR RIDE HEIGHT HIGH
- LED 2 - GREEN - LR RIDE HEIGHT MEDIUM
- LED 1 - RED - LR RIDE HEIGHT LOW

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	EXTEND ROOM 2 AND 3	CN3 - PIN 6
7 - RED	RETRACT ROOM 2 AND 3	CN3 - PIN 7
8 - GREEN	NOT USED	
9 - YELLOW	NOT USED	
10 - RED	ROOM 2 ROOM IN LIMIT SWITCH ON	CN3 - PIN 10
11 - GREEN	ROOM 2 ROOM OUT LIMIT SWITCH ON	CN3 - PIN 11
12 - YELLOW	ROOM 2 VACUUM SWITCH ON	CN3 - PIN 12
13 - RED	NOT USED	
14 - GREEN	NOT USED	
15 - YELLOW	NOT USED	
16 - RED	SYSTEM WAKE UP	CN2 - PIN 8
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 - ROOM 2 & 3 MODULE PAGE 2 OF 5**

**ELECTRICAL CONNECTION DIAGRAM**  
**LED LOCATION AND DESCRIPTION**  
**REAR ACTIVE AIR - ROOM 2 AND 3 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	ROOM SELECT - ON ROOM 3	CN5 - PIN 6
7 - RED	NOT USED	
8 - GREEN	NOT USED	
9 - YELLOW	NOT USED	
10 - RED	ROOM 3 ROOM IN LIMIT SWITCH ON	CN5 - PIN 10
11 - GREEN	ROOM 3 ROOM OUT LIMIT SWITCH ON	CN5 - PIN 11
12 - YELLOW	ROOM 3 VACUUM SWITCH ON	CN5 - PIN 12
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 - ROOM 2 & 3 MODULE PAGE 2 OF 5**



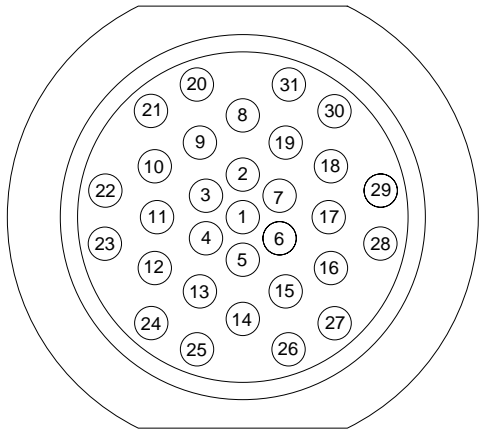
# ELECTRICAL CONNECTION DIAGRAM

## AIR MANIFOLD PIGTAIL CONNECTION INFORMATION

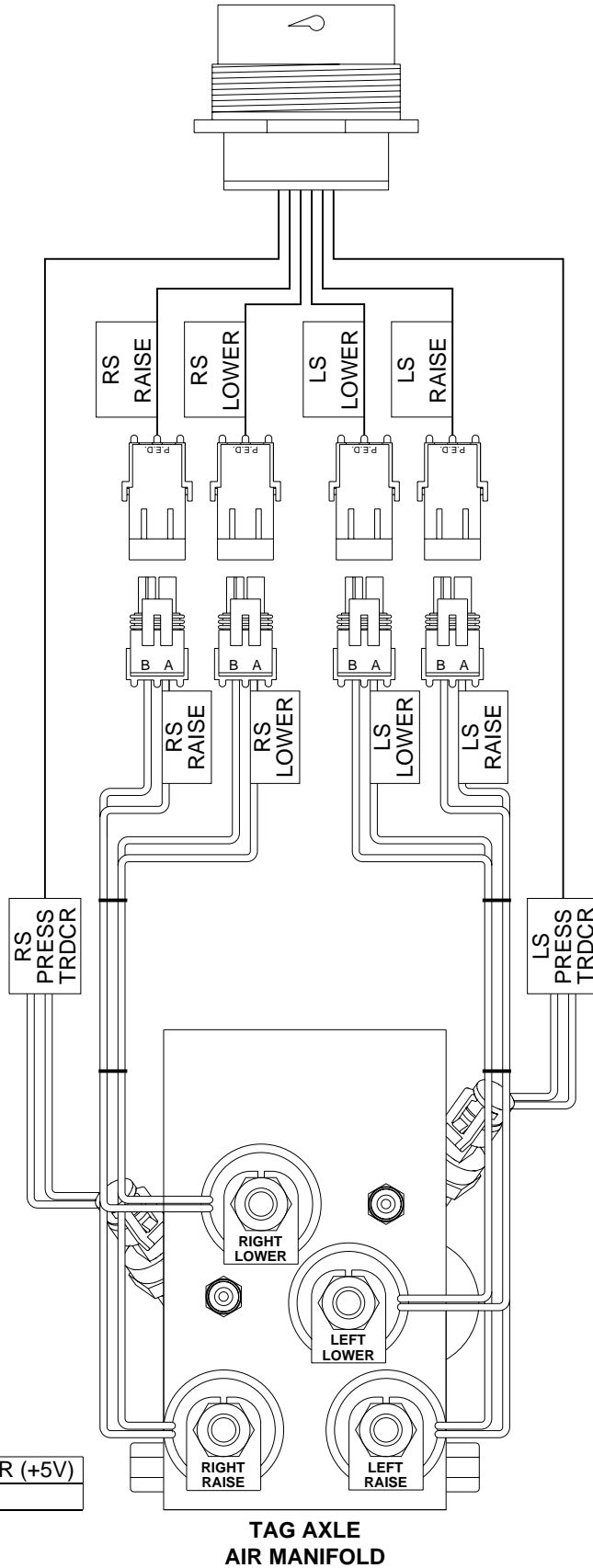
### FRONT AXLE MANIFOLD

**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.**



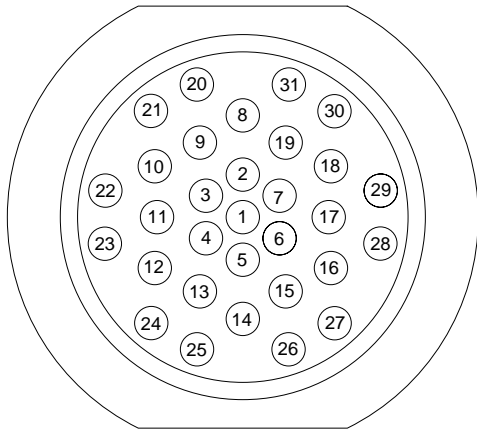
PIN	COLOR	WIRE #	DESCRIPTION
1	N/A	N/A	NO CONNECTION
2	BLACK	6901	RF TRANSDUCER POWER (+5V)
3	BLACK	2220	RF TRANSDUCER
4	WHITE	6235	TRANSDUCER GROUND
5	BLACK	2500	RF RAISE
6	WHITE	6254	GROUND
7	BLACK	2600	RF LOWER
8	WHITE	6254	GROUND
9	BLACK	1500	LF RAISE
10	WHITE	6254	GROUND
11	BLACK	1600	LF LOWER
12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



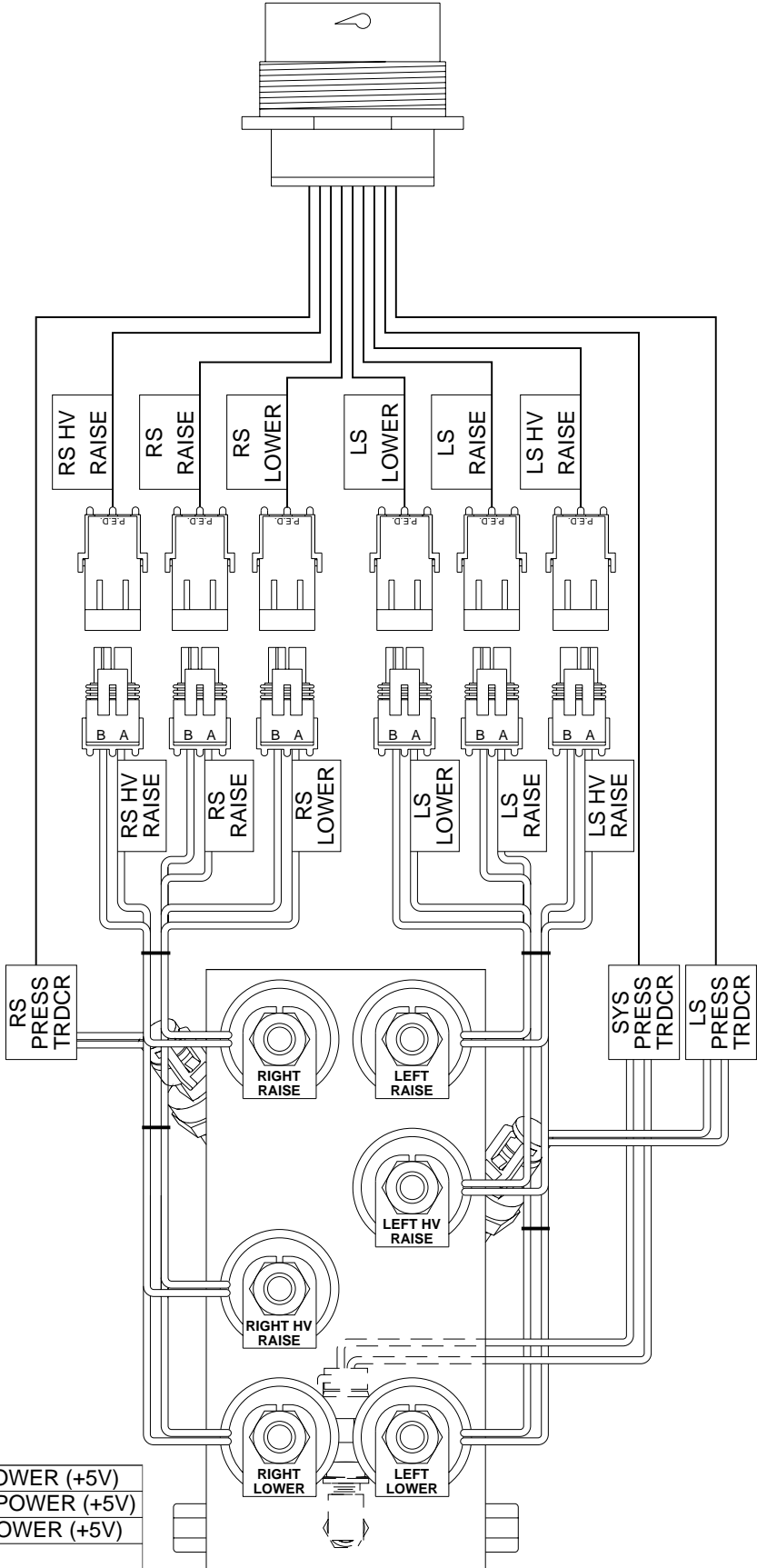
# ELECTRICAL CONNECTION DIAGRAM AIR MANIFOLD PIGTAIL CONNECTION INFORMATION DRIVE AXLE MANIFOLD

**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**

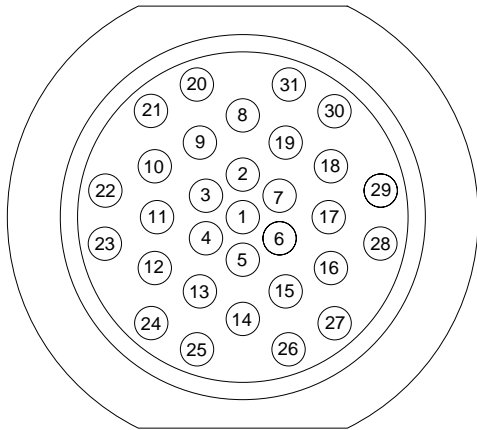
# ELECTRICAL CONNECTION DIAGRAM

## AIR MANIFOLD PIGTAIL CONNECTION INFORMATION

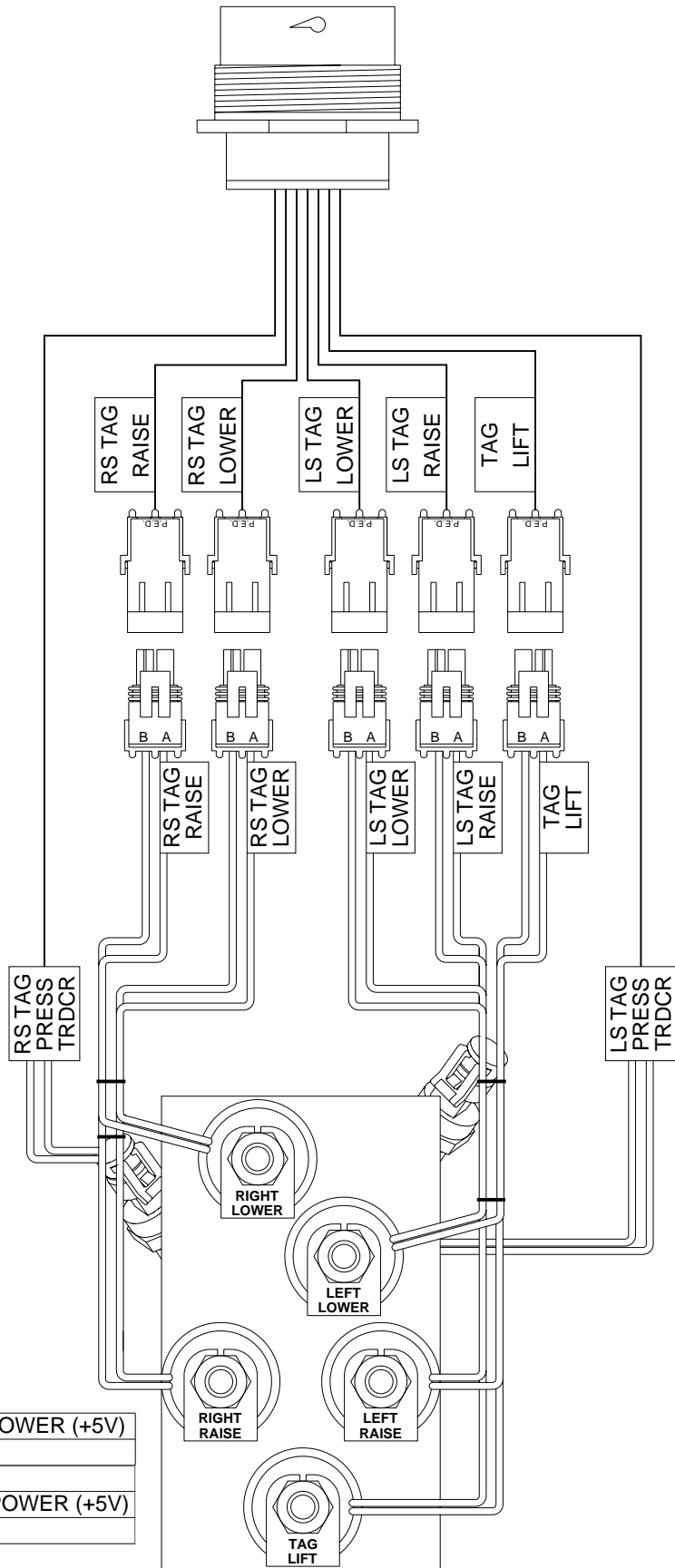
### TAG AXLE MANIFOLD

**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.**



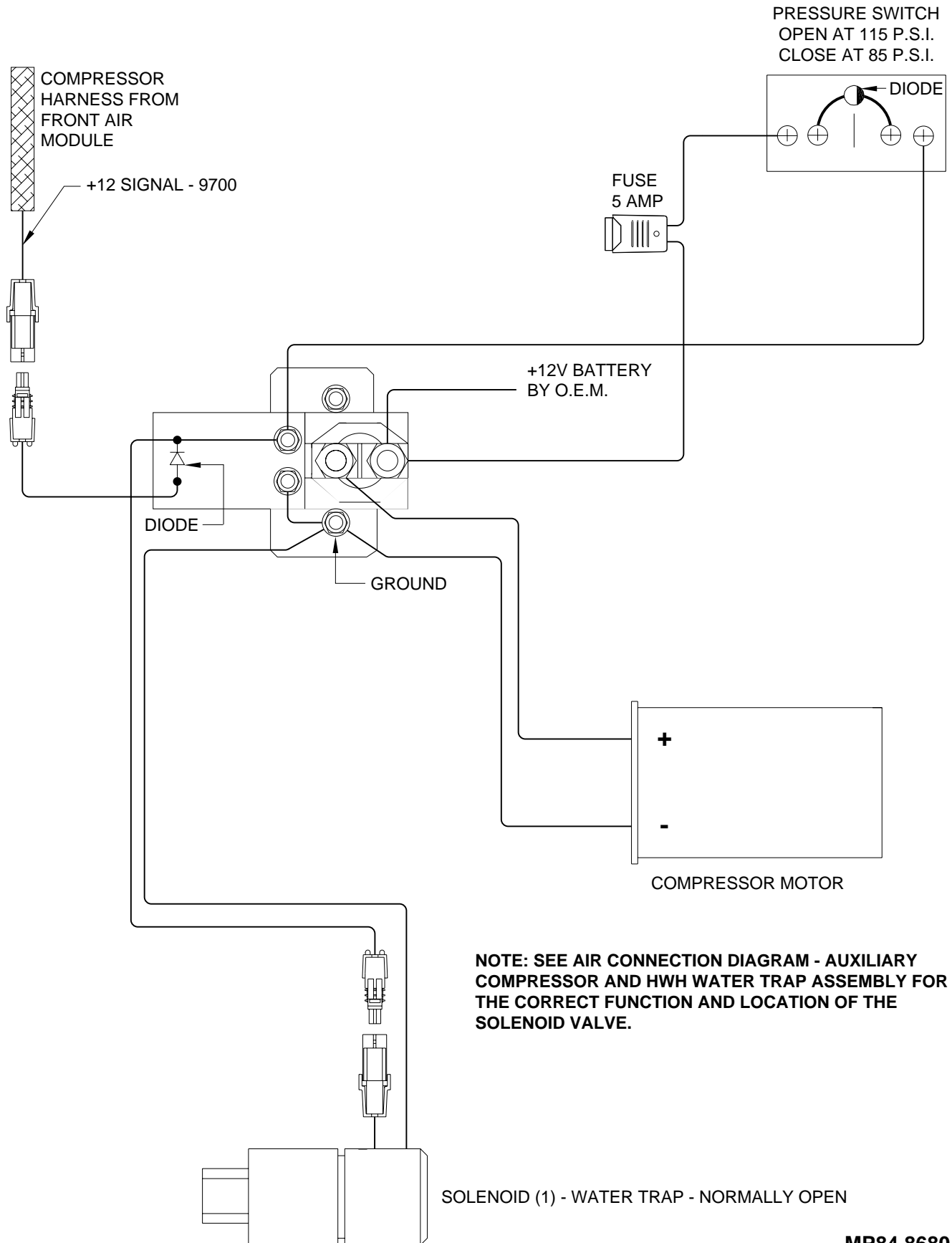
PIN	COLOR	WIRE #	DESCRIPTION
1	N/A	N/A	NO CONNECTION
2	N/A	N/A	NO CONNECTION
3	BLACK	3501	RS TAG RAISE
4	WHITE	6258	GROUND
5	BLACK	3800	TAG LIFT
6	WHITE	6258	GROUND
7	BLACK	3601	RS TAG LOWER
8	WHITE	6258	GROUND
9	N/A	N/A	NO CONNECTION
10	N/A	N/A	NO CONNECTION
11	BLACK	4601	LS TAG LOWER
12	WHITE	6258	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		



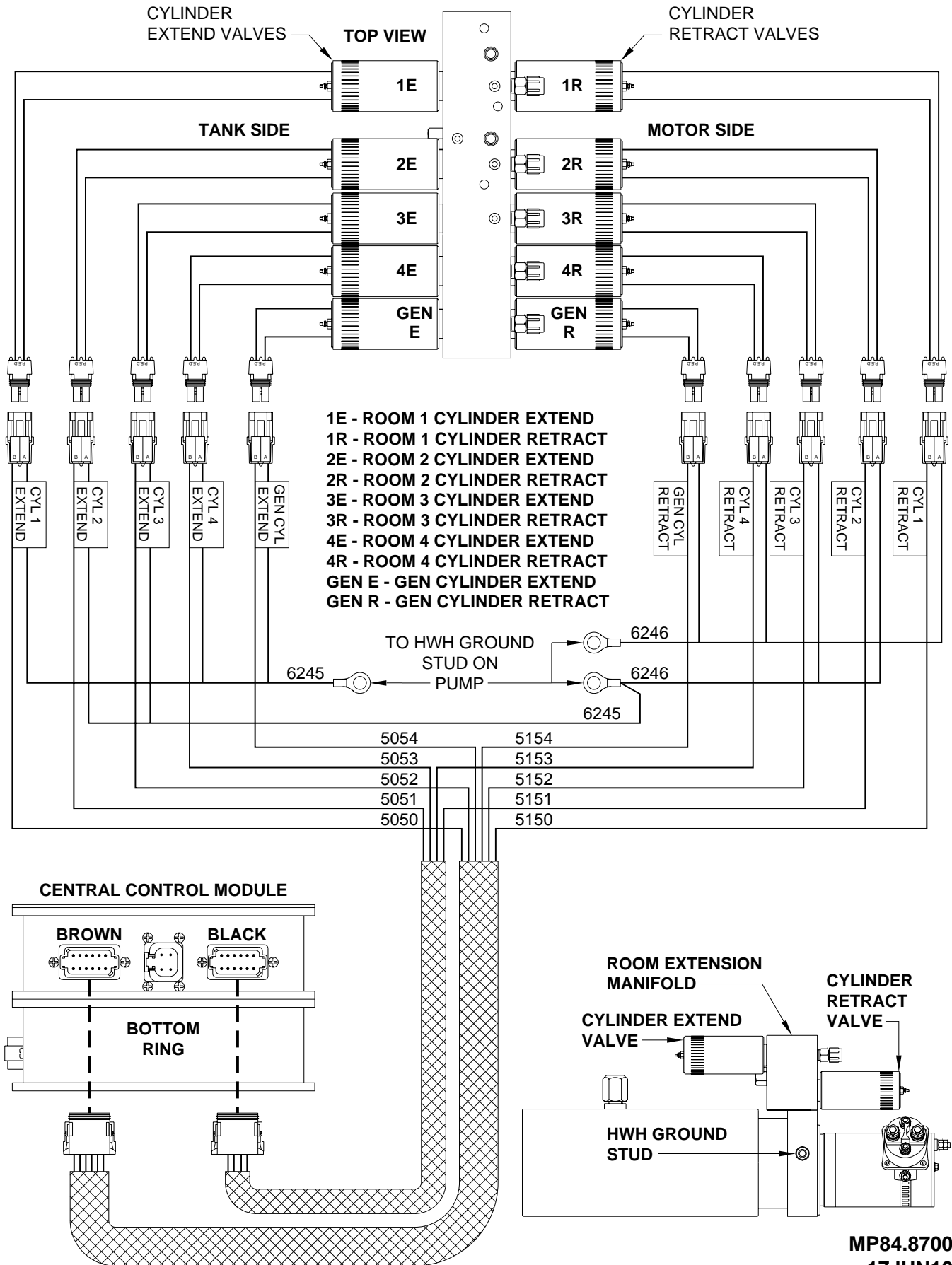
**TAG AXLE  
AIR MANIFOLD**

# ELECTRICAL CONNECTION DIAGRAM

## AUXILIARY COMPRESSOR CONNECTIONS



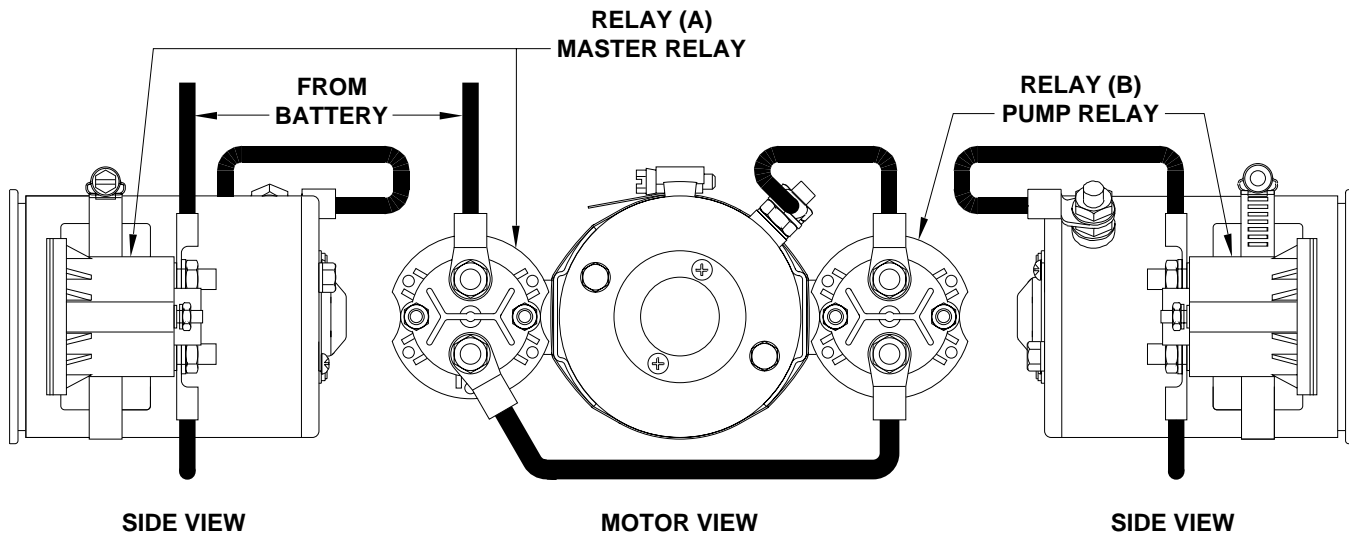
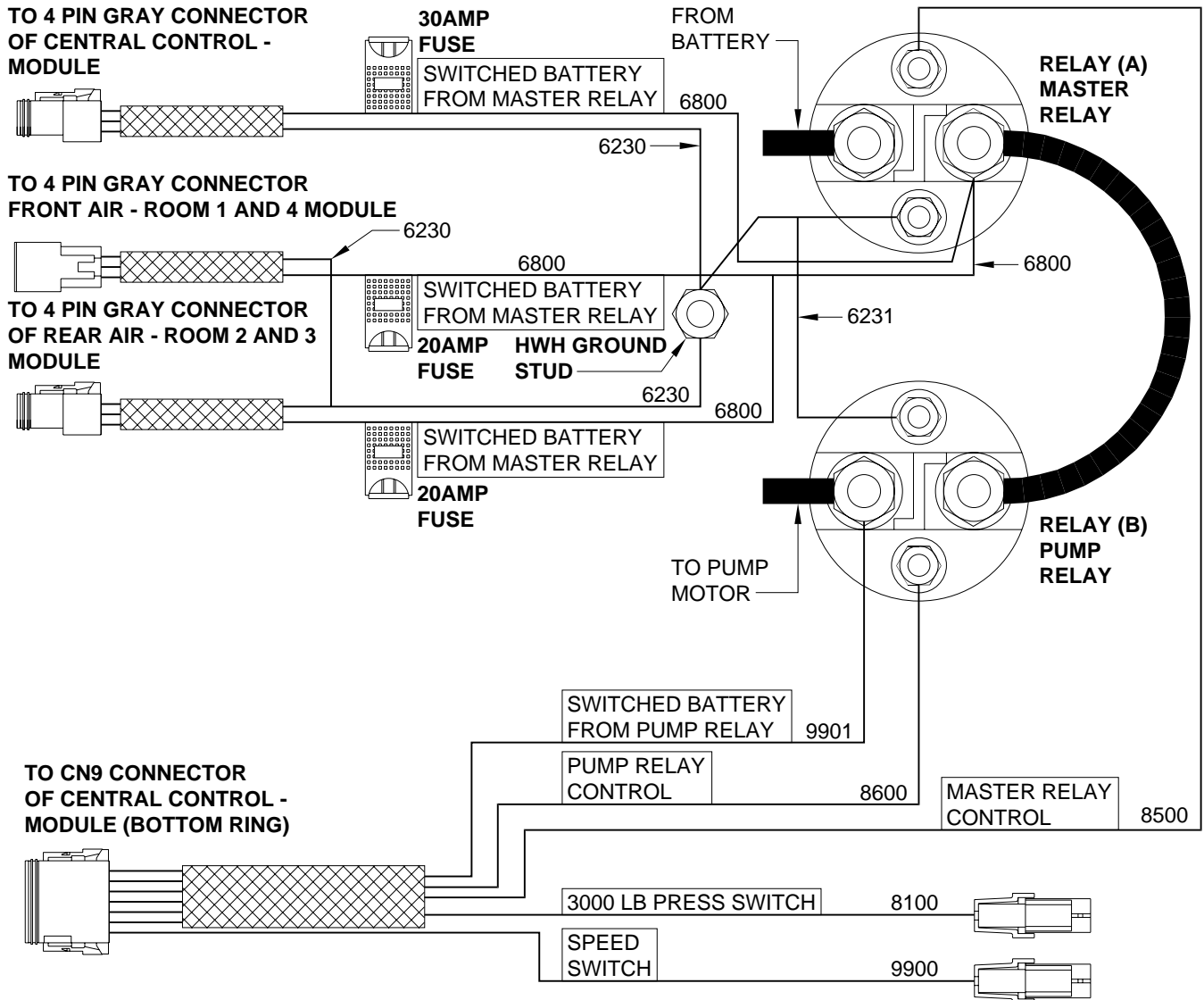
# ELECTRICAL CONNECTION DIAGRAM HYDRAULIC MANIFOLD CONNECTIONS ROOM 1 - ROOM 2 - ROOM 3 - ROOM 4 - GEN SLIDE



# ELECTRICAL CONNECTION DIAGRAM

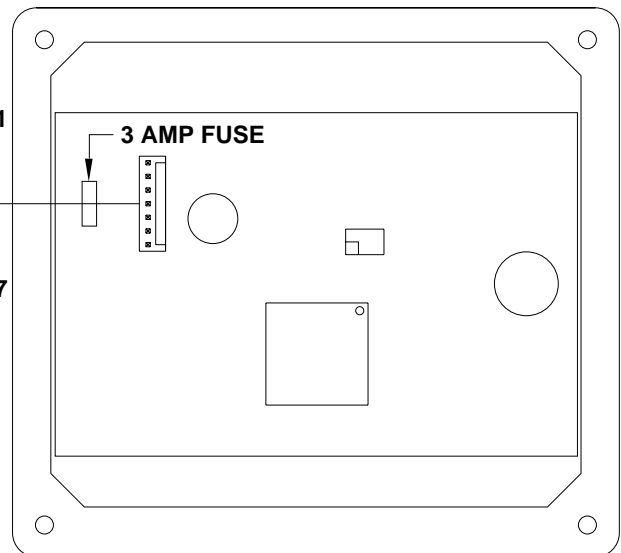
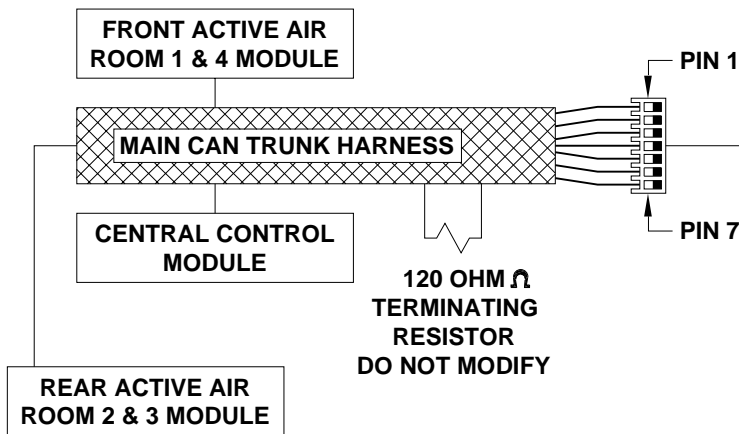
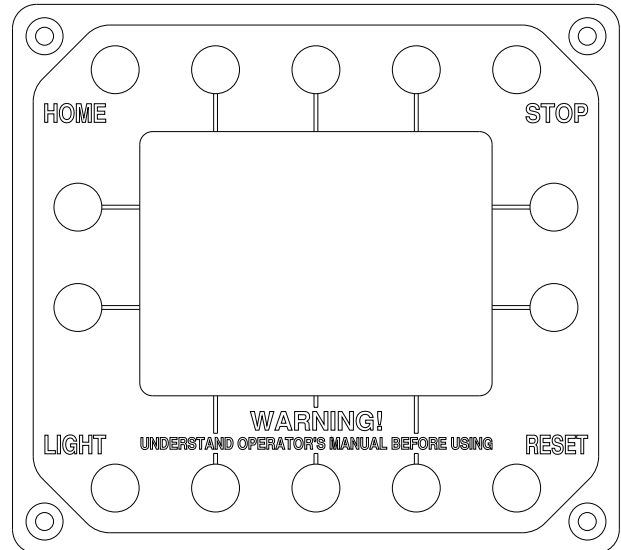
## 2000 SERIES ROOM EXTENSION SYSTEM

### MASTER AND PUMP RELAY



# ELECTRICAL CONNECTION DIAGRAM

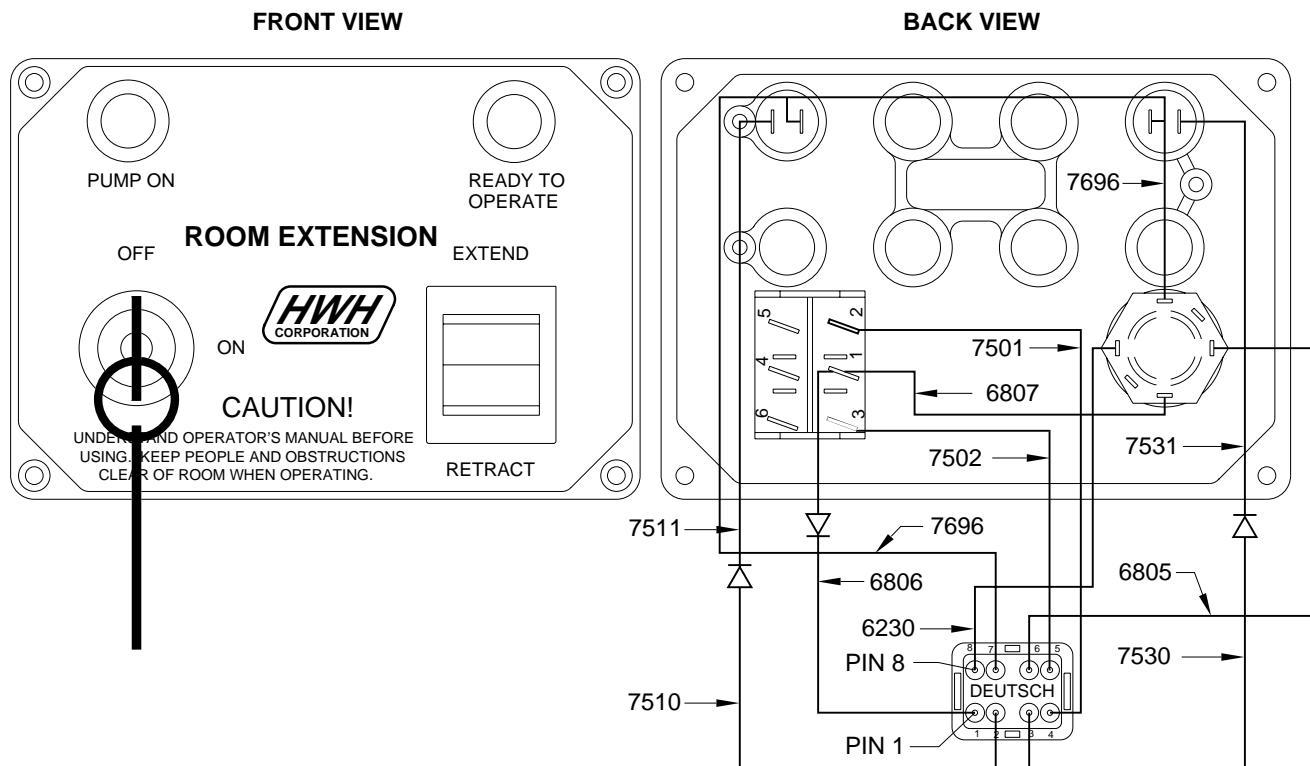
## LCD SYSTEM CONTROL PANEL



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

# ELECTRICAL CONNECTION DIAGRAM

## ROOM EXTENSION ROCKER SWITCH CONTROL PANEL



CONNECTOR PIN #	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
1	6806/6807	SWITCHED +12 FROM KEY SWITCH FOR ROOM CONTROL SWITCH (NOT PRESENT IN HARNESS CONNECTOR)
2	7510/7511	READY TO OPERATE LIGHT CONTROL WIRE SWITCHED +12V
3	7530/7531	PUMP ON LIGHT CONTROL WIRE SWITCHED +12
4	7501	ROOM EXTEND SWITCHED +12V FROM ROOM CONTROL SWITCH
5	7502	ROOM RETRACT SWITCHED +12V FROM ROOM CONTROL SWITCH
6	6805	SWITCHED +12V TO ROOM PANEL KEY SWITCH
7	7696	SWITCHED GROUND FROM ROOM PANEL KEY SWITCH FOR PANEL INDICATOR LIGHTS AND SYSTEM WAKE UP
8	6230	GROUND SUPPLY FOR ROOM PANEL KEY SWITCH

**NOTE: HARNESS FROM ROOM PANEL TO THE CONTROL MODULE IS SUPPLIED BY THE O.E.M. THE HARNESS CONNECTOR AT THE PANEL HAS NO CONNECTION IN PIN 1. THE HARNESS CONNECTOR AT THE CONTROL MODULE HAS A 6806 WIRE IN PIN 1 FOR THE ROOM SELECT SWITCH SUPPLIED BY THE O.E.M.**



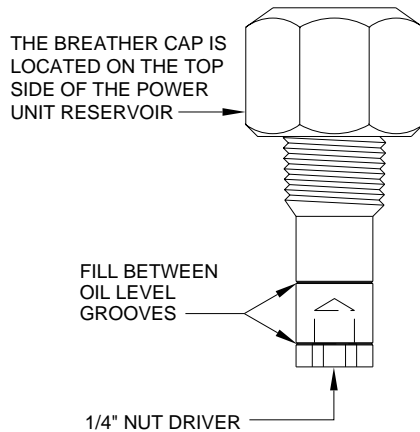
# INFORMATION/INSTRUCTION SHEET

## HYDRAULIC SOLENOID VALVE

### IDENTIFICATION - MANUAL OPERATIONS - REPLACEMENT

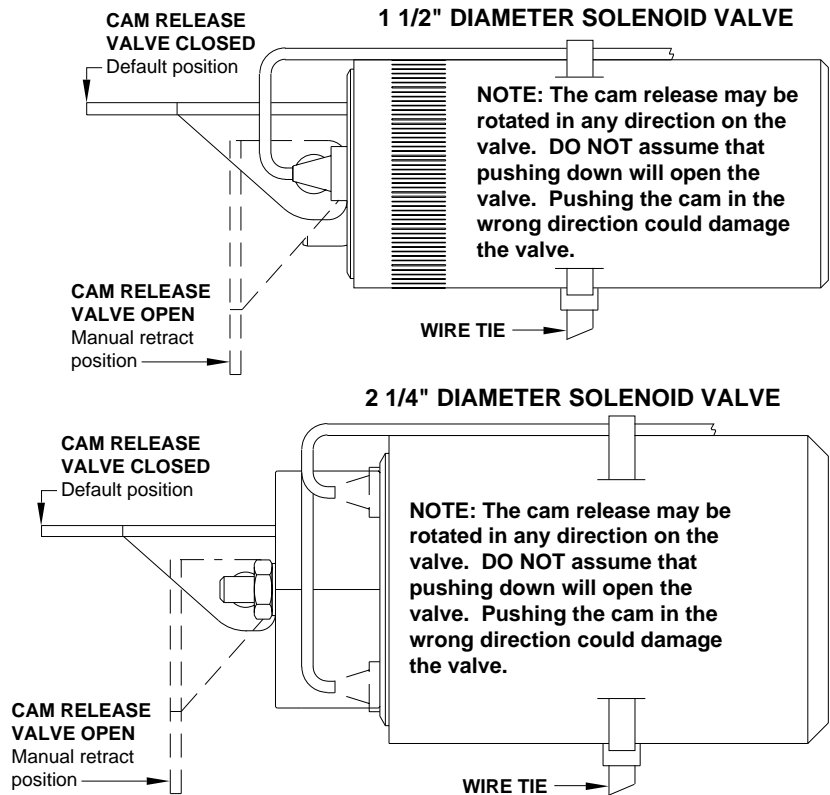
**REPLACEMENT VALVES WILL HAVE A VALVE RELEASE CAM**

#### BREATHER CAP W/NUT DRIVER

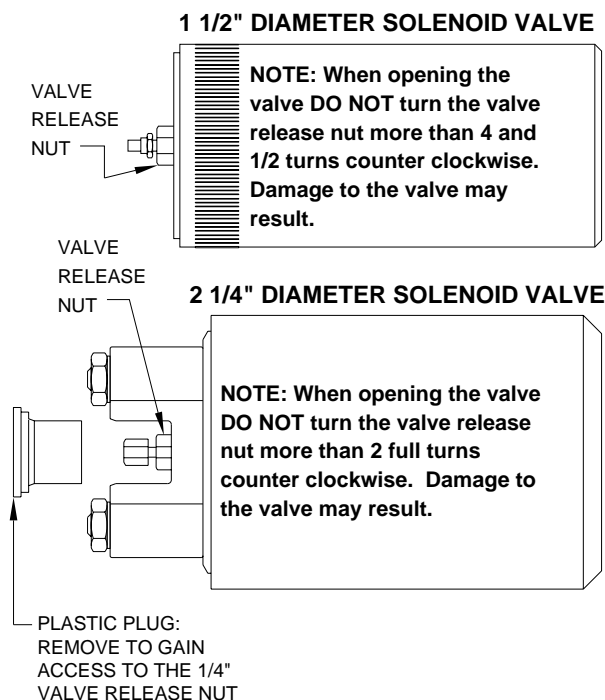


**IMPORTANT: PRIOR TO REMOVING THE BREATHER CAP, EITHER TO CHECK THE OIL LEVEL OR TO USE 1/4" NUT DRIVER, CLEAN ANY DEBRIS FROM THE TOP OF THE RESERVOIR. BEFORE RETURNING THE BREATHER CAP TO THE RESERVOIR, REMOVE ANY PAINT CHIPS OR OTHER DEBRIS FROM THE DIPSTICK INCLUDING DEBRIS INSIDE THE 1/4" NUT DRIVER.**

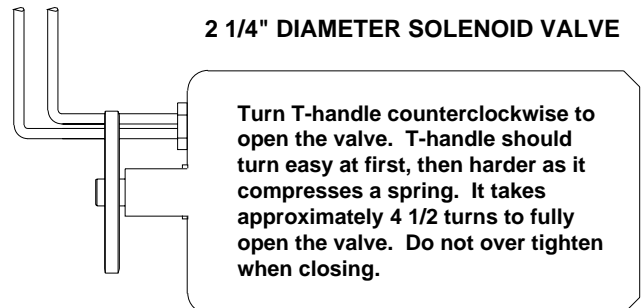
#### SOLENOID VALVES WITH CAM RELEASE



#### SOLENOID VALVES WITH 1/4" NUT RELEASE



#### SOLENOID VALVES WITH T-HANDLE RELEASE



**NOTE: OLD STYLE HEX SHAPED SOLENOID VALVES HAVE NO MANUAL VALVE RELEASE.**