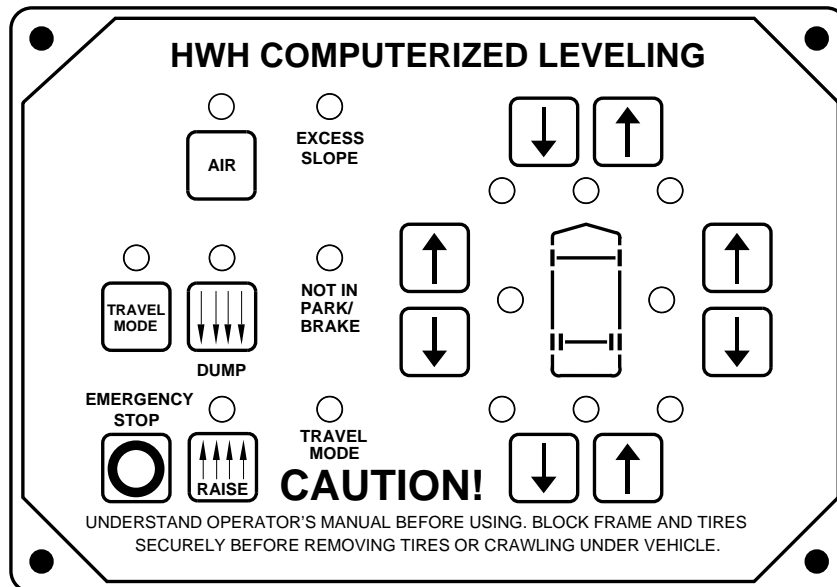




OPERATOR'S MANUAL

HWH COMPUTER-CONTROLLED LEVELING SYSTEM 2000 SERIES

FEATURING:
TOUCH PANEL CONTROL
AIR LEVELING (WITH TAG AXLE)



HWH CORPORATION
(ON I-80, EXIT 267 SOUTH)
2096 MOSCOW ROAD
MOSCOW, IOWA 52760
(800) 321-3494 / (563) 724-3396
INTERNET: <http://www.hwhcorp.com>

OPERATOR'S MANUAL

CAUTION !

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 OPERATE THE LEVELING SYSTEM OR USE THE DUMP OR RAISE BUTTONS IF THE VEHICLE IS MOVING IN EXCESS OF 5 MPH.

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

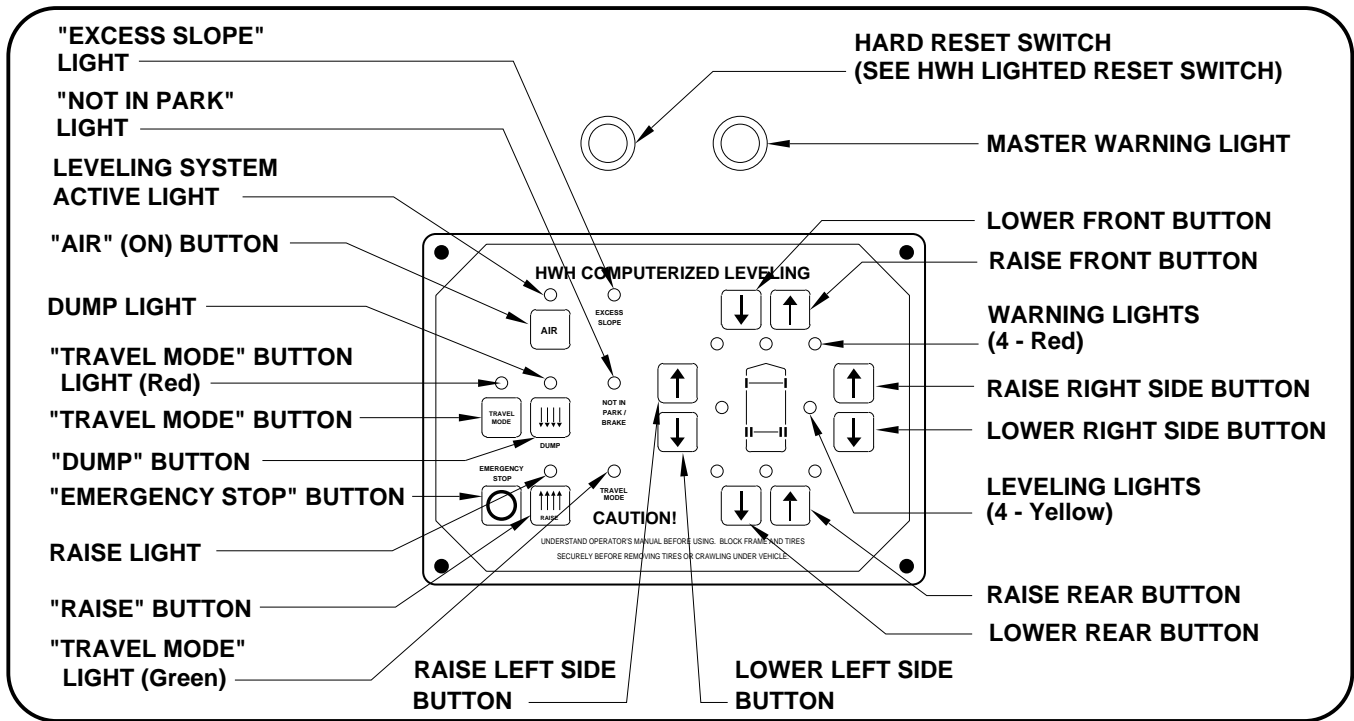
HWH CORPORATION strives to maintain the highest level of customer satisfaction. Therefore, if you discover a defect or problem, please do the following:

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



CONTROL FUNCTIONS

CONTROL BUTTONS

"AIR" BUTTON: This is the system active and automatic operation button. It works if the ignition is in the "ON" position.

"EMERGENCY STOP" BUTTON: This button turns the system OFF but does NOT control power to the "DUMP" or "RAISE" buttons. Pushing this button will NOT put the system in the TRAVEL mode.

"TRAVEL MODE" BUTTON: This button will put the Leveling System in the TRAVEL mode. The ignition must be "ON" for the vehicle to return to proper ride height for traveling.

"DUMP" BUTTON: This button will lower the whole coach by dumping air from the suspension system.

"RAISE" BUTTON: This button will raise the whole coach by adding air to the suspension system.

IMPORTANT: Read "DUMP AND RAISE FUNCTIONS" before using the "DUMP" or "RAISE" buttons.

UP ARROWS (RAISE BUTTONS): These momentary buttons are used for manually operating the air leveling systems. Sides or ends of the vehicle will raise while these buttons are pushed.

DOWN ARROWS (LOWER BUTTONS): These momentary buttons are used for manually operating the air leveling systems. Sides or ends of the vehicle will lower while these buttons are pushed.

INDICATOR LIGHTS

LEVEL SYSTEM ACTIVE LIGHT: ON when the system is active, and flashes during automatic leveling.

DUMP LIGHT: Flashes when "DUMP" button is pushed.

RAISE LIGHT: Flashes when "RAISE" button is pushed.

"EXCESS SLOPE" LIGHT: ON if the leveling system can NOT level the coach.

"TRAVEL MODE" BUTTON LIGHT (RED): Light flashes for 3 seconds after the "TRAVEL MODE" button is pushed.

"TRAVEL MODE" LIGHT (GREEN): ON if the ignition is in the "ON" position, the system is not being used, and there is sufficient air pressure in the suspension. See PREPARATION FOR TRAVEL.

WARNING LIGHTS: Function with the ignition in the "ON" position. ON when the LEVELING SYSTEM ACTIVE LIGHT is ON. See PREPARATION FOR TRAVEL.

LEVELING LIGHTS: One or two yellow lights can be on indicating the side, end or corner of the coach is low.

"NOT IN PARK/BRAKE" LIGHT: ON while the "AIR" button is being pushed if the Park Brake is NOT set. The light will go out when the "AIR" button is released.

MASTER WARNING LIGHT: ON any time the "TRAVEL" light is not ON, if the ignition is in the "ON" position.

OPERATING PROCEDURES

NETWORK INFORMATION

The HWH 2000 series CAN system is a computerized modular network. It controls all functions of the leveling system. The network is active any time the ignition is in the "ON" or "ACC" position. Certain functions and indicator lights for the leveling system will work when the network is active. Certain functions and lights will work ONLY if the the ignition is in the "ON" or "ACC" position to start the function.

NOTE: The network will stay active for 10 minutes after the ignition key has been turned "OFF". If the leveling system was turned "ON", the network will stay active for 10 minutes after automatic leveling is complete or the system goes "EXCESS SLOPE". If manual leveling buttons were used, the network stays active for 10 minutes after the last manual button is released.

GENERAL INSTRUCTIONS

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

The "DUMP" and "RAISE" buttons will function with the leveling system and park brake off, if the ignition is in the "ON" or "ACC" position or if the network is active. See AIR DUMP AND RAISE FUNCTIONS section of this manual.

The MASTER WARNING LIGHT will be on if an air bag has low pressure, if the ignition is in the "ON" position.

If the Park Brake is not set, the Leveling System cannot be turned ON.

CAUTION: DO NOT MOVE THE VEHICLE AT SPEEDS IN EXCESS OF 5 MPH IF THE MASTER WARNING LIGHT IS ON.

HWH LIGHTED RESET SWITCH

The HWH lighted reset switch is located on the vehicle dash. If there is a failure at any time in the HWH CAN network, the network will shut down. The leveling system will not operate. If the ignition is off, no indicator lights will come on. If the ignition is in the "ON" or "ACC" position, the lighted reset switch and the MASTER WARNING Light will come on.

If the lighted reset switch will not go out when pushed, there is a problem with the central control module of the network system. The Leveling System will NOT operate. The vehicle suspension will return to the travel mode if the ignition key is in the "ON" position.

If the lighted reset switch is on, the switch must be pushed before the leveling system can be operated.

CAUTION: IF THE IGNITION IS IN THE "ON" POSITION AND THE LIGHTED RESET SWITCH IS ON, THE VEHICLE CAN RETURN TO RIDE HEIGHT WITHOUT RELEASING THE PARK BRAKE.

PREPARATION FOR TRAVEL

Visually check that the vehicle is at the proper ride height for traveling.

CAUTION: IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT THE VEHICLE IS AT PROPER RIDE HEIGHT BEFORE TRAVELING.

The ignition must be in the "ON" position for the vehicle suspension to be in the travel mode. Also the "TRAVEL MODE" button must be pushed or the park brake released for the suspension to be in the travel mode If the Leveling System was used.

Before traveling, the MASTER WARNING light must be off and the "TRAVEL MODE" light must be ON.

A lit "TRAVEL MODE" light indicates that the HWH Leveling System is in the TRAVEL MODE. It does not indicate that the suspension is at ride height or that the coach is ready to travel.

NOTE: Low air pressure can turn the green "TRAVEL MODE" light off and turn the MASTER WARNING light on.

Refer to "DUMP" and "RAISE" FUNCTIONS operating procedures when moving the vehicle with the suspension NOT at the proper ride height.

OPERATING PROCEDURES

AUTOMATIC AIR OPERATION

NOTE: The ignition must be in the "ON" or "ACC" position to use the "AIR" button. Once the operation is started, the ignition can be moved to the "OFF" position and the operation will continue.

1. Place the transmission in the proper position for parking and set the park brake. The air leveling system can only be turned on if the ignition is in the "ON" or "ACC" position. 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.

NOTE: If the ignition key is in the "ON" or "ACC" position, the panel will not turn on if the park brake is not set. The "NOT IN PARK/BRAKE" light will be on while the "AIR" button is being pushed.

2. Press the "AIR" button once to enter the air mode. The LEVELING SYSTEM ACTIVE LIGHT will glow steady. When the ignition is in the "ON" or "ACC" position, the four red WARNING lights on the panel will come on. This indicates that the height control valves have been locked out. The vehicle should not be moved when these lights are on.

3. Press the "AIR" button a second time. The LEVELING SYSTEM ACTIVE LIGHT will start flashing and air leveling will begin. The system will attempt to level the vehicle by exhausting air from 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.

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

4. When all four yellow level lights are out, the LEVELING SYSTEM ACTIVE LIGHT will stop flashing and start pulsating dimly. The Leveling System is now in the SLEEP MODE. The vehicle's engine/ignition may now be turned OFF.

NOTE: After the ignition and all room extension KEY SWITCHES are turned OFF, the CAN Network stays active for 10 minutes before shutting down. Leveling System touch panel lights will stay ON during this time and go out when

the CAN Network shuts down. If the Leveling System is in the SLEEP MODE when the Network shuts down, the computer will stay ON. The Leveling System touch panel lights will all be OFF, but the Leveling System will still be in the SLEEP MODE.

5. During the Sleep Mode, after 30 minutes the processor checks the Level Sensing Unit inputs. If no input for a yellow level light is seen, the processor remains dormant and will recheck the level unit inputs every thirty minutes. If a yellow level light input is blinking, the processor will monitor the level sensing unit inputs continuously. If the input stays off for one minute, the processor reverts to checking the inputs every 30 minutes. If the input stays on for one minute continuously, the processor will relevel the vehicle.

NOTE: Touch Panel Lights will not be ON unless the system is actively leveling the vehicle.

6. If the vehicle needs to be relevelled, the CAN Network will become active. The LEVELING SYSTEM ACTIVE LIGHT will flash. One or two yellow LEVELING LIGHTS will be ON. When the yellow LEVELING LIGHTS are all out, the LEVELING SYSTEM ACTIVE LIGHT will stop flashing and start pulsating dimly. The Leveling System will remain in the SLEEP MODE with the computer monitoring the LEVELING SENSING UNIT every 30 minutes, releveling the vehicle as needed.

NOTE: The CAN Network will stay active for 10 minutes after releveling the vehicle and then shut down, turning the touch panel lights OFF. This happens every time the system relevels the vehicle.

7. The SLEEP MODE will continue until the "EMERGENCY STOP" button is pushed or the park brake is released, if the ignition is in the "ON" position.

EXCESS SLOPE: The system will attempt to level the vehicle for approximately 15 to 20 minutes. After the 15 to 20 minutes, if a LEVEL SENSING light is still on, the "EXCESS SLOPE" light will come on. The LEVEL LIGHT indicator light will go out. The "EXCESS SLOPE" light will be on whenever the network is active.

The "EXCESS SLOPE" light will be on whenever the network is active until the vehicle is leveled with all yellow LEVEL indicator lights off.

TAG AXLE DUMP

The tag axle dump switch is supplied by Foretravel.

IMPORTANT: Refer to Foretravel for proper use of the TAG DUMP feature.

The tag dump switch will work only with the ignition switch in the "ON" position and the Leveling System panel off.

NOTE: If the TAG DUMP switch is in the DUMP position and the ignition key is turned ON (with the Leveling System panel OFF) the tag axle air bags will go into the dump mode.

The TAG DUMP switch, in either the DUMP or TRAVEL position, will not interfere with any air leveling operations.

OPERATING PROCEDURES

MANUAL AIR OPERATION

NOTE: The ignition must be in the "ON" or "ACC" position to use the "AIR" button. Once the operation is started, the ignition can be moved to the "OFF" position and the operation will continue.

1. Place the transmission in the proper position for parking and set the park brake. The air leveling system can only be turned on if the ignition is in the "ON" position. Running the vehicle engine 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.

NOTE: If the "NOT IN PARK/BRAKE" light is on, the leveling system cannot be turned on.

2. Press the "AIR" button once to enter the air mode. The LEVELING SYSTEM ACTIVE LIGHT indicator light will glow steady. When the ignition is in the "ON" position, the four red WARNING lights on the panel will come on. This indicates that the height control valves have been locked out. The vehicle should not be moved when these lights are on.

3. The vehicle can now be leveled using the RAISE (up arrow) and LOWER (down arrow) buttons on the right half of the

panel in conjunction with the yellow LEVEL indicator lights. **Any side to side leveling should be done, if needed, before leveling the vehicle front to rear.** The yellow LEVEL indicator light indicates that side or end is low. When all yellow lights are out the vehicle is level. Try leveling the vehicle by lowering the high side or end (opposite of the lit yellow level lights). If a level position is not achieved use the RAISE (up arrow) button to raise the low side or end.

NOTE: In either manual or automatic leveling when either front air manifold air bag pressure switch is on a front lower procedure is halted. When either rear air manifold air bag pressure switch is on, a rear lower procedure is halted. Air bag pressure switches will not interfere with either a right or left lower procedure.

4. Turn the ignition to the "OFF" position.

5. Turn the system off.

NOTE: If the "DUMP" or "RAISE" buttons are pushed while manually leveling the vehicle with air and the ignition is in the "ON" position, the system will latch into the dump or raise mode until the "EMERGENCY STOP" button is pushed or the ignition is turned off.

"DUMP" AND "RAISE" FUNCTIONS

The "DUMP" and "RAISE" functions are provided for operator convenience for purposes such as dumping the air suspension when parked.

Leave the engine running if the "RAISE" function is to be used. The park brake does not have to be set to use the "DUMP" or "RAISE" buttons.

IMPORTANT: If the ignition is ON and the park brake is OFF, the "DUMP" and "RAISE" features will latch in and remain on. If the vehicle exceeds 10 MPH, the "DUMP" or "RAISE" functions will automatically turn off and the system will return to the TRAVEL MODE. If the park brake is set, the "TRAVEL MODE" button must be pushed before the vehicle can return to ride height.

CAUTION: REREAD CAUTIONS ON THE FIRST PAGE OF THIS MANUAL. THE VEHICLE MAY DROP OR RAISE AND/OR MOVE FORWARD OR BACKWARD WITHOUT WARNING CAUSING INJURY OR DEATH.

DO NOT OPERATE THE VEHICLE UNLESS THE AIR SUSPENSION IS AT THE PROPER HEIGHT FOR TRAVEL.

The "RAISE" and "DUMP" buttons can be used at any time the network is active. The park brake does not have to be on.

If the ignition is in the "ON" position and the park brake is off, the "RAISE" or "DUMP" buttons will latch in. The vehicle will raise or lower completely and stay in that position. The vehicle can not return to ride height until the "TRAVEL MODE" button or the "EMERGENCY STOP" button is pushed or the vehicle exceeds 10 M.P.H, putting the system in the TRAVEL MODE.

If the ignition is in the "OFF" position the "RAISE" and "DUMP" buttons will not latch in. The vehicle will remain in the position it was when the button was released. The vehicle can return to ride height when the ignition is turned to "ON" if the park brake is released or the "TRAVEL MODE" button is pushed.

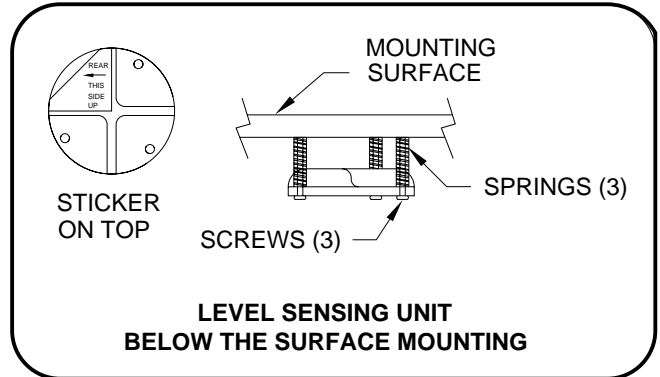
DO NOT operate the vehicle for extended distances unless the air suspension is at the proper height for travel. The vehicle can not return to ride height until the "EMERGENCY STOP" button is pushed or the vehicle exceeds 10 MPH, putting the system in the TRAVEL MODE.

CAUTION: IT IS THE OPERATOR'S RESPONSIBILITY TO CHECK THAT THE VEHICLE IS AT PROPER RIDE HEIGHT BEFORE TRAVELING.

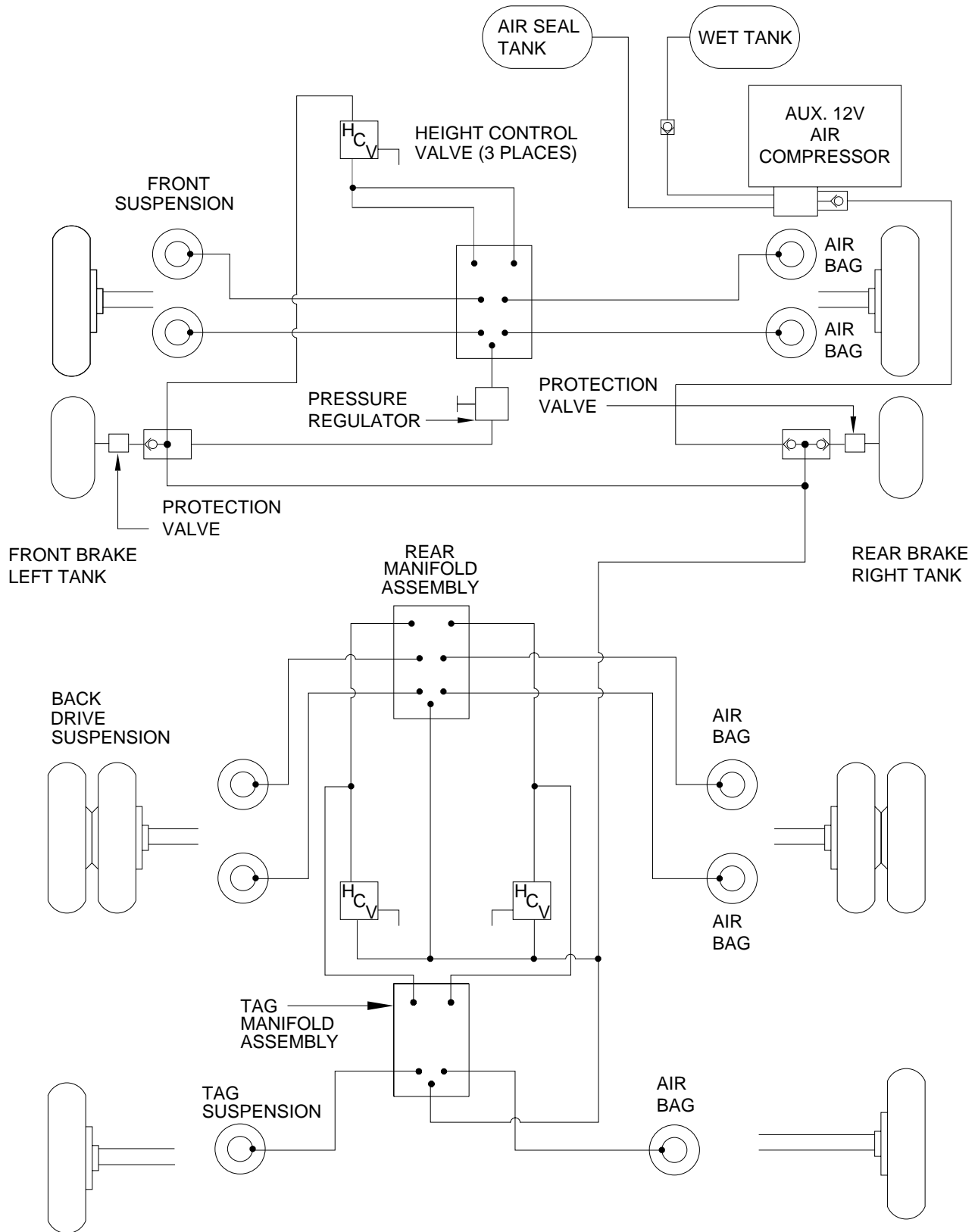
MAINTENANCE

LEVEL SENSING UNIT ADJUSTMENT

Level the vehicle by placing a circular bubble level in the center of the freezer floor or location within the vehicle that is to be level. With the vehicle level, adjust the sensing unit until all yellow lights are off. This is done by drawing up the corresponding screw if the sensing unit is mounted below the surface, as shown, or backing out the corresponding screw if the sensing unit is mounted above the surface. Bump the sensing unit to see that it has settled down in the level position.



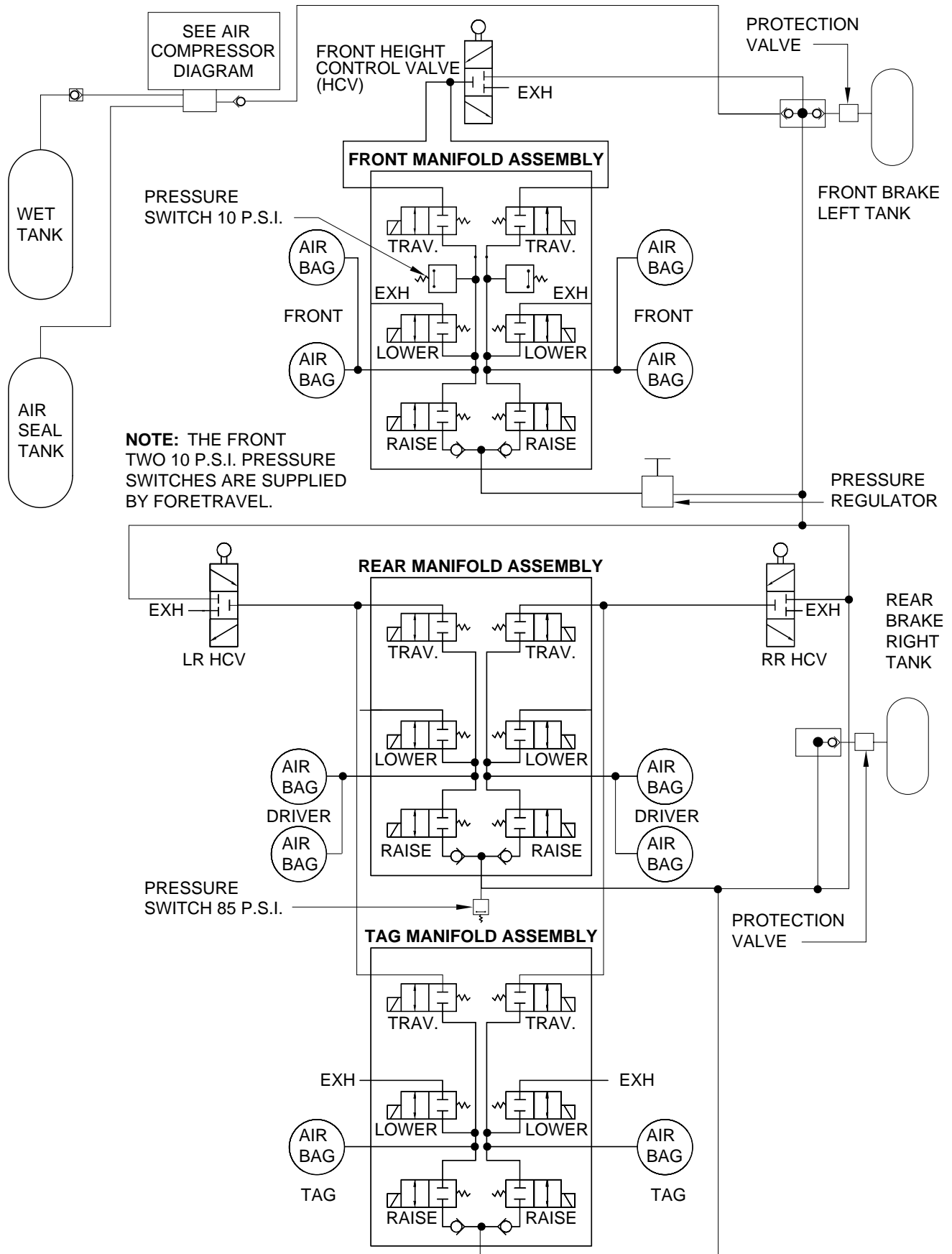
AIR LINE CONNECTION DIAGRAM FORETRAVEL WITH TAG AXLE



AIR LEVEL SCHEMATIC - FORETRAVEL

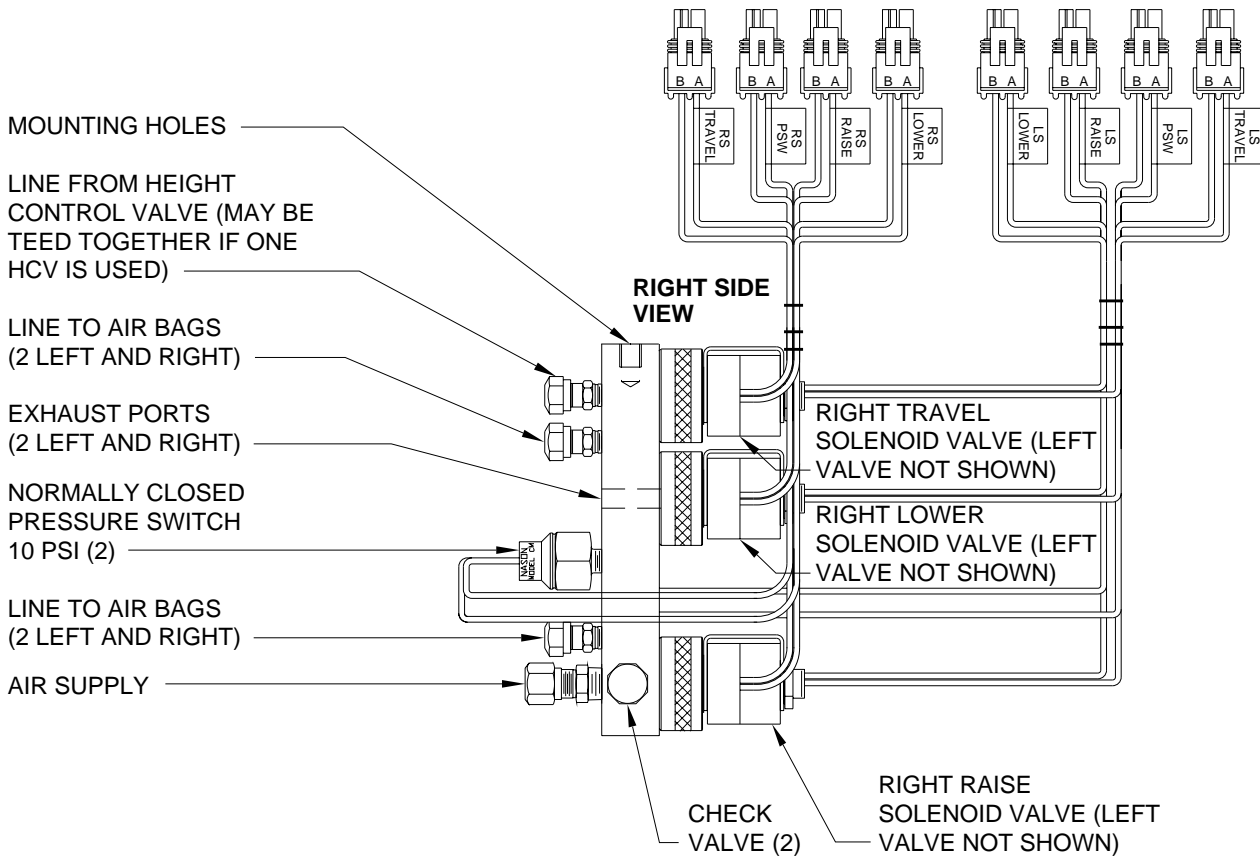
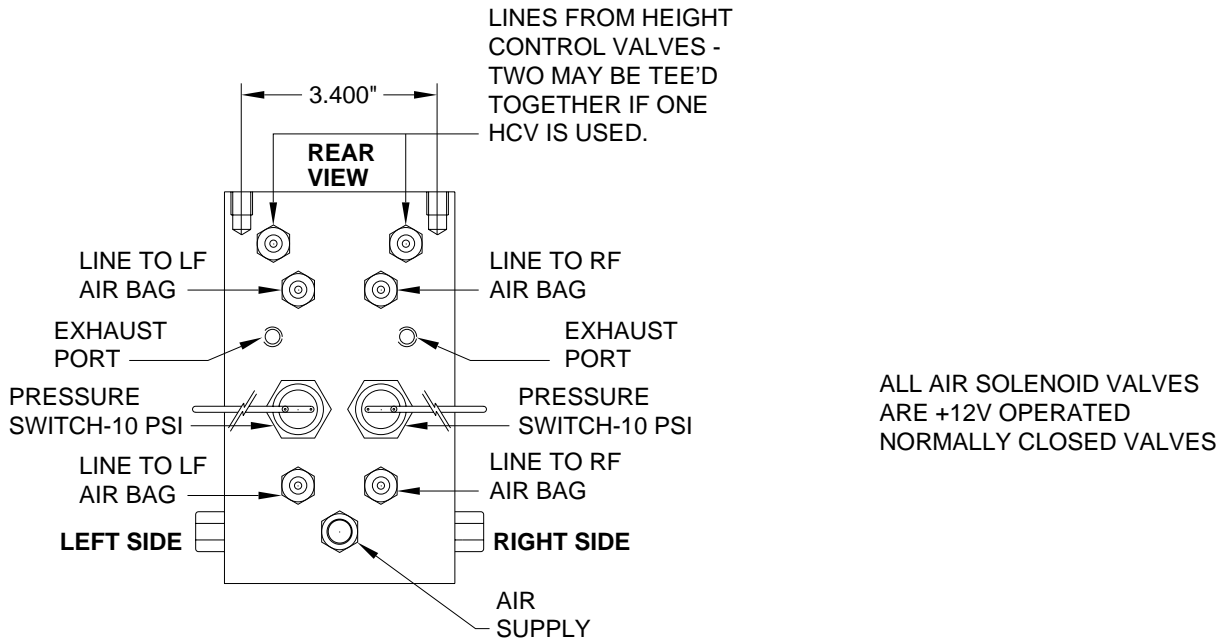
4 - POINT LEVELING WITH TAG AXLE

PRESSURE SWITCHES FRONT AND DRIVE AXLE



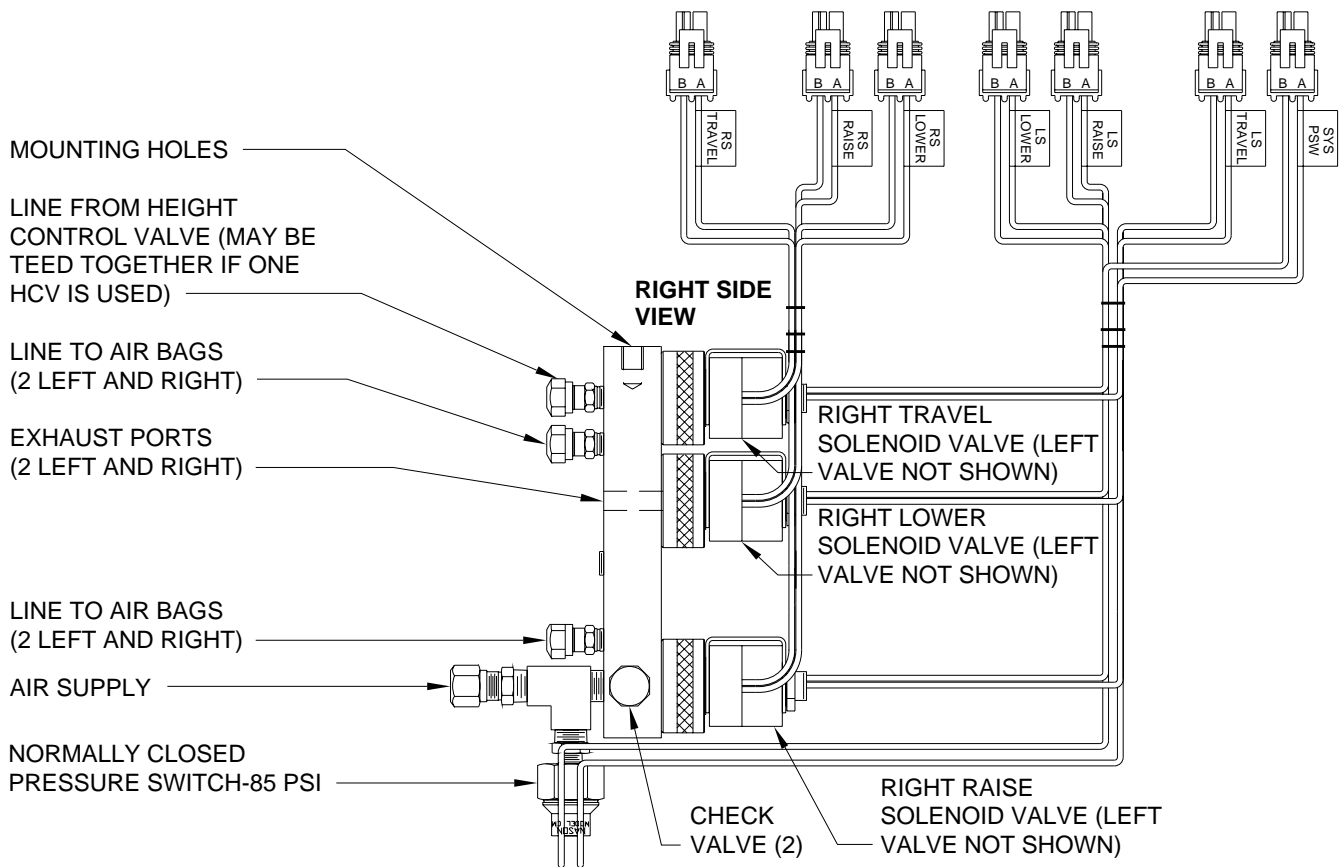
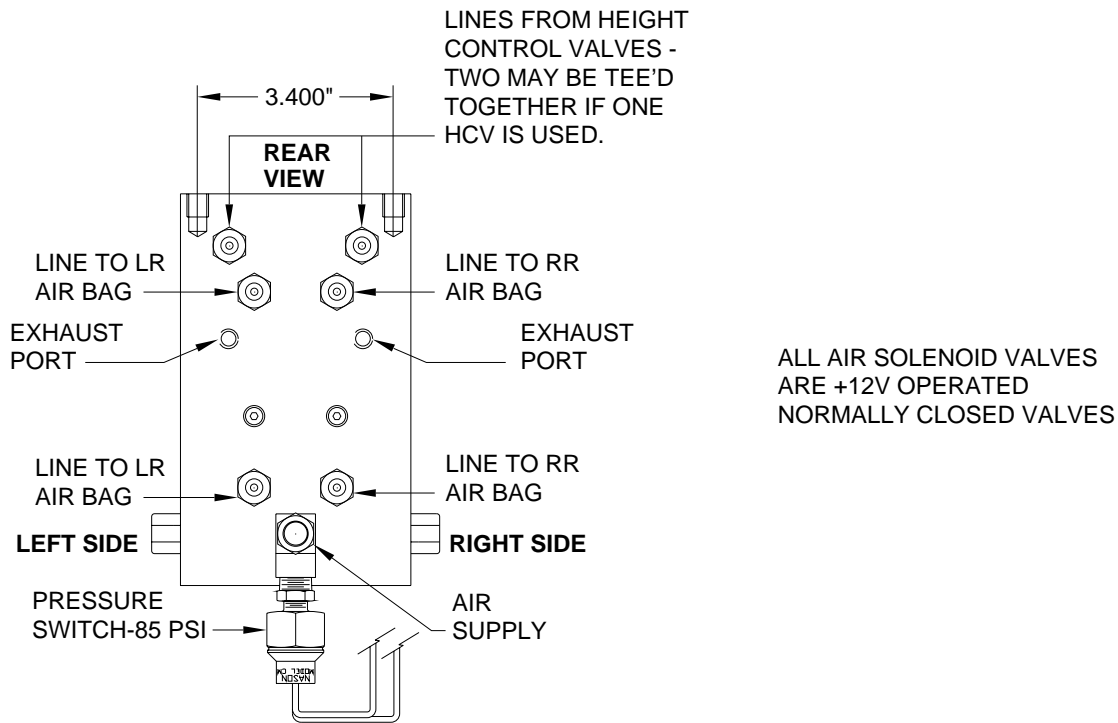
FRONT AIR SOLENOID MANIFOLD CONNECTIONS

6 VALVE WITH TWO PRESSURE SWITCHES



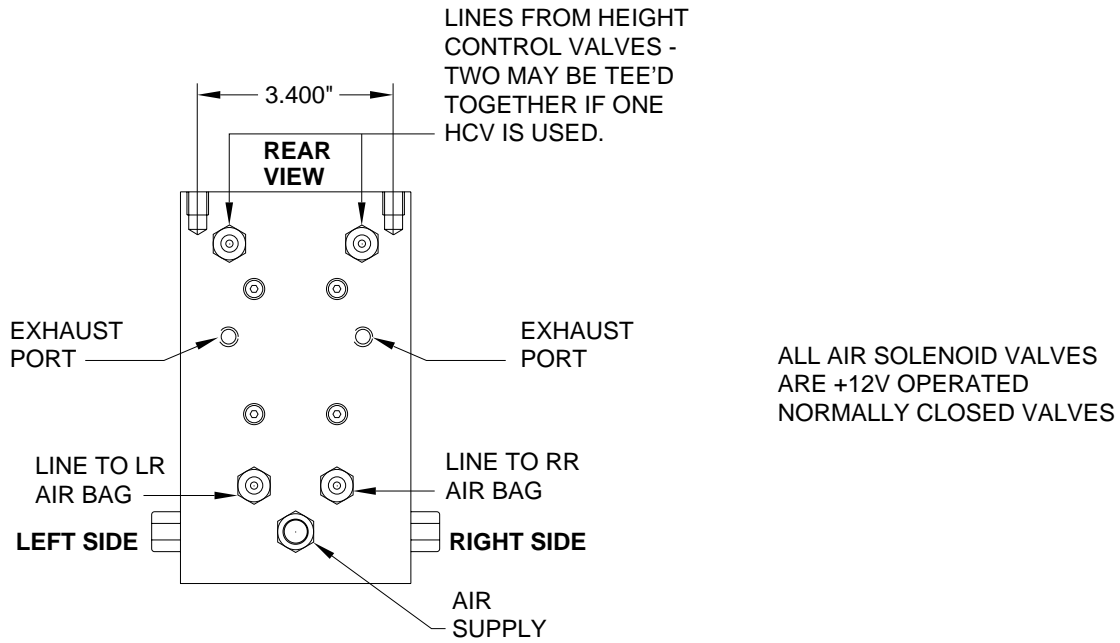
REAR AIR SOLENOID MANIFOLD CONNECTIONS

6 VALVE WITH ONE PRESSURE SWITCH

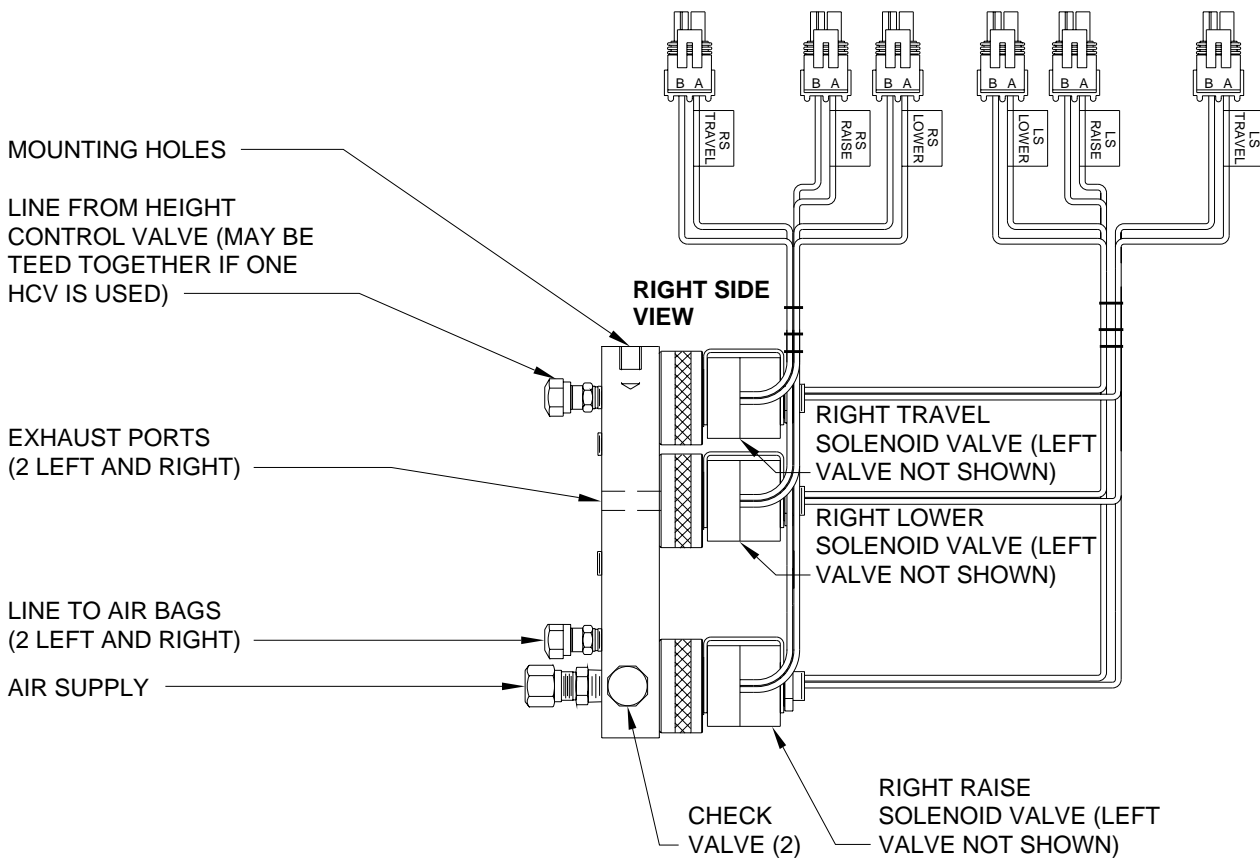


TAG AIR SOLENOID MANIFOLD CONNECTIONS

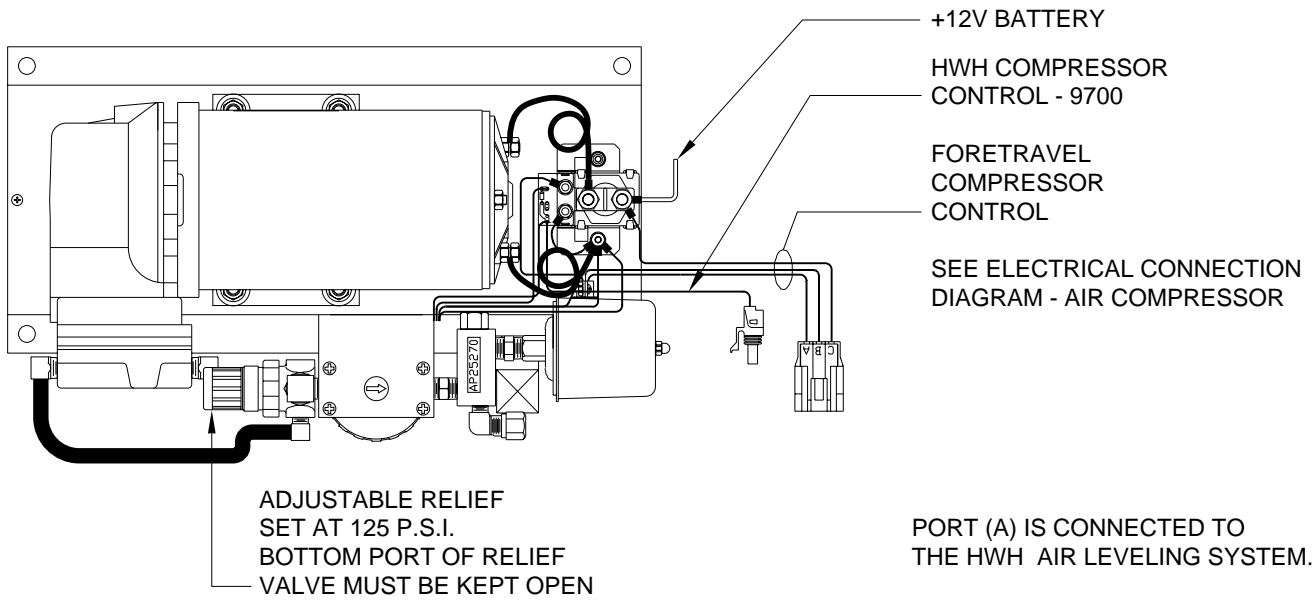
6 VALVE WITH NO PRESSURE SWITCHES



ALL AIR SOLENOID VALVES ARE +12V OPERATED NORMALLY CLOSED VALVES



AIR CONNECTION DIAGRAM AIR COMPRESSOR

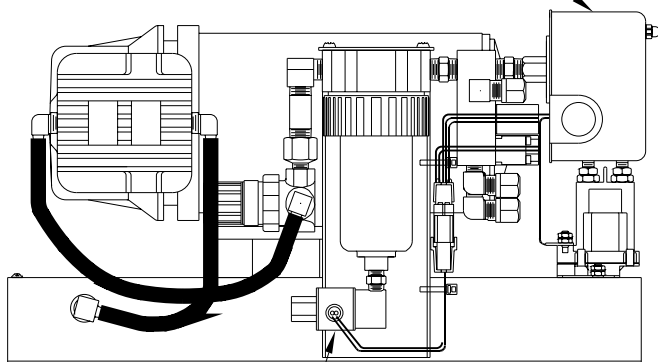


PORT (A) IS CONNECTED TO THE HWH AIR LEVELING SYSTEM.

PORT (B) IS CONNECTED TO THE COACH AIR SUPPLY SYSTEM.

PORT (C) IS CONNECTED TO THE AIR SEAL/ACC. AIR TANK.

PRESSURE SWITCH - SET TO OPEN AT 90 P.S.I. - RESET AT 70 TO 80 P.S.I.



SOLENOID (1)
NORMALLY OPEN

SOLENOID (3)
NORMALLY
OPEN

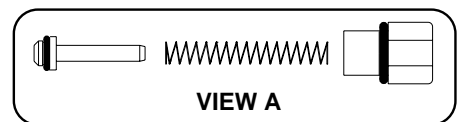
PORT (C)

SOLENOID (2)
NORMALLY
CLOSED

PORT (B)

PORT (A)

CHECK
VALVE
(VIEW A)



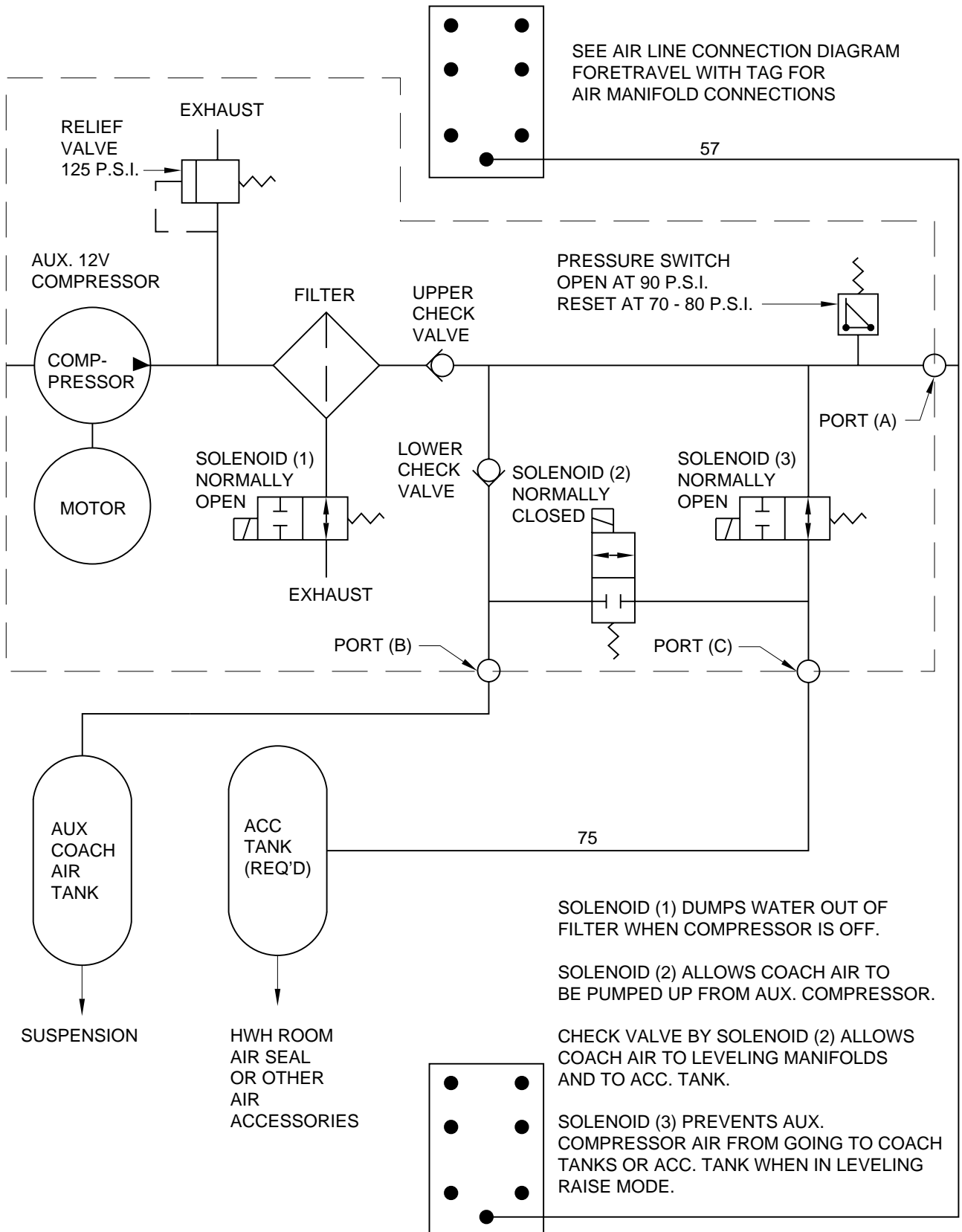
SOLENOID (1) IS THE WATER TRAP DUMP VALVE. THIS VALVE IS CLOSED WHENEVER THE COMPRESSOR IS RUNNING.

SOLENOID (2) OPENS WHEN THE FORETRAVEL DASH SWITCH IS ON. THE AIR COMPRESSOR RUNS IF THE PRESSURE SWITCH HAS RESET (COACH AIR BELOW 70 - 80 P.S.I.). THIS MAINTAINS COACH AIR SUPPLY AT APPROXIMATELY 90 P.S.I. IF THE VEHICLE IS EQUIPPED WITH AN AIR AWNING THE COACH AIR SUPPLY WILL BE MAINTAINED AT 110 P.S.I.

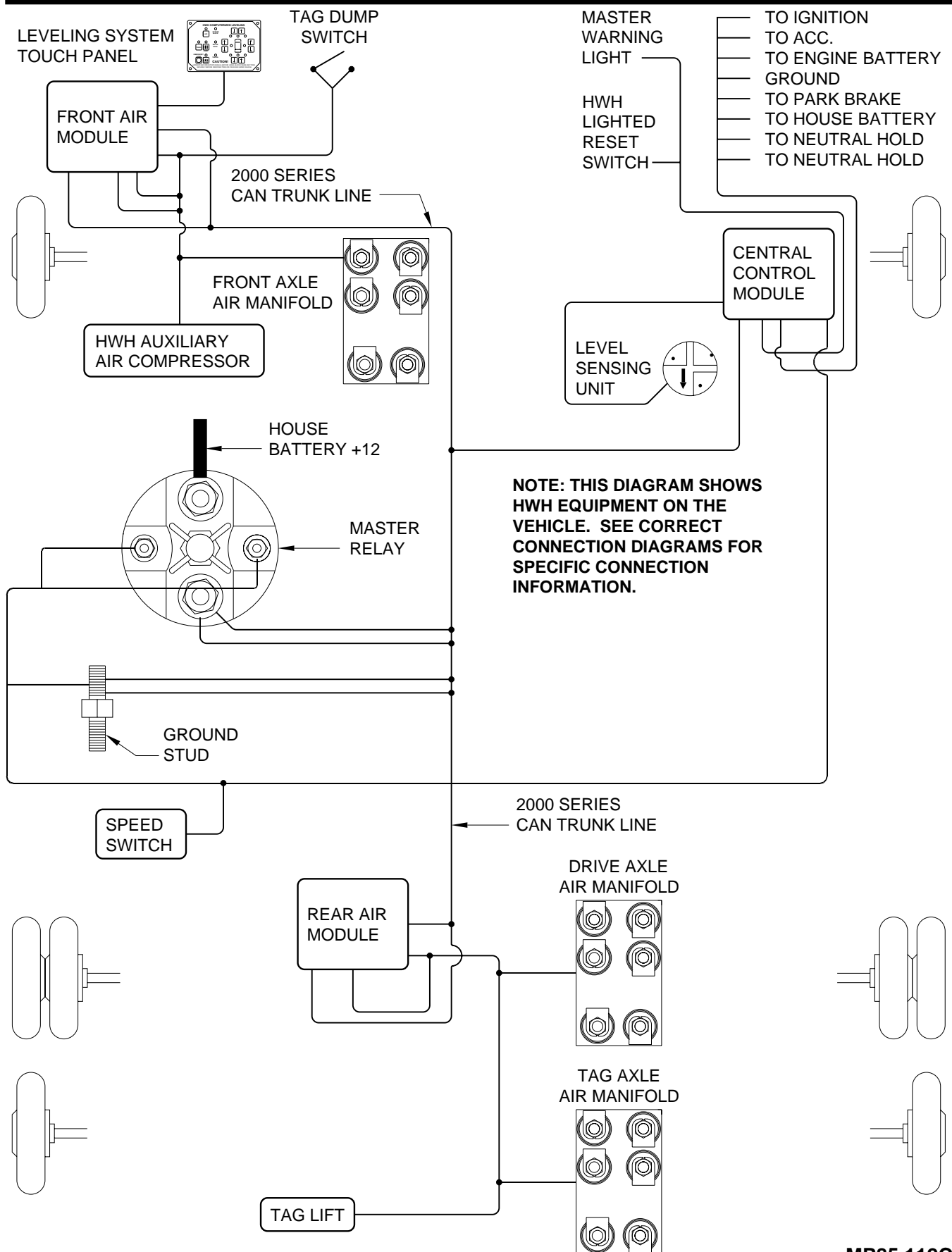
SOLENOID (3) CLOSURES WITH A +12V SIGNAL FROM THE HWH CONTROL SYSTEM. THIS ALLOWS THE HWH AUXILIARY AIR COMPRESSOR TO BE USED FOR AIR LEVELING ONLY.

THE AIR COMPRESSOR RUNS WHENEVER THE PRESSURE SWITCH RESETS (AIR SEAL/ACC. TANK BELOW 70 - 80 P.S.I.). THIS MAINTAINS THE AIR SEAL/ACC. TANK AT APPROXIMATELY 90 P.S.I.

AIR CONNECTION DIAGRAM AIR COMPRESSOR SCHEMATIC

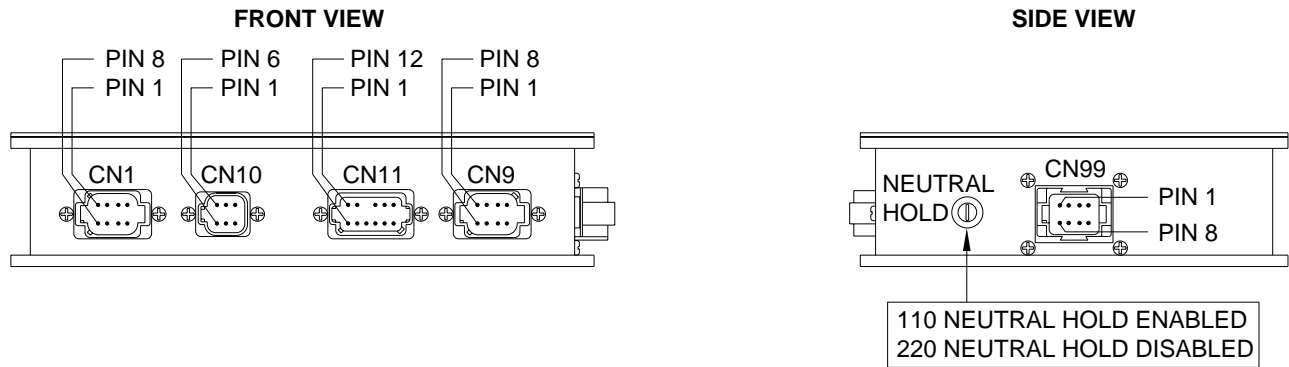


ELECTRICAL CONNECTION DIAGRAM FORETRAVEL 2000 SERIES CAN SYSTEM AIR LEVELING W/TAG AXLE



ELECTRICAL CONNECTION DIAGRAM

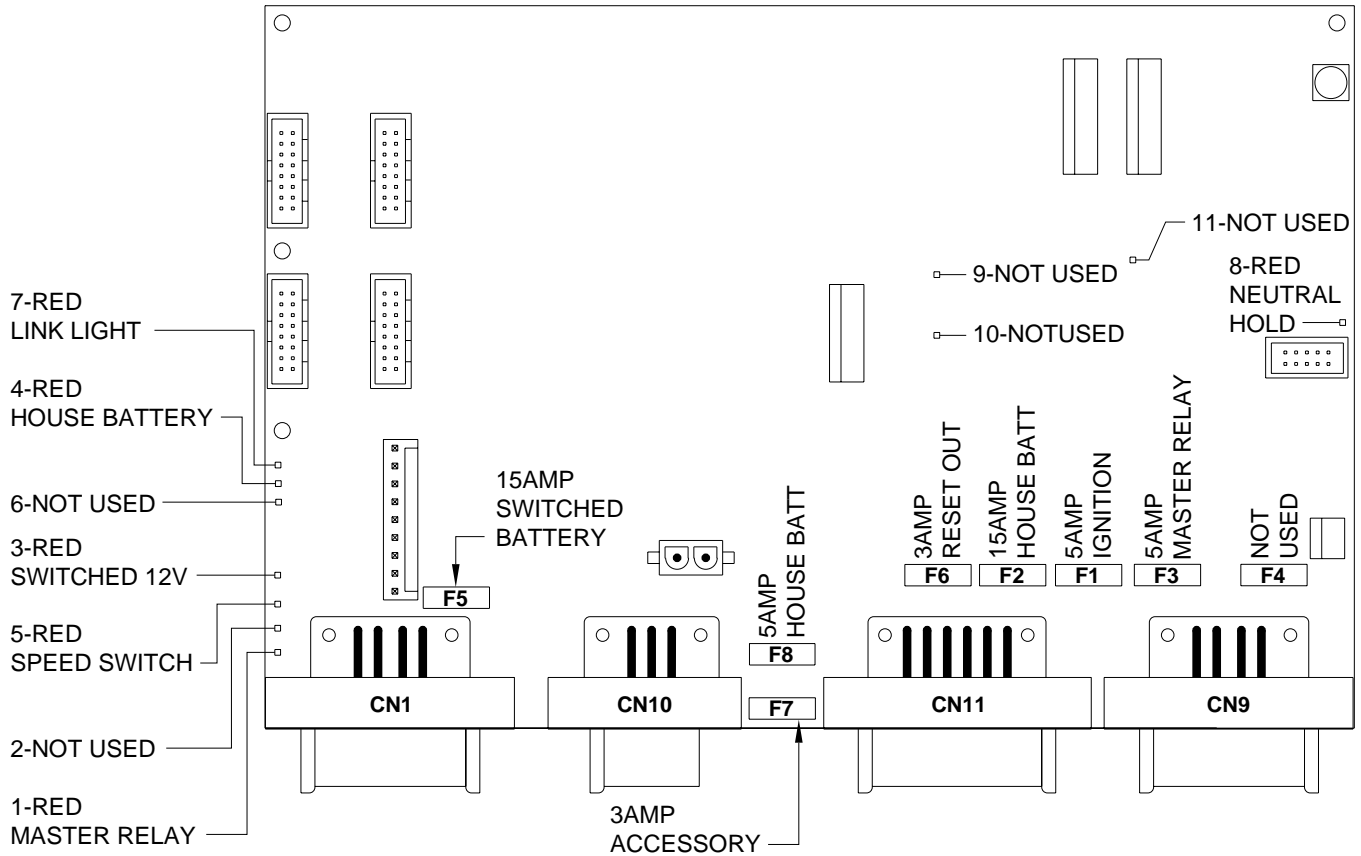
CENTRAL CONTROL MODULE CONNECTION INFORMATION



PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
CN1 ————— 8 PIN BLACK CONNECTOR			
1	WHITE	7696	SYSTEM WAKE UP - SWITCHED GROUND
2			NO CONNECTION
3	RED	6800	SWITCHED +12 BATTERY FROM MASTER RELAY
4	GREEN	6230	GROUND
5			SHIELD WIRE FOR GROUND CABLE
6	RED	6110	IGNITION +12
7	GREEN		CAN DATA LINE LOW - DO NOT MODIFY
8	YELLOW		CAN DATA LINE HIGH - DO NOT MODIFY
CN10 ————— 6 PIN GRAY CONNECTOR			
1	WHITE	7599	RESET SWITCH LIGHT CONTROL - SWITCHED +12
2	WHITE	6100	RESET SWITCH SUPPLY - HOUSE BATTERY +12
3	WHITE	7550	RESET SWITCH OUTPUT - +12
4	WHITE	6121	MASTER WARNING LIGHT SUPPLY - +12
5	WHITE	6230	RESET SWITCH LIGHT - GROUND
6	WHITE	7699	MASTER WARNING LIGHT CONTROL - SWITCHED GROUND
CN11 ————— 12 PIN GRAY CONNECTOR			
1	RED	6110	SWITCHED +12 FROM IGNITION
2 THRU 4			NO CONNECTION
5	RED	6120	SWITCHED +12 FROM IGNITION
6	RED	6100	HOUSE BATTERY +12
7	GREEN	6230	GROUND FOR PROCESSOR AND DATA SWITCHES
8	WHITE	9961	NEUTRAL HOLD
9	WHITE	9955	NEUTRAL HOLD
10			NO CONNECTION
11	WHITE	9000	FROM PARK BRAKE SWITCH - SWITCHED GROUND
12	RED	6101	HOUSE BATTERY +12
CN9 ————— 8 PIN GREEN CONNECTOR			
1	BLACK	8500	MASTER RELAY CONTROL - SWITCHED +12
2 THRU 4			NO CONNECTION
5	BLACK	9900	SPEED SWITCH - +12 SLOW SPEED
6 THRU 8			NO CONNECTION
CN99 ————— LEVEL SENSING UNIT — 8 PIN GRAY CONNECTOR			
1	RED		REAR YELLOW LEVEL LIGHT - SWITCHED GROUND
2	GREEN		RIGHT SIDE YELLOW LEVEL LIGHT - SWITCHED GROUND
3	BLACK		FRONT YELLOW LEVEL LIGHT - SWITCHED GROUND
4	YELLOW		LEFT SIDE YELLOW LEVEL LIGHT - SWITCHED GROUND
5	WHITE		GROUND FOR LEVEL SENSING UNIT
6 THRU 8			NO CONNECTION

ELECTRICAL CONNECTION DIAGRAM LED - FUSE LOCATION AND DESCRIPTION CENTRAL CONTROL MODULE PAGE 1A OF 1 A-B

CENTRAL CONTROL MOTHER BOARD

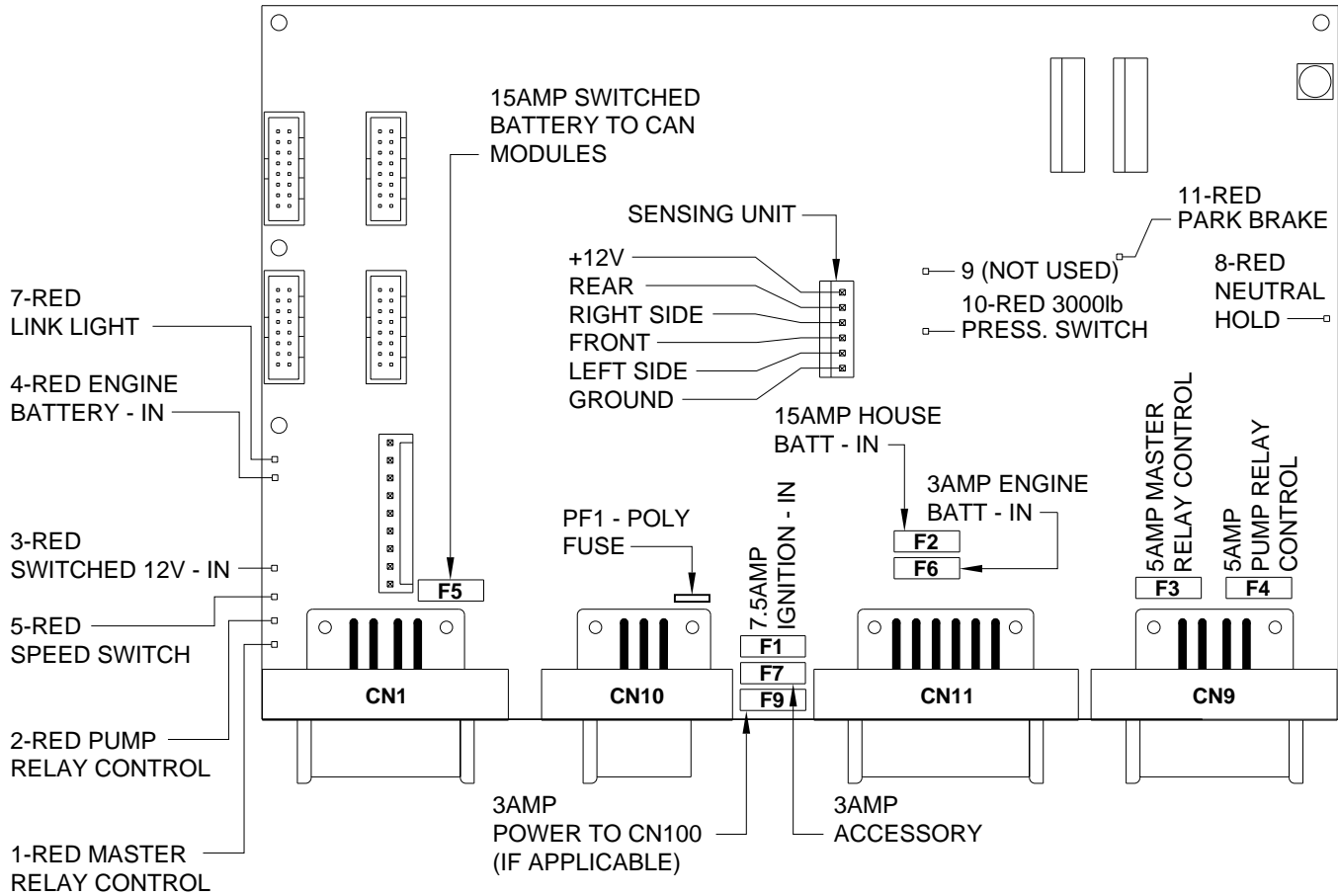


LED	DESCRIPTION	CN AND PIN	FUSE DESCRIPTION
1-RED	MASTER RELAY	CN 9 - PIN 1	F1 - 5AMP IGNITION
2-NOT USED	NOT USED	NOT USED	F2 - 15AMP HOUSE BATTERY
3-RED	SWITCHED 12V	CN 1 - PIN 3	F3 - 5AMP MASTER RELAY
4-RED	HOUSE BATTERY	CN 11 - PIN 12	F4 - NOT USED
5-RED	SPEED SWITCH	CN 9 - PIN 5	F5 - 15AMP SWITCHED BATTERY
6-NOT USED	NOT USED	NOT USED	F6 - 3AMP RESET OUT
7-RED	LINK LIGHT	CN 1 - PIN 7 & 8	F7 - 3AMP ACCESSORY
8-RED	NEUTRAL HOLD	CN 11 - PIN 8 & 9	F8 - 5AMP HOUSE BATTERY
9-NOT USED	NOT USED	NOT USED	
10-NOT USED	NOT USED	NOT USED	
11-NOT USED	NOT USED	NOT USED	

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

ELECTRICAL CONNECTION DIAGRAM LED - FUSE LOCATION AND DESCRIPTION CENTRAL CONTROL MODULE PAGE 1B OF 1 A-B

CENTRAL CONTROL MOTHER BOARD



LED	DESCRIPTION	CN AND PIN	FUSE DESCRIPTION
1-RED	MASTER RELAY CONTROL (NOT USED)	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 (IF APPLICABLE)
2-RED	PUMP RELAY CONTROL (NOT USED)	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	

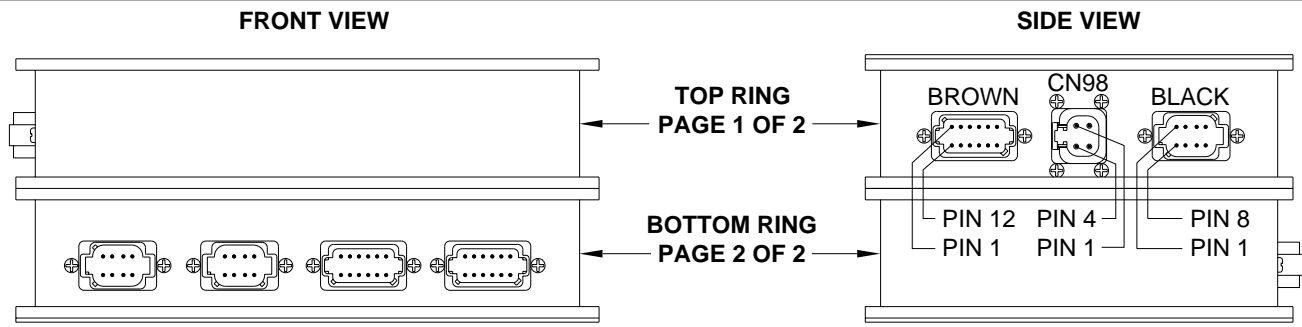
NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - CENTRAL CONTROL MODULE CONNECTION INFORMATION.

* 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

FRONT AIR MODULE CONNECTION INFORMATION

PAGE 1 OF 2

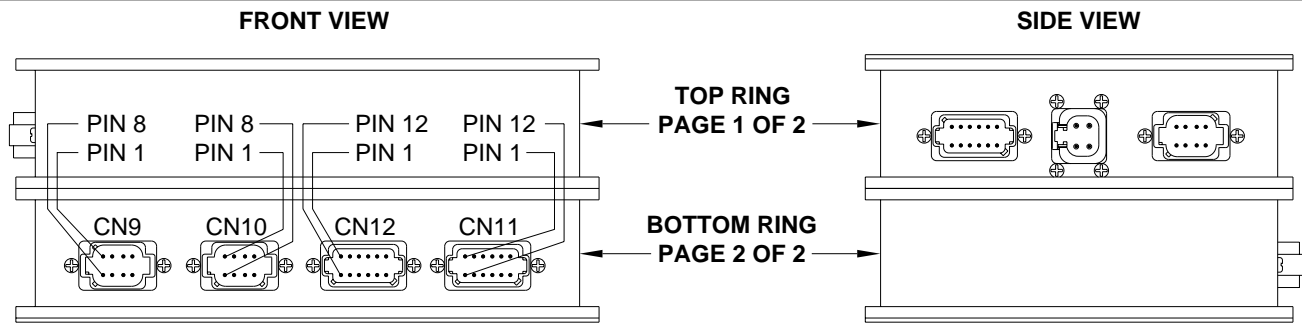


PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
TOP RING BROWN			12 PIN BROWN CONNECTOR
1			NO CONNECTION
2	BLACK	1500	LEFT FRONT RAISE AIR VALVE CONTROL - SWITCHED +12
3	BLACK	1600	LEFT FRONT LOWER AIR VALVE CONTROL - SWITCHED +12
4	BLACK	2500	RIGHT FRONT RAISE AIR VALVE CONTROL - SWITCHED +12
5	BLACK	2600	RIGHT FRONT LOWER AIR VALVE CONTROL - SWITCHED +12
6	BLACK	9700	AUXILIARY AIR COMPRESSOR CONTROL - SWITCHED +12
7			NO CONNECTION
8	BLACK	1700	FRONT AIR MANIFOLD TRAVEL VALVES CONTROL - SWITCHED +12
9 AND 10			NO CONNECTION
11	WHITE	6254	GROUND FOR ALL SOLENOID VALVES
12			NO CONNECTION
TOP RING CN98			4 PIN GRAY CONNECTOR
1	RED	6800	SWITCHED +12 BATTERY FROM MASTER RELAY
2	RED	6800	SWITCHED +12 BATTERY FROM MASTER RELAY
3	GREEN	6230	GROUND FROM GROUND STUD FOR ALL SOLENOID VALVES
4	GREEN	6230	GROUND FROM GROUND STUD FOR ALL SOLENOID VALVES
TOP RING BLACK			8 PIN BLACK CONNECTOR - TOUCH PANEL CONNECTION
1 AND 2			NO CONNECTION
3	RED	6800	SWITCHED +12 BATTERY FROM MASTER RELAY
4	GREEN	6230	GROUND
5	.	.	SHIELD WIRE FOR CAN CABLE
6			NO CONNECTION
7	GREEN	.	CAN DATA LINE LOW - DO NOT MODIFY
8	YELLOW	.	CAN DATA LINE HIGH - DO NOT MODIFY

ELECTRICAL CONNECTION DIAGRAM

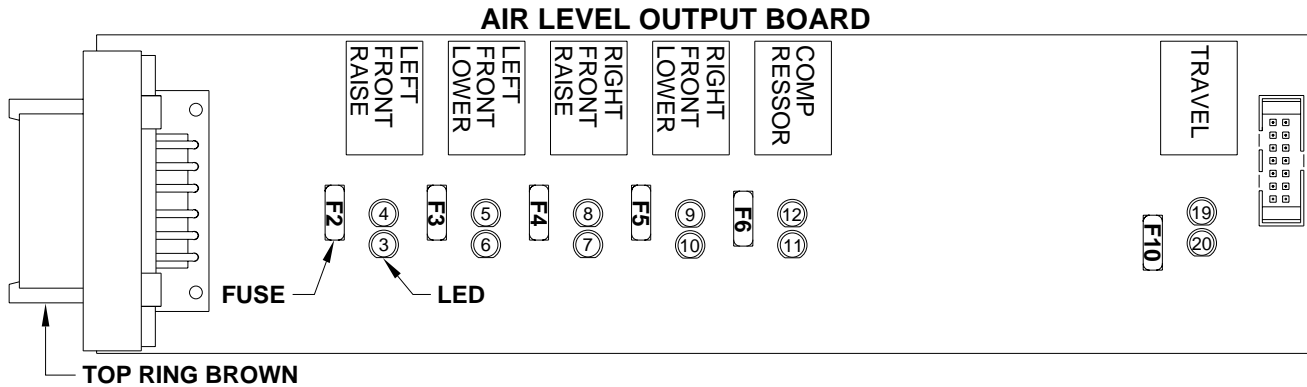
FRONT AIR MODULE CONNECTION INFORMATION

PAGE 2 OF 2



PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
BOTTOM RING CN9			8 PIN BLACK CONNECTOR
1	WHITE	7696	SYSTEM WAKE UP - SWITCHED GROUND
2			NO CONNECTION
3	RED	6800	SWITCHED +12 BATTERY FROM MASTER RELAY
4	GREEN	6230	GROUND
5			SHIELD WIRE FOR CAN CABLE
6	RED	6110	IGNITION +12 - IN
7	GREEN		CAN DATA LINE LOW - DO NOT MODIFY
8	YELLOW		CAN DATA LINE HIGH - DO NOT MODIFY
BOTTOM RING CN10			8 PIN GRAY CONNECTOR
1 THRU 8			NO CONNECTION
BOTTOM RING CN12			12 PIN GRAY CONNECTOR
1 THRU 5			NO CONNECTION
6	WHITE	6236	GROUND FOR RIGHT FRONT AIR PRESSURE SWITCH
7	BLACK	6800	SWITCHED +12 BATTERY FOR TAG DUMP SWITCH
8 AND 9			NO CONNECTION
10	BLACK	2210	FROM RIGHT FRONT AIR PRESSURE SWITCH - SWITCHED GROUND
11	BLACK	7521	SWITCHED +12 FROM TAG DUMP SWITCH
12			NO CONNECTION
BOTTOM RING CN11			12 PIN GREEN CONNECTOR
1 THRU 5			NO CONNECTION
6	WHITE	6235	GROUND FOR LEFT FRONT AIR PRESSURE SWITCH
7 THRU 9			NO CONNECTION
10	BLACK	1210	FROM LEFT FRONT AIR PRESSURE SWITCH - SWITCHED GROUND
11 AND 12			NO CONNECTION

**ELECTRICAL CONNECTION DIAGRAM
LED - FUSE LOCATION AND DESCRIPTION
FRONT AIR MODULE (TOP RING)
PAGE 1 OF 2**



LED	RELAY DESCRIPTION	FUSE	BROWN
3-RED	LEFT FRONT RAISE	F2-5 AMP	PIN 2
4-YELLOW	LEFT FRONT RAISE		
5-YELLOW	LEFT FRONT LOWER		
6-RED	LEFT FRONT LOWER	F3-5 AMP	PIN 3
7-RED	RIGHT FRONT RAISE	F4-5 AMP	PIN 4
8-YELLOW	RIGHT FRONT RAISE		
9-YELLOW	RIGHT FRONT LOWER		
10-RED	RIGHT FRONT LOWER	F5-5 AMP	PIN 5
11-RED	COMPRESSOR	F6-5 AMP	PIN 6
12-YELLOW	COMPRESSOR		
19-YELLOW	TRAVEL		
20-RED	TRAVEL	F10-7.5 AMP	PIN 8

NOTE: THE TRAVEL RELAY IS WIRED AS A NORMALLY CLOSED RELAY. WHEN THE YELLOW LED (19) IS ON THE RELAY CONTACTS WILL OPEN. THE RED LED (20) WILL NOT BE ON. THE RED LED WILL BE ON IF THE LEVELING SYSTEM IS IN THE TRAVEL MODE AND THE IGNITION IS ON.

NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - FRONT AIR MODULE CONNECTION INFORMATION - PAGE 1 OF 2.

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.

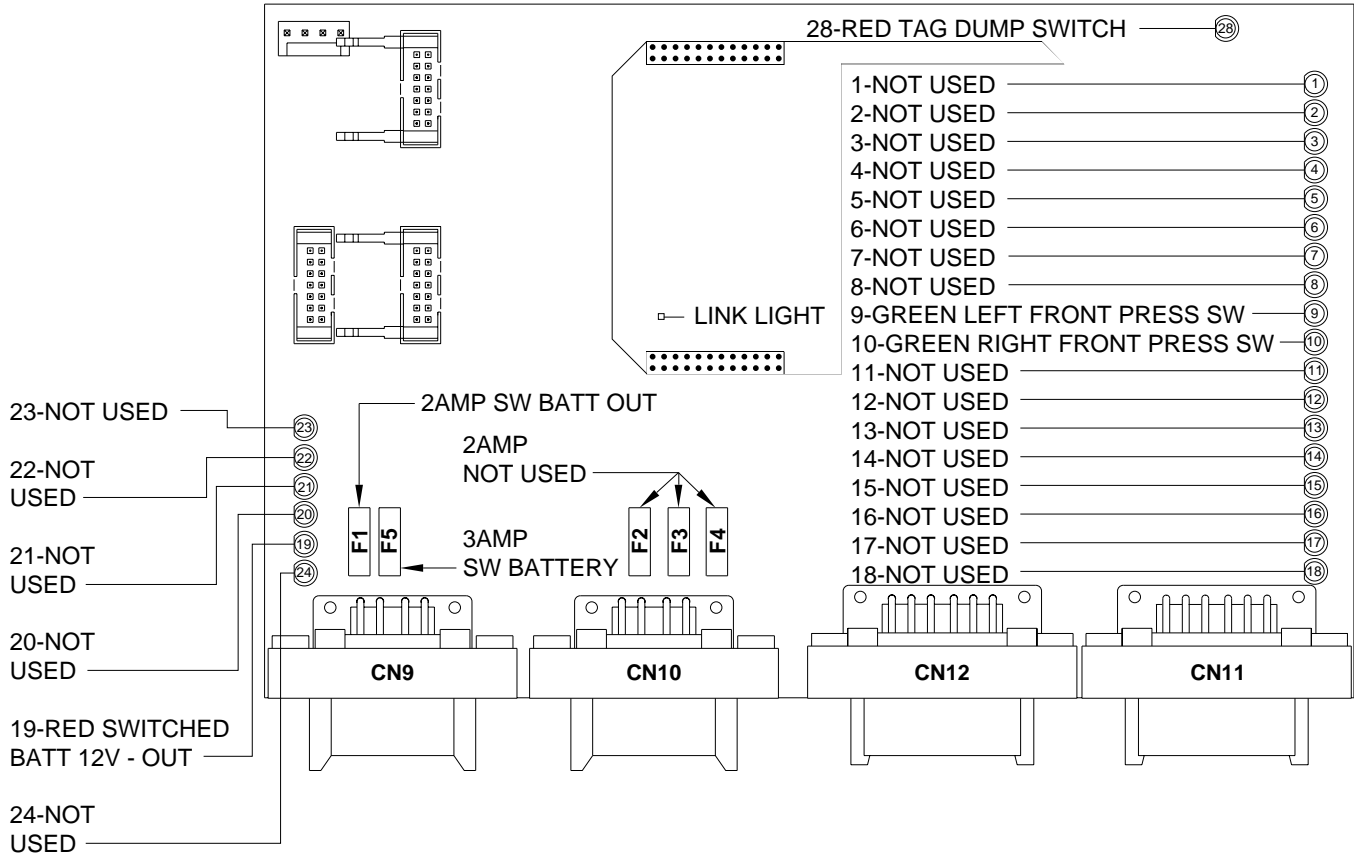
IF A YELLOW LED IS LIT AND THE CORRESPONDING RED LED IS OFF, EITHER IT'S FUSE IS BLOWN OR THE RELAY IS BAD.

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 - FUSE LOCATION AND DESCRIPTION FRONT AIR MODULE (BOTTOM RING) PAGE 2 OF 2

AIR I/O BOARD

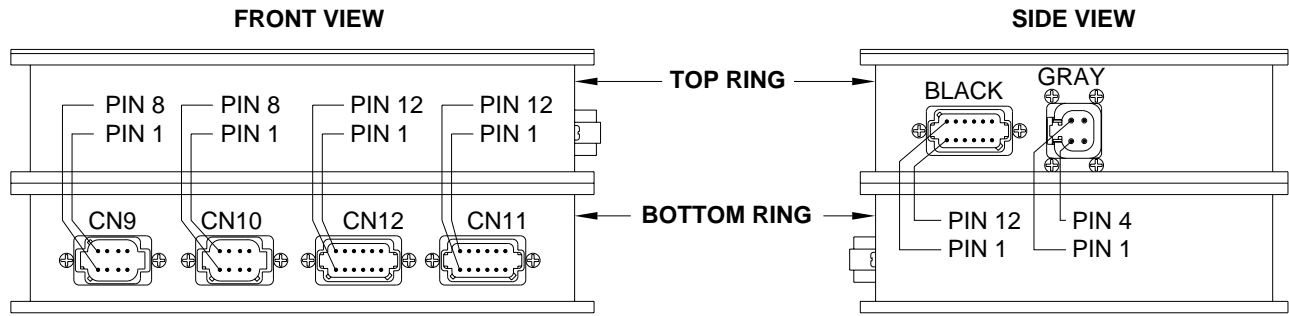


LED	DESCRIPTION	CN AND PIN	FUSE DESCRIPTION
1 THRU 8-NOT USED	NOT USED	NOT USED	F1 - 2AMP SW BATTERY OUT
9-GREEN	LEFT FRONT PRESS. SW.	CN 11 - PIN 10	F2 - 2AMP NOT USED
10-GREEN	RIGHT FRONT PRESS. SW.	CN 12 - PIN 10	F3 - 2AMP NOT USED
11 THRU 18-NOT USED	NOT USED	NOT USED	F4 - 2AMP NOT USED
19-RED	SWITCHED BATT 12V - OUT	CN 11 & CN 12 - PIN 7	F5 - 3AMP SWITCHED BATTERY IN
20 THRU 24-NOT USED	NOT USED	NOT USED	
28-RED	TAG DUMP SWITCH	CN 12 - PIN 11	

NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - FRONT AIR MODULE CONNECTION INFORMATION - PAGE 2 OF 2.

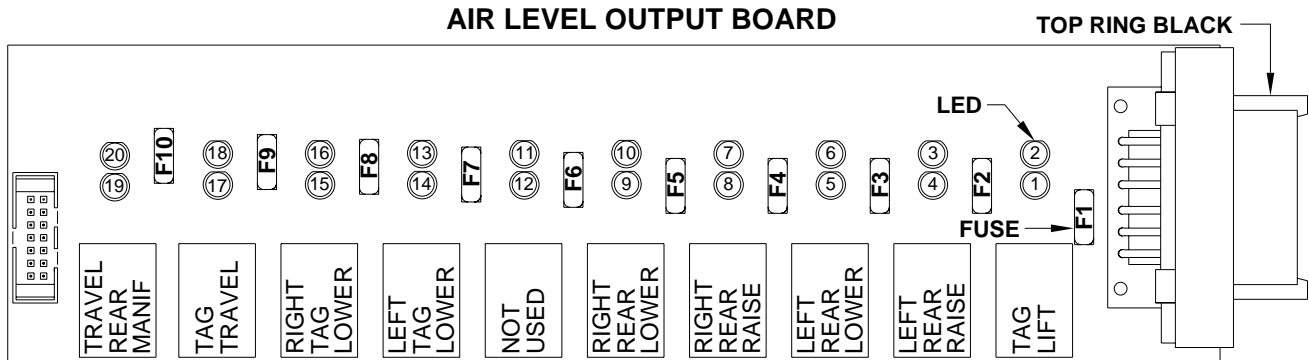
ELECTRICAL CONNECTION DIAGRAM

REAR AIR MODULE CONNECTION INFORMATION



PIN #	WIRE COLOR	WIRE NUMBER	WIRE DESCRIPTION AND FUNCTION
TOP RING GRAY			4 PIN GRAY CONNECTOR
1	RED	6800	SWITCHED +12 BATTERY FROM MASTER RELAY
2	RED	6800	SWITCHED +12 BATTERY FROM MASTER RELAY
3	GREEN	6230	GROUND FROM GROUND STUD FOR ALL SOLENOID VALVES
4	GREEN	6230	GROUND FROM GROUND STUD FOR ALL SOLENOID VALVES
TOP RING BLACK			12 PIN BLACK CONNECTOR
1	BLACK	3800	TAG LIFT CONTROL - SWITCHED +12
2	BLACK	4500	LEFT REAR RAISE AIR VALVE CONTROL - SWITCHED +12
3	BLACK	4600	LEFT REAR LOWER AIR VALVE CONTROL - SWITCHED +12
4	BLACK	3500	RIGHT REAR RAISE AIR VALVE CONTROL - SWITCHED +12
5	BLACK	3600	RIGHT REAR LOWER AIR VALVE CONTROL - SWITCHED +12
6			NO CONNECTION
7	BLACK	3701	TAG TRAVEL AIR VALVE CONTROL - SWITCHED +12
8	BLACK	3700	REAR MANIFOLD TRAVEL AIR VALVE CONTROL - SWITCHED +12
9	BLACK	3601	RIGHT TAG LOWER AIR VALVE CONTROL - SWITCHED +12
10	BLACK	4601	LEFT TAG LOWER AIR VALVE CONTROL - SWITCHED +12
11	WHITE	6258	GROUND FOR AIR SOLENOID VALVES
12			NO CONNECTION
BOTTOM RING CN9			8 PIN BLACK CONNECTOR
1	WHITE	7696	SYSTEM WAKE UP - SWITCHED GROUND
2			NO CONNECTION
3	RED	6800	SWITCHED +12 BATTERY FROM MASTER RELAY
4	GREEN	6230	GROUND
5			SHIELD WIRE FOR CAN CABLE
6	RED	6110	IGNITION +12
7	GREEN		CAN DATA LINE LOW - DO NOT MODIFY
8	YELLOW		CAN DATA LINE HIGH - DO NOT MODIFY
BOTTOM RING CN10			8 PIN GRAY CONNECTOR
1 THRU 8			NO CONNECTION
BOTTOM RING CN12			12 PIN GRAY CONNECTOR
1 AND 2			NO CONNECTION
3	BLACK	3215	SYSTEM AIR PRESSURE SWITCH INPUT - SWITCHED GROUND
4 AND 5			NO CONNECTION
6	WHITE	6235	GROUND FOR PRESSURE SWITCH
7 THRU 12			NO CONNECTION
BOTTOM RING CN11			12 PIN GREEN CONNECTOR
1 THRU 12			NO CONNECTION

ELECTRICAL CONNECTION DIAGRAM
LED - FUSE LOCATION AND DESCRIPTION
REAR AIR MODULE (TOP RING)
PAGE 1 OF 2



LED	RELAY DESCRIPTION	FUSE	BLACK
1-YELLOW	TAG LIFT		
2-RED	TAG LIFT	F1-5 AMP	PIN 1
3-RED	LEFT REAR RAISE	F2-5 AMP	PIN 2
4-YELLOW	LEFT REAR RAISE		
5-YELLOW	LEFT REAR LOWER		
6-RED	LEFT REAR LOWER	F3-5 AMP	PIN 3
7-RED	RIGHT REAR RAISE	F4-5 AMP	PIN 4
8-YELLOW	RIGHT REAR RAISE		
9-YELLOW	RIGHT REAR LOWER		
10-RED	RIGHT REAR LOWER	F5-5 AMP	PIN 5
11-RED	NOT USED	F6-5 AMP	PIN 6
12-YELLOW	NOT USED		
13-RED	LEFT TAG LOWER	F7-5 AMP	PIN 10
14-YELLOW	LEFT TAG LOWER		
15-YELLOW	RIGHT TAG LOWER		
16-RED	RIGHT TAG LOWER	F8-5 AMP	PIN 9
17-YELLOW	TAG TRAVEL		
18-RED	TAG TRAVEL	F9-3 AMP	PIN 7
19-YELLOW	TRAVEL - REAR MANIFOLD		
20-RED	TRAVEL - REAR MANIFOLD	F10-3 AMP	PIN 8

NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - REAR AIR MODULE CONNECTION INFORMATION.

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.

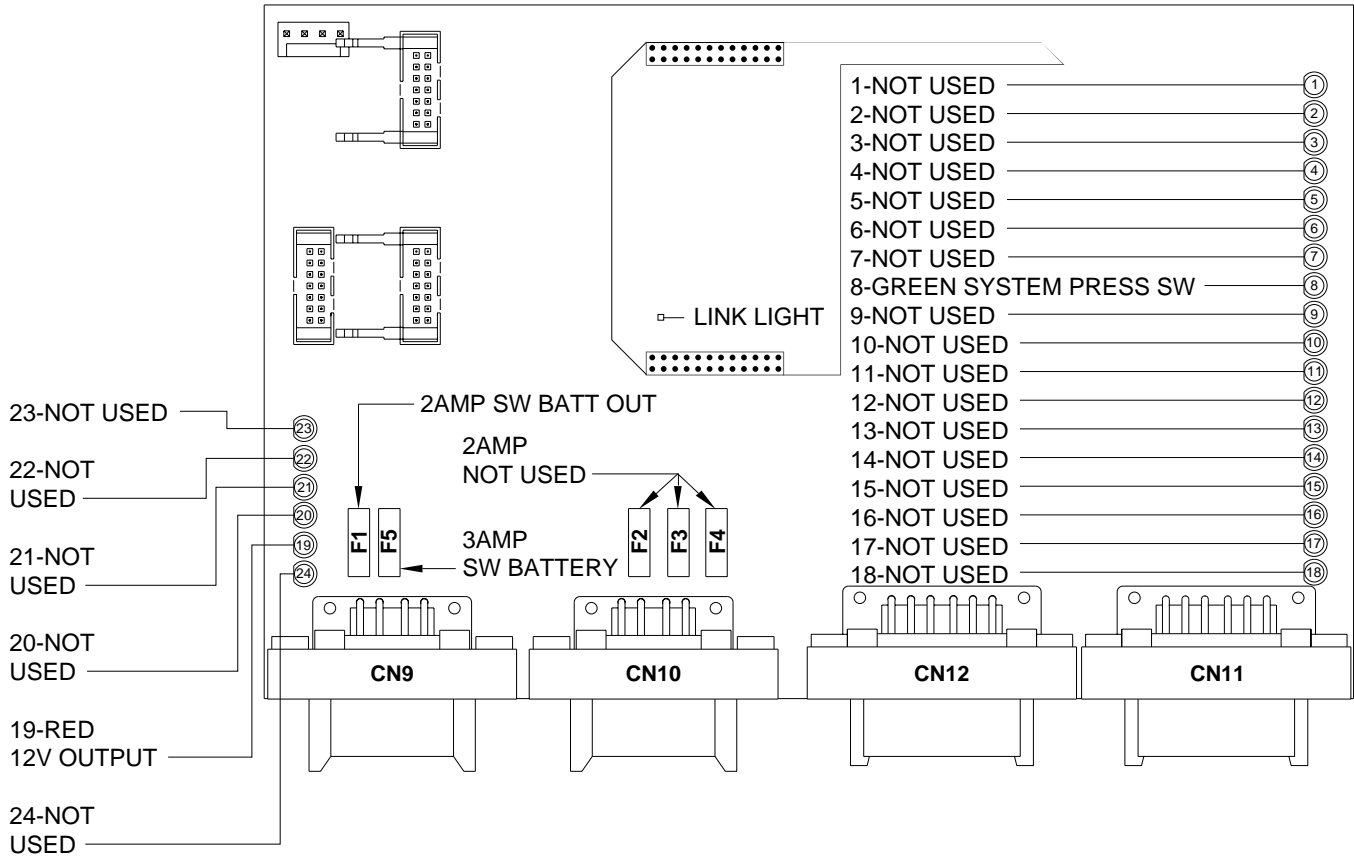
IF THE YELLOW LEDS ARE WORKING BUT NO RED LED IS COMING ON THERE IS A PROBLEM WITH INPUT VOLTAGE IN THE 4-PIN CONNECTOR ON THE TOP RING.

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

NOTE: THE TWO TRAVEL RELAYS ARE WIRED AS NORMALLY CLOSED RELAYS. WHEN THE YELLOW LED (19) IS ON THE RELAY CONTACTS WILL OPEN. THE RED LED (20) WILL NOT BE ON. THE RED LED WILL BE ON IF THE LEVELING SYSTEM IS IN THE TRAVEL MODE AND THE IGNITION IS ON.

**ELECTRICAL CONNECTION DIAGRAM
LED - FUSE LOCATION AND DESCRIPTION
REAR AIR MODULE (MIDDLE RING)
PAGE 2 OF 2**

REAR AIR I/O BOARD



LED	DESCRIPTION	CN AND PIN	FUSE DESCRIPTION
1 THRU 7-NOT USED	NOT USED	NOT USED	F1 - 2AMP SW BATTERY OUT
8-GREEN	SYSTEM PRESS. SWITCH	CN 12 - PIN 3	F2 - 2AMP NOT USED
9 THRU 18-NOT USED	NOT USED	NOT USED	F3 - 2AMP NOT USED
19-RED	12V OUT	CN11 & CN12 - PIN 7	F4 - 2AMP NOT USED
20 THRU 24-NOT USED	NOT USED	NOT USED	F5 - 3AMP SWITCHED BATTERY IN
LINK LIGHT			

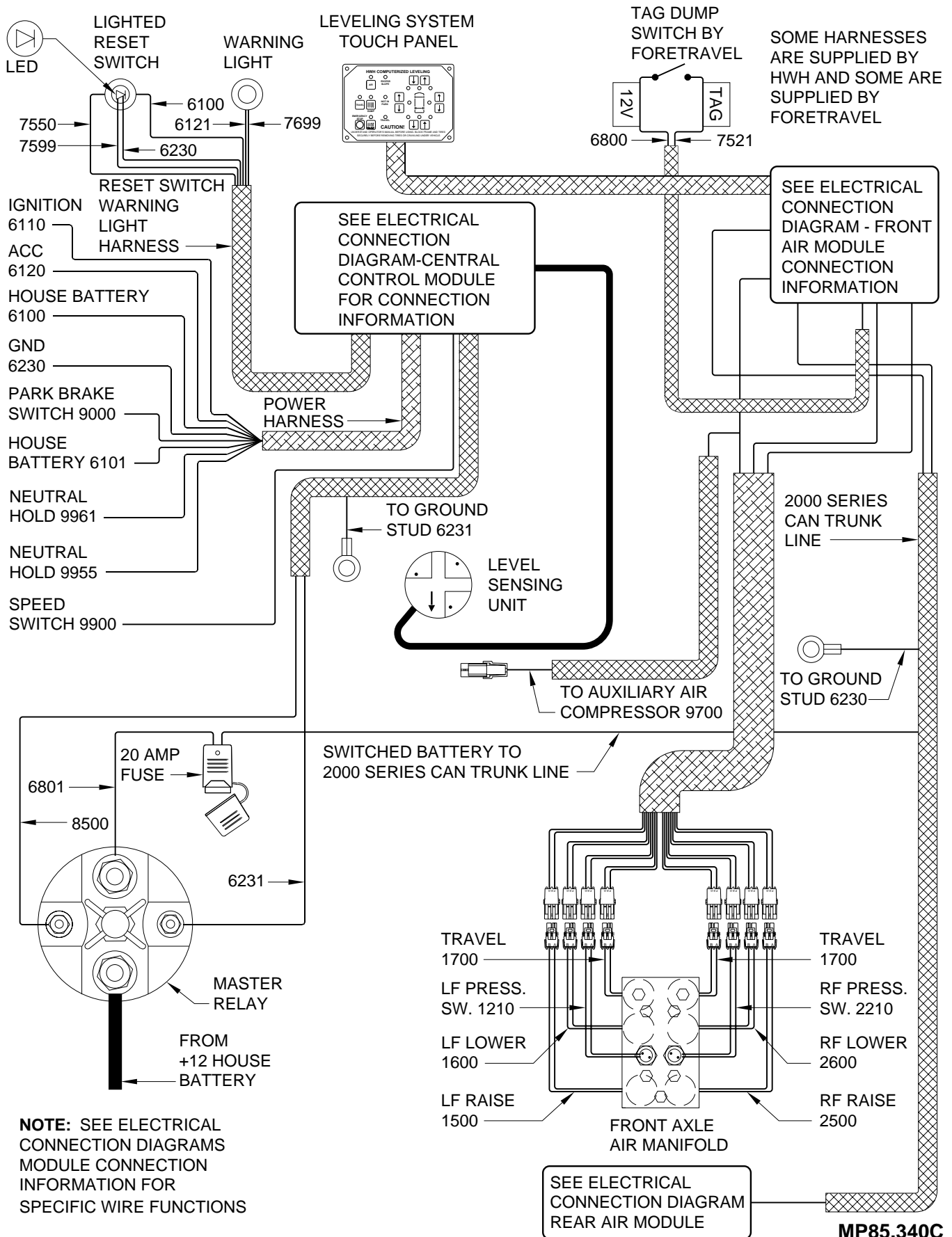
NOTE: FOR DETAILED INPUT / OUTPUT INFORMATION ABOUT PIN CONNECTIONS SEE ELECTRICAL CONNECTION DIAGRAM - REAR AIR MODULE CONNECTION INFORMATION.

ELECTRICAL CONNECTION DIAGRAM

2000 SERIES CAN SYSTEM

AIR LEVELING - WITH TAG AXLE

CENTRAL CONTROL AND FRONT AIR MODULE



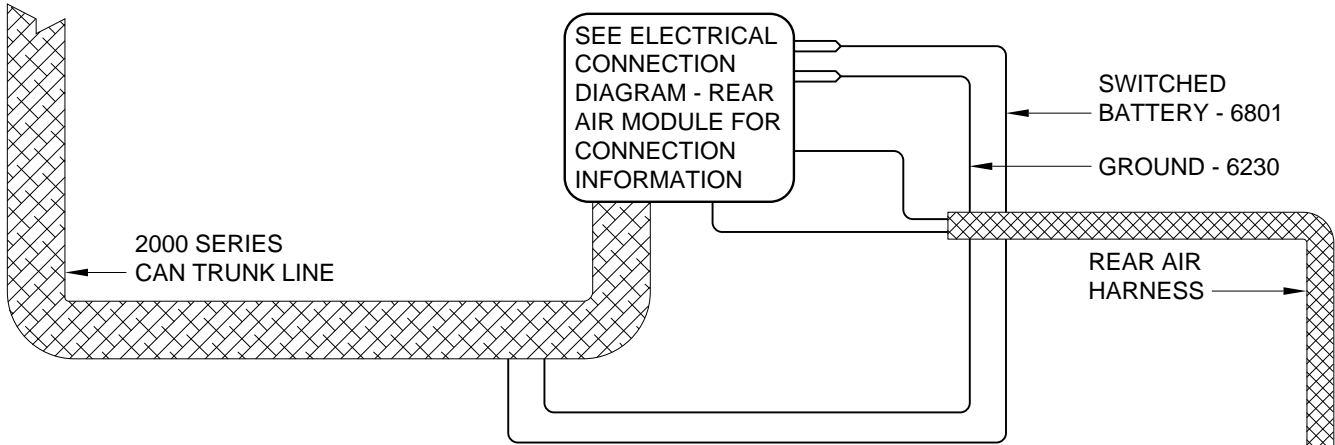
NOTE: SEE ELECTRICAL CONNECTION DIAGRAMS MODULE CONNECTION INFORMATION FOR SPECIFIC WIRE FUNCTIONS

ELECTRICAL CONNECTION DIAGRAM

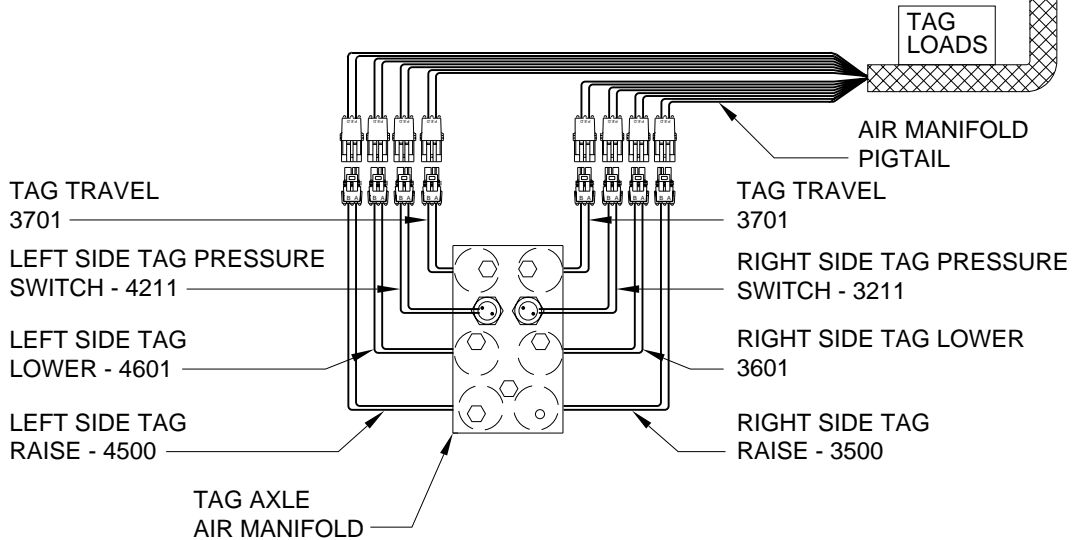
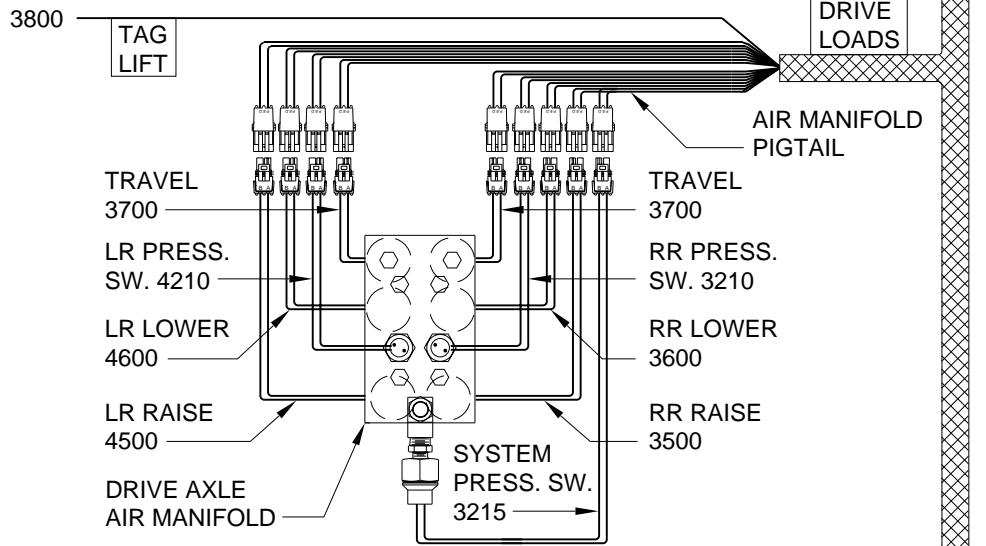
2000 SERIES CAN SYSTEM

AIR LEVELING - WITH TAG AXLE

REAR AIR MODULE



NOTE: SEE ELECTRICAL CONNECTION DIAGRAM - REAR AIR MODULE CONNECTION INFORMATION



ELECTRICAL CONNECTION DIAGRAM AUXILIARY COMPRESSOR CONNECTIONS

