

WirelessAIR™
Advanced Integrated Remote

by AIR LIFT™

Gen 3 Kit 72000

***Automatic Leveling Digital
On-Board Compressor System***



INSTALLATION GUIDE

For maximum effectiveness and safety, please read these instructions completely before proceeding with installation.

Failure to read these instructions can result in an incorrect installation.



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Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of the WirelessAIR System.

It is important to read and understand the entire installation guide before beginning installation or performing any maintenance, service or repair. The information here includes a hardware list, step-by-step installation information, safety information and a troubleshooting guide.

Air Lift Company reserves the right to make changes and improvements to its products and publications at any time. Contact Air Lift Company at (800) 248-0892 for the latest version of this manual.

SYSTEM INFORMATION

WirelessAIR is designed for automatic digital leveling of the on-board compressor system. The kit includes a compressor, manifold, wiring harness, and wireless digital controller. The system can be used in or outside the vehicle, for adjustments in full view of the vehicle.

The wireless digital controller is a compact, battery-powered unit. It also includes a clip that can be attached to the vehicle's visor. Three user-defined memory settings are provided for frequently used settings. As an added safety measure, minimum air pressures are automatically maintained. The manifold is also weather-resistant for maximum life expectancy.

IMPORTANT SAFETY NOTICE

The installation of this kit does not alter the gross vehicle weight rating (GVWR) or payload of the vehicle. Check your vehicle's owner's manual and do not exceed the maximum load listed for your vehicle.

Gross Vehicle Weight Rating: The maximum allowable weight of the fully loaded vehicle (including passengers and cargo). This number — along with other weight limits, as well as tire, rim size and inflation pressure data — is shown on the vehicle's Safety Compliance Certification Label.

Payload: The combined, maximum allowable weight of cargo and passengers that the truck is designed to carry. Payload is GVWR minus the base curb weight.

NOTATION EXPLANATION

Hazard notations appear in various locations in this publication. Information which is highlighted by one of these notations must be observed to help minimize risk of personal injury or possible improper installation which may render the vehicle unsafe. Notes are used to help emphasize areas of procedural importance and provide helpful suggestions. The following definitions explain the use of these notations as they appear throughout this guide.



DANGER

INDICATES IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.



WARNING

INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.



CAUTION

INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE MACHINE OR MINOR PERSONAL INJURY.

Hardware and Tools Lists

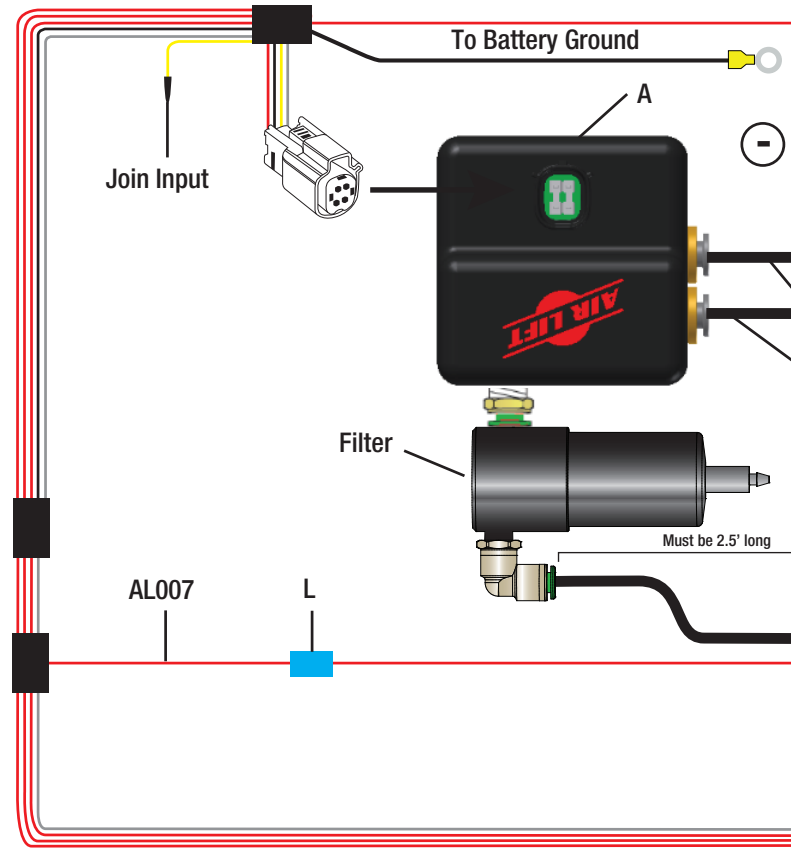
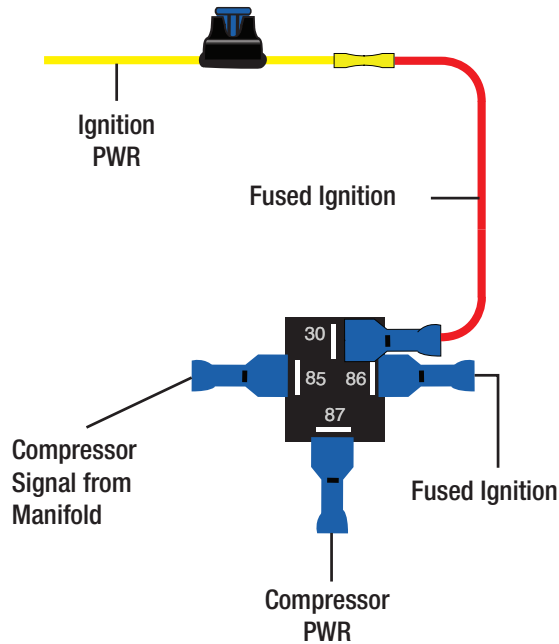
HARDWARE LIST

Item	Part #	Description.....Qty	Item	Part #	Description.....Qty
A	26558	Manifold1	L	24661	Heat Shrink Butt Splice 14-16 ga.....1
B	73002	Display1	M	24752	Heat Shrink Butt Splice 10-12 ga.....1
C	10928	Battery, AAA.....3	N	24539	Fuse Holder1
D	26514	Electrical Harness.....1	O	24652	Fuse, Spade - 15AMP.....1
E	16092	12V Compressor with Filter.....1	P	24524	Female Spade Terminal 3/16"1
Hardware Pack			Q	24595	Female Spade Terminal 12 awg1
F	21839	1/8" MNPT-1/4" PTC1	R	24561	Mini Fuse Adapter1
G	21240	1/8" FNPT - Barbed Fitting1	S	24542	Fuse Tap Adapter1
H	20946	Air Line, 1/4" (DOT Approved).....20 ft	T	10466	Zip Tie15
I	11060	Gen 3 Wireless Bracket1	U	21838	T-Fitting.....2
J	17173	#14-1/4 X 3/4" Self-tapping Screw.....2	V	17273	Self-tapping Screw.....4
K	17428	#10-24 X 3/8" Machine Screw2	W	24681	Terminal Ring 3/8"1

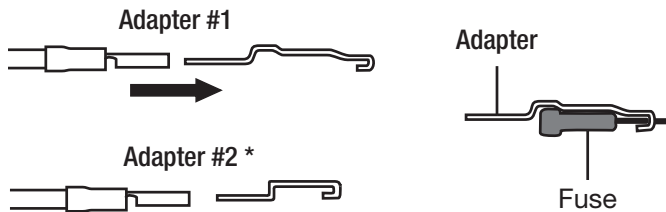
TOOLS LIST

Description.....Qty	Description.....Qty
Hoist or floor jacks 1	7/32" & 1/4" Drill bits 1
Safety stands..... 2	5/16" Driver 1
Safety glasses 1	Hose cutter 1
Heavy duty drill 1	Spray bottle with dish soap/water solution 1
#2 Phillips bit driver 1	Digital volt meter..... 1

Relay Schematic Reference:

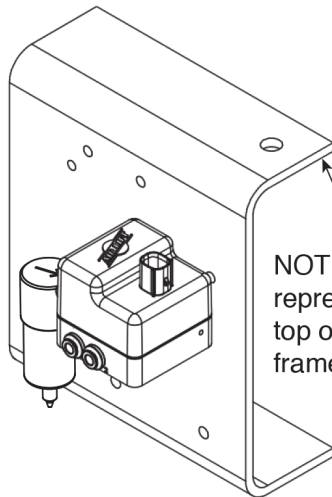


Fuse Adapter Options:

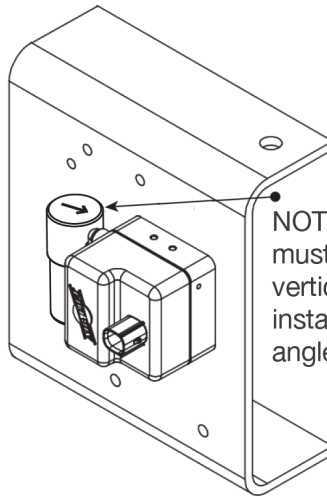


* Uses 3/16 (smaller) Female Push On Connector

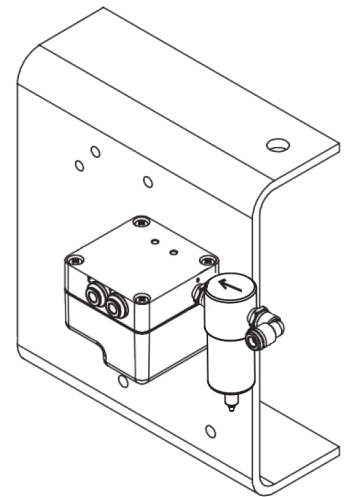
Manifold and Filter Mounting and Orientation:



NOTE: This represents the top of the vehicle frame.



NOTE: Filter must be installed vertically. Do not install inverted or angled!



PREFERRED

ACCEPTABLE

ABSOLUTELY NOT!

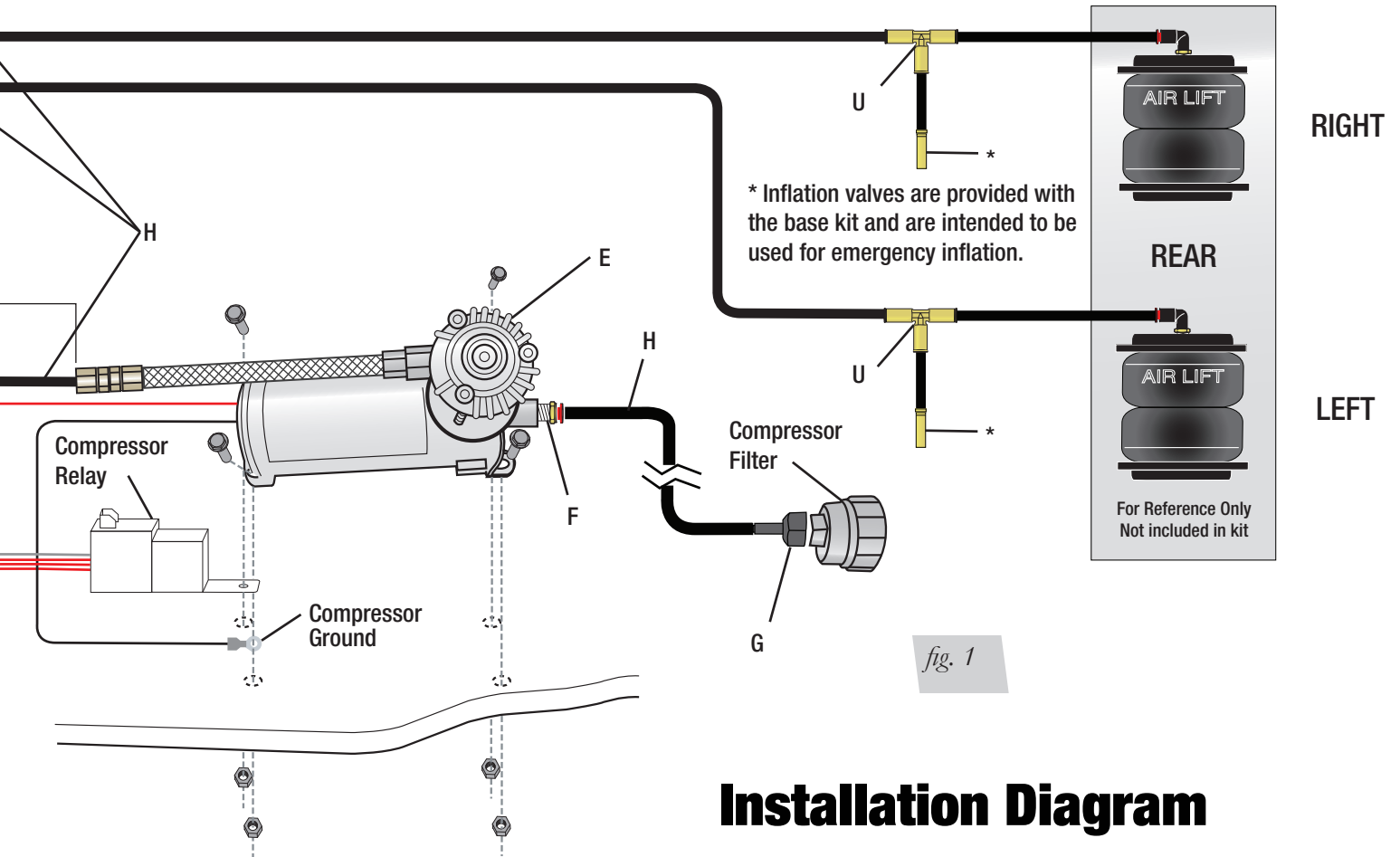
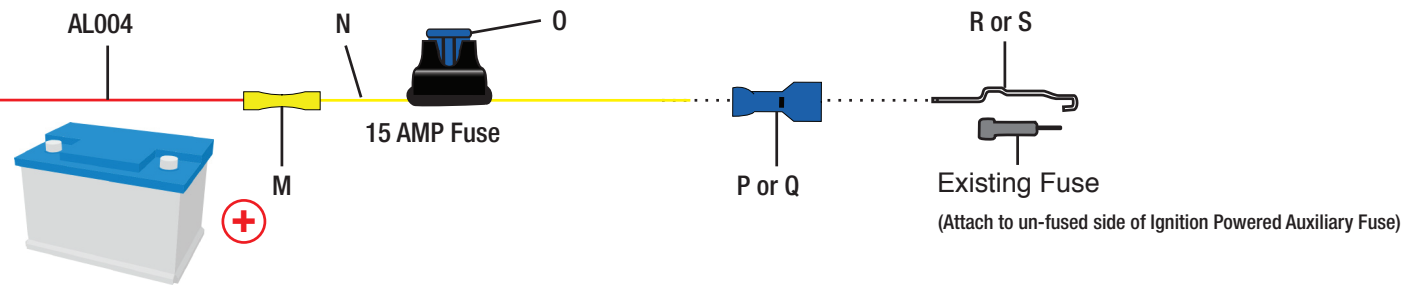
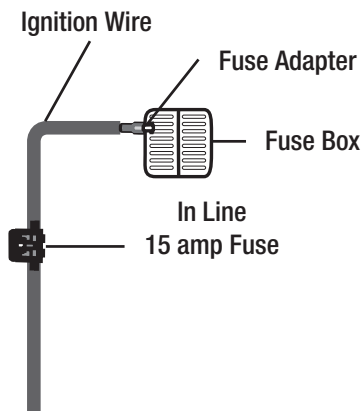


fig. 1

Installation Diagram

Fuse Adapter Schematic:



NOTE: Air Lift recommends using a sharp knife or hose-cutting tool to ensure a proper cut.

If a hose connection has been disconnected, the hose must be trimmed 1/2" back to provide for a leak-free seal.



fig. 2

Installation - Electrical Schematic

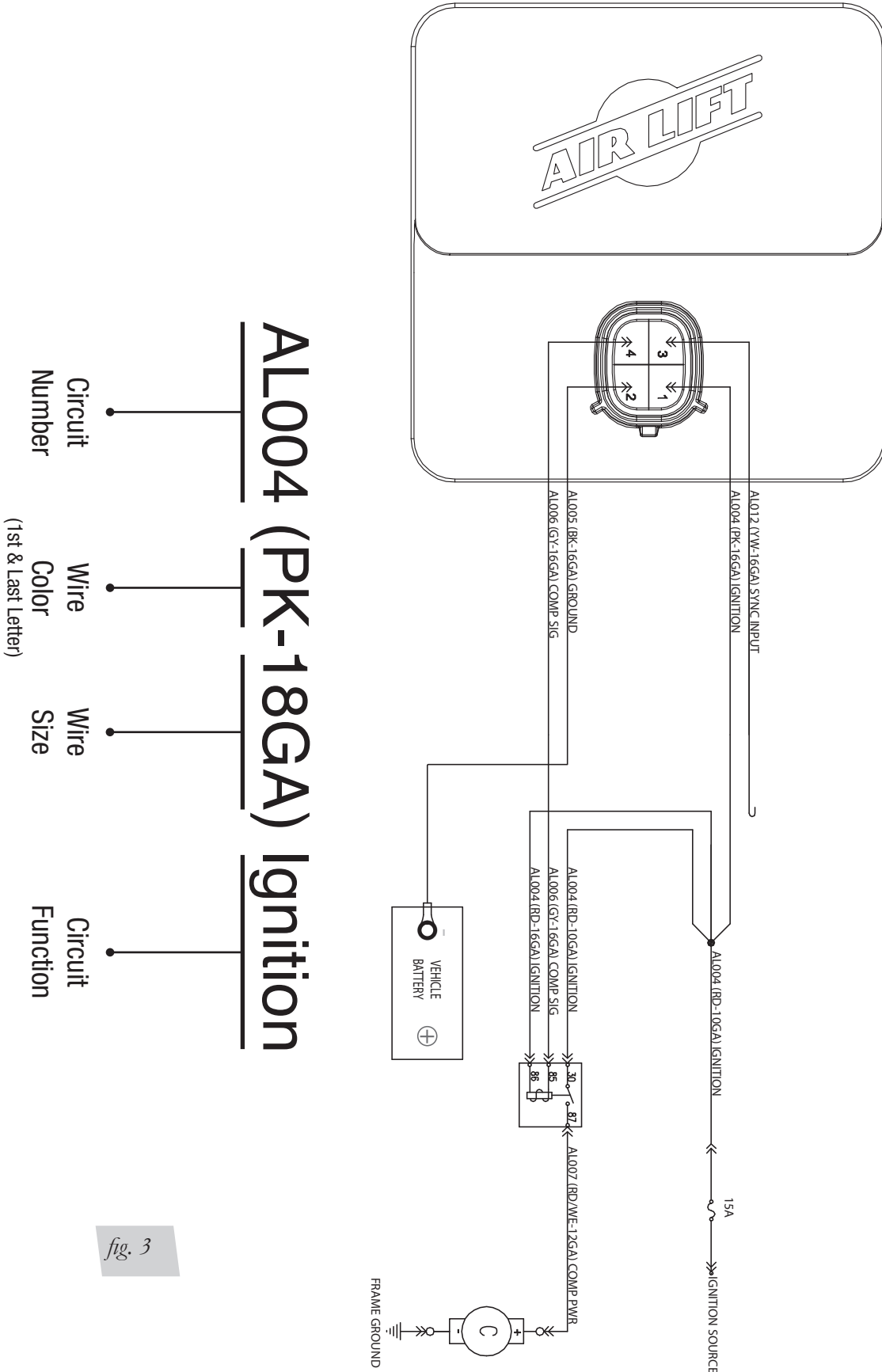
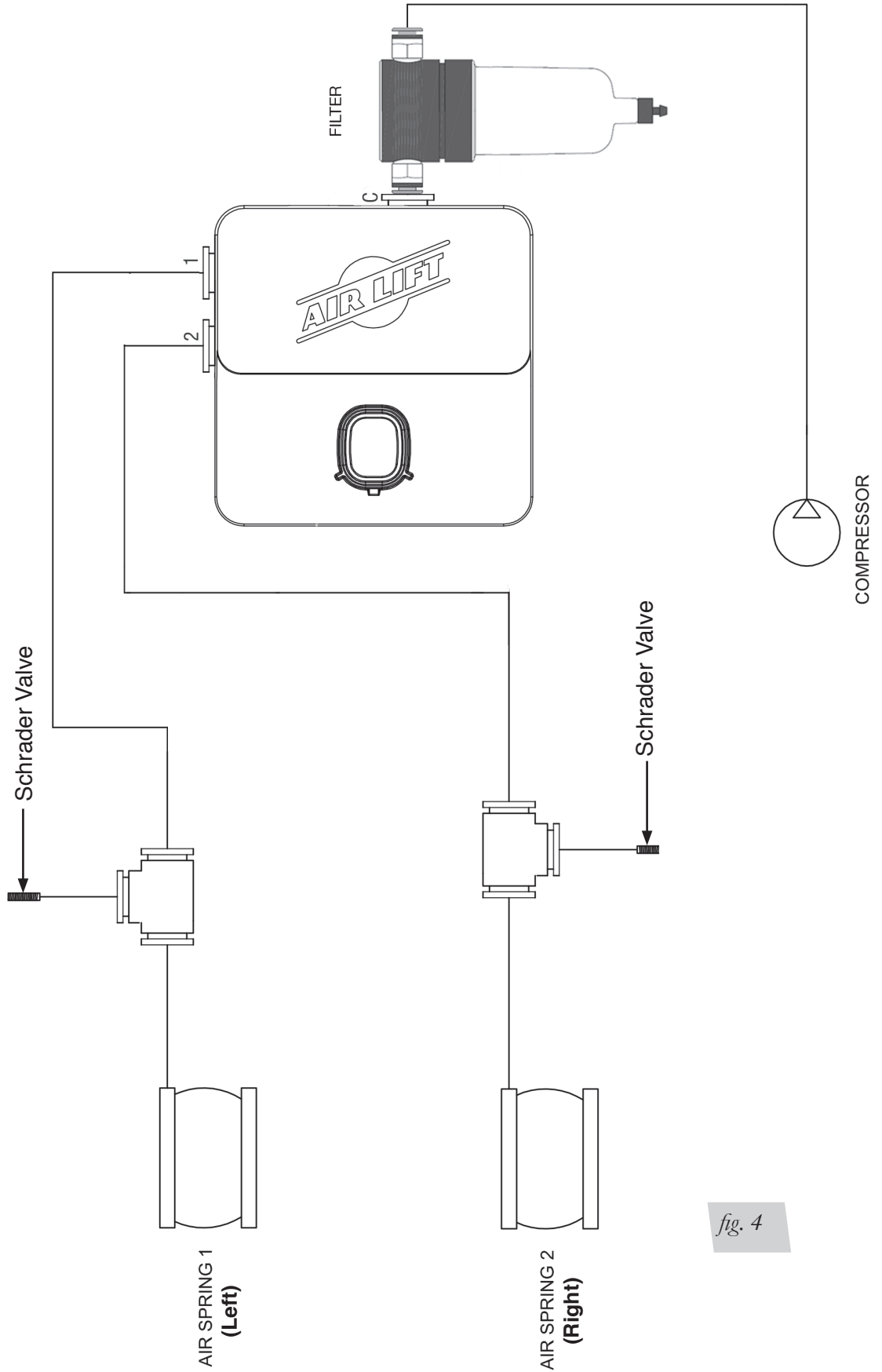


fig. 3

Installation - Pneumatic Schematic



Installing the WirelessAIR System

RECOMMENDED COMPRESSOR LOCATIONS

Important

LOCATE COMPRESSOR IN DRY, PROTECTED AREA ON VEHICLE.
DIRECT SPLASH OR EXCESSIVE MOISTURE CAN DAMAGE
THE COMPRESSOR AND CAUSE SYSTEM FAILURE.

Disclaimer: If you choose to mount the compressor outside the vehicle, please keep in mind that the compressor body must be shielded from direct splash, and the intake should be snorkeled inside the vehicle. If the compressor does not include a remote mount air filter or if mounting the compressor outside the vehicle, make sure to orient the compressor intake filter so that all moisture can easily drain.

Please also remember...

- To avoid high-heat environments (including engine bay and exhaust).
- The compressor can be mounted in any position — vertical, upside down, sideways, etc.
- Compressors ingest moisture and will deposit water inside the system. In sub 0 degrees F (18 C) environments this water may freeze and require the addition of air brake antifreeze (see page 18).

INSTALLING THE COMPRESSOR

1. Select a rigid mounting location for the compressor on the vehicles frame or cross member (fig. 1) that shields the compressor from the elements and heat sources.

NOTE

The compressor must be no more than 24" (610mm) away from the manifold. Do not extend the wires.

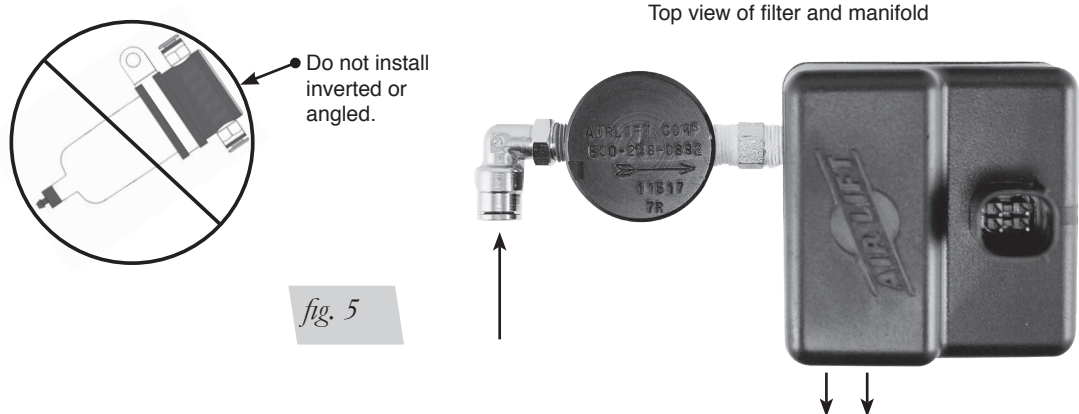
2. Use the supplied compressor fasteners to fasten the compressor to the frame or cross member.
3. Use the supplied self-tapping fasteners (V) if installing on a boxed frame.
 - One of the screws will be used as an electrical ground for the compressor terminal.
 - Another of the screws can be used to mount the compressor relay.

NOTE

On thick frame sections, it may be necessary to drill a pilot hole for the self-tap fasteners.

INSTALLING THE MANIFOLD

This manifold has a filter attached. The filter has to be oriented correctly to function properly (fig. 5). This is an automatic draining filter and does not need servicing. If you find this filter to be plugged, it will need to be replaced.



In order to mount the manifold/filter assembly correctly so the filter can drain properly, it may be necessary to rotate the filter on the manifold to orient it correctly (fig. 1).

1. Select a rigid mounting location for the manifold (A) on the vehicle's frame or cross member that shields the manifold from the elements and heat sources (fig. 1).
2. Use mounting bracket 11060 (I) and secure to the rigid mounting surface with 17173 fasteners (J). Please refer to the "Manifold Mounting" diagram.

NOTE

Locate manifold above compressor if possible.

Some vehicles have high radio/electronic interference and require manifold to be mounted close to driver.

INSTALLING THE HARNESS

1. Connect electrical connector to manifold (A).
 - a. Push down until fully seated.
 - b. Push red secondary lock down.
2. Connect compressor to harness.
 - a. Cut off terminal on compressor red wire.
 - b. Strip 1/4" (7mm) insulation off compressor red wire.
 - c. Crimp on weatherproof blue butt splice (L) to compressor red wire.
 - d. Crimp on weatherproof blue butt splice (L) to harness pink wire AL007 (RD/WE-12GA).
 - e. Heat butt splice to seal connection.
 - f. Connect compressor ground wire ring terminal and relay to vehicle ground (fig. 1).
 - Using one of the self-tapping screws for the compressor, you can attach all the components to the vehicle frame ground.
 - g. Connect the black wire "ground to battery" to the negative battery terminal.
3. Connect the AL004 circuit to the vehicle ignition.
 - a. Route the AL004 (RD-10GA) wire to a 15A ignition source.
 - Cut off the excess wire length if all is not needed.
 - b. Strip off 1/4" (7mm) of insulation off both sides of the inline fuse holder (N) and the AL004 (RD-10GA) wire.
 - c. Crimp on the weatherproof yellow butt splice (M) to AL004 (RD-10GA) wire.
 - d. Crimp on the weatherproof yellow butt splice (M) to one side of the inline fuse holder.
 - Heat butt splice to seal connection.
 - e. Select the appropriate type of fuse tap in terminal for your application (fig. 1).
 - f. Crimp on the correct terminal that mates with the appropriate type of fuse tap in terminal for your application (P or Q).
 - g. Connect the terminal to the inline fuse holder (N).
 - h. Install fuse (O).

ATTACHING THE AIR LINES

1. Manifold Filter to Compressor
 - a. Cut a section of DOT 1/4" hose (H) to the necessary length to reach from the compressor leader hose to the fitting on the filter attached to the manifold (fig. 4).

NOTE

Length of hose must be 2 1/2' (.76m) long for filter to work properly. Coil up hose and zip tie it to something if necessary.

- b. Remove the air line compression nut from the compressor leader hose.
- c. Insert the hose through the compression nut and onto the barbed fitting of the leader hose, and tighten down the compression nut.
- d. Route and insert into the fitting on the filter attached to the manifold port "C" PTC (Push To Connect).
2. Manifold to Air Springs
 - a. Cut a section of hose (H) and route from the manifold port 1 to the previously installed LEFT spring inflation hose.
 - i. Cut the inflation hose at an accessible location and insert the T-Fitting (U).

- ii. Insert the hose from manifold port 1 to left spring inflation T-Fitting.
- b. Cut a section of hose (H) and route from the manifold port 2 to the previously installed RIGHT spring inflation hose.
 - i. Cut the inflation hose at an accessible location and insert T-Fitting (U).
 - ii. Insert hose from manifold port 2 to right spring inflation T-Fitting.

CHECKING THE SYSTEM

1. Pressurize the system to check for leaks.
2. Inspect all air line connections with a solution of dish soap and water. If a leak is detected in a push-lock-fitting, cut the hose end square and reinstall the air line to the fitting. Make sure the air line is cut off squarely and that the air line is completely pushed into the fitting.
3. If the compressor or the solenoid fails to function, check the 15-amp fuse and ground connection. Repair and replace as necessary.

GENERAL SYSTEM DESCRIPTION

The WirelessAIR control system is designed to control two air springs independently. The control system is composed of a manifold, compressor, controller, and plug-n-play harness.

The manifold will maintain the desired pressure in the air springs within 3 PSI (.21BAR) by exhausting or activating the compressor as needed. The controller is used to change the desired pressure of the manifold and view the status of the system.

CONTROLLER DESCRIPTION

The controller has buttons M1 and M2 for controlling presets, UP and DN buttons that adjust the spring pressure, the NAV PAD that is used to select and control many different options, and the LCD to display pressures and other information to the user.

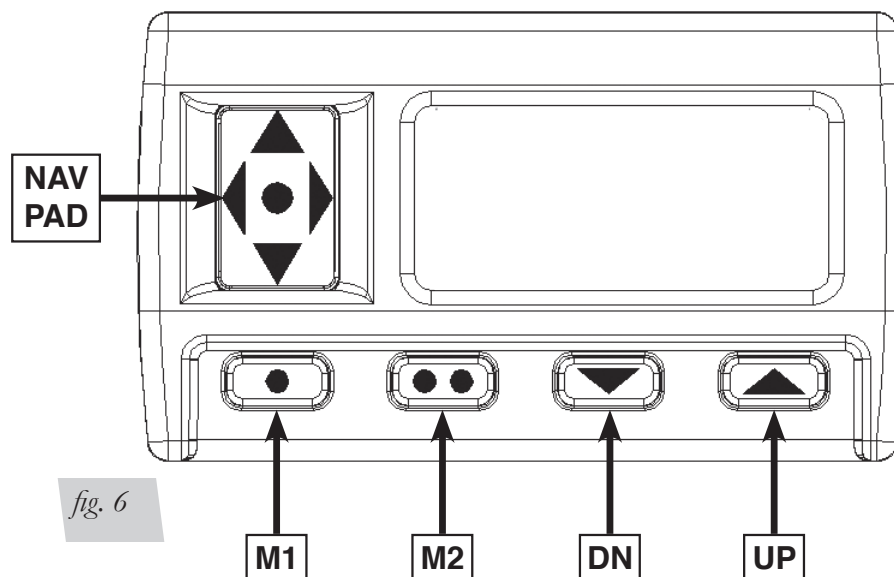


fig. 6

Wireless Air Controller buttons

The controller has an LCD to provide the user feedback for system operation. This LCD will display air spring pressures, provide status of the system and display fault detection messages.



fig. 7

Controller LCD

ICON DEFINITION



Battery is displayed when the battery voltage in the controller is low, a low-battery voltage may prohibit a high-strength wireless transmission and may result in a failed transmission.



Transmission indicator is displayed when the controller is actively communicating with the manifold.



Fail indicator is displayed when this is a failure of the system for example, communication failure, valve blockage or a leak.



Compressor indicator is displayed when the compressor is running and the system is filling an air spring to the desired pressure.

BAR PSI

Unit of measure will be indicated per the user setup.



Exhaust arrow will be displayed when the manifold exhaust valve is active and the system is exhausting an air spring to the desired pressure.

ACC

Accessory icon will be active in the settings mode.

System Operation

SLEEP MODE

The controller features a sleep mode to preserve battery life. In this mode, the manifold is still active and will maintain the desired air spring pressures.

- In normal mode if no button has been pressed for 30 seconds, the controller will enter sleep mode.
- LCD will only display the AIR LIFT Logo.
- Backlight and radio are turned off.
- Any button press will recover to normal mode.

NOTE

If the controller does not go into sleep mode after 30 seconds, change the pressure by 1-2 PSI (.07-.14BAR). The controller will then go into sleep mode after 30 seconds.



fig. 8

LCD in Sleep Mode

NORMAL MODE

- The normal operating mode is used to adjust air spring pressure. To enter normal mode from sleep mode press any button. To enter the settings mode press the UP and DN buttons together.
- To exit the settings mode press M2.

Increasing and decreasing desired pressure:

- Initial press of any button will wake up display and not perform any function.
- Upon wake up, the LCD will display the last desired pressure.
- If pressure adjustment is needed, select the air springs you would like to adjust.
 - Using the NAV PAD left and right buttons, select/deselect the air springs to adjust.
 - The selection arrows will indicate which air springs are selected.

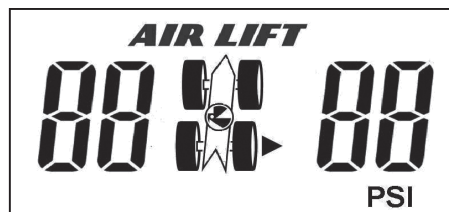


fig. 9

LCD with only right air spring selected

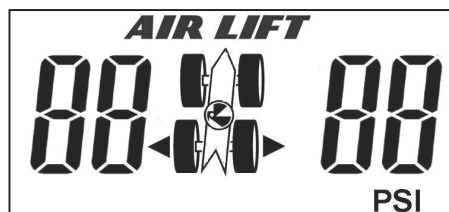


fig.10

LCD with left and right air springs selected

Increasing Pressure

- Pressing the NAV PAD up button will increase the desired pressure by 1 PSI or .1BAR depending on the unit of measure selected.
- Pressing the UP button will increase pressure in both left and right air springs by 10 PSI or 1BAR depending on the unit of measure selected.
- The controller will send the new desired pressure 2 seconds after the pressure has not been changed by the user.
- The compressor icon will be active to indicate when the compressor is running.

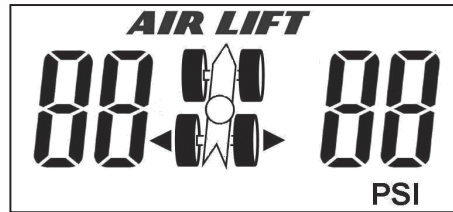


fig. 11

LCD with compressor not active (both air springs selected)

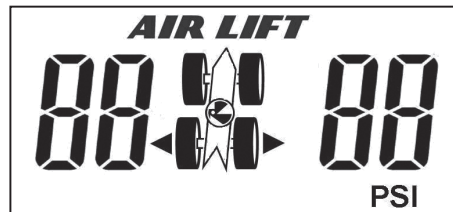


fig. 12

LCD with compressor active (filling both air springs)

Decreasing pressure

- Pressing the NAV PAD down button will decrease the desired pressure by 1 PSI or .1BAR depending on the unit of measure selected.
- Pressing the DN button will reduce pressure in both left and right air springs by 10 PSI or 1BAR depending on the unit of measure selected.
- The controller will send the new desired pressure 2 seconds after the user stops changing the pressure.
- The arrow in the middle of the display indicates when the manifold is exhausting the air springs.

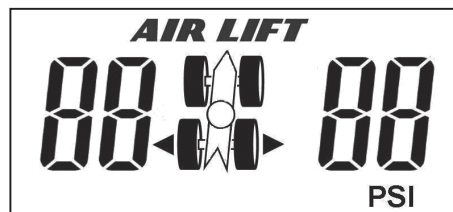


fig. 13

LCD with exhaust not active (both air springs selected)

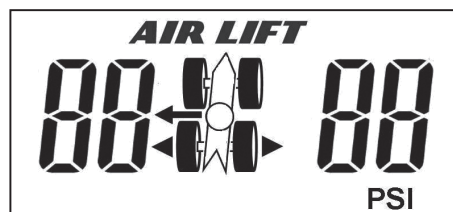


fig. 14

LCD with exhaust active (both air springs selected)

Recalling the Presets

- Tap the M1 or M2 buttons to choose the Memory 1 or Memory 2 settings as the new desired pressures.
 - LCD Function
 - The LCD will display the desired pressures for 2 seconds.
 - The LCD will then display the actual air spring pressures until the actual pressures equals the desired pressures.

Saving Presets

- Press and hold the M1 or M2 buttons to save the current desired pressure to the Memory 1 or Memory 2.
 - LCD Function
 - LCD will display “St” on the left side of the screen to indicate it will store the desired pressure to Memory.
 - LCD will display “r 1” or “r 2” on the right side of the screen to indicate the memory location.
- Once the “Str” is displayed on the LCD, release the button to save the pressure to memory.

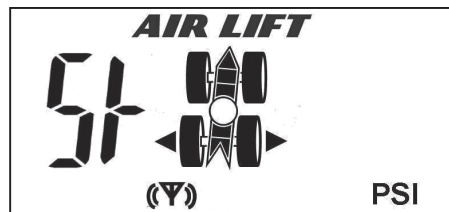


fig. 15

LCD storing memory

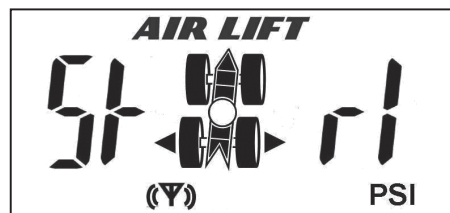


fig. 16

LCD storing memory rear 1

Error messages

- Leak Detection
 - The controller will activate the LEAK icon on the controller when a leak has been detected.
- Blockage Detection
 - The controller will display “BL OC” to indicate there is a failure preventing an air spring from inflating or deflating.
- Compressor Inoperable
 - The controller will display “CO INP” if the compressor has run for too long and is in danger of overheating.

SETTINGS MODE

In the settings mode, the user can adjust the unit of measure, and join the manifolds with the controller. To enter and exit the settings mode, press the UP and DN buttons together.

- In the settings mode the display will show “ACC” in the top left corner to indicate settings mode.
- The UP arrow will scroll through the different options in the settings menu.
 - The options will flash in the settings menu, and will be on permanently when the option is selected.
- Join option
 - When the word “Join” is flashing, press the M1 button to enter the Join menu.
 - See Joining section for more information.
 - Press the M2 button to exit to the settings main menu.



fig. 17

Join Menu

- Changing the unit of measure setting option.
 - When “PS bA” is flashing on the display, press the M1 button to adjust the unit of measure.



fig. 18

Adjusting the pressure units

- The “PS bA” will now stop flashing.
- Pressing the M1 button will now toggle the unit of measure for pressure between PSI and BAR.
- The unit of measure will be displayed in the bottom right corner of the LCD.
- Press the M2 button to exit and return to the settings main menu.



fig. 19

Setting the pressure units

JOINING THE CONTROLLER TO THE MANIFOLD

- Set the manifold into join mode.
 - Ground the join wire in the electrical harness.
 - Locate the YELLOW join wire with heat shrink on the end in the harness.
 - Remove the yellow wire from the cap leaving the cap attached to the harness.
 - Attach the exposed terminal to a good frame ground.
- Cycle power to the manifold.
 - Manifold will boot in join mode and will click the exhaust solenoid 5 times fast, then 1 per second.
 - The manifold will stay in join mode for 30 seconds allowing time to set the controller into join mode.
- Set the controller into join mode.
 - Press UP and DN buttons together to enter settings mode.
 - Press the M1 button when the display flashes “JOIn”.
 - Use the up and down buttons to select which manifold to join with.
 - JOIn r = Join with the manifold controlling the rear axle springs.
 - JOIn F = Join with the manifold controlling the front axle springs.



fig. 20

Join Rear



fig. 21

Join Front

- Press the M1 button to join the controller to the selected manifold.
- The display will show DONE when the joining process is complete.
- The M2 button will exit back to the settings mode.
- Press M2 button again to exit out of settings mode.
- Disconnect yellow wire from ground.
- Reinsert the yellow wire terminal into the molded cap.

QUICK FUNCTION REFERENCE

Normal Mode Functions	Button(s) Required
Awake from sleep mode	any button
Increase pressure (10 PSI/1BAR both air springs)	UP
Decrease pressure (10 PSI/1BAR both air springs)	DN
Save desired pressure to memory	M1 or M2 (hold)
Recall memory	M1 or M2 (tap)
Select air spring to change pressure	NAV PAD Left or Right
Increase desired pressure (1 PSI/.1 BAR)	NAV PAD Up
Decrease desired pressure (1 PSI/.1BAR)	NAV PAD Dn
Settings Mode Functions	
Enter settings mode	UP and DN buttons
Select the flashing setting mode	M1
Exit settings	M2
Adjusting Unit of Pressure	
Select the flashing "PS bA"	M1
Change between (PSI/BAR)	UP or DN buttons
Exit to settings main	M2
Joining Mode	
Select the flashing "JOIN"	M1
Change between front and rear axle	UP or DN buttons
Select JOIN to selected axle	M1
Exit join mode	M2

Table 1

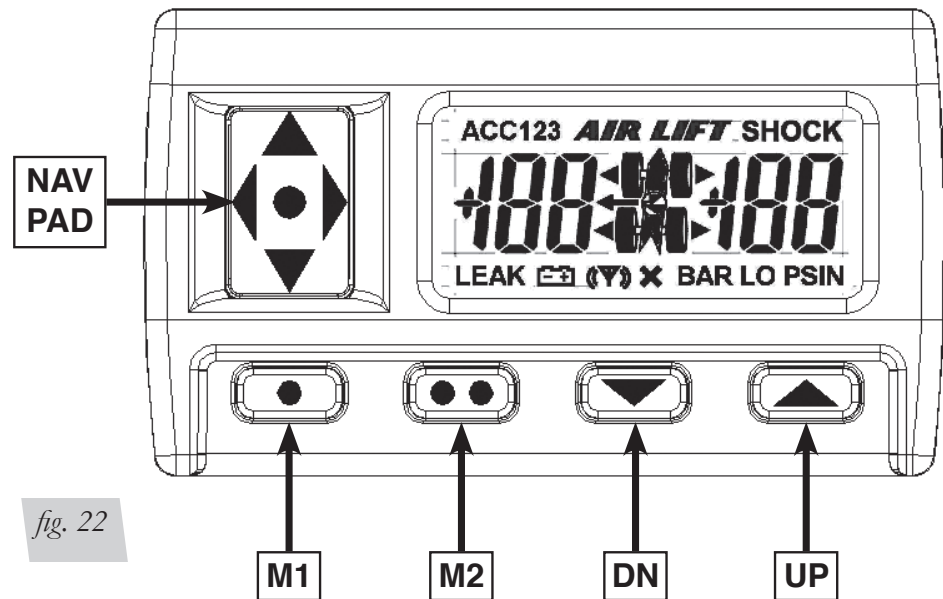


fig. 22

Important

TO AVOID COLD WEATHER FREEZE UP: ADD 4 OZ./118 ML (1/2 CUP) OF “GUNK” BRAND AIR BRAKE ANTIFREEZE

Directly into each flex member. Remove the air line and/or fitting from the air bag and fill directly. Gunk Brand Air Brake Anti-Freeze may be purchased at an automotive parts store or truck supply store.

WARNING

IF THE USER INSTALLS THE MANIFOLD OR COMPRESSOR IN THE CAB OF THE VEHICLE IN EXTREME WEATHER CLIMATES, **DO NOT USE ANY ANTI-FREEZE PRODUCT IN THE SYSTEM AS EXHAUST FUMES CAN BE TOXIC.** CARE MUST BE TAKEN WHEN USING THIS PRODUCT! IT IS RECOMMENDED THAT THIS PRODUCT'S MSDS SHEET BE REVIEWED BEFORE USE! THIS CAN BE OBTAINED WHERE YOU PURCHASE THIS PRODUCT.

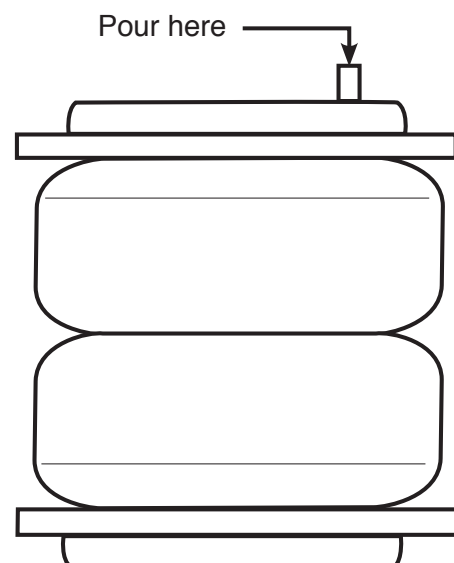
WARNING

DO NOT FILL THROUGH COMPRESSOR OR MANIFOLD — DAMAGE WILL OCCUR.

CAUTION

DO NOT USE ENGINE ANTIFREEZE

Check fluid levels in flex member every year (add if needed).



Templates

CAUTION

IMPORTANT: PRINT THIS MANUAL AT 100% SCALE. This manual contains drilling templates, which would be rendered incorrect in dimension if printed with any scaling. Using an incorrect template to drill holes may cause damage to the vehicle!

Please refer to the one-inch or 1-centimeter scale (fig. 23) and use a measuring tool to confirm that the printed scale measures one inch or 1-centimeter to verify that the template has been printed at 100% scale. If it is printed at any scale other than 100%, you could end up drilling in the wrong locations on the vehicle.

16092 COMPRESSOR

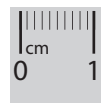
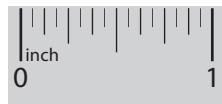
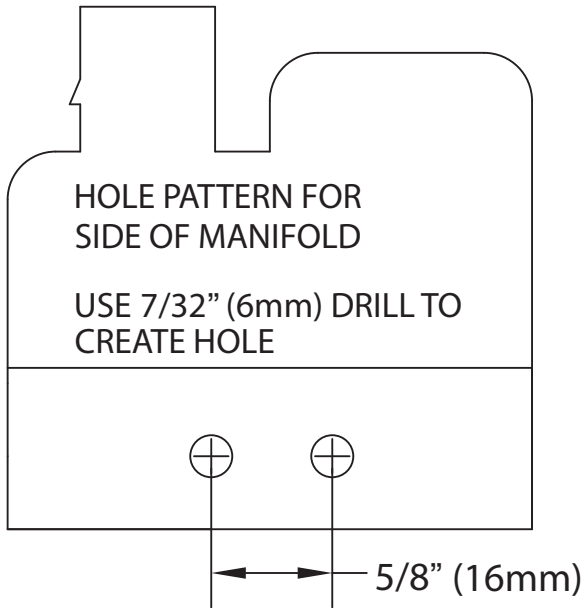
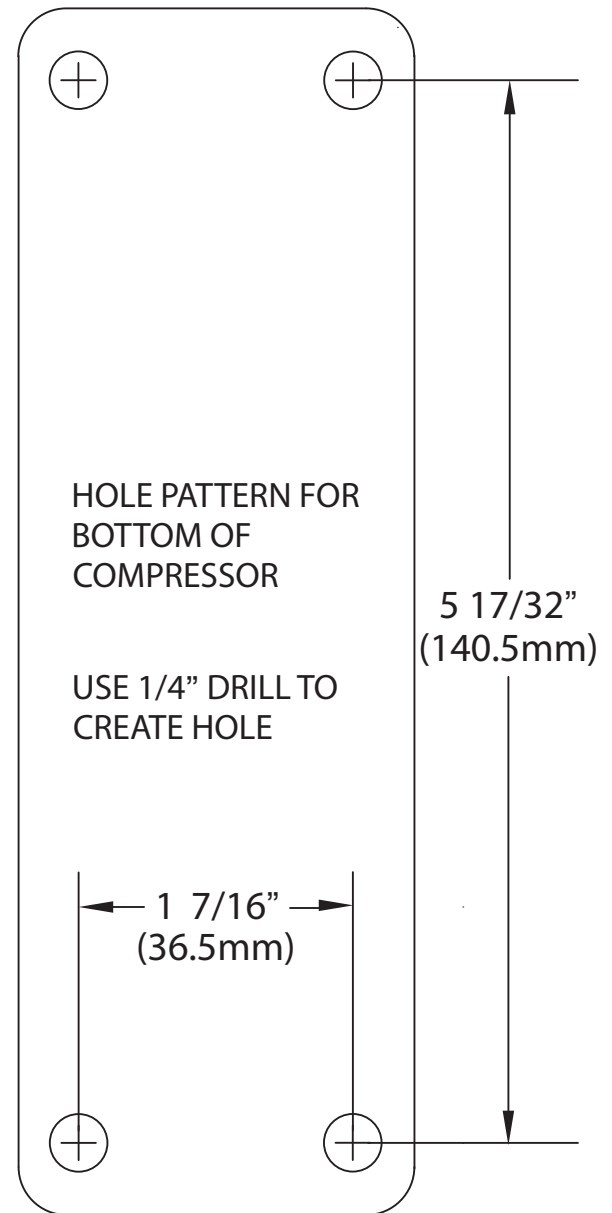


fig. 23



11060 WIRELESS BRACKET

