

# Load CONTROLLER I™

by AIR LIFT®

# Kit 25651

## Dual Gauge Controller



## 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.*

# Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of the LoadController I 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, tool list, step-by-step installation information, maintenance guidelines and operating tips.

## 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.

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**NOTE**

*Indicates a procedure, practice or hint which is important to highlight.*

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# Installation Diagram

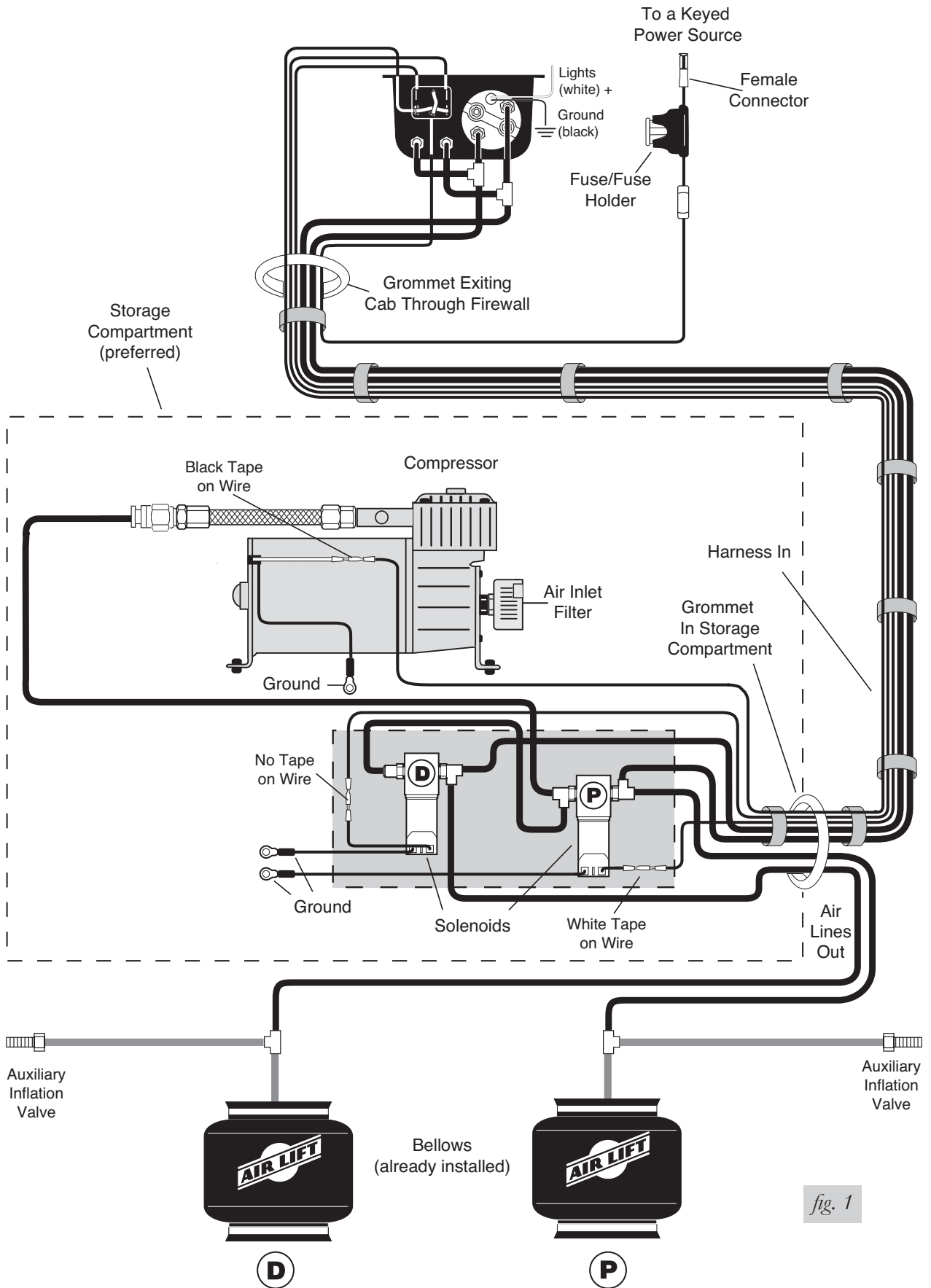
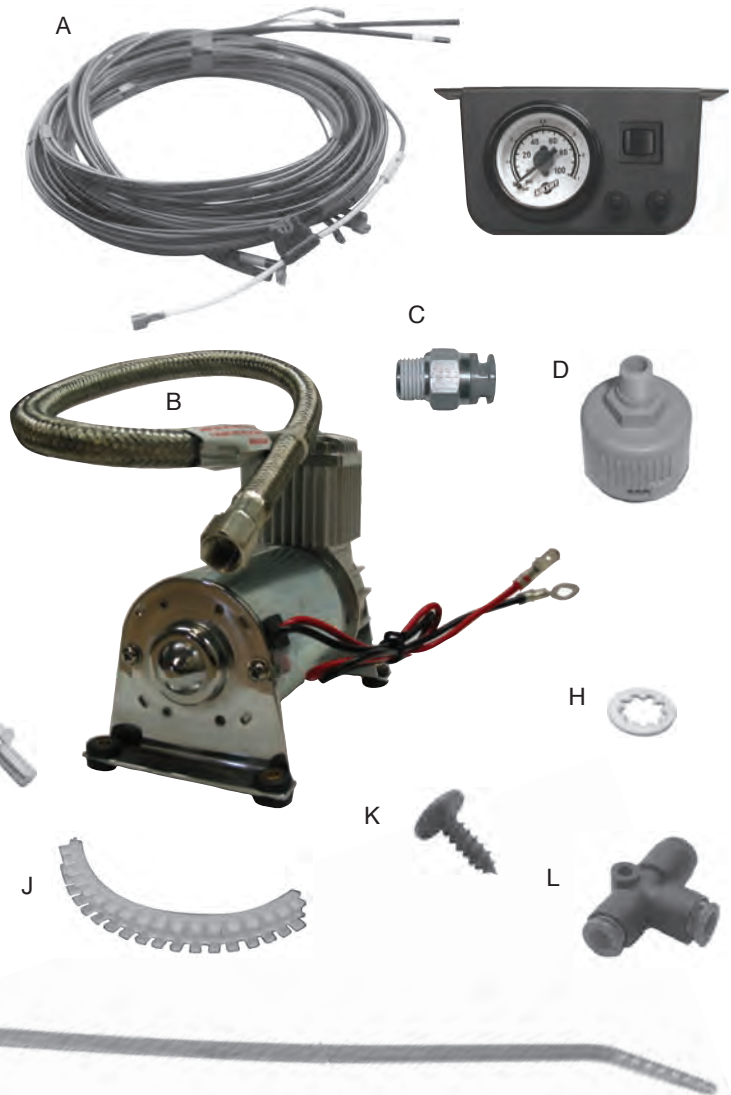


fig. 1

# Hardware and Tools Lists

## HARDWARE

Item	Description	Quantity
A	Gauge Panel/Harness Assembly	1
B	Compressor	1
C	1/8" MNPT 1/4" Straight Fitting	1
D	Air Filter	1
E	Bracket/Solenoid Assembly	1
G	#8 Silver Screws	4
H	8-32 Lock washer	4
I	Air Line	50'
J	Flexible Grommet	2
K	#8 Black Self Tapping Screws	3
L	Tee Fitting	2
M	Plastic Tie Straps	10
N	Fuse Adaptors	3
O	3/16" Female Terminal	1
P	Filter Fitting	1



## TOOLS NEEDED

1/2", 13mm, 18mm, and 19mm open end or box wrenches  
 Crescent wrench  
 Ratchet with 3/8" and 9/16" and 1/2" deep well sockets  
 3/16", 9/32", 3/4", and 1" drill bits (very sharp)  
 Heavy duty drill  
 Grinder  
 Tin snips  
 Phillips screw driver  
 Hose cutter, razor blade, or sharp knife  
 Hoist or floor jacks  
 Safety stands  
 Safety glasses  
 Air compressor, or compressed air source  
 Spray bottle with solution of 1/5 dish soap and 4/5 water

# Installing the LoadController I 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 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
- To avoid mounting the compressor under the hood.
- To check to be sure the compressor harness #2 will reach the compressor and connect to harness #1.
- The compressor can be mounted in any position — vertical, upside down, sideways, etc. (please refer to the instruction manual).

#### CAUTION

DO NOT EXCEED THE RECOMMENDED DUTY CYCLE OF 15% (3 MINUTES ON AND 20 MINUTES OFF). FAILURE TO COMPLY WITH THE RECOMMENDED DUTY CYCLE WILL CAUSE PREMATURE FAILURE OF THE COMPRESSOR. IN THE EVENT THAT THE COMPRESSOR STOPS RUNNING, IN ORDER TO RUN AGAIN, ALLOW THE COMPRESSOR TO COOL DOWN AND PROVIDE ADEQUATE TIME FOR THE THERMAL BREAKER TO RESET BEFORE TRYING TO START THE COMPRESSOR AGAIN.

#### NOTE

*This kit is installed after the air springs have been installed. This manual is to be used in conjunction with the instruction manual included with each air spring kit.*

## ASSEMBLING AND MOUNTING THE COMPRESSOR

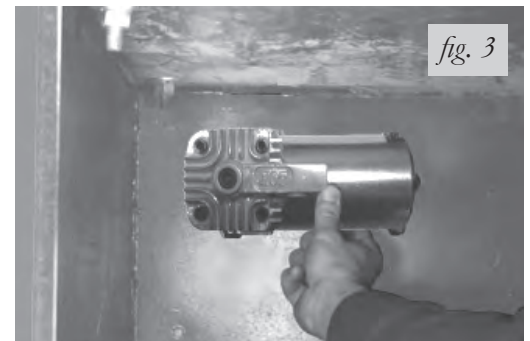
1. Select a rigid, protected, convenient mounting location for the compressor (B) under the vehicle (Fig. 2) or in a storage area (motorhomes) (Fig. 3). The location selected should shield the compressor from the elements.

#### NOTE

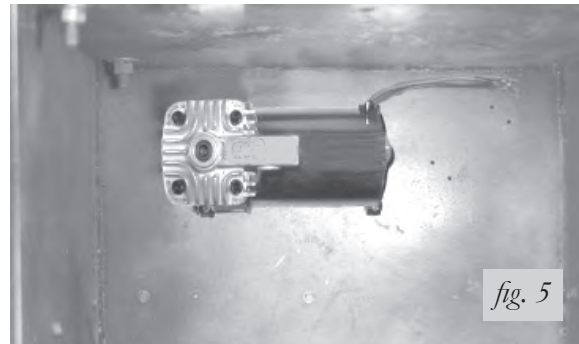
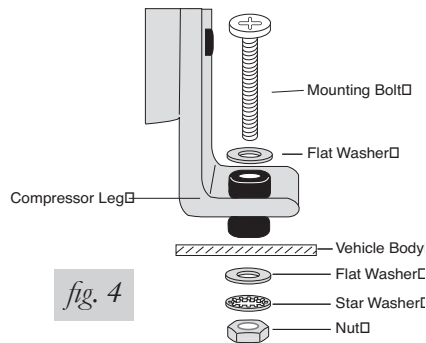
*Be careful to shield the compressor from heat sources.*

#### CAUTION

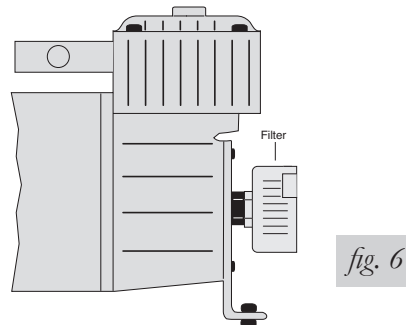
DO NOT MOUNT THE COMPRESSOR IN THE ENGINE COMPARTMENT. DOING SO CAN CAUSE PREMATURE FAILURE TO THE COMPRESSOR.



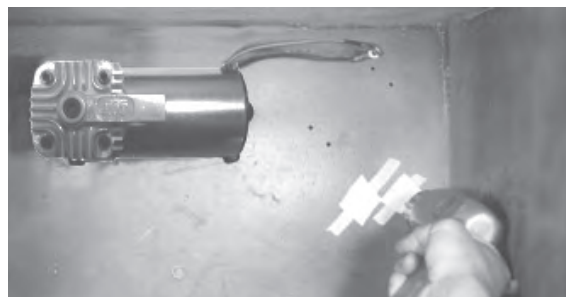
2. Use the four holes on the compressor legs as a template to mark the four mounting hole locations.
3. Center punch and drill four (4)  $1\frac{3}{64}$ " holes.
4. Use screws provided to attach the compressor (Figs. 4 and 5).



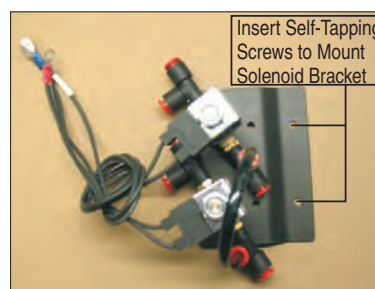
5. Attach the filter (D) onto the compressor (B) (Fig. 6).



## MOUNTING THE SOLENOID VALVES



1. Select a mounting location for the solenoid bracket that contains the solenoids. The location selected should shield the solenoids from the elements.
2. Clamp the bracket in place and using the two outer holes in the bracket as a template, secure the solenoid brackets in the chosen location using two self-tapping screws.
3. Use the #8 silver screws (G) and the #8 lock washers (H) to secure the solenoids (E) in the chosen location (Fig. 8).



## GROUNDING THE COMPRESSOR AND SOLENOIDS

- Using the provided #8 black self tapping screw (K), secure the ring terminal on the black wire from the compressor and the ring terminal connected to one of the wires from each solenoid to an adequate ground (metal fenderwell, frame, metal storage area).

## INSTALLING THE AIR LINE

- Cut the air line into two equal parts.

### CAUTION

WHEN CUTTING OR TRIMMING THE AIR LINE, USE A HOSE CUTTER (AIR LIFT P/N 10530), A RAZOR BLADE OR A SHARP KNIFE. A CLEAN, SQUARE CUT WILL ENSURE AGAINST LEAKS. (FIGURE 9A). DO NOT USE WIRE CUTTERS OR SCISSORS TO CUT THE AIR LINE. THESE TOOLS MAY FLATTEN OR CRIMP THE AIR LINE, CAUSING IT TO LEAK AROUND THE O-RING SEAL INSIDE THE ELBOW FITTING (FIG. 9B).

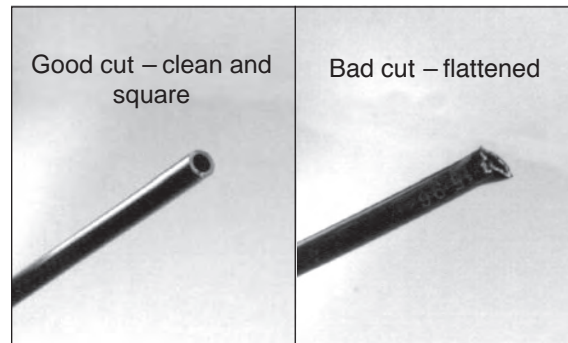


fig. 9a

fig. 9b

- Lubricate (i.e. soap, silicone spray, saliva) the end of the air line and insert it into the fitting (Fig. 10). Push firmly until you feel the resistance of the internal O-ring. Push harder and twist the air line slightly until you feel it move past the O-ring and seat. You will feel/hear it “click” into place. There will be  $\frac{9}{16}$ ” of air line in the fitting when properly seated.

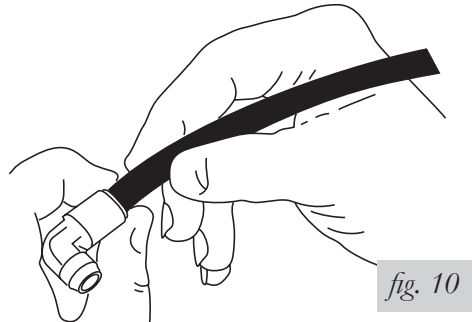


fig. 10

## ATTACHING THE AIR LINE FROM THE COMPRESSOR TO THE SOLENOIDS

- Install the fitting (C) onto the compressor leader hose (Fig. 11). Install one end of the air line into the fitting. You will feel/hear it “click” into place. There will be  $\frac{9}{16}$ ” of air line in the fitting when properly seated.

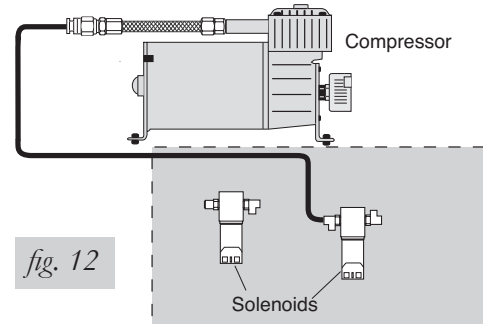
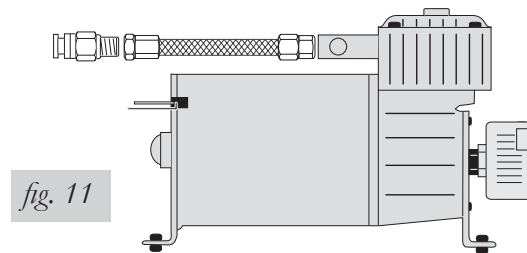
**IMPORTANT: Only tighten the fitting 1 1/2 turns. Do not overtighten.**

- Route the air line (I) to the passenger side solenoid (F) with two tee fittings installed on the solenoid (Fig. 12).

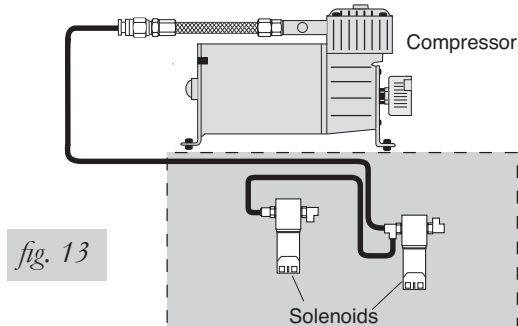
## NOTE

If the solenoids are mounted within 3 feet or less of the compressor, use no less than 3 feet of tubing between the two.

**IMPORTANT:** Only tighten the fitting 1 1/2 turns. Do not overtighten.



3. Cut off the excess air line and install the air line into one leg of one of the tees.
4. Install the remaining section piece of air line (I) onto the other leg of the same tee (Fig. 13).



5. Route this air line to the straight fitting installed on the driver side solenoid (E) (Fig. 13).
6. Cut off excess air line and install the air line into the straight fitting.

## INSTALLING THE GROMMET

1. Drill or cut a 1" diameter hole to route the harness into the compressor location (Fig.14).



2. Insert the flexible grommet material (J) and 'walk' the material around the inside edge of the hole (Fig. 15).



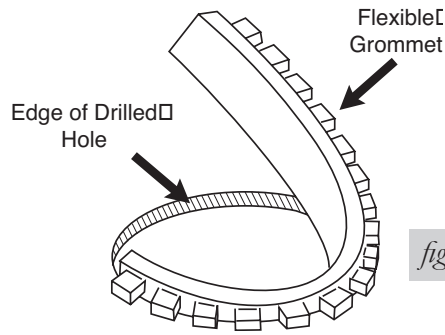


fig. 15

3. Cut off any excess grommet material (Fig. 16).

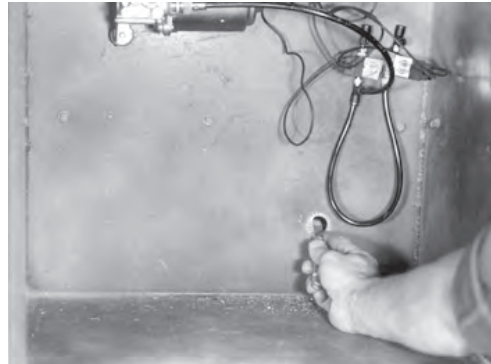


fig. 16

## MOUNTING THE GAUGE PANEL

**IMPORTANT:** All preassembled gauge panels have been 100% leak and function tested. Do not attempt to tighten, loosen, or adjust any fittings or connections. This will likely cause a leak or malfunction and void the warranty.

1. The gauge panel has been preassembled for your convenience.
2. The following is the attaching sequence for the system:  
Non-taped wire to terminal #4, white taped wire to terminal #6, black taped wire to terminal #3, and the other non-taped wire to terminal #2 (Fig. 17).

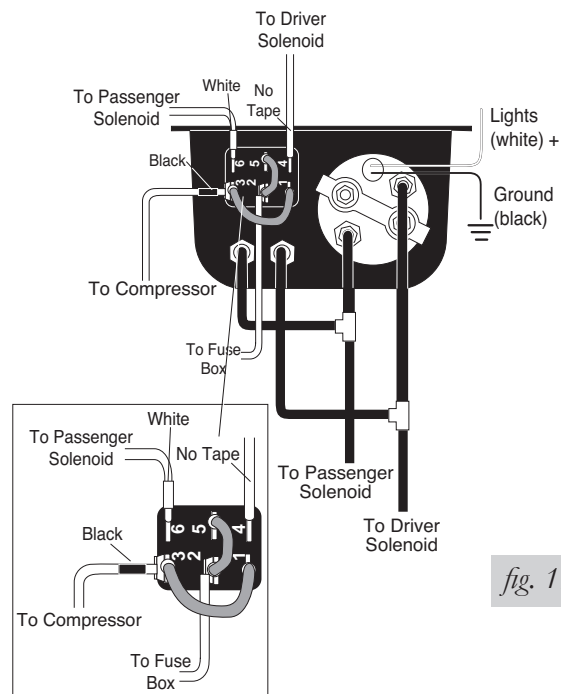


fig. 17

## ROUTING THE HARNESS

1. Route the harness (A) from the dash panel through an existing grommet in the floorboard or firewall (Fig. 18).

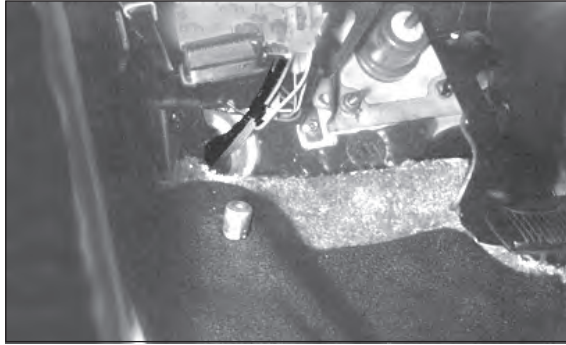


fig. 18

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### NOTE

*In some cases a hole may have to be drilled or cut to allow access for the harness. Drill or cut a 1" diameter hole and install the provided flexible grommet (J). It will be necessary to seal any grommets or holes that have been cut, drilled or removed so as not to allow elements to enter the cab area of the vehicle.*

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2. Route the harness (A) along the frame rail. Keep away from heat (exhaust system, etc.) and moving chassis components. Secure harness to frame with plastic tie straps (M) provided (Fig. 19).

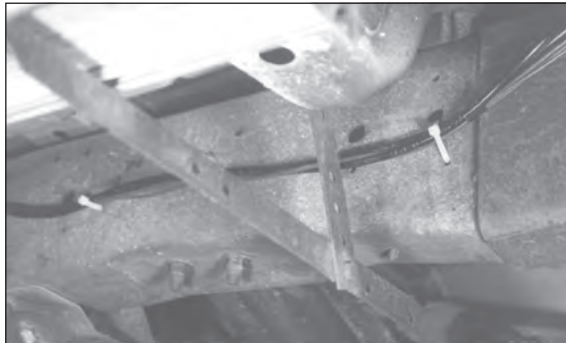


fig. 19

3. Route the harness through the previously installed grommet to the compressor and solenoid location (Fig. 20).



fig. 20

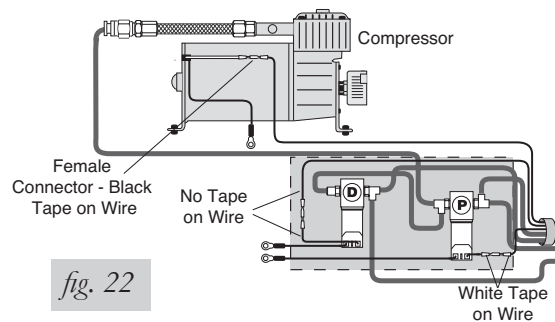
4. Select a convenient sturdy mounting location for the dash panel (A). Using the holes in the gauge panel as a template, drive in the two #8 black self tapping screws (K) (Fig. 21).



*fig. 21*

## CONNECTING THE HARNESS

1. Connect the wires on the harness to the wires of the compressor and solenoids by color and terminals (black to black, no tape to no tape, white to white, etc). Refer to Fig. 22.



*fig. 22*

## CONNECTING THE AIR LINE TO THE AIR SPRINGS

1. Deflate each air spring. Cut the air line already installed between air spring and inflation valve. Install a tee fitting (L) (Fig. 23). Follow this same procedure for air line leading to the other air spring, and inflation valve.



*fig. 23*

2. Install remaining length of air line into open leg of the tee previously installed between the air spring and the inflation valve. Route the air line along the frame and secure with nylon tie straps (M) to the solenoid (Fig. 24 - see next page).
3. Install the air line from the driver side air spring into one of the open legs of the driver side solenoid (Fig. 25 - see next page).
4. Install the air line from the passenger side air spring into one of the open ports of the passenger side solenoid (Fig. 25).



fig. 24

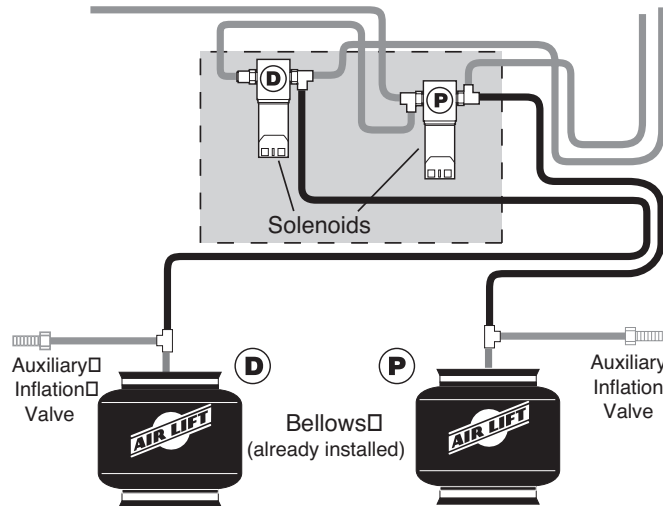


fig. 25

## CONNECTING THE AIR LINE TO THE DASH PANEL

1. Connect the white-taped air line to the one open leg of the tee fitting on passenger side solenoid (Fig. 26).

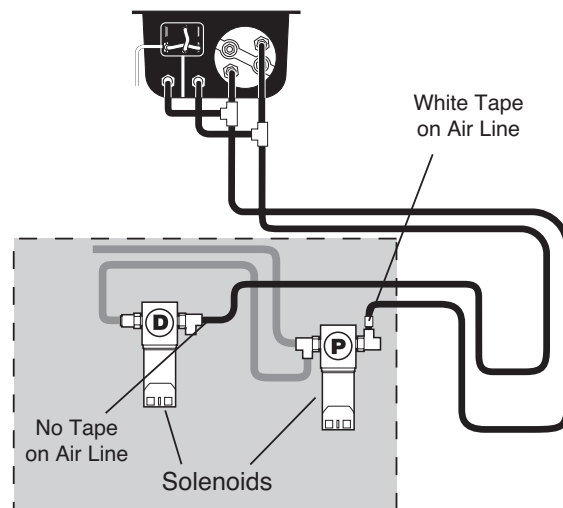


fig. 26

2. Connect the air line with no tape to the open leg of the tee fitting on the driver side solenoid (Fig. 26).
3. Route the white wire for the illuminated gauge to an accessory power source. Attach the black wire to an adequate ground.

## CONNECTING THE POWER WIRE TO THE FUSE BOX

1. Use a test light to determine which open terminal (accessory, etc.) works only when the key is in the "on" or accessory position (Fig. 27). The terminal should have an amperage rating equal to or higher than the 25 amp inline fuse.

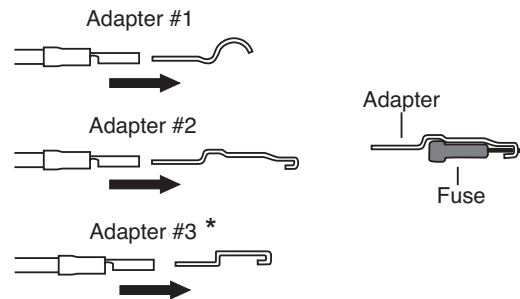
### NOTE

*Connect the adapter to the "Hot" side of the fuse (use test light to determine).*



fig. 27

2. Connection to the fuse terminal will depend on what type of fuse your vehicle uses (Fig. 28).



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

- a. If your vehicle uses a barrel type fuse, use adapter #1.
  - b. If you have the standard spade type fuses, use adapter #2.
  - c. Many late model vehicles use a smaller spade type fuse which requires adapter #3 (N) and the 3/16" female terminal provided (O).
3. Turn ignition key on momentarily to test electrical circuit and check the air compressor by pushing the toggle switch to the right or left and holding it. If it runs, turn it off by releasing the switch. If the compressor does not run, use a test light to determine that there is power to both sides of the switch. Insure that the ground (black) wire is providing a sufficient ground.
  4. **IMPORTANT: Do not exceed the recommended duty cycle of 15% (3 minutes on and 20 minutes off).**

### CAUTION

FAILURE TO COMPLY WITH THE RECOMMENDED DUTY CYCLE WILL CAUSE PREMATURE FAILURE OF THE COMPRESSOR.

## TESTING AND CHECKING THE SYSTEM

1. Push the toggle switch to the left and watch pressure increase on the left air gauge. Inflate to 60 p.s.i. Push switch to the right and inflate right side to 60 p.s.i. **Due to weight transferring, the air pressure in the first air spring inflated will change as you inflate the other side.**
2. Check the following locations for leaks by spraying them with a solution of 1/5 dish soap to 4/5 water: air line connections at each solenoid, air line connection at the compressor,

air line connections at the back of the dash panel, and each tee fitting location (Fig. 29). If bubbles appear and grow, then see step 3 below on how to repair the leaks.

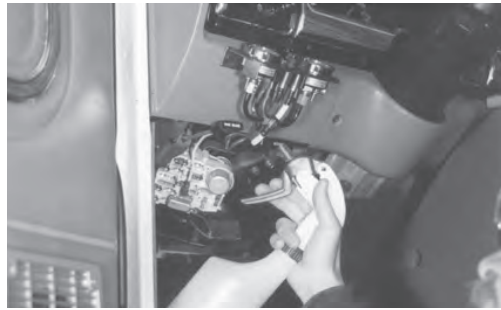


fig. 29

3. If there are any fitting leaks, then:
  - a. Deflate the spring and remove the line by pulling the collar against the fitting and pulling firmly on the air line.
  - b. Trim 1/2" off the end of the air line. Be sure the cut is clean and spare.
  - c. Reinsert air line into the push-to-connect fitting (9/16").

## MAINTENANCE AND OPERATIONS

### NOTE

*This manual is to be used in conjunction with the instruction manual included with each air spring kit.*

1. Inflation:
 

To inflate the air spring on one side of the vehicle, push the toggle switch side ways on the dash panel. The compressor will turn on automatically to increase the pressure as indicated on the gauge. Once the desired pressure is reached release the button and the compressor will shut off. **Due to weight transferring, the air pressure in the first air spring inflated will change as you inflate the other side.**
2. Deflation:
 

To deflate one side of the vehicle, depress the deflate button on the side you want decrease.
3. In the event that the compressor stops running, in order to run again allow the compressor to cool down and provide adequate time for the thermal breaker to reset before trying to start the compressor again.
4. Air Lift Design Intent:
 

All AIR LIFT kits are designed to maintain the vehicle at Normal Ride Height with additional loading up to, but not to exceed, the maximum gross vehicle weight as identified by the manufacturer on the vehicle chassis.
5. Correct Air Pressure:
 

Remove unusual loads and examine your vehicle from the side to ensure it is on a level surface. If necessary (in cases where your leaf springs are sagging badly), use a jack to raise the rear end so that the vehicle achieves the original as delivered ride height.

Correct air pressure is ensured when the vehicle is at Normal Ride Height. Normal Ride Height is the distance between the bottom edge of the wheel well and the center of the hub with the vehicle in the as delivered condition. In some cases, Normal Ride Height is not perfectly level. Record this height (Fig. 30). Inflate or deflate the air springs until the vehicle is at Normal Ride Height. Loaded or unloaded, Normal Ride Height should always be maintained.

NORMAL  
RIDE HEIGHT: \_\_\_\_\_ inches



fig. 30