

LOAD CONTROLLER I

ON-BOARD COMPRESSOR CONTROL SYSTEM



MN-362
(15506)
ECR 5204

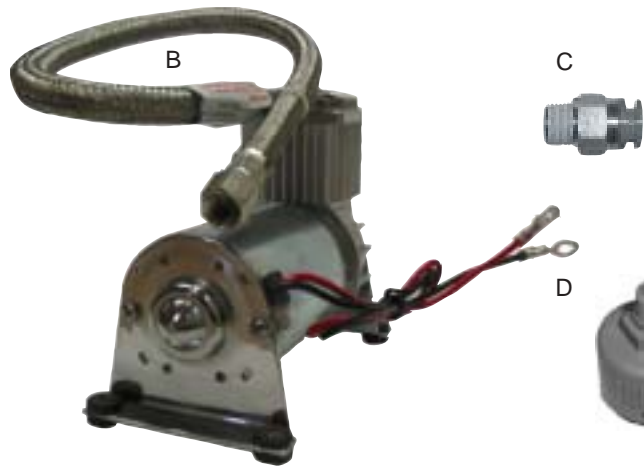
Kit No. 25651

www.airliftcompany.com

Please read these instructions completely before proceeding with installation

Parts List

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



Tools Needed

1/2", 13mm, 18mm, and 19mm open-end or box wrenches
Crescent wrench
Ratchet with 3/8", 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

IMPORTANT: 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.

IMPORTANT: 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.



Figure 1



Figure 2

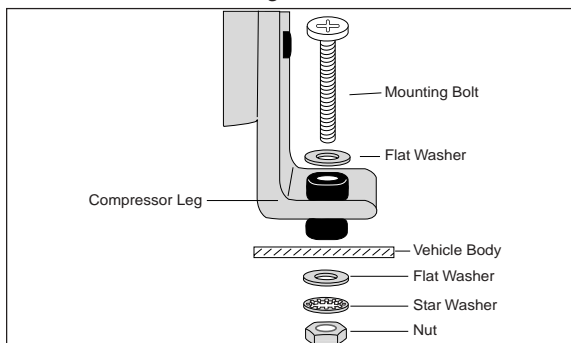


Figure 3

I. Assembling and Mounting the Compressor

1. Select a rigid, protected, convenient mounting location for the compressor (B) under the vehicle (Figure 1) or in a storage area (motorhomes) (Figure 2). The location selected should shield the compressor from the elements. Note: Be careful to shield the compressor from heat sources.

IMPORTANT: 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) 13/64" holes.
4. Use screws provided to attach the compressor (Figure 3 and 4).
5. Attach the filter (D) onto the compressor (B) (Figure 5).

II. 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 (Figure 7).

III. Grounding the Compressor and Solenoids

1. 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).



Figure 4

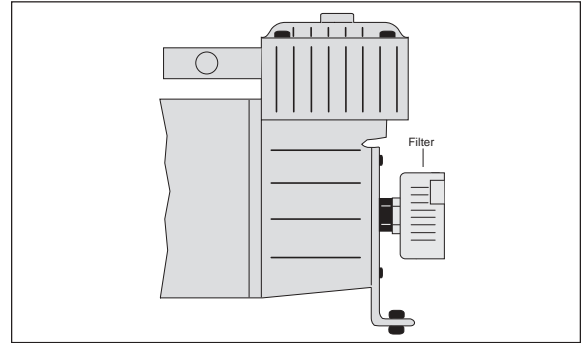


Figure 5



Figure 6

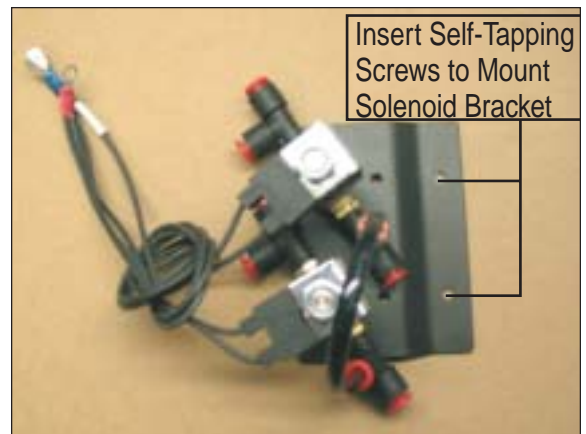


Figure 7

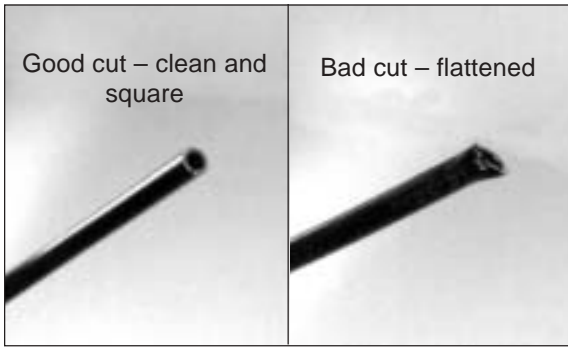


Figure 8a

Figure 8b

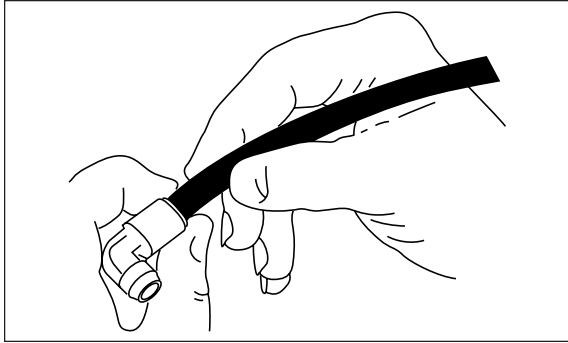


Figure 9

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

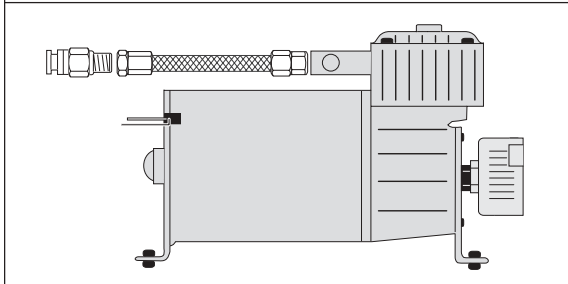


Figure 10

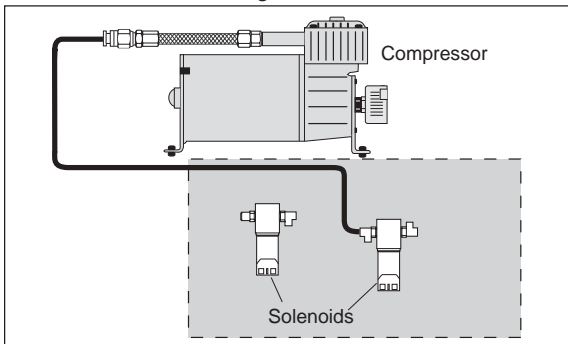


Figure 11

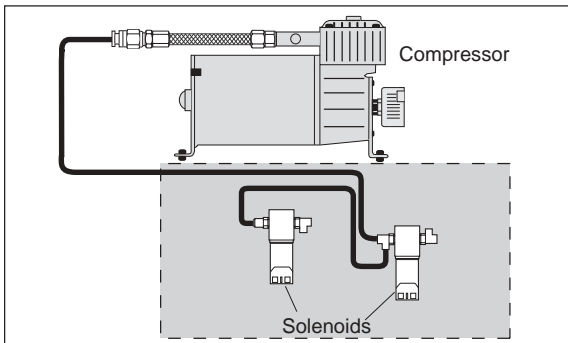


Figure 12

IV. Installing the Air Line

1. 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 8a). 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 (Figure 8b).
2. Lubricate (i.e. soap, silicone spray, saliva) the end of the air line and insert it into the fitting (Figure 9). 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 9/16" of air line in the fitting when properly seated.

V. Attaching the Air Line from the Compressor to the Solenoids

1. Install the fitting (C) onto the compressor leader hose (Figure 10). Install one end of the air line into the fitting. You will feel/hear it "click" into place. There will be 9/16" of air line in the fitting when properly seated.

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

2. Route the air line (I) to the passenger side solenoid (F) with two tee fittings installed on the solenoid (Figure 11).

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.

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 (Figure 12).

5. Route this air line to the straight fitting installed on the driver side solenoid (E) (Figure 12).

6. Cut off excess air line and install the air line into the straight fitting.

VI. Installing the Grommet

1. Drill or cut a 1" diameter hole to route the harness into the compressor location (Figure 13).
2. Insert the flexible grommet material (J) and “walk” the material around the inside edge of the hole (Figure 14).
3. Cut off any excess grommet material (Figure 15).



Figure 13

VII. 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 (Figure 16).

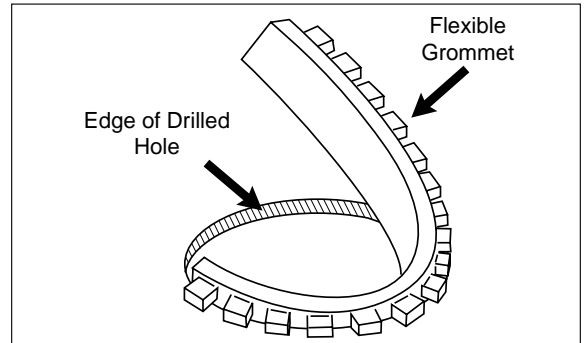


Figure 14



Figure 15

VIII. Routing the Harness

1. Route the harness (A) from the dash panel through an existing grommet in the floorboard or firewall (Figure 17).

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.

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 (Figure 18).
3. Route the harness through the previously installed grommet to the compressor and solenoid location (Figure 19).
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) (Figure 20).

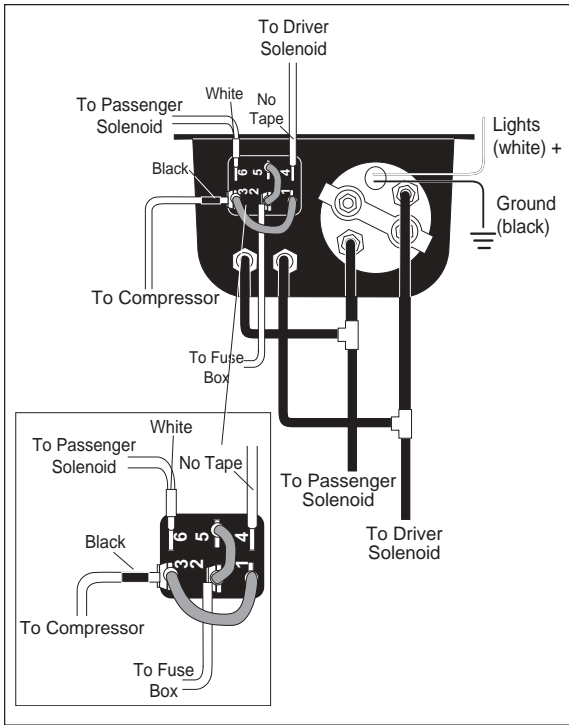


Figure 16



Figure 17



Figure 18



Figure 19

IX. Connecting the Harness

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 Figure 21.

X. 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) (Figure 22). Follow this same procedure for air line leading to the other air spring, and inflation valve.
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 (Figure 23).
3. Install the air line from the driver side air spring into one of the open legs of the driver side solenoid (Figure 24).
4. Install the air line from the passenger side air spring into one of the open ports of the passenger side solenoid (Figure 24).

XI. 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 (Figure 25).
2. Connect the air line with no tape to the open leg of the tee fitting on the driver side solenoid (Figure 25).
3. Route the white wire for the illuminated gauge to an accessory power source. Attach the black wire to an adequate ground.

XII. Connecting Power Wire to 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 (Figure 26). The terminal should have an amperage rating equal to or higher than the 25 amp in-line fuse.
2. Connection to the fuse terminal will depend on what type of fuse your vehicle uses (Figure 27).
 - 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 $\frac{3}{16}$ " 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). Failure to comply with the recommended duty cycle will cause premature failure of the compressor.



Figure 20

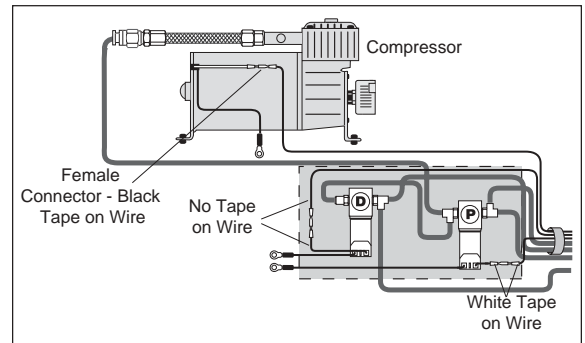


Figure 21



Figure 22



Figure 23

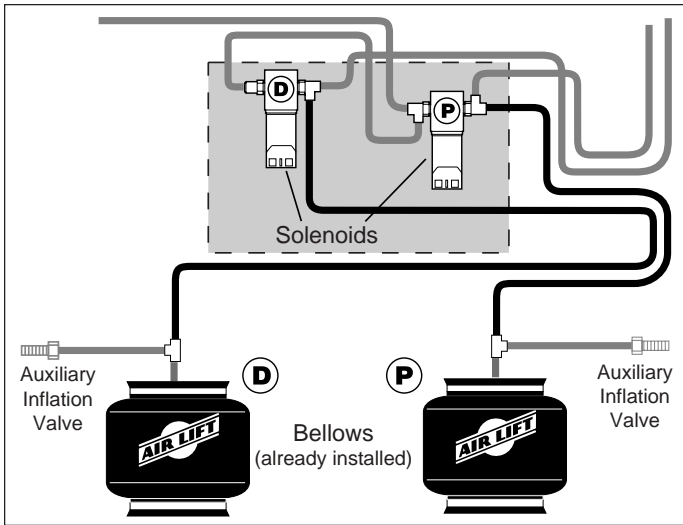


Figure 24

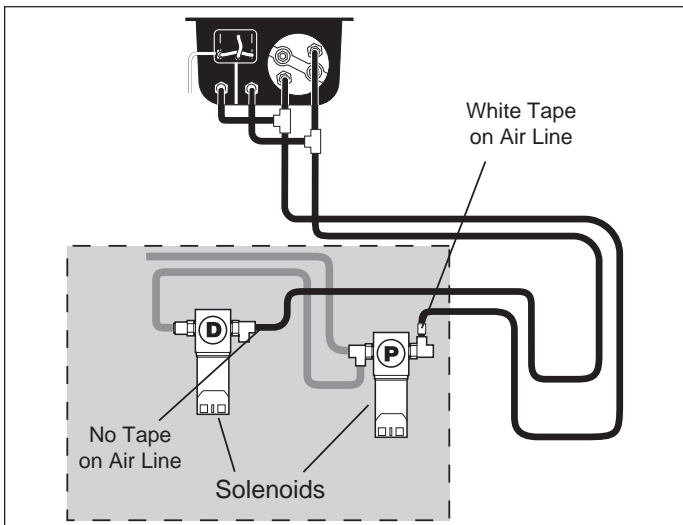


Figure 25



Figure 26

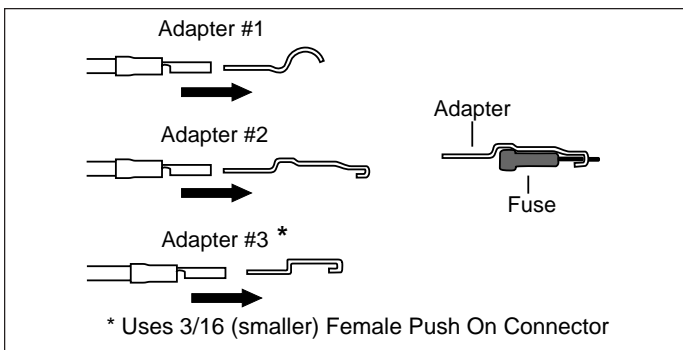


Figure 27

XII. 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 $\frac{1}{5}$ dish soap to $\frac{4}{5}$ 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 (Figure 28). If bubbles appear and grow, then see step 3 below on how to repair the leaks.
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 $\frac{1}{2}$ " 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 ($\frac{9}{16}$ ").



Figure 28

XIII. Maintenance and Operations

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.

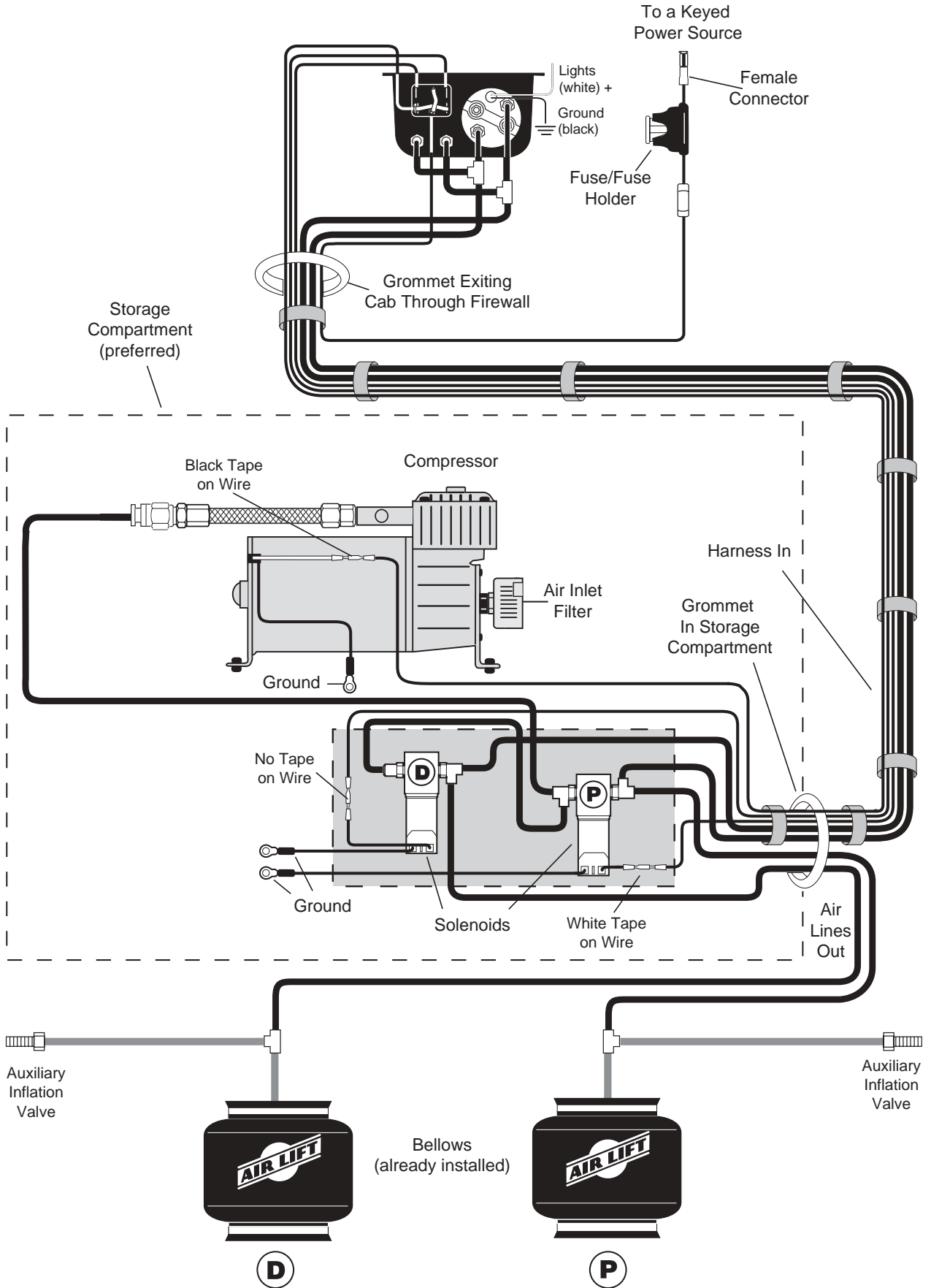
Correct air pressure is ensured when the vehicle is at Normal Ride Height. Normal Ride Height is the distance between the bottom edge of the wheel well and the center of the hub with the vehicle in the “as delivered” condition. In some cases, Normal Ride Height is not perfectly level. Record this height (Figure 29). 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



Figure 29

Complete System Diagram



Installation Notes:



Thank you for purchasing Air Lift Products

Mailing Address:
AIR LIFT COMPANY
P.O. Box 80167
Lansing, MI 48908-0167

Street Address:
AIR LIFT COMPANY
2727 Snow Rd.
Lansing, MI 48917

Local Phone: (517) 322-2144

Fax: (517) 322-0240

<http://www.airliftcompany.com>

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