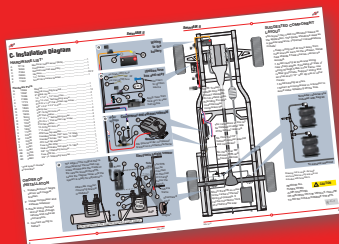


SmartAIR™ II

by AIR LIFT®

Kits 25490, 25491

Automatic Self-Leveling
System



**Quick
Installation
Guide**

Pages 4-5



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.*



TABLE OF CONTENTS

A. Introduction	1
Important System Information	1
Notation Explanation	1
B. Installing the SmartAir II System	2
Choose a Mounting Location	2
Choose How to Mount the Magnet Bracket	2
Mounting the Compressor and Exhaust Solenoid	3
C. Quick Installation Guide	4
Hardware List	4
Order of Installation	4
Suggested Component Layout	4
D. Installing the Air Lines	6
Tips for Cutting Air Lines	6
Installing Air Lines	6
Checking for Leaks	6
Fixing Leaks	6
E. Calibrating the System	7
F. Troubleshooting Guide	7

A. Introduction

SmartAir II is an automated air management system. It is designed to keep the vehicle at the pre-programmed ride height without user input.

The electronic height sensor (EHS) is mounted to the vehicle frame and the magnet/bracket is mounted to the axle or leaf spring. When load is added to the vehicle, the magnet rises above the EHS centerline (as the suspension is compressed). If the magnet maintains this position for a minimum of 15-20 seconds, the EHS will turn on the compressor, adding air to the air bags. Air is added until the magnet is re-centered, restoring the vehicle to its pre-programmed ride height.

When the load is removed from the vehicle, the magnet falls below the EHS and, after 15-20 seconds, will energize the exhaust solenoid. This allows the air to escape from the air bags until the magnet is re-centered, restoring the vehicle to its pre-programmed ride height.

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.

NOTE

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

B. Installing the SmartAir II System

See the Installation Diagram on pages 4-5 for detailed information about installing the SmartAir II system.

CHOOSE A MOUNTING LOCATION

The electronic height sensor (EHS) and magnet mounting bracket should be mounted as close to the center of the leaf spring as possible, and can be forward or rearward of the axle. The sensor should be attached to the frame rail and can hang down off of the frame rail if necessary to take full advantage of the range of the sensor (Fig. B.1).

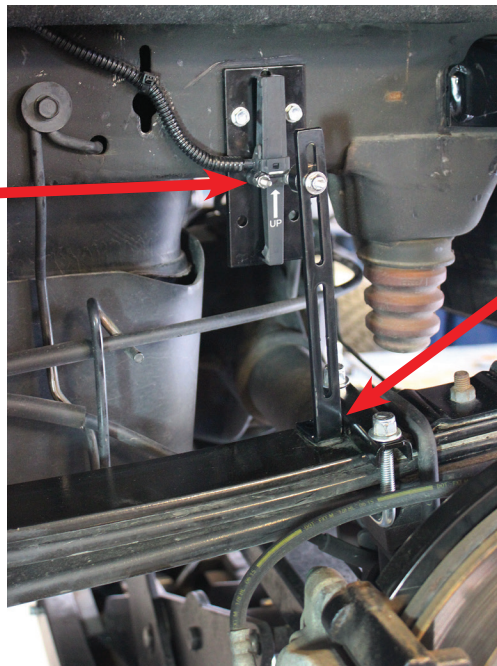
⚠ CAUTION

KEEP ALL COMPONENTS CLEAR OF ANYTHING THAT MAY COME IN CONTACT WITH THEM WHILE THE SUSPENSION TRAVELS IN JOUNCE AND COMPRESSION.

NOTE

When choosing the mounting method, keep in mind that the center of the magnet must align with the height sensor when the vehicle is at ride height. The magnet and the height sensor must be between 1" - 1 1/2" apart.

The EHS is shown with the bracket mounted partially below the frame.



The magnet bracket is shown mounted under the clamp bar.

fig. B.1

CHOOSE HOW TO MOUNT THE MAGNET BRACKET

The magnet bracket can be mounted so it is between the clamp bar and the leaf springs or under one of the bolts holding the clamp bar to the leaf spring.

⚠ CAUTION

THIS MAGNET IS VERY STRONG. IT IS POSSIBLE FOR THE MAGNET TO PINCH FINGERS AND SKIN BETWEEN ANOTHER MAGNET OR METAL OBJECT. CARE SHOULD BE TAKEN WHEN HANDLING THE MAGNET.

MOUNTING THE COMPRESSOR AND EXHAUST SOLENOID

The compressor must be mounted no more than 24 inches from the exhaust solenoid. Mount the exhaust solenoid no more than 68 inches from the EHS (Figs. B.2 & B.3).

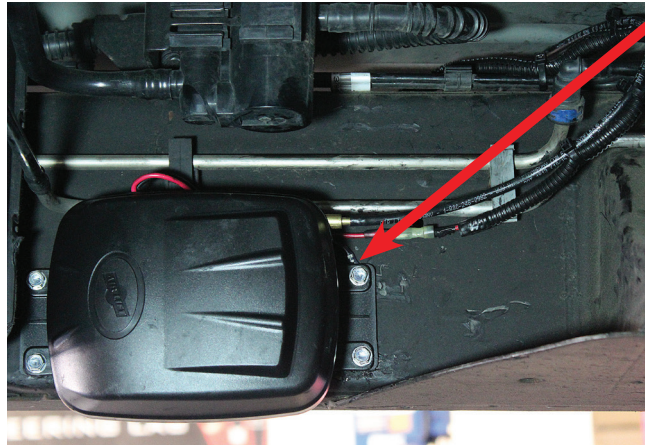


fig. B.2

Compressor

The ground wire should be fastened below the compressor bracket so that it is in contact with the frame. Some paint may need to be ground off the frame to make good contact.

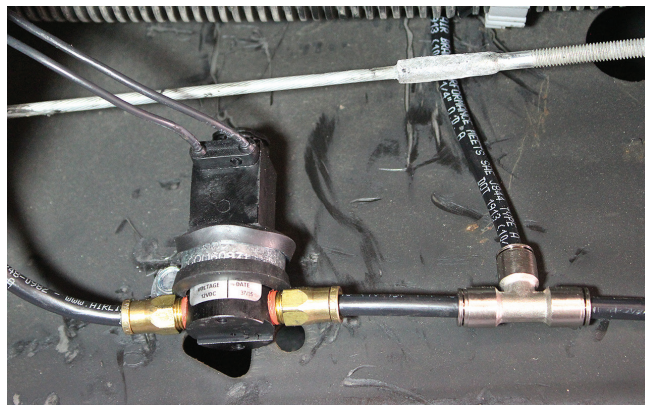


fig. B.3

Exhaust solenoid

The compressor air line can be installed on either side of the exhaust solenoid.

CAUTION

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

1. Use the compressor as a template for mounting.
2. The compressor can be mounted in any orientation: sideways, upside down or top up.
3. Install the compressor using hardware supplied with the compressor.
4. Follow middle insert on pages 4-5 for wiring and location recommendations.

NOTE

Figures B.1, B.2 and B.3 show a completed SmartAir II installation on a Chevrolet Silverado.

C. Quick Installation Guide

HARDWARE LIST*

A	72118	Electronic height sensor (EHS)	1
B	16060	Compressor	1
C	21984	Exhaust solenoid assembly	1
D	26893	Harness.....	1
E	20946	1/4" Air line.....	20 ft.
F	11997	Smart Air II sensor bracket	1

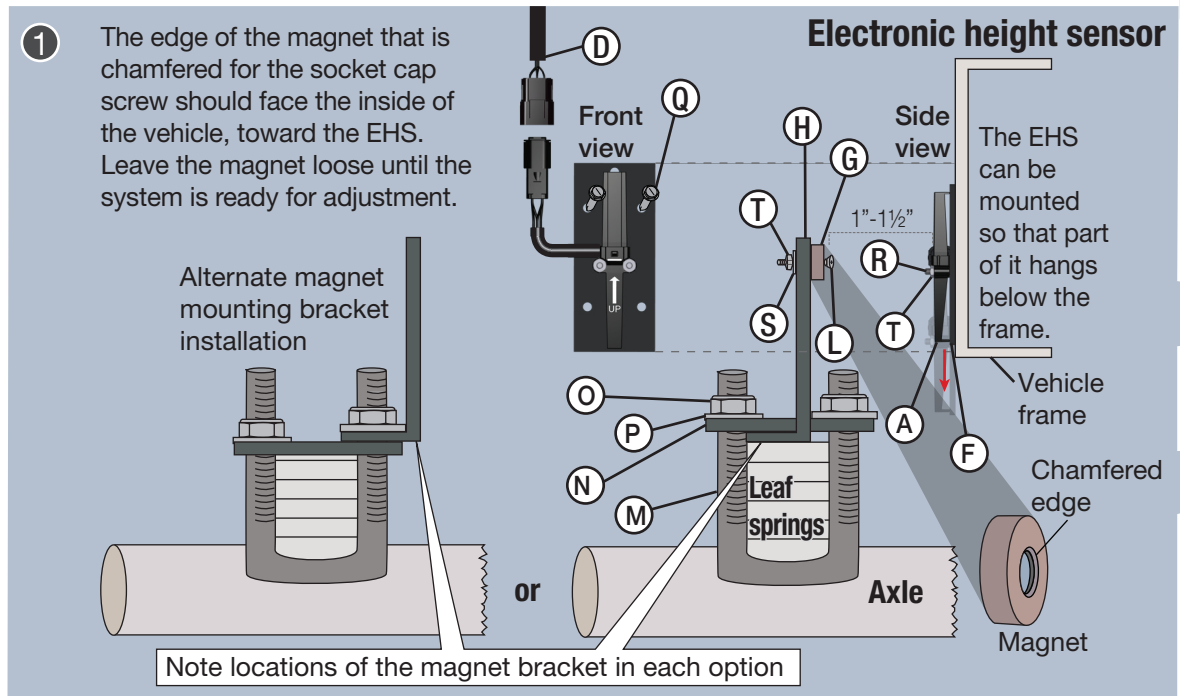
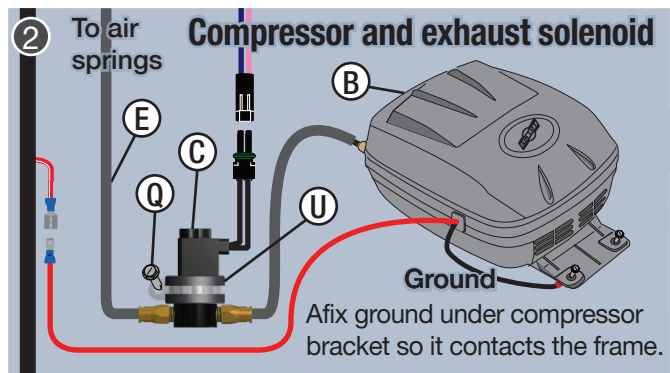
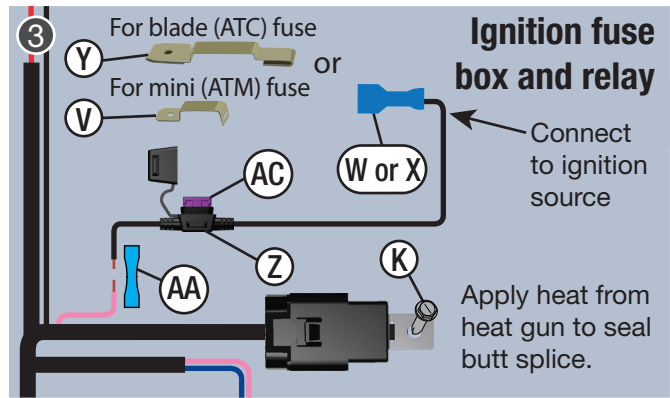
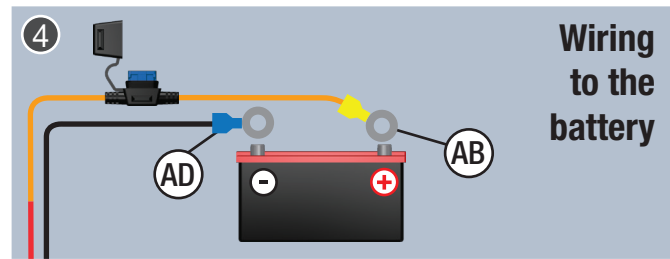
Hardware Pack

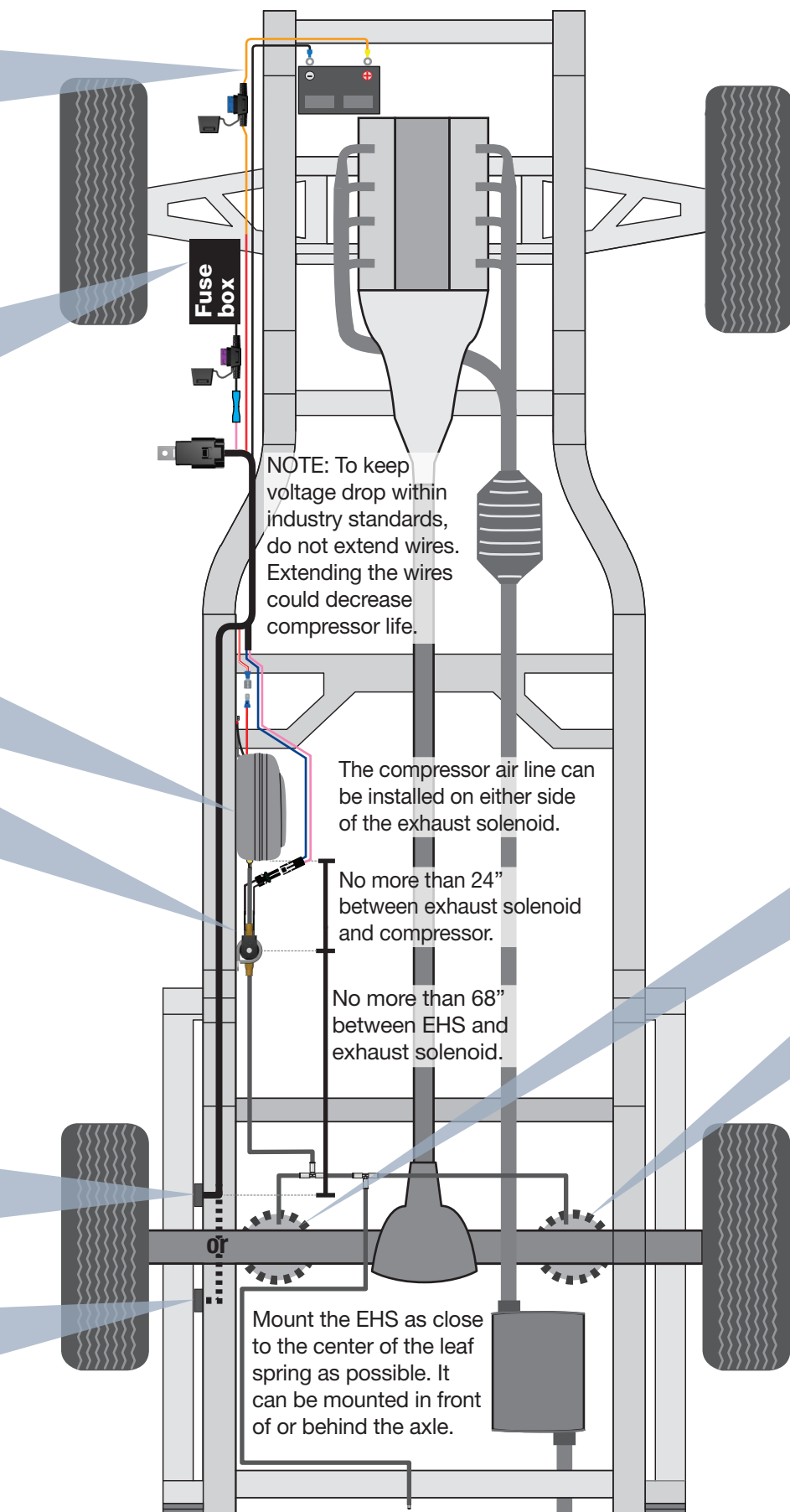
G	10966	Magnet.....	1
H	10967	Magnet mounting bracket.....	1
I	10466	8" Black zip tie.....	12
J	21838	1/4" x 1/4" x 1/4" Union tee.....	2
K	17173	#14-14 x 3/4" Self-tapping screw	1
L	18600	#10-24 x 1.25" Flat socket cap screw	1
M	10583	3/8" x 3.5" x 4.5" U-bolt	1
N	01426	Clamp bar	1
O	18435	3/8"-16 Nylon lock nut.....	2
P	18444	3/8" Flat washer.....	2
Q	17263	1/4"-14 x 1" Self-tapping screw	3
R	17925	#10-24 x 1" Flat socket cap screw	2
S	18590	#10 Flat washer.....	1
T	18591	10-24 Nylon lock nut.....	3
U	11269	1" P-clamp	1
V	24561	ATM fuse tap adapter.....	1
W	24594	Insulated female .250" term 14-16GA	1
X	24524	Insulated female .187" term 14-16GA	1
Y	24542	ATC fuse tap adapter	1
Z	24501	Fuse holder ATM.....	1
AA	24661	Heat-shrinkable butt splice 14-16GA	1
AB	24748	3/8" 10-12GA Ring terminal	1
AC	24503	Fuse ATM 3A.....	1
AD	24681	3/8" 14-16GA Ring terminal.....	1

* Dual system doubles all quantities

ORDER OF INSTALLATION

1. Install electronic height sensor and magnet bracket.
2. Install compressor and exhaust solenoid.
3. Route wiring harness and air lines through vehicle and make all connections.
4. Connect wiring to battery.

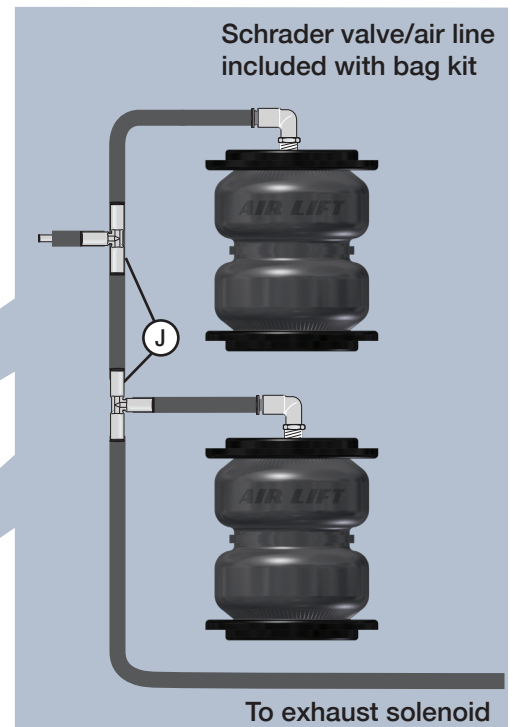




SUGGESTED COMPONENT LAYOUT

This layout may need modification based on the application. This guide should be used as a general reference. Important considerations include:

- Keep wiring and air lines away from heat sources such as the exhaust. Install heat shields if heat sources cannot be avoided.
- Avoid routing air lines and wiring near sharp edges. If passing air lines or wiring through holes in the frame, use rubber grommets. Support wiring and air lines every 12" with zip ties or other means.
- Avoid kinking air lines.
- Mount the compressor in a location to avoid water splashing off the tires.



Drawing not to scale. Air bags are for reference only and are not included with SmartAir II.

REMOVE ALL FUSES WHEN JUMP-STARTING OR WELDING ON THE VEHICLE. FAILURE TO DO SO COULD DAMAGE THE EHS.



fig. C.1

D. Installing the Air Lines

TIPS FOR CUTTING AIR LINES

When cutting air lines, use a sharp knife or a hose cutter and make clean, square cuts (Fig. D.1). Do not use scissors or wire cutters because these tools will deform the air line, causing it to leak around fittings. Do not cut the lines at an angle.

The minimum bend radius for 1/4" air line is 1". Do not bend the air line less than the minimum bend radius or side load the fitting connections. Air lines are to be installed straight into fittings.

Inspect the air line for scratches that run lengthwise prior to installation. Contact Air Lift customer service at **(800) 248-0892** if the air line is damaged.



To watch a video demonstrating proper air line cutting, go to air-lift.co/cuttingairline

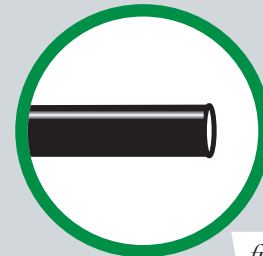


fig. D.1



PUSH-TO-CONNECT FITTINGS

Air lines should be pushed into the push-to-connect fittings firmly, with a slight side-to-side rotational twist. Check the connection by pulling on each line to verify a robust connection.

NOTE

To release the air line from the connection (Fig. D.2), first release all air from the system. Push in on the air line (step 1), push the collar in (step 2). With the collar depressed, pull the air line out of the fitting (step 3).

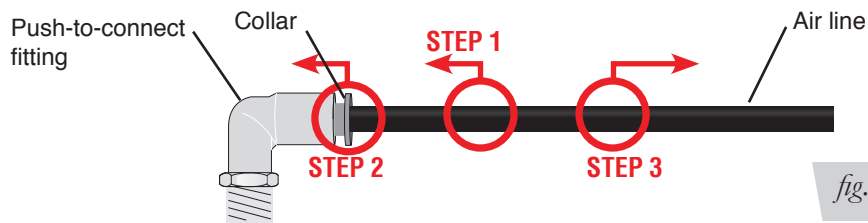


fig. D.2

CHECKING FOR LEAKS

1. Inflate the air spring to 30 PSI using the Schrader valve.
2. Spray all connections and the Schrader valve with a solution of 1/5 liquid dish soap and 4/5 water. Spot leaks easily by looking for bubbles in the soapy water.
3. After the test, deflate the springs to the minimum pressure required to restore the system to normal ride height.
4. Check the air pressure again after 24 hours. A 2-4 PSI loss after initial installation is normal. Retest for leaks if the loss is more than 5 PSI.

FIXING LEAKS

1. If there is a problem with the push-to-connect fitting, remove the air line as described above. Trim 1" off the end of the air line. Be sure the cut is clean and square (see Fig. D.1).
2. Reinsert the air line into the push-to-connect fitting as described above.

E. Calibrating the System

1. Pressurize the air springs with 5 PSI using the Schrader valves with the vehicle unloaded.
2. Remove the screw in the magnet so you can see the sensor through the hole and center it on the white line.
3. Turn the ignition on. Release the pressure from the bags, wait until the compressor turns on and check to ensure it fills back up to 5 PSI. If vehicle doesn't rise, raise the magnet until it will maintain 5 PSI at ride height.

F. Troubleshooting Guide

Problem	Cause	Solution
The system has a 15- to 20-second delay before the compressor and exhaust solenoid will function.		
Compressor doesn't run.	Blown 15-amp or 3-amp fuse, bad ground, poor connection, bad compressor or Electronic Height Sensor (EHS).	Check fuses, grounds and connections. Ground terminal at relay to see if compressor runs. Unplug compressor and bench test.
System not exhausting properly.	Blown 3-amp fuse, bad connections, bad solenoid or EHS.	Check fuse and connection. Unplug exhaust solenoid from harness connection. Use jumper wires to vehicle power and ground to check operation by connecting one side of exhaust solenoid connector to power and the other to ground. If it functions, the EHS is bad or there is a bad connection.
Compressor runs all the time.	Leak in air line, fitting or exhaust solenoid, bad relay or EHS.	Locate leak, replace relay or check EHS.
Vehicle does not maintain/reach ride height.	Bad/leaking exhaust solenoid or bad EHS.	Unplug the solenoid and test by jumping power and ground to appropriate circuit in harness to ensure functions.
	The vehicle could be overloaded.	If the air pressure in the system is at its max pressure of 100 PSI, the height the magnet/sensor was set at will not be achieved. Reduce the load to achieve level ride height.
Nothing happens when the vehicle is on.	Blown 3-amp fuse, poor ground or connection.	Check fuses, connections and grounds.
	Bad EHS.	Test individual components to verify function. Ground terminal to test compressor and harness.
	Magnet may not be properly aligned (typically too high), may be backward or may be improper distance from EHS.	Check magnet alignment, distance, and ensure the chamfered side is facing EHS.