

# Air Lift 1000™



## Installation Guide



**RAM / 2500/3500 / 4WD**



**Watch the video**

Info on Table of Contents page

## **Kit 80532**

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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# Hardware and Tools Lists

## HARDWARE LIST

Item	Part#	Description .....	Qty
A	09108	Upper protector .....	2
B	09447	Lower protector.....	2
C	46159	Air springs .....	2
D	20937	Air line .....	15ft.
E	10466	Zip ties .....	6
F	21230	Valve cap.....	2
G	21233	5/16" Hex nut.....	4
H	21234	Rubber washer.....	2
I	18411	Star washer .....	2
J	18501	M8 Flat washer.....	2
K	21236	Tee fitting.....	1
L	21455	Schrader valve .....	2
M	10638	Air line clamp .....	6

## TOOLS LIST

Description.....	Qty
Ratchet.....	1
Torque wrench .....	1
Pliers.....	1
Standard and metric regular and deep-well sockets .....	Set
5/16" drill bit (very sharp) .....	1
Heavy duty drill.....	1
Hose cutter, razor blade or sharp knife .....	1
Hoist or floor jack .....	1
Safety glasses .....	1
Safety stands.....	2
Air compressor or compressed air source .....	1
Spray bottle with dish soap/water solution.....	1

# Introduction

The purpose of this publication is to assist with the installation and maintenance of the Air Lift 1000 air spring kit.

Air Lift 1000 kits utilize a cylinder-style air spring that provides up to 2,100 pounds (953kg) of load-leveling support when installed into the vehicles coil springs. Each cylinder is rated at a maximum of 50 PSI (3.5BAR).

It is important to read and understand the entire installation guide before beginning installation or performing any maintenance, service or repair.

## 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.

# Installing the System

## PREPARING THE VEHICLE

1. Remove the lower shock bolts from both sides (Fig. 1).

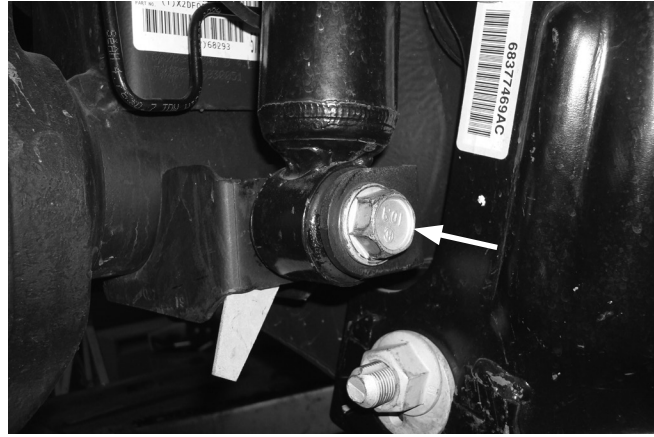


Fig. 1

2. Lift the vehicle up and support the frame with safety stands (Fig. 2). Drop the axle down low enough so the coil springs can be removed.

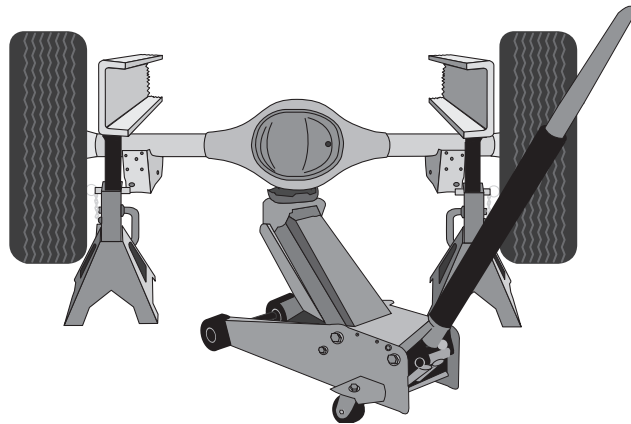


Fig. 2

## INSTALLING THE AIR SPRINGS

1. Set the tapered upper protector (A) into the underside of the coil spring isolator (Fig. 3). Install fully so the upper protector is flush to the top of the isolator (Fig. 4).

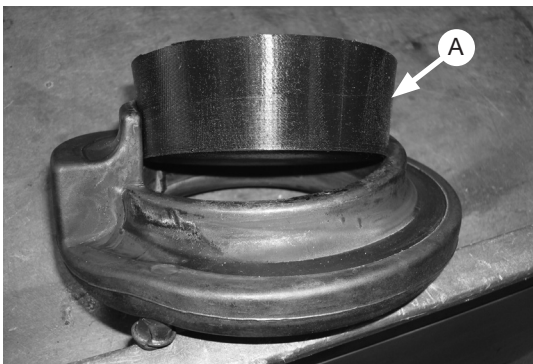


Fig. 3



Fig. 4

2. Cut the air line (D) into two equal lengths. Using a pair of pliers, install the air line clamps (M) onto one end of each air line. Remove the plastic caps off the air springs (C) and install the air lines onto the barbed stem of the air springs making sure air line covers all the barbs on the stem. Slide the air line clamps over the barbed section of the stem on the air springs (Fig. 5).

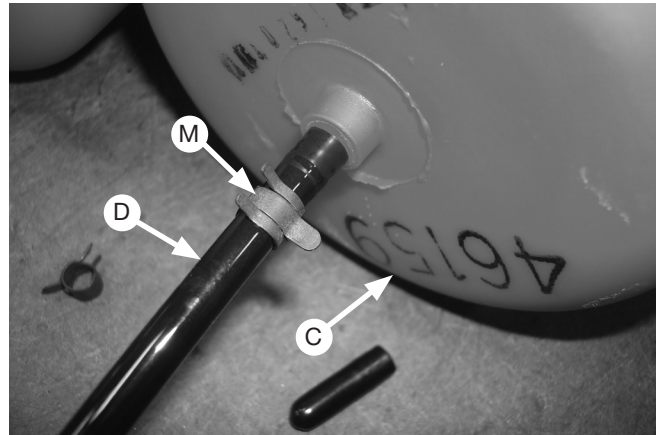


Fig. 5

3. Insert the cylinders into the coil springs, so when the spring is reinstalled, the air line is pointing downward. Insert the air lines through the middle hole of the lower protectors (B) (Fig. 6).

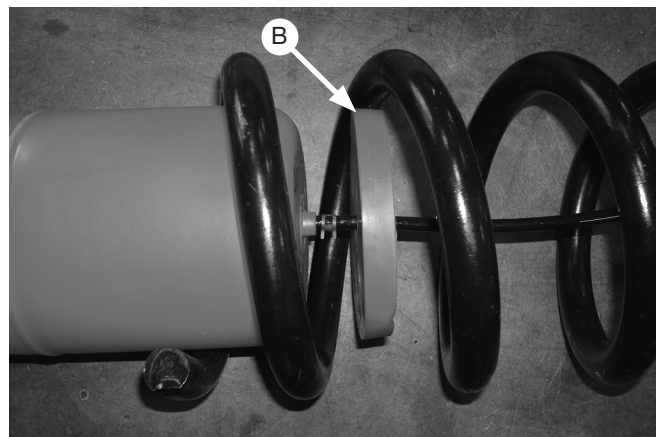


Fig. 6

4. Set the upper isolator on the top of the spring assemblies, making sure the coil spring indexes into the isolator correctly (Fig. 7).



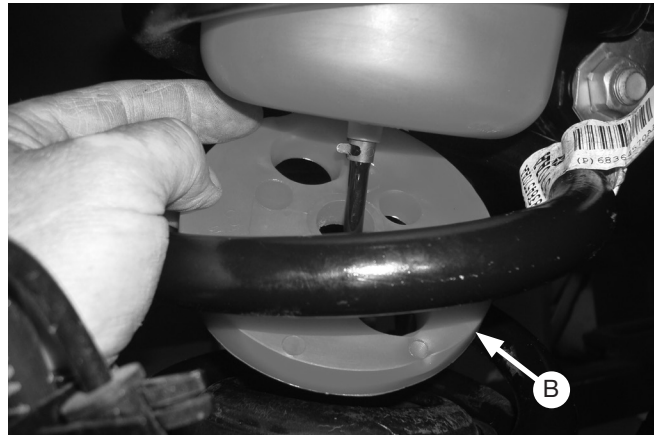
Fig. 7

- While setting the air spring assemblies on the axle, route the air line through the bottom spring seat. Ensure the air line exits on the front side of the axle (Fig. 11). Raise the axle up just enough to seat the isolator into position, making sure the tab on the isolator indexes into the upper spring seat correctly (Fig. 8).



When reinstalling spring assemblies, ensure tab on isolator indexes into the upper spring seat correctly *Fig. 8*

- Before raising the axle back up completely, ensure that the upper and lower protectors (A & B) are in position (Fig. 9 & Fig. 10).

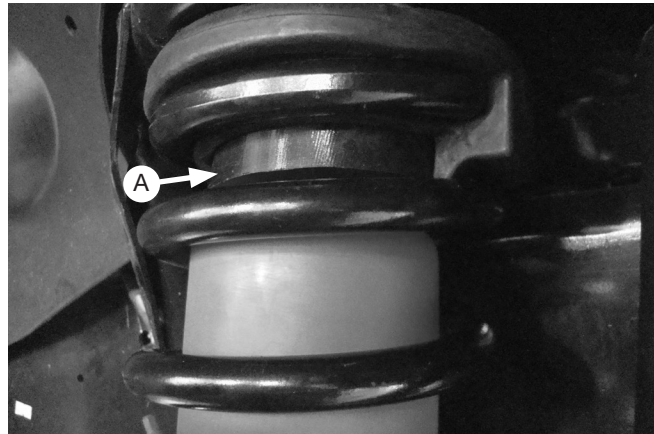


*Fig. 9*

### NOTE

*If the upper protector falls out of position, ensure that, while raising the axle up, the air spring pushes up on it and the protector seats itself back into the upper isolator properly.*

- Raise the axle up just enough to get the shock bolt through the lower shock and shock mount. Raise the axle all the way up and torque the shock bolt to 95 lb.-ft. (129Nm) (Fig. 1).

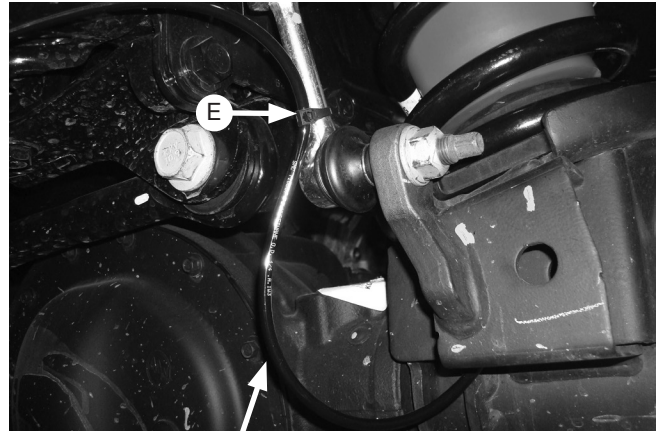


*Fig. 10*



## Installing the Air Lines

1. Using zip ties (E), secure the air line hanging down below the air spring assemblies to the tie rod end links, ensuring there is enough slack for articulation (Fig. 11).



Leave enough air line slack for articulation of the suspension

*Fig. 11*

2. Continue running the air line forward along the sway bar. Zip tie the air line to the forward end of the sway bar (Fig. 12). Continue routing air line forward per the following directions.



*Fig. 12*



3. A single-path air line installation is recommended for vehicles that typically have even weight distribution (Fig. 13). If weight in the vehicle varies from side to side and unequal pressures are needed to level the load, use a dual-path installation. For dual-path air line installations, eliminate the tee fitting (K) and route separate air lines for both air springs (Fig. 14).

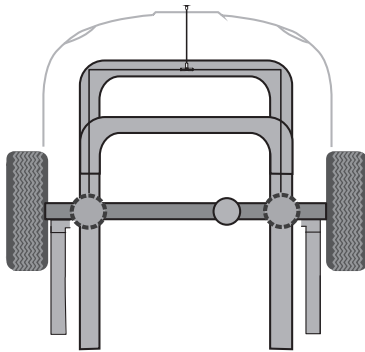
**Single-path Air Line Routing**


Fig. 13

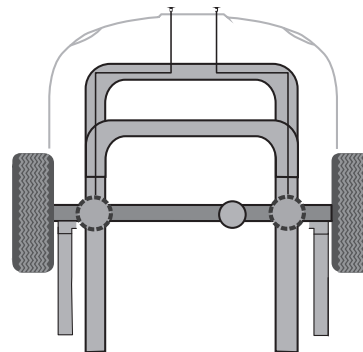
**Dual-path Air Line Routing**


Fig. 14

**CAUTION**

TO PREVENT THE AIR LINE FROM MELTING, MAINTAIN AT LEAST 6" (152MM) FROM ANY HEAT SOURCE TO THE AIR LINE.

4. If installing a single-path air line, choose a location for the tee fitting on the wheel well or front bumper. Determine and cut adequate length of air line (D) to reach to the tee from left and right side air springs. Make clean, square cuts with a razor blade or hose cutter (Fig. 15). Do not use scissors or wire cutters.

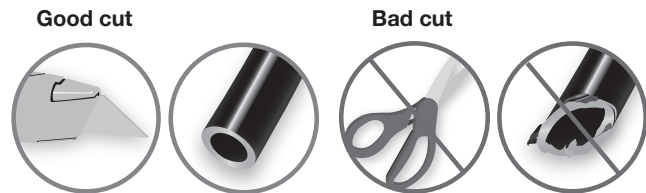


Fig. 15

5. Leave sufficient air line slack to prevent any strain on the fitting during axle motions.
6. Use this procedure (Fig. 16) for all air line connections:
- Slide the air line clamp (M) onto the air line (D).
  - Push the air line and air line clamp over the barbed stem so that the air line covers all the barbs.
  - Compress the ears on the air line clamp with pliers and slide it forward to fully cover the barbs.

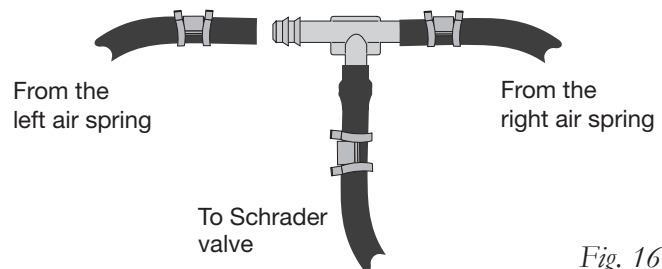


Fig. 16

7. Select a location for the Schrader valve (L), ensuring that the valve will be protected and accessible with an air hose (Fig. 17). Drill a 5/16" (8mm) hole, if necessary. Determine and cut adequate length of air line (D) to reach from the tee to the Schrader valve or from the air springs to the valve if using a dual-path installation. Raise the suspension or lower the body completely and remove the safety stands. Inflate the air springs to 5 PSI (.34BAR).

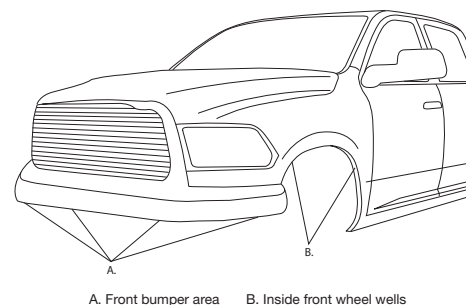


Fig. 17

8. Drill a 5/16" (8mm) hole for the Schrader valve (L) and mount as shown (Fig. 18). Install the air line on the Schrader valve first. The rubber washer (H) serves as an outside weather seal.

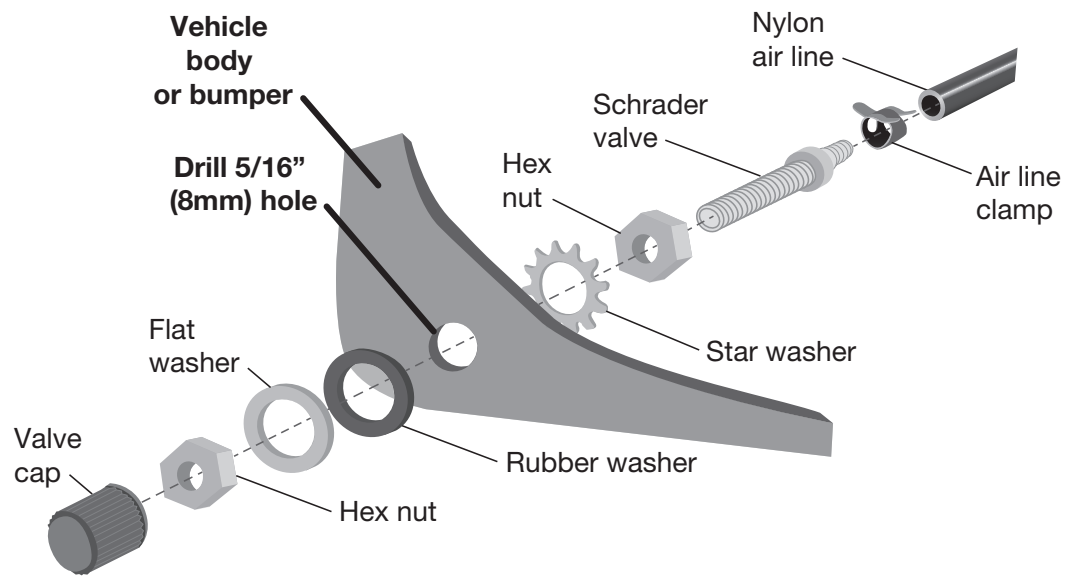


Fig. 18

**CAUTION**

DO NOT INFLATE THE AIR SPRINGS BEFORE READING THE MAINTENANCE AND USE GUIDELINES IN THIS INSTALLATION GUIDE AS WELL AS THE USER GUIDE INCLUDED WITH THIS KIT.

## Finished Installation

The image shows the finished installation (Fig. 19).



*Fig. 19*

## INSTALLATION CHECKLIST

- Clearance test** — Inflate the air springs to 25-35 PSI (1.7-2.4BAR) and make sure there is at least 1/2" (13mm) clearance from anything that might rub against each air spring. Be sure to check the tire, brakes, frame, shock absorbers and brake cables.
- Leak test before road test** — Inflate the air springs to 25-35 PSI (1.7-2.4BAR) and check all connections for leaks. All leaks must be eliminated before the vehicle is road tested.
- Heat test** — Be sure there is sufficient clearance from heat sources, at least 6" (152mm) for air springs and air lines. If a heat shield was included in the kit, install it. If there is no heat shield, but one is required, call Air Lift customer service at (800) 248-0892.
- Fastener test** — After 500 miles (800km), recheck all bolts for proper torque.
- Road test** — The vehicle should be road tested after the preceding tests. Inflate the air springs to recommended driving pressures. Drive the vehicle 10 miles (16km) and recheck for clearance, loose fasteners and air leaks.
- Operating instructions** — If professionally installed, the installer should review the operating instructions with the owner. Be sure to provide the owner with all of the paperwork that came with the kit.

## MAINTENANCE AND USE GUIDELINES

1. Check air pressure weekly.
2. Always maintain normal ride height. Never inflate beyond 50 PSI (3.5BAR).
3. If the system develops an air leak, use a soapy water solution to check all air line connections and the inflation valve core before deflating and removing the air spring.
4. If your vehicle is serviced using a frame contact hoist, or there are other means of the suspension being "hung" in the front end for a long period of time, make sure that when the suspension is raised back to its stock ride height, that the upper protector (A) seats back into the upper isolator properly. If this is not done, damage to the upper protector may be a result and reduced performance and/or early failure may occur.

### Minimum Recommended Pressure

**5 PSI (.34BAR)**

### Maximum Air Pressure

**50 PSI (3.5BAR)**

### CAUTION

FOR SAFETY AND TO PREVENT POSSIBLE DAMAGE TO THE VEHICLE, DO NOT EXCEED MAXIMUM GROSS VEHICLE WEIGHT RATING (GVWR) OR PAYLOAD RATING, AS INDICATED BY THE VEHICLE MANUFACTURER.

ALTHOUGH THE AIR SPRINGS ARE RATED AT A MAXIMUM INFLATION PRESSURE OF 50 PSI (3.5BAR), THE AIR PRESSURE ACTUALLY NEEDED IS DEPENDENT ON LOAD AND GROSS VEHICLE WEIGHT RATING.