Air Lift 1000™

Installation Guide

Jeep Grand Cherokee L

Watch the video
Info on Table of Contents page

Kit 60861

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.

MN-1167 • Revision 012203 • ERN 9933

Protect your Air Lift Purchase by Completing your Warranty Registration

Thank you for purchasing an Air Lift load support product!

Take a photo of your sales receipt and then scan the QR code to complete your online warranty registration.

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Video-enhanced installation guides

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* subject to availability

Hardware and Tools

HARDWARE LIST

Item	Part#	Description	Qty
A	46129	Air spring	2
B	09112	Spacer	2
C	20937	Air Line	15'
D	10466	Zip tie	8
E	10638	Air line clamp	6
F	10868	Treemount	2
G	11173	90 degree Treemount	2
H	18501	M8 Flat washer	2
I	18411	Star washer	2
J	21230	Valve cap	2
K	21233	5/16" Hex nut	4
L	21234	5/16" Flat rubber washer	2
M	21236	Tee fitting	1
N	21455	Schrader valve	2
O	10555	Hose clamp	4
P	09484	Air line heat shield	2
Q	10613	Exhaust heat shield	2

TOOLS NEEDED

Description	Qty
Pliers	1
5/16" and 9/16" Drill bits	1
Drill and drill press	1
Hand grinder or Dremel tool with grinding bit	1
Large and small flat nose screwdriver	1
Metric socket set up to 22mm	1
Ratchet (3/8" and 1/2" drive)	1
Torque wrench (up to 140 lb.-ft. torque)	1
White China marker, paint pen or crayon	1
Soft blow hammer	1
Box cutter	1
Hose cutter, razor blade or sharp knife	1
Hoist and/or floor jack	1
Safety stands	2
Safety glasses	1
Air compressor or compressed air source	1
Air gun for compressed air source	1
Spray bottle with dish soap/water solution	1

STOP! Missing or damaged parts? Call Air Lift customer service at (800) 248-0892 for a replacement part.

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 bag that provides up to 1,000 pounds (454kg) of load-leveling support when installed into the vehicles coil springs. Each cylinder is rated at a maximum of 50 PSI (3.45BAR).

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 VEHICLE OR MINOR PERSONAL INJURY.

NOTE *Used to help emphasize areas of procedural importance and provide helpful suggestions.*

Installing the System

NOTE

Before installing this kit to the vehicle, the coil springs must be removed and the lower spring seat altered to create an exit for the air line coming off the air spring. It is recommended to have a professional install this application if you do not have mechanical skills.

EXTREME CAUTION SHOULD BE TAKEN IN REMOVING THE COIL SPRING. SAFETY FIRST.

1. Jack up the rear of the vehicle or raise on hoist. Using the jack stands or equivalent, support the body and lower or raise the rear suspension so that the rear suspension is hanging. Remove the rear wheels (fig. 1).

Fig. 1

2. Mark the spring, upper and lower spring seats, body, and lower spring link using a white China marker, paint pen or crayon (fig. 2).

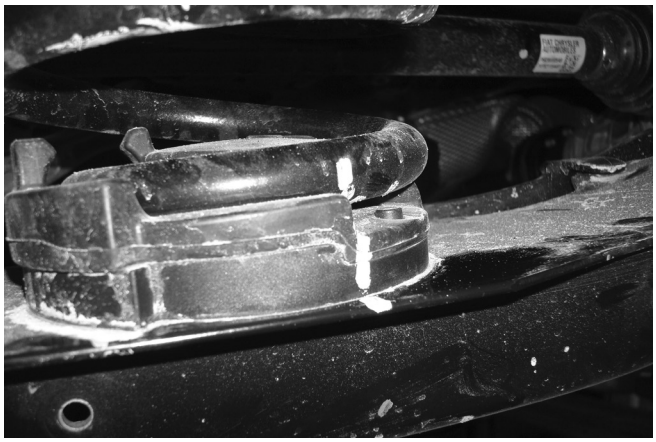


Fig. 2

3. Set a jack underneath the lower spring link, close to the outer pivot point where it attaches to the spindle (fig. 3).

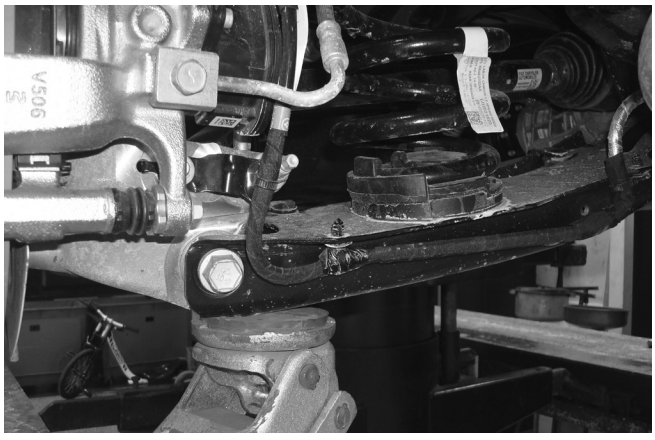


Fig. 3

4. Unplug the Electric Parking Brake (EPB) wire harness connector (fig. 4). Using a large screwdriver or a Fir Treemount removal tool, pull the wire harness routing clip from the caliper.

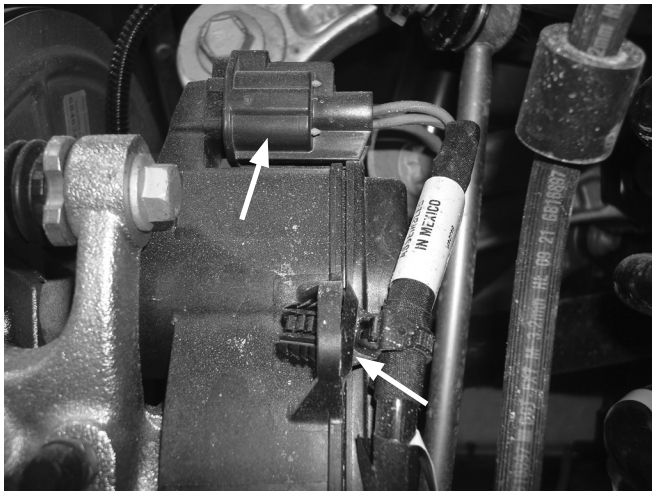


Fig. 4

5. Using a large screwdriver or a Fir Treemount removal tool, remove the two treemounts, holding the wiring harness on the lower spring link, out (fig. 5).

Fig. 5

6. Unbolt the wiring harness bracket from the caliper (fig. 6). Tuck the wiring harness out of the way and repeat steps 4, 5 and 6 for the other side of the suspension.

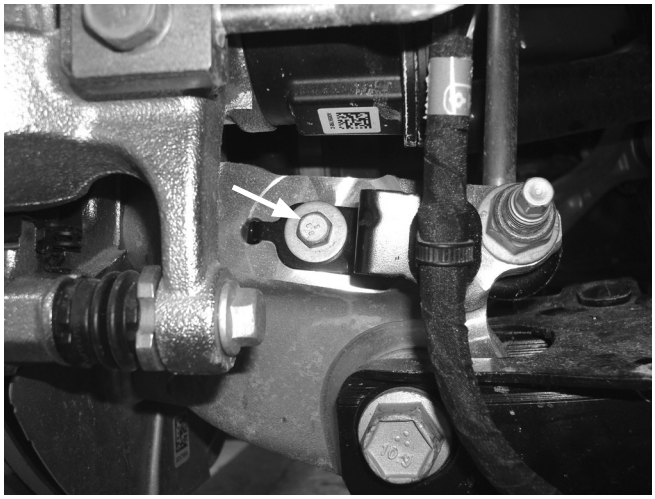


Fig. 6

7. Jack up the spring link slightly and remove the outer nut and bolt. Remove the knuckle from the spring link by prying outward with a screwdriver (or equivalent) and pull the knuckle away until it is clear.

CAREFULLY LOWER THE SPRING LINK ALL THE WAY DOWN UNTIL THE JACK CAN BE REMOVED (FIG. 7).

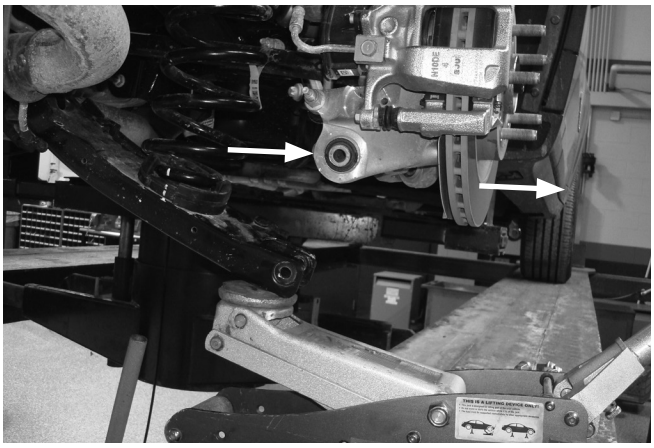


Fig. 7

8. Pull down on the spring link and remove the coil spring. Remove the lower spring seat from the spring link, for modifications needed, using a long screwdriver prying in on the outer tabs of the spring seat, inside of the spring link and push up on the spring seat to pop it out (fig. 8).

TECH TIP

Put a block of wood between the knuckle and the spring link to help hold it down. This will make it easier to access the inside of the spring link.

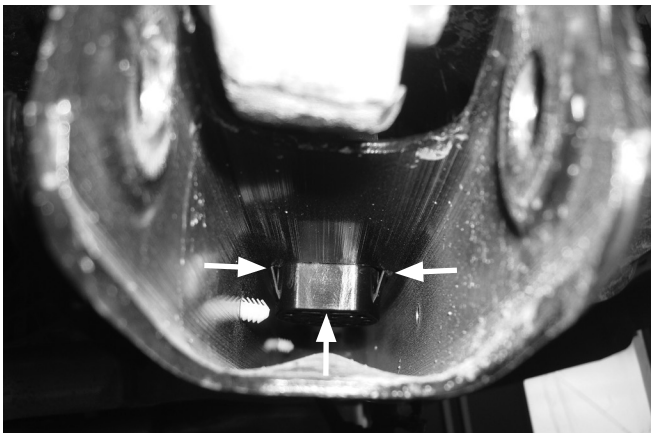


Fig. 8

9. Using a box cutter, cut a 1 3/8" (35mm) hole through the rubber cover on top of the spring seat (fig. 9).

Fig. 9

10. Put the lower spring seat in a drill press and drill a 5/16" pilot hole, then a 9/16" hole through the center (fig. 10).

Fig. 10

11. Remove the lower spring seat from the drill press and on the tall tab side of the top, mark and remove the rubber cover material creating a “keyhole” (fig. 11).

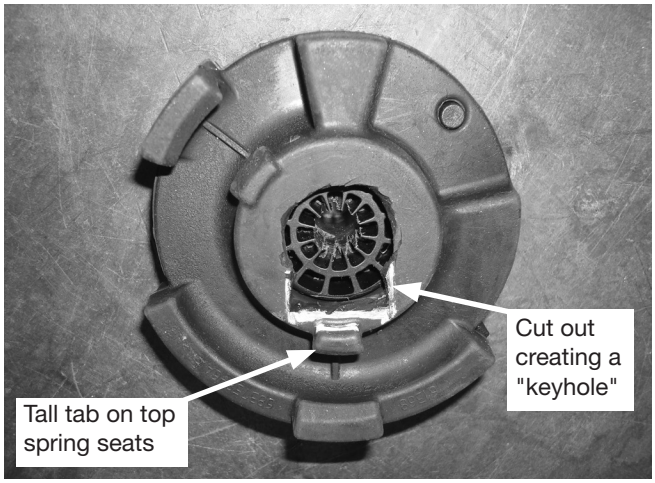


Fig. 11

12. Using the hand grinder or Dremel tool and a grinding bit, remove material creating a “ramp” for the air line to follow on the keyhole side you just created (fig. 12). Grind material out halfway down on the inside of the hole (fig. 13).

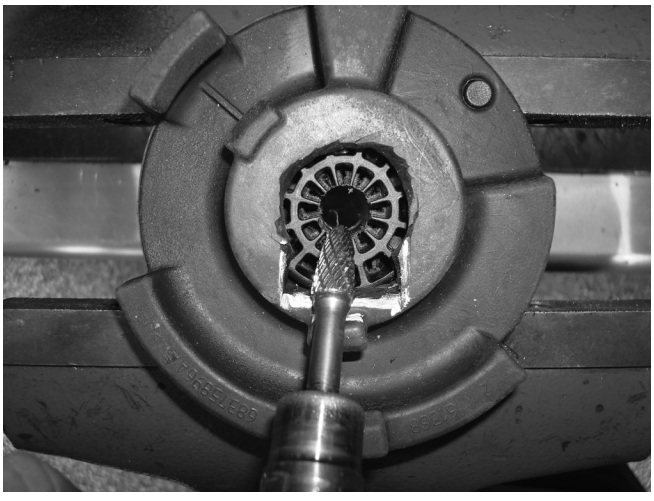


Fig. 12

Fig. 13

13. Flip the lower spring seat over and on the bottom side, opposite of the flat, create the same “ramp” halfway up the hole previously drilled (fig. 14). Repeat steps 9-13 for the lower spring seat on the opposite side of the vehicle.

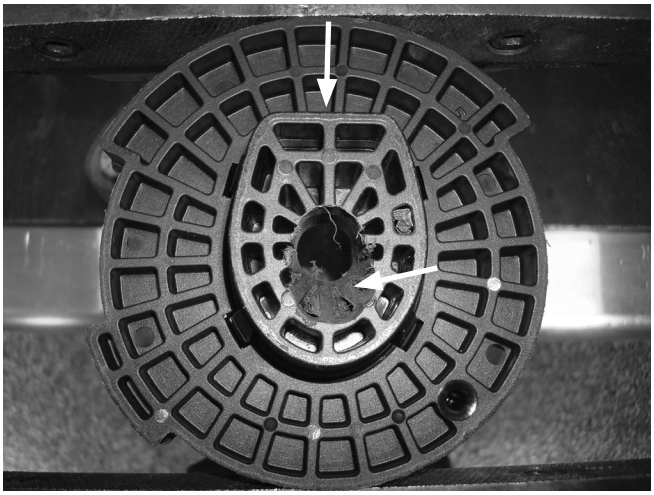


Fig. 14

14. Remove the top spring seat from the coil spring. Remove the black plastic cap from the barbed stem on the end of the air spring (A). Exhaust the air from the air spring by rolling it up toward the barbed stem. Replace the cap on the stem to hold its flat shape. Fold the air spring into a “hot dog bun shape” (fig. 15).

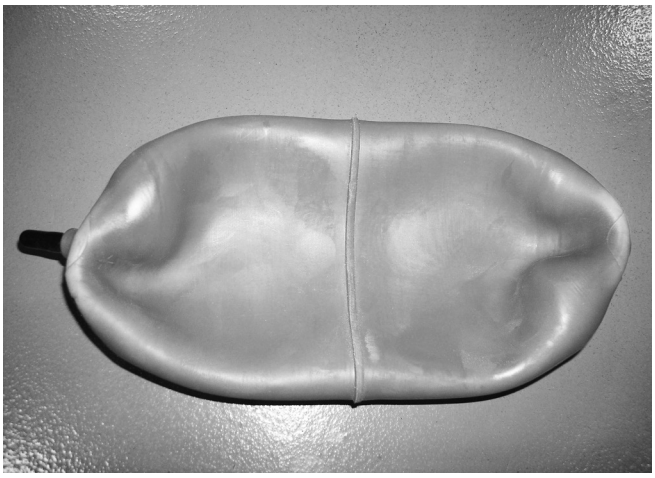


Fig. 15

15. Insert the air spring into the coil spring with the barbed stem pointing down (Fig. 16). Install the upper spring seat back onto the top of the spring making sure it indexes and seats properly. Remove the black cap and allow the spring to assume it’s as molded shape.

TECH TIP

It may be necessary to inflate the spring slightly using an air gun to remove the wrinkle. Remove by using small bursts to inflate (do not over inflate).

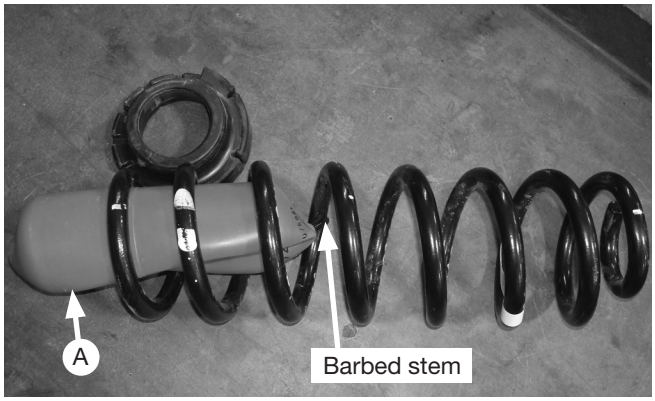


Fig. 16

16. Cut the air line (C) in two and insert the air line into the lower spring seat, through the lower spring link and out the slot on top of the spring link close to the inner pivot point (fig. 17).

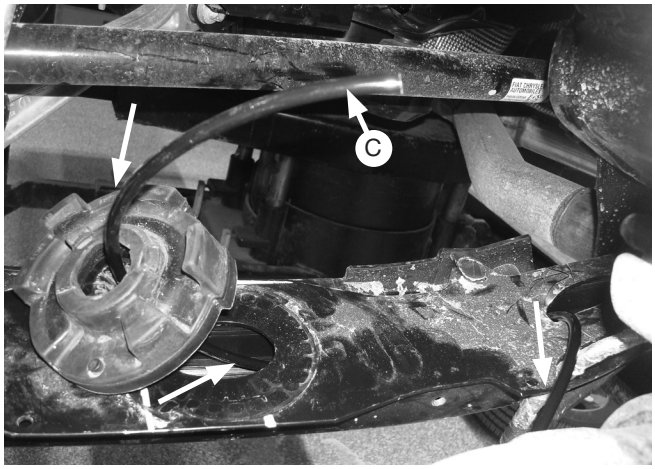


Fig. 17

17. Route the air line from the lower spring seat, through the bottom of the coil spring, and the lower spacer (B), then attach to the barbed stem on the air spring using the air line clamp (E) (fig. 18). Make sure the air line covers all the barbs on the stem.

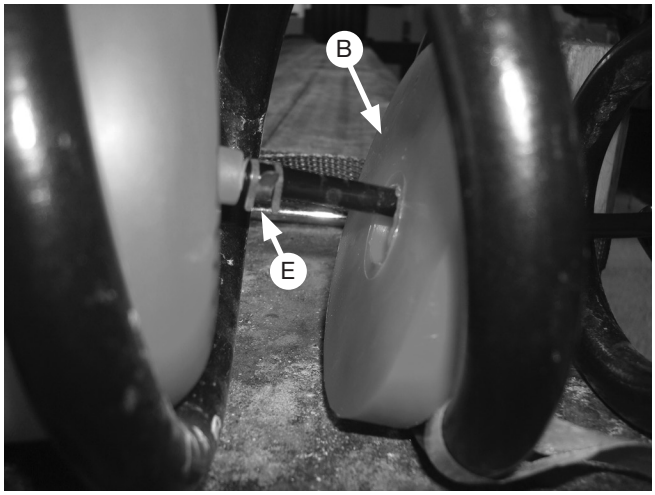


Fig. 18

18. Re-seat the lower spring seat back into position in the spring link. While pulling the slack out of the air line, set the spring assembly back into position making sure that the marks made in step 2 all align and that the upper and lower spring seats are positioned correctly.

RAISE THE LOWER SPRING LINK BACK UP USING THE JACK. ONCE AGAIN MAKE SURE ALL THE MARKS MADE ARE ALIGNING CORRECTLY. PULL OUT ON THE KNUCKLE ONCE THE LOWER SPRING LINK IS CLOSE, THEN RAISE THE LOWER SPRING LINK UP FAR ENOUGH TO PUSH THE KNUCKLE BACK INTO POSITION. IT MAY BE NECESSARY TO PRY THE KNUCKLE BACK IN PLACE USING A SCREWDRIVER OR EQUIVALENT (FIG. 19). INSERT THE BOLT AND NUT REMOVED BUT LEAVE LOOSE AT THIS TIME.

TECH TIP

It may be necessary to "twist" the lower spring link to get the bolt through the hole.

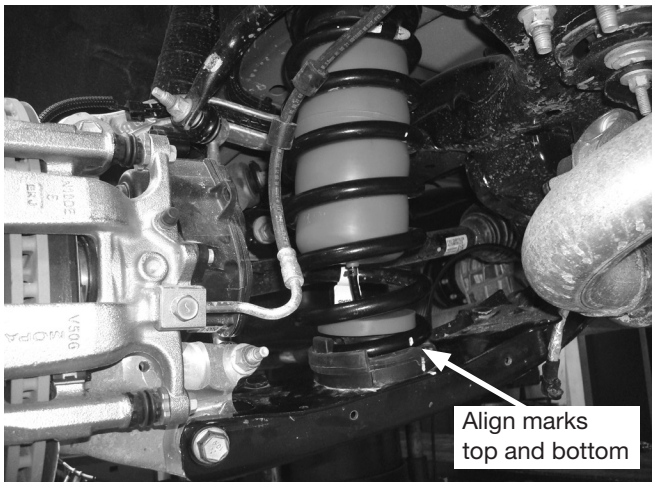


Fig. 19

19. Insert the air line through the air line heat shields (P) on both sides and position them at the lower spring link pivot point as shown (fig. 20). Using the zip ties (D) secure the air line to the upper crossmember.

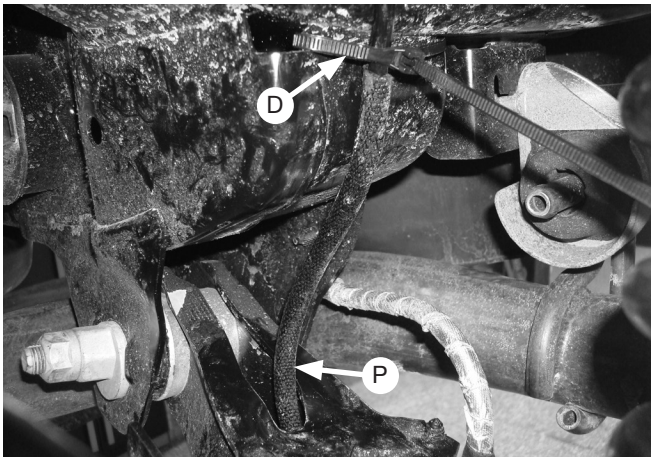


Fig. 20

20. Follow the air line installation instructions and route the air line up and to the middle of the rear end crossmember. If you are running a single fill line, install a tee (M) where the wiring harness is running back to the rear of the vehicle. Whether it be a single or dual air line, secure the tee and air line/air lines to the wiring harness using a zip tie (fig. 21).

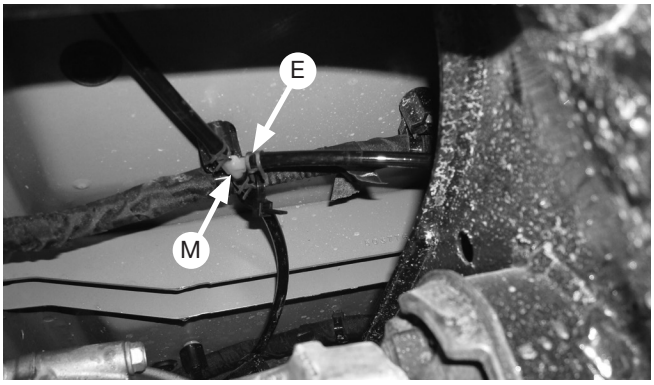


Fig. 21

21. Route the air line above and behind the crossmember, through the small hole in the spare tire shield (fig. 22).

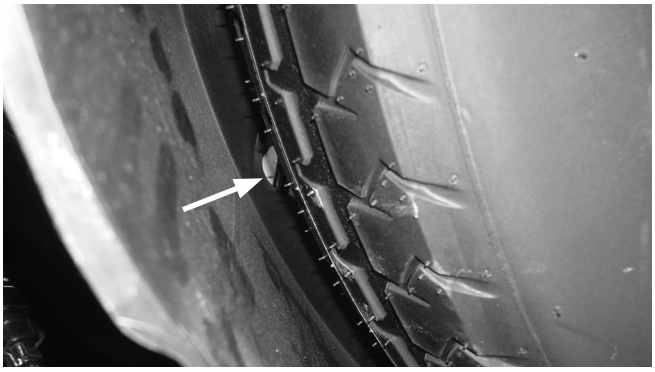


Fig. 22

22. Keep routing the air line over the spare tire to the back. Find a suitable location for the inflation valve/valves away from the exhaust (as the air line installation section suggests) and install the Schrader valve/valves (fig. 23).

Fig. 23

Installing the Air Lines

1. A single-path air line installation is recommended for vehicles that typically have even weight distribution (Fig. 24). 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 (L) and route separate air lines for both air springs (Fig. 25).

Single-Path Air Line Routing

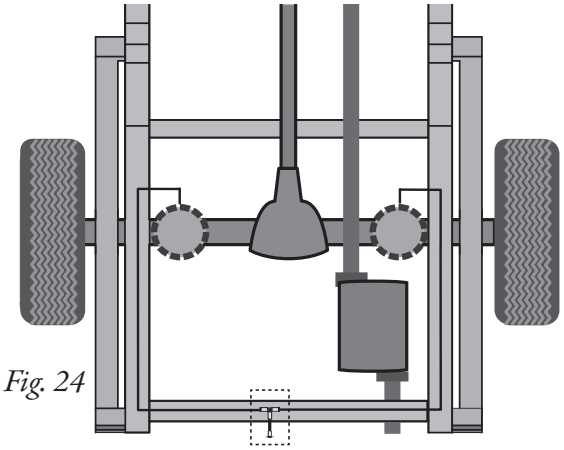


Fig. 24

Dual-Path Air Line Routing

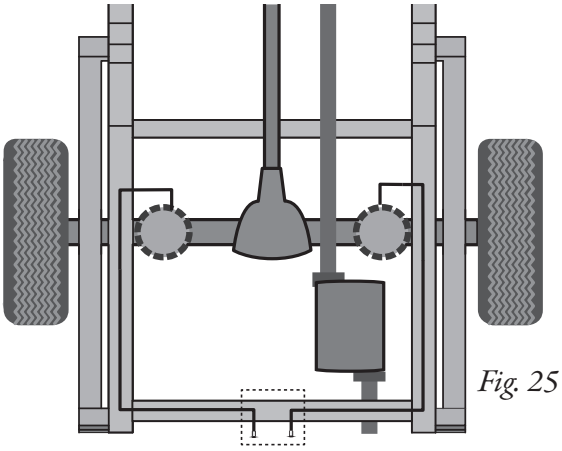


Fig. 25

TO PREVENT THE AIR LINE FROM MELTING, MAINTAIN AT LEAST 6" (152MM) FROM THE EXHAUST SYSTEM TO THE AIR LINE.

2. If installing a single-path air line, choose a location for the tee fitting on the wheel well or rear bumper. Determine and cut adequate length of air line (C) to reach to the tee from left and right side air springs. Make clean, square cuts with a razor blade or hose cutter (Fig. 26). Do not use scissors or wire cutters.

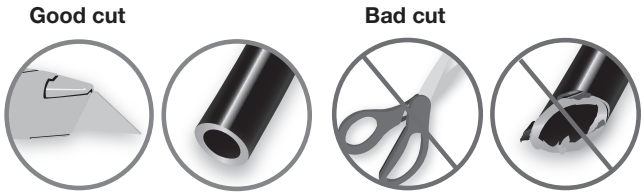


Fig. 26

3. Leave sufficient air line slack to prevent any strain on the fitting during axle motions.

4. Use this procedure (Fig. 27) for all air line connections:

   a. Slide the air line clamp (E) onto the air line.

   b. Push the air line and air line clamp over the barbed stem so that the air line covers all the barbs.

   c. Compress the ears on the air line clamp with pliers and slide it forward to fully cover the barbs.

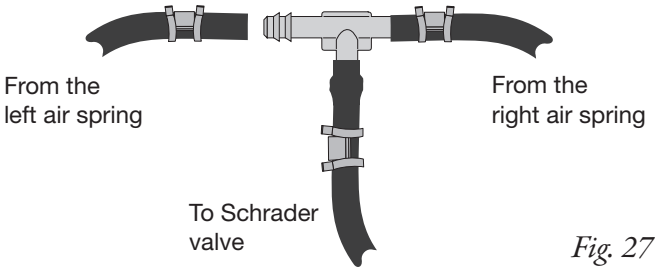
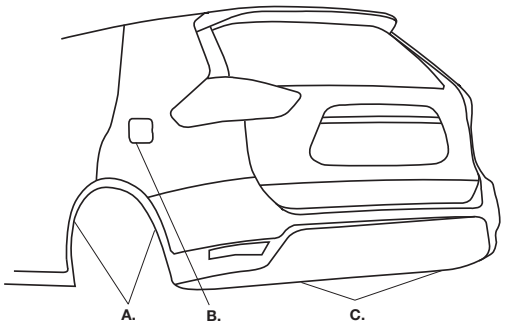


Fig. 27

5. Select a location for the Schrader valve (N), ensuring that the valve will be protected and accessible with an air hose (Fig. 28). Drill a 5/16" (8mm) hole, if necessary. Determine and cut adequate length of air line to reach from the tee to the Schrader valve or from the air springs to the valve if using a dual-path installation.



A. Inside rear wheel wells
B. Inside fuel tank filler door
C. Rear bumper area

Fig. 28

6. Drill a 5/16" (8mm) hole for the Schrader valve and mount as shown (Fig. 29). Install the air line on the Schrader valve first. The rubber washer (L) serves as an outside weather seal.

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.

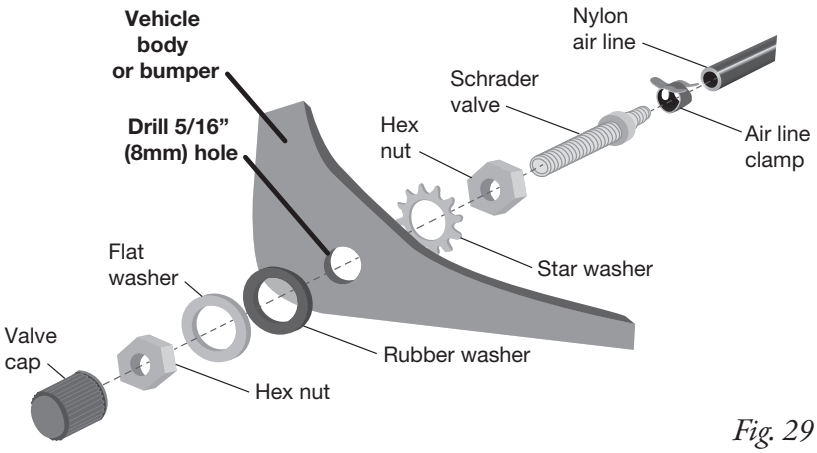


Fig. 29

7. Reattach the EPB connector, large treemount and bracket back onto the caliper (removed in steps 4, 5 and 6). Tighten the stock hardware securely. If the small treemounts broke when removing them from the spring link (step 5), cut the old ones off the wiring harness and install the new treemounts (F & G) (fig. 30).

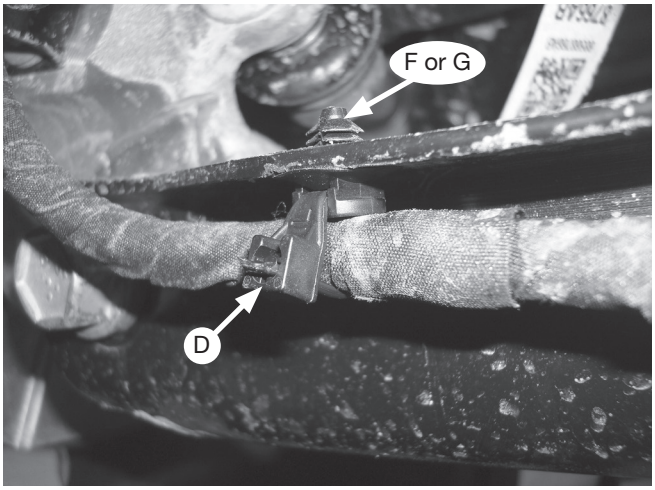


Fig. 30

8. On both sides, attach the heat shields (Q) to the exhaust using the hose clamps (O), right behind where the spring assembly is (fig. 31) per heat shield instructions.

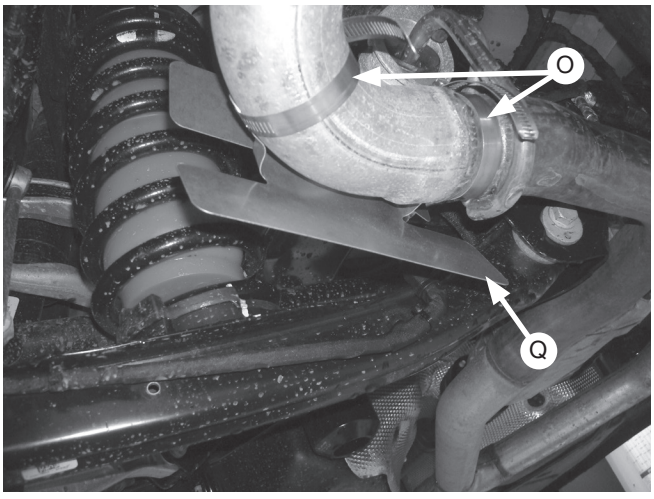


Fig. 31

INSTALL THE HEAT SHIELD

1. Attach the metal heat shield to the exhaust where it is closest to the driver's (left) side air spring (Fig. 32).

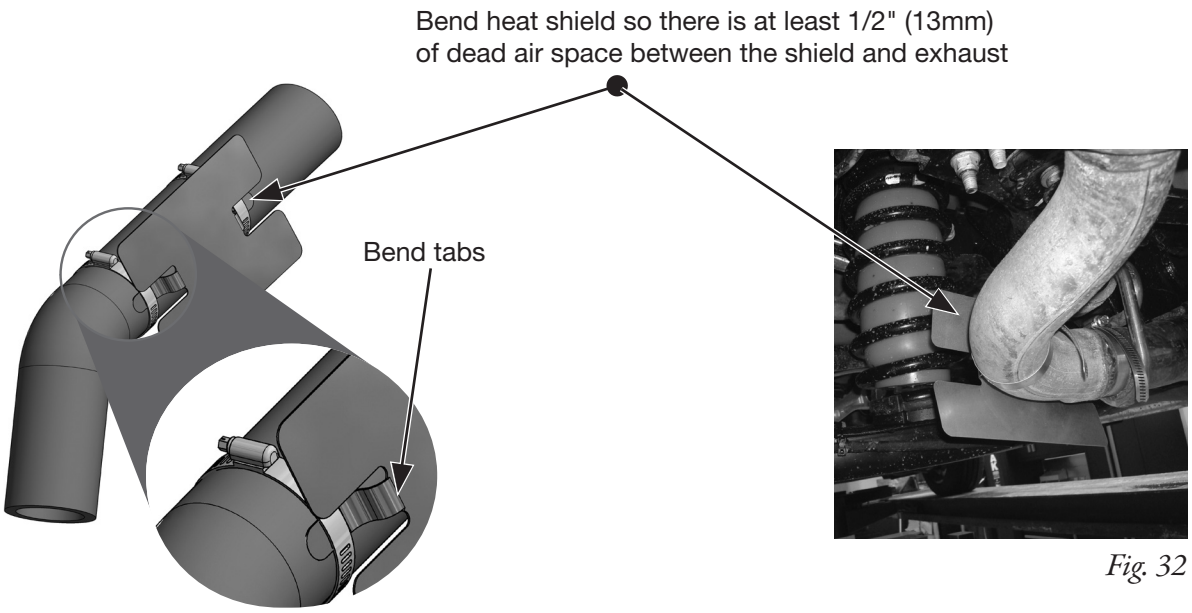


Fig. 32

COMPLETE THE INSTALLATION

1. Once the air lines have been installed, install the wheels back on the vehicle and raise the suspension or lower the body completely. Remove the safety stands and lower the vehicle to the ground. Inflate the air springs to 5 PSI (.34BAR).

ROLL THE CHASSIS FORWARD AND BACK SEVERAL TIMES TO UNLOAD THE REAR SUSPENSION. TORQUE THE LOWER KNUCKLE/SPRING LINK MOUNTING HARDWARE TO 136 LB.-FT. (184NM).

2. Finish the installation by torquing the wheel nuts to 130 lb.-ft. (176Nm).

Finished Installation

The image shows the finished installation of the left side.

Congratulations!

You are now the proud owner of an industry leading Air Lift air suspension system. Enjoy!

Before Operating

INSTALLATION CHECKLIST

- ☐ **Clearance test** — Inflate the air springs to 30 PSI (2BAR) 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 30 PSI (2BAR) 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 (3.45BAR).
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. Upon successful completion of the installation, follow these pressure requirements for the air springs.

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 (3.45BAR), THE AIR PRESSURE ACTUALLY NEEDED IS DEPENDENT ON LOAD AND GROSS VEHICLE WEIGHT RATING.

Limited Warranty and Return Policy

Air Lift Company provides a limited lifetime warranty to the original purchaser of its load support products, that the products will be free from defects in workmanship and materials when used on cars and trucks as specified by Air Lift Company and under normal operating conditions, subject to the requirements and exclusions set forth in the full Limited Warranty and Return Policy that is available at www.airliftcompany.com/warranty.

For additional warranty information contact Air Lift Company customer service.

Thank you for purchasing Air Lift Products — the Authorized Installer's choice!

Need Help?

Contact Air Lift Company Customer Service at (800) 248-0892 or email service@airliftcompany.com.

For calls outside the U.S. or Canada, dial (517) 322-2144.

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