

AIR LIFT
PERFORMANCE®

INSTALLATION GUIDE



BMW 1, 2, 3, 4-SERIES

REAR APPLICATION

Kit 76521

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 which could result in damage to the vehicle, minor to severe personal injury or death.

Protect your Air Lift Performance Purchase by Completing your Warranty Registration



Thank you for purchasing an Air Lift Performance product!

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

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Introduction

Air Lift Performance thanks you for purchasing the most complete, fully engineered high-performance air suspension made for the BMW F22/F23/F30/F31/F32/F33/F36. Read these installation instructions to correctly and safely set up the vehicle for a #lifeonair.

Air Lift assumes that the installer has the mechanical knowledge and ability to work on vehicle suspension systems and has basic tools necessary to complete a suspension replacement project. Special tools needed to complete the installation are noted on the System Overview page.

Air Lift reserves the right to make changes and improvements to its products and publications at any time. For the latest version of this manual, contact Air Lift Performance at **(800) 248-0892** or visit **www.airliftperformance.com**.

An Air Lift Performance air management system is highly recommended for this product. Learn more at **air-lift.co/productlines**.

NOTATION EXPLANATION

Hazard notations appear in various locations in this publication. Information 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.



TECH TIP

Used to provide helpful tips to ease the installation process.

System Overview

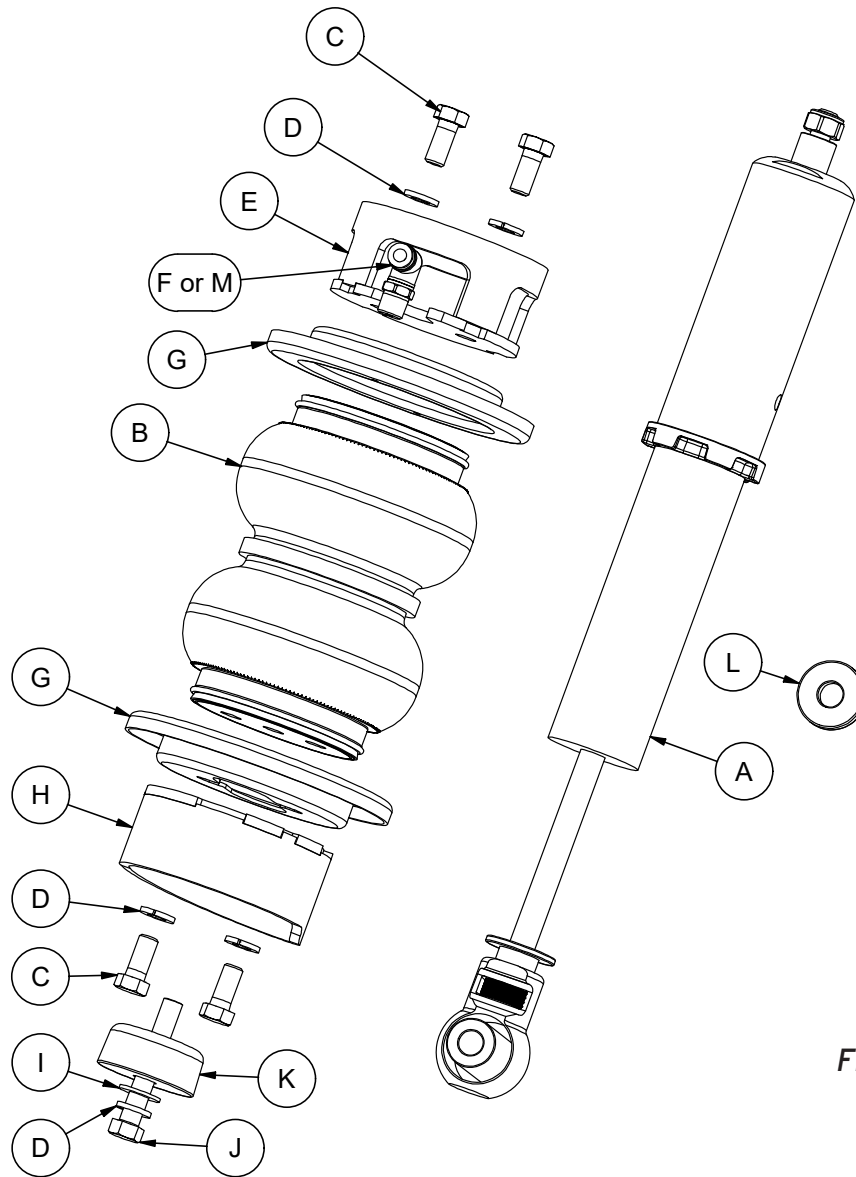


Fig. 1

HARDWARE CONTENT

Item	Part #	Description	Qty
A	39166	STRUT, F30 REAR	2
B	58535	AIR SPRING, 2B5	2
C	17203	3/8-24 X 7/8" HEX BOLT	8
D	18427	3/8" LOCK WASHER	10
E	07969	BRACKET, UPPER, BMW F30 REAR	2
F	21779	1/4" MNPT X 1/4" PTC ELBOW FITTING - DOT	2
G	11803	ROLL PLATE, 2B5	2

Item	Part #	Description	Qty
H	03969	BRACKET, LOWER, BMW F30 REAR	2
I	18444	FLAT WASHER	2
J	17454	3/8-24 X 2 1/2", HEX CAP SCREW	2
K	13993	CENTERING SPACER	2
L	13994	SPACER, TOE LINK, BMW F30	2
M	21851	1/4" MNPT X 3/8" PTC ELBOW FITTING - DOT	2



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

Install the System



NOTES

See important safety notices on page 2.

BMW recommends replacing all loosened factory fasteners - other than wheel bolts.

SECTION 1. PREPARE THE VEHICLE

1. Elevate and support the vehicle using its approved lifting points. Remove the rear wheel and support the hub assembly (Figs. 2 & 3).



Fig. 2

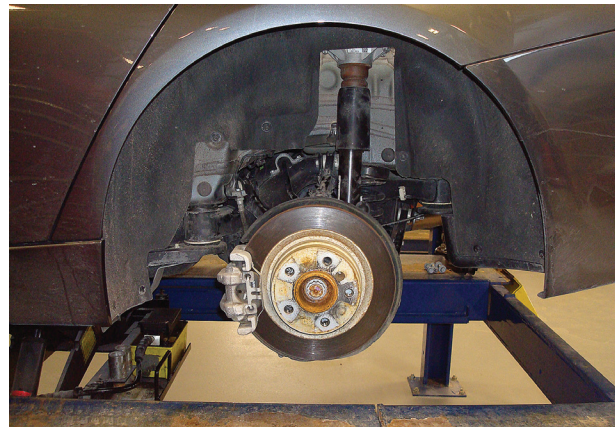


Fig. 3

SECTION 2. STOCK SUSPENSION REMOVAL

1. Support the lower control arm (Figs. 4 & 5).

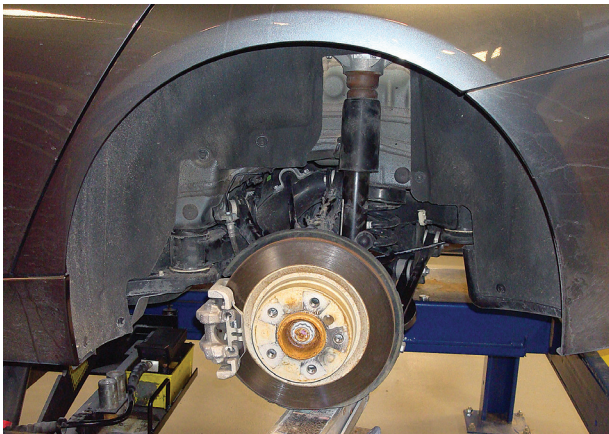


Fig. 4

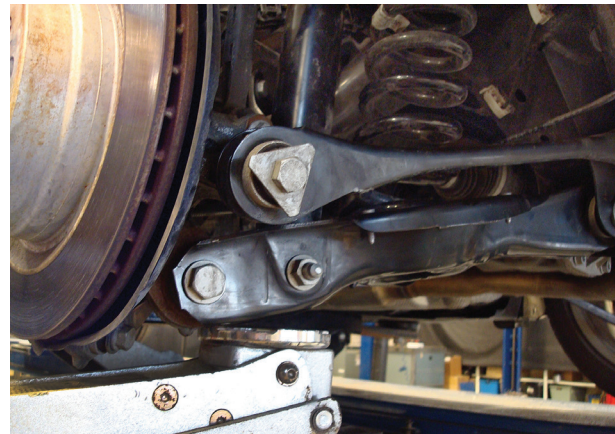


Fig. 5



DANGER

THE COIL SPRING IS UNDER COMPRESSION. THE COIL SPRING SHOULD BE REMOVED USING FACTORY PRESCRIBED GUIDELINES. SUPPORT THE HUB AND UNBOLT THE LOWER SHOCK EYE. REMOVE THE OUTER CONTROL ARM TO HUB BOLT (FIGS. 6 & 7).

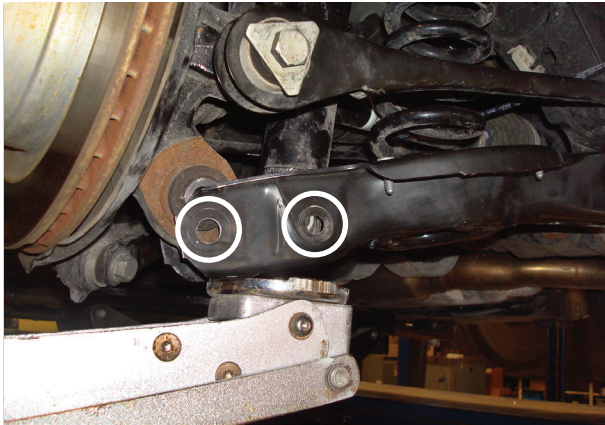


Fig. 6

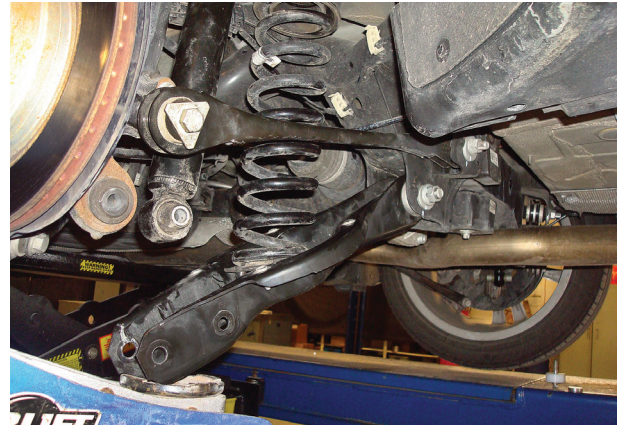


Fig. 7

2. Remove the coil spring (Fig. 8). Reattach the control arm to the hub. Do not torque the bolt at this time (Fig. 9). Unthread the two upper shock mount bolts and remove the shock from the vehicle.



Fig. 8

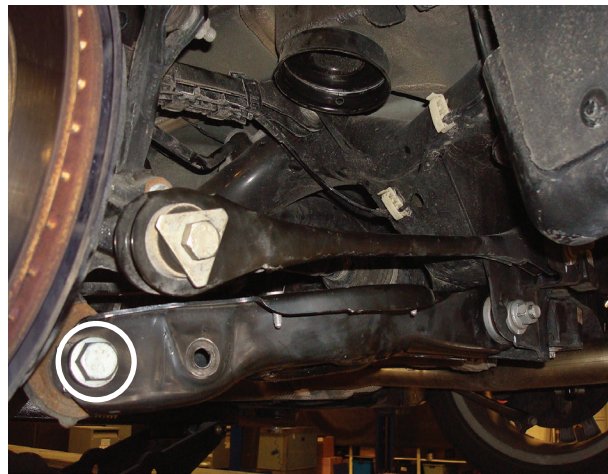


Fig. 9

3. Unbolt the shock assembly from the chassis (Fig. 10).



Fig. 10

- Remove the shock upper mount from the shock rod (Figs. 11 & 12).

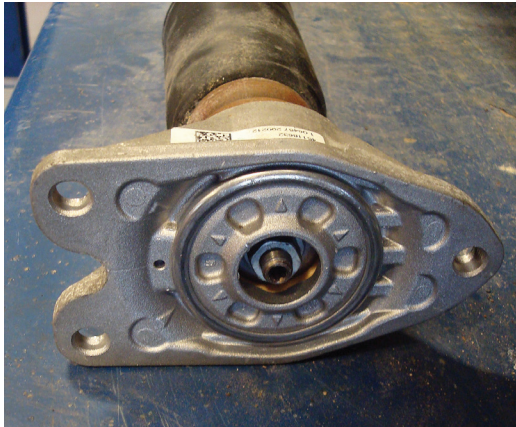


Fig. 11



Fig. 12

- Unthread the outer toe link bolt and remove from hub (Fig. 13).

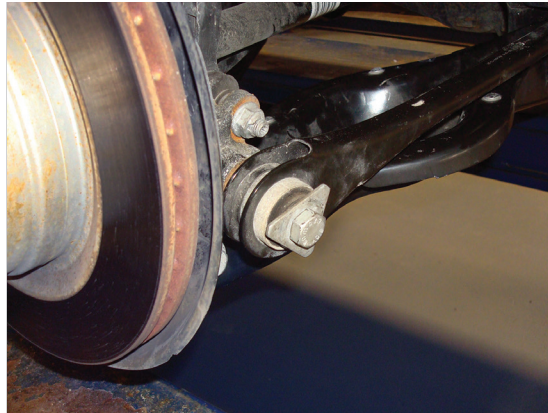


Fig. 13

SECTION 3. INSTALL THE KIT COMPONENTS



PLEASE READ - IMPORTANT INSTALLATION INFORMATION



FOR COIL TO AIR UPGRADE KIT INSTALLATIONS ONLY: Please refer to the included Coil to Air Upgrade Kit installation guide (MN-2000) for details on how to disassemble the coilovers and assemble the air springs.

Also refer to your control system installation guide to ensure the installation of your air suspension system is complete.



NOTES

All dampers come pre-set to even lengths, and locking collars are pre-tightened. It is always recommended to double-check that the dampers are the same length side to side, and the locking collars are tight.

Please refer to the User Guide included with the kit for any suspension setup adjustments.

1. Install spacer (L) between the toe link and hub. Reinstall bolt. Torque at desired ride height (Fig. 14).

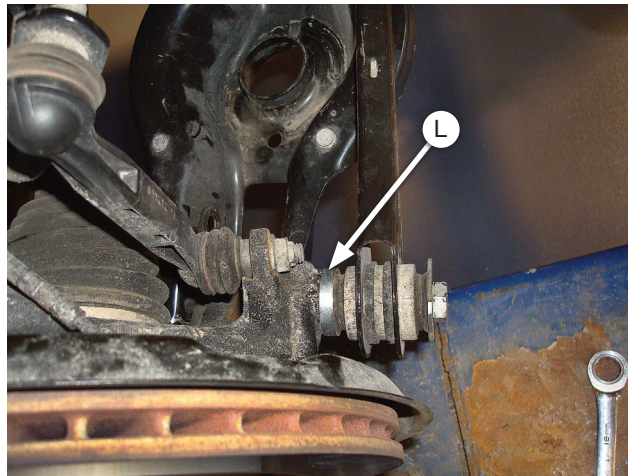


Fig. 14

2. Apply thread sealant to the fitting threads. Tighten the fitting (F or M) into the air spring 1 3/4 turns beyond hand-tight (Fig. 15).

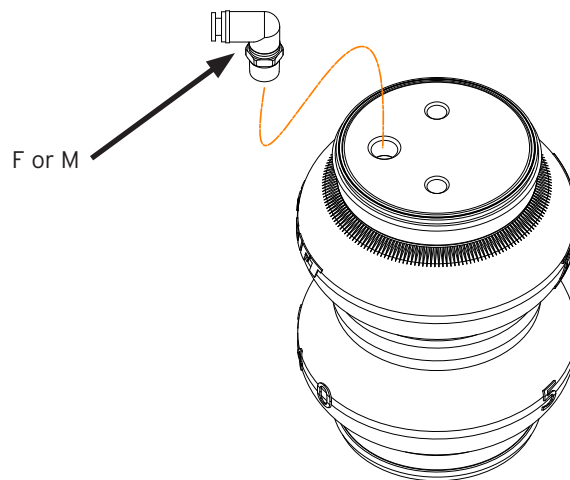


Fig. 15

3. Place the air spring assembly into the lower control arm. Rotate the assembly until the lower bracket (H) is aligned with the coil spring seat (Figs. 16 & 17).

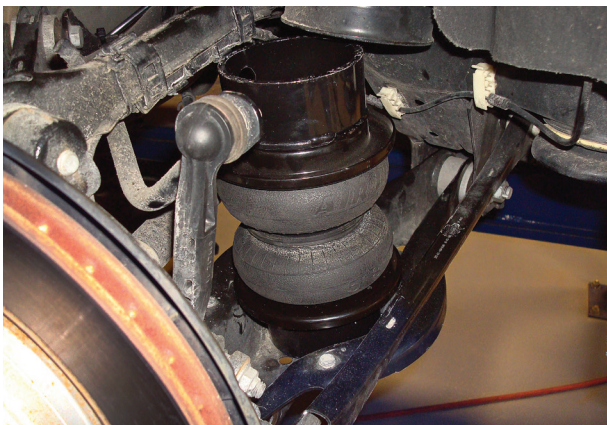


Fig. 16

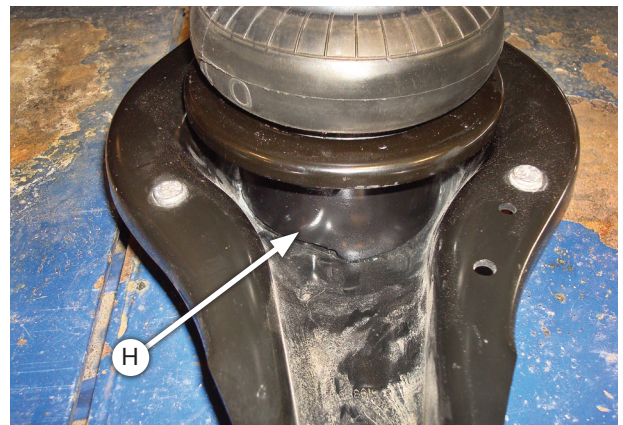


Fig. 17

4. Insert the supplied centering spacer (K) through the bottom of the control arm and bolt the air spring assembly to the spacer (H) with hex cap screw (J), lock washer (D) and flat washer (I). Torque to 27Nm (20 lb.-ft.) (Figs. 18 & 19)



Fig. 18

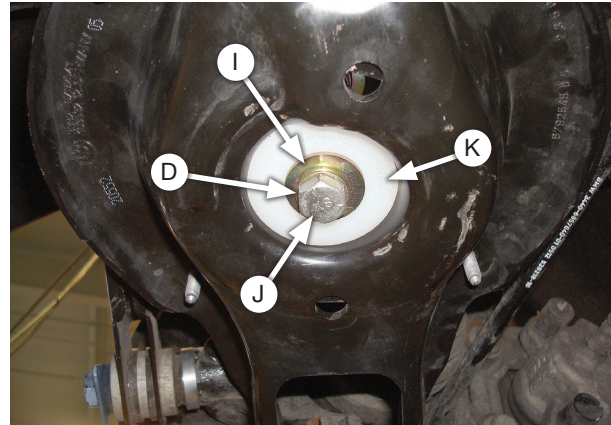
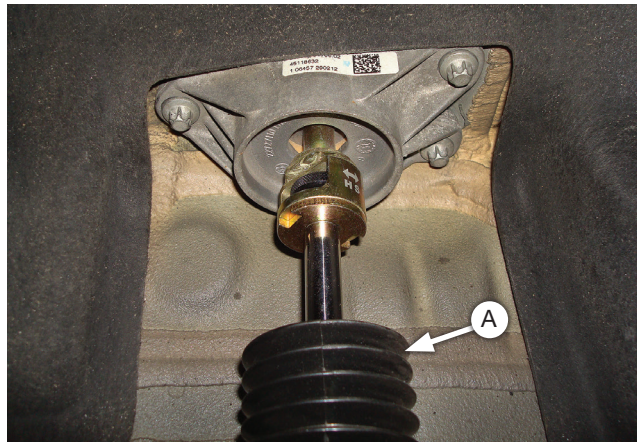


Fig. 19

5. Attach upper shock mount to the supplied shock (A). Torque the rod nut to 38Nm (28 lb.-ft.)
6. Align the shock upper mount to the chassis and install the three upper mount bolts. Torque to 28Nm (21 lb.-ft.) (Fig. 20).



*representative image, your damping adjustment may not be at the top of the damper as shown

Fig. 20

7. Lift the hub assembly, aligning the shock eye, and install the lower shock bolt. Torque at desired ride height (Fig. 21).

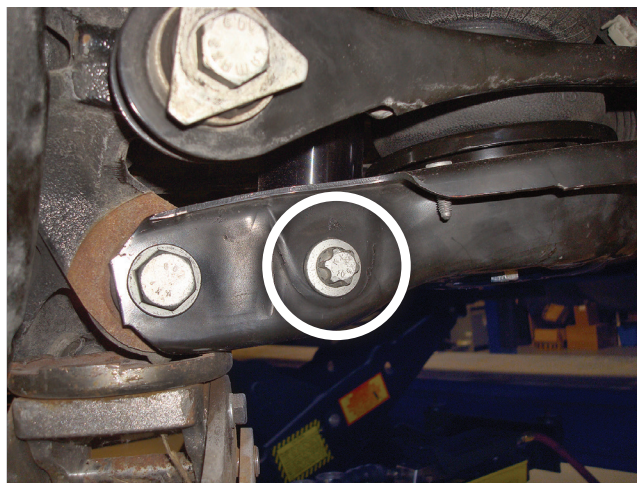
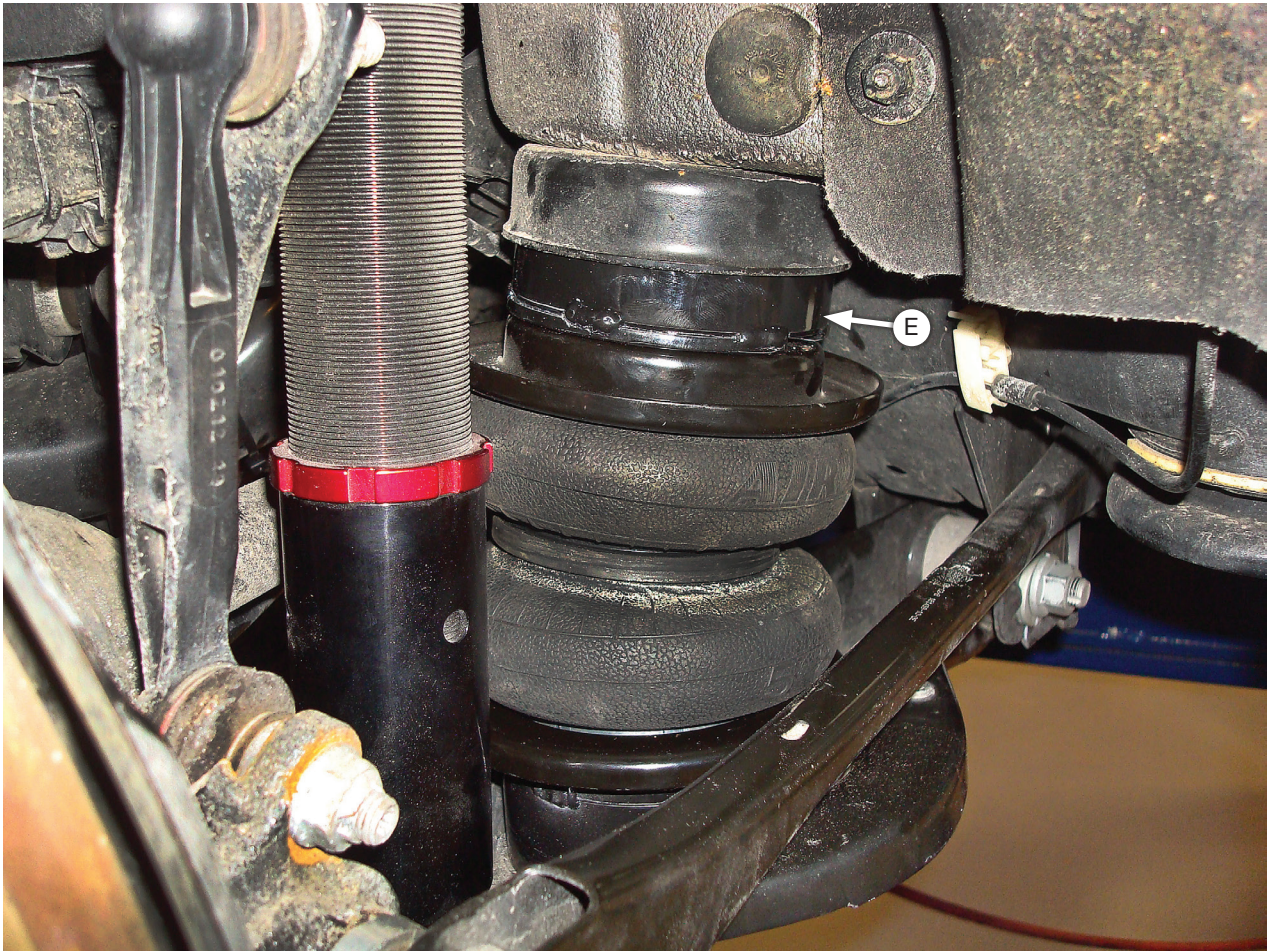


Fig. 21

- Align the upper bracket (E) into upper spring seat (Fig. 22).



*representative image, your shock may differ

Fig. 22

SECTION 4. ROUTE THE AIR LINES



WARNING

AFTER INSTALLATION, ENSURE ALL ORIGINAL EQUIPMENT VEHICLE SAFETY FEATURES ARE PROPERLY CALIBRATED BY A QUALIFIED TECHNICIAN. CHANGING VEHICLE HEIGHT MAY AFFECT FUNCTIONING OF SAFETY SENSORS AND CAMERAS.

- Fully compress the suspension using a jack. With the suspension compressed, review the best routing for the air line that is clear of all suspension components and axle.
- Routing should allow for the suspension to extend and steer without kinking, pulling the line tight or rubbing on other components. Following the brake line routing is often a good place to start. Check clearances to all other components.



PLEASE READ - IMPORTANT INSTALLATION INFORMATION

Please refer to your control system installation guide for more details on air line routing and to ensure the installation of your air suspension system is complete.

Before Operating

SET THE RIDE HEIGHT

1. Refer to the User Guide supplied with this kit to set up the suspension.

Torque Specifications		
Location	Nm	lb.-ft.
Air spring bolts	27	20
Shock rod nut	38	28
Air fittings (with thread sealant)	1 3/4 turns beyond hand tight	
Shock upper mount to chassis	28	21
Shock lower mount bolt	100 + 90 degrees	74 + 90 degrees
Lower control arm to hub	165 + 90 degrees	122 + 90 degrees
Lower control arm to subframe	165 + 90 degrees	122 + 90 degrees
Toe link to hub	100 + 90 degrees	74 + 90 degrees
Toe link to subframe	100 + 90 degrees	74 + 90 degrees
Shock locking collar	1/4 turn beyond hand tight	
Wheel bolts	140	103

2. Upon successful completion of the installation, follow these pressure requirements for the air springs.



Suggested Driving Air Pressure



Maximum Air Pressure



CAUTION

FAILURE TO MAINTAIN ADEQUATE MINIMUM PRESSURE (OR PRESSURE PROPORTIONAL TO LOAD) MAY RESULT IN EXCESSIVE BOTTOMING OUT AND **WILL VOID THE WARRANTY.**

CHECK FOR BINDING



CAUTION

MAKE SURE THE REAR WHEELS ARE STRAIGHT WHEN DEFLATING AND REINFLATING AIR SPRINGS.

1. Inflate and deflate the system (do not exceed 8.6BAR [125 PSI]) to check for clearance or binding issues. With the air springs deflated, check clearances on everything so as not to pinch brake lines, vent tubes, etc. Clear lines if necessary.
2. Inflate the air springs to 5.2-6.2BAR (75-90 PSI) and check all connections for leaks.

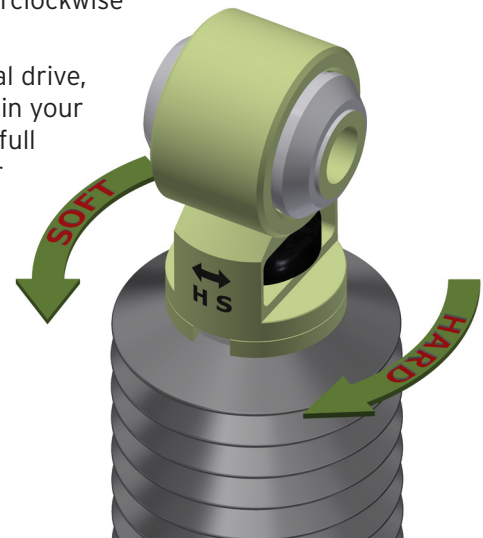
INSTALLATION CHECKLIST

- Clearance** – Inflate the air springs to 5.2-6.2BAR (75-90 PSI) and make sure there is at least 13mm (1/2") clearance from anything that might rub against the air spring. This should be checked with the air spring fully inflated and fully deflated.
- Leak** – Inflate the air springs to 5.2-6.2BAR (75-90 PSI) and check all connections for leaks. All leaks must be eliminated before the vehicle is road-tested.
- Heat** – Be sure there is sufficient clearance from heat sources, at least 152mm (6") from 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** – Recheck all bolts for proper torque.
- Road** – Inflate the air springs to recommended driving pressures (see previous page). Drive the vehicle 16km (10 miles) 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 paperwork that came with the kit.

DAMPING ADJUSTMENT

1. The dampers in this kit have 32 settings, or “clicks,” of adjustable compression and rebound damping characteristics. Damping is changed through the damper rod using the supplied adjuster (example shown here) or a 3mm hex key (not included).
2. Turn the adjuster clockwise (H), and the damping settings are hardened, reducing oscillations and body motion. Turn the adjuster counterclockwise (S), and the damping is softened.
3. Each damper will need to be set after installation and your initial drive, as they are not pre-set. It may take multiple adjustments to dial in your ideal ride. A good starting point is in the middle at 16 clicks from full soft, then drive the vehicle and make adjustments either softer or stiffer.

For more information, refer to the user guide.



Limited Warranty and Return Policy

Air Lift Company provides a limited warranty* to the original purchaser of Air Lift Performance Air Suspension kits from the date of original purchase, 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.

* Full Limited Warranty and Return Policy are available at www.airliftperformance.com/warranty and are subject to change.

WARRANTY REGISTRATION & CLAIMS

- To register your warranty, please visit <https://www.airliftperformance.com/support/warranty-registration/>
- To submit a warranty claim, please visit <https://www.airliftperformance.com/support/submit-warranty-claim/>

Thank you for purchasing Air Lift Performance products!

Need Help?

Contact Air Lift Company Customer Service at (800) 248-0892 or +1 (517) 322-2144 for calls from outside the U.S. and Canada.



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2727 Snow Road Lansing, MI 48917 or P.O. Box 80167 Lansing, MI 48908-0167

Toll Free (800) 248-0892 • Local (517) 322-2144 • Fax (517) 322-0240

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