



# Kits 75546 and 75547

BMW E46 (M Series & Non-M)  
***Front Application***



## 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.*





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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 E46. 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 the project. Special tools needed to complete the installation are noted on the Installation Diagram 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 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.*

## Important Safety Notices



### WARNING

DO NOT INFLATE AIR SPRINGS WHILE OFF OF THE VEHICLE. DAMAGE TO ASSEMBLY MAY RESULT AND VOID WARRANTY.



### CAUTION

DO NOT WELD TO OR MODIFY PERFORMANCE STRUTS/SHOCKS IN ANY WAY. DAMAGE TO UNIT MAY OCCUR AND WILL VOID WARRANTY.

# Installation Diagram

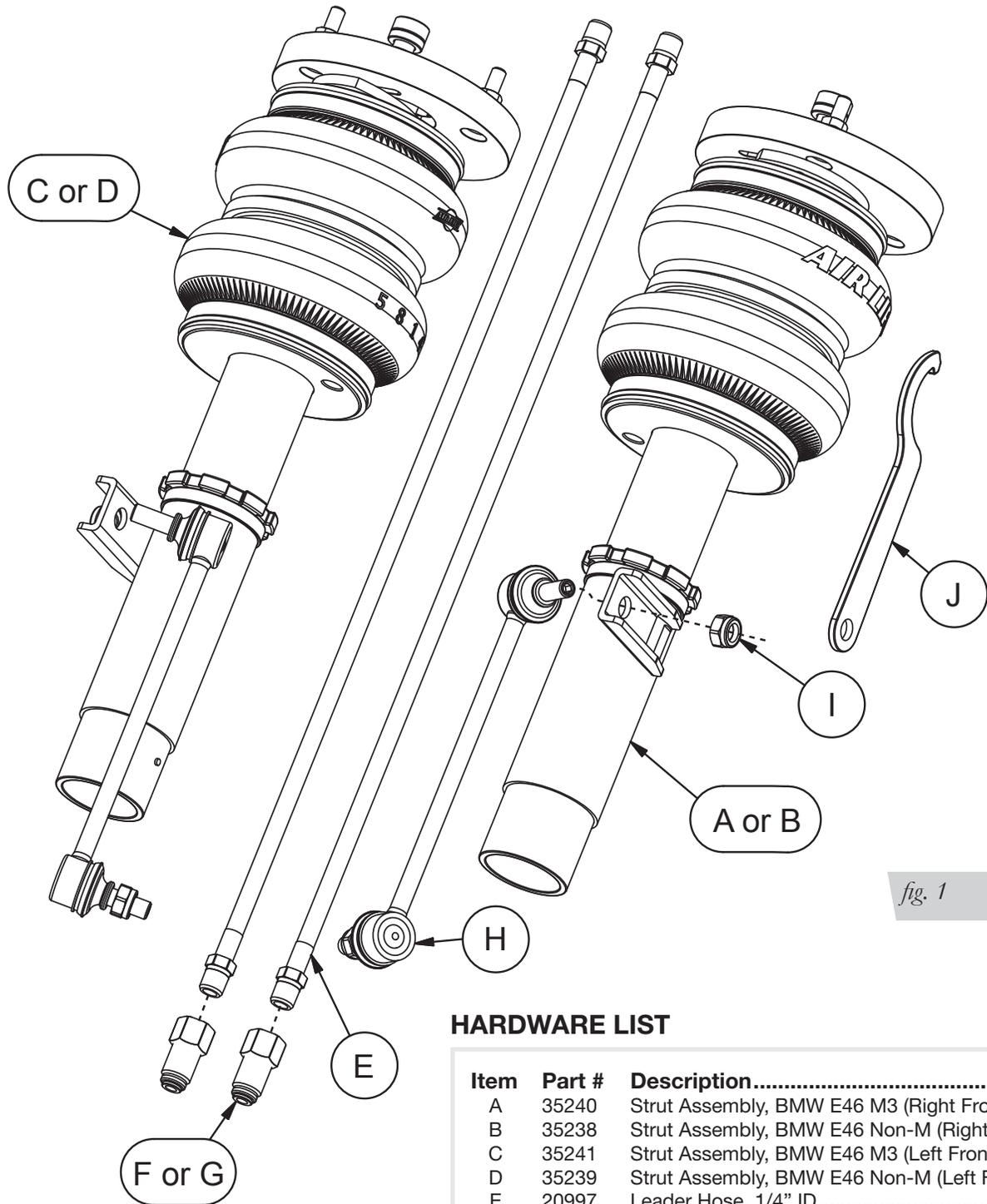


fig. 1

## HARDWARE LIST

Item	Part #	Description.....	Qty
A	35240	Strut Assembly, BMW E46 M3 (Right Front) .....	1
B	35238	Strut Assembly, BMW E46 Non-M (Right Front) ..	1
C	35241	Strut Assembly, BMW E46 M3 (Left Front).....	1
D	35239	Strut Assembly, BMW E46 Non-M (Left Front)....	1
E	20997	Leader Hose, 1/4" ID.....	2
F	21810	Union, 1/4" FNPT X 1/4" PTC, DOT .....	2
G	21987	Union, 1/4" FNPT X 3/8" PTC, DOT .....	2
H		End Link (215mm).....	2
I		M10 X 1.25" Nylon Lock Nut.....	4
J		Spanner Wrench.....	1



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

# Installing the Air Suspension

## NOTE

See important safety notices on page 2.

## PREPARING THE VEHICLE

1. Elevate and support the vehicle using its approved lifting points.
2. Remove the front wheel and support the hub assembly (Fig. 2).



fig. 2

3. Disconnect the headlight alignment sensor linkage from the lower control arm.

## REMOVAL OF STOCK SUSPENSION

1. Detach the brake line and sensor wires from the supporting bracket (Fig. 3).
2. Disconnect the stabilizer link from the strut body. Also disconnect the stabilizer end link from the stabilizer bar, removing from the vehicle (Fig. 4).

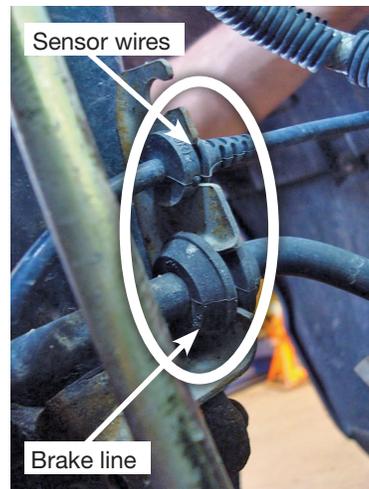


fig. 3

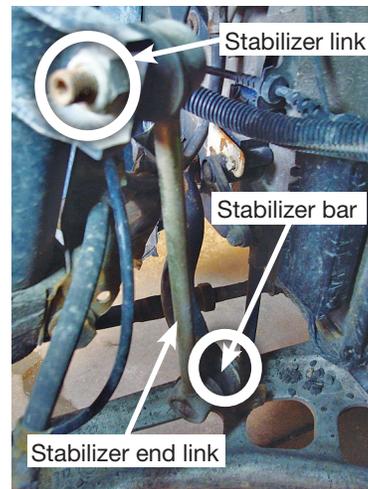


fig. 4

3. Remove the lower strut bolt (Fig. 5). Spread the strut mounting knuckle and slide the knuckle off of the strut.



**CAUTION**

DO NOT ALLOW THE HUB ASSEMBLY TO HANG FROM THE BRAKE LINE.

4. Remove the three upper strut mount nuts (Fig. 6) and remove the strut from the vehicle.

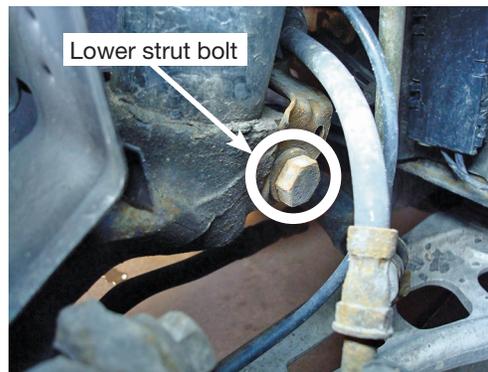


fig. 5

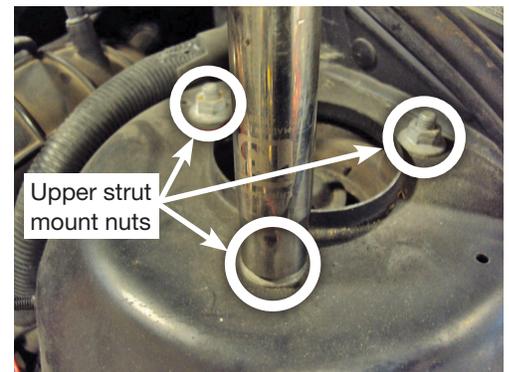


fig. 6

## INSTALLING THE KIT COMPONENTS

1. Begin by installing the air line into the air spring. Apply thread sealant to the threads of the air line. Tighten the appropriate fitting to the air line (1 3/4 turns beyond hand-tight). Tighten the air line into the air spring 1 3/4 turns beyond hand-tight (Fig. 7).

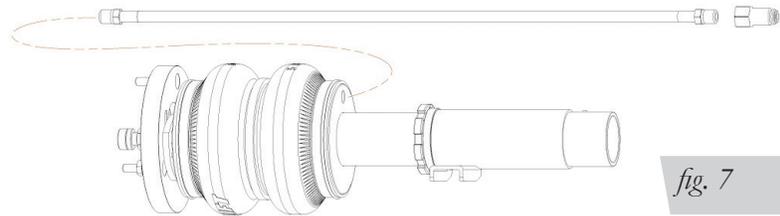


fig. 7

2. Attach the strut to the vehicle chassis (Fig. 8) and torque upper bracket bolts to 24Nm (18 lb.-ft.).



fig. 8

3. Raise the knuckle up to the strut lower mount and slide the mount into the knuckle. Re-install the lower strut mount bolt along with the brake line/sensor wire supporting bracket (Fig. 9). Torque the lower strut mount bolt to 81Nm (60 lb.-ft.).

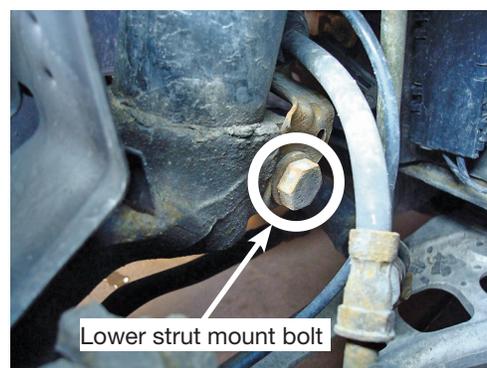
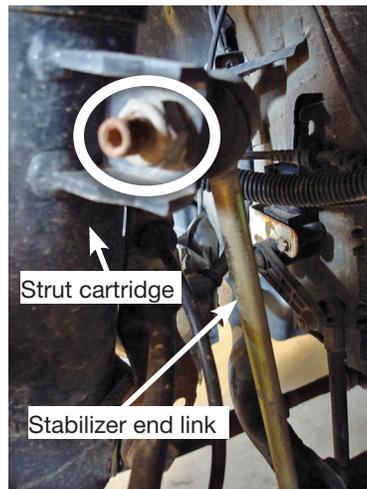
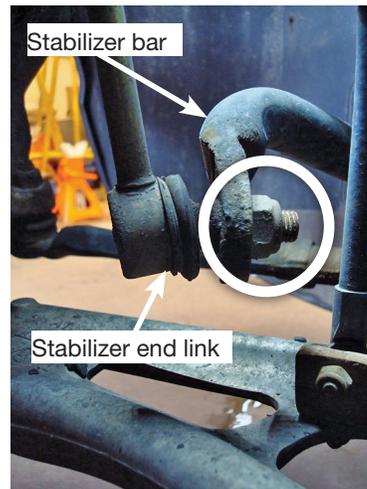


fig. 9

- Clip the sensor wires and brake line onto the supporting bracket (Fig. 10).

*fig. 10*

- Install the supplied stabilizer end link to the strut cartridge and stabilizer bar (Figs. 11 & 12). Torque nuts to 65Nm (48 lb.-ft.).

*fig. 11**fig. 12*

## ROUTING THE AIR LINES

- 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 and steering components.
- 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.

# Before Operating

## SETTING THE RIDE HEIGHT

Read the User Guide that came with this kit to set up the suspension.

Torque Specifications		
Location	Nm	Lb.-ft.
Air line to air spring and fitting	1 and 3/4 turns beyond hand tight	
Upper strut mount to chassis	24	18
Lower strut mount to clevis bolt	81	60
Stablizer end link nut	65	48
Wheels	120	89

Table 1

Suggested Driving Air Pressure	Maximum Air Pressure
<b>38 PSI (2.6BAR)</b>	<b>125 PSI (8.6BAR)</b>
FAILURE TO MAINTAIN ADEQUATE MINIMUM PRESSURE (OR PRESSURE PROPORTIONAL TO LOAD) MAY RESULT IN EXCESSIVE BOTTOMING OUT AND <b>WILL VOID THE WARRANTY.</b>	

Table 2

## CHECK FOR BINDING

1. Inflate and deflate the system (do not exceed 125 PSI [8.6BAR]) 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 75-90 PSI (5.2-6.2BAR) and check all connections for leaks.



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

## DAMPING ADJUSTMENT

1. The dampers in this kit have 30 settings, or “clicks,” of adjustable compression and rebound damping characteristics. Damping is changed through the damper rod using the supplied adjuster (Figs. 13 & 14) or an 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 in this kit is preset to “-20 clicks.” This means that the damper is adjusted 20 clicks away from full stiff, which starts at 0. Counting up from full stiff is the preferred method of keeping track of, or setting, damping. This setting was developed on a 2004 BMW 325i.



fig. 13



fig. 14

## INSTALLATION CHECKLIST

- Clearance** — Inflate the air springs to 75-90 PSI (5.1-6.2BAR) and make sure there is at least 1/2" (13mm) 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 75-90 PSI (5.1-6.2BAR) 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 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** — Recheck all bolts for proper torque.
- Road** — Inflate the 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 paperwork that came with the kit.

## Maintenance, Use and Servicing

1. An Air Lift air management system is strongly recommended for this product, but it is possible to operate without one. The air lines can be routed to Schrader valves for use with a separate air compressor. Air lines and Schrader valves are not included with Air Lift Performance kits and would need to be purchased separately. To learn more about Air Lift management systems visit [air-lift.co/productlines](http://air-lift.co/productlines).
2. Check the air pressure before driving.

### **WARNING**

BEFORE SERVICING THE VEHICLE, MAKE SURE TO TURN OFF "RISE ON START" AND "PRESET MAINTAIN." THIS WILL ELIMINATE ANY UNINTENDED SUSPENSION CYCLING IF YOU NEED TO TURN THE KEY ON IN THE VEHICLE FOR ANY REASON.

## Limited Warranty and Return Policy

Air Lift Company provides a 1-year limited warranty to the original purchaser of Air Lift Performance damper kits from the date of original purchase, that the products will be free from defects in workmanship and materials when used on vehicles 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 online at [www.airliftperformance.com/warranty](http://www.airliftperformance.com/warranty).

For additional warranty information contact Air Lift Company customer service.



## Need Help?

Contact Air Lift Company customer service department by calling (800) 248-0892. For calls from outside the USA or Canada, dial (517) 322-2144.



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*Thank you for purchasing Air Lift Performance products!*

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