Air Lift™
PERFORMANCE

Kits 75636/78636 75646/78637

BMW E36, E46 Chassis

Rear Application

(With and Without Shocks)

AIR LIFT PERFORMANCE™

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.

PERFORMANCE SUSPENSION PARTS

Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of this BMW E36/E46 Performance kit.

It is important to read and understand the entire installation guide before beginning installation or performing any maintenance, service or repair. The information includes a hardware list, tool list, step-by-step installation information, maintenance tips, safety information and a troubleshooting guide.

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

The installation of this kit does not alter the Gross Vehicle Weight Rating (GVWR) or payload of the vehicle. Check your vehicle's owner's manual and do not exceed the maximum load listed for your vehicle.

Gross Vehicle Weight Rating: The maximum allowable weight of the fully loaded vehicle (including passengers and cargo). This number — along with other weight limits, as well as tire, rim size and inflation pressure data — is shown on the vehicle's Safety Compliance Certification Label.

Payload: The combined, maximum allowable weight of cargo and passengers that the vehicle is designed to carry. Payload is GVWR minus the Base Curb Weight.

⚠ 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

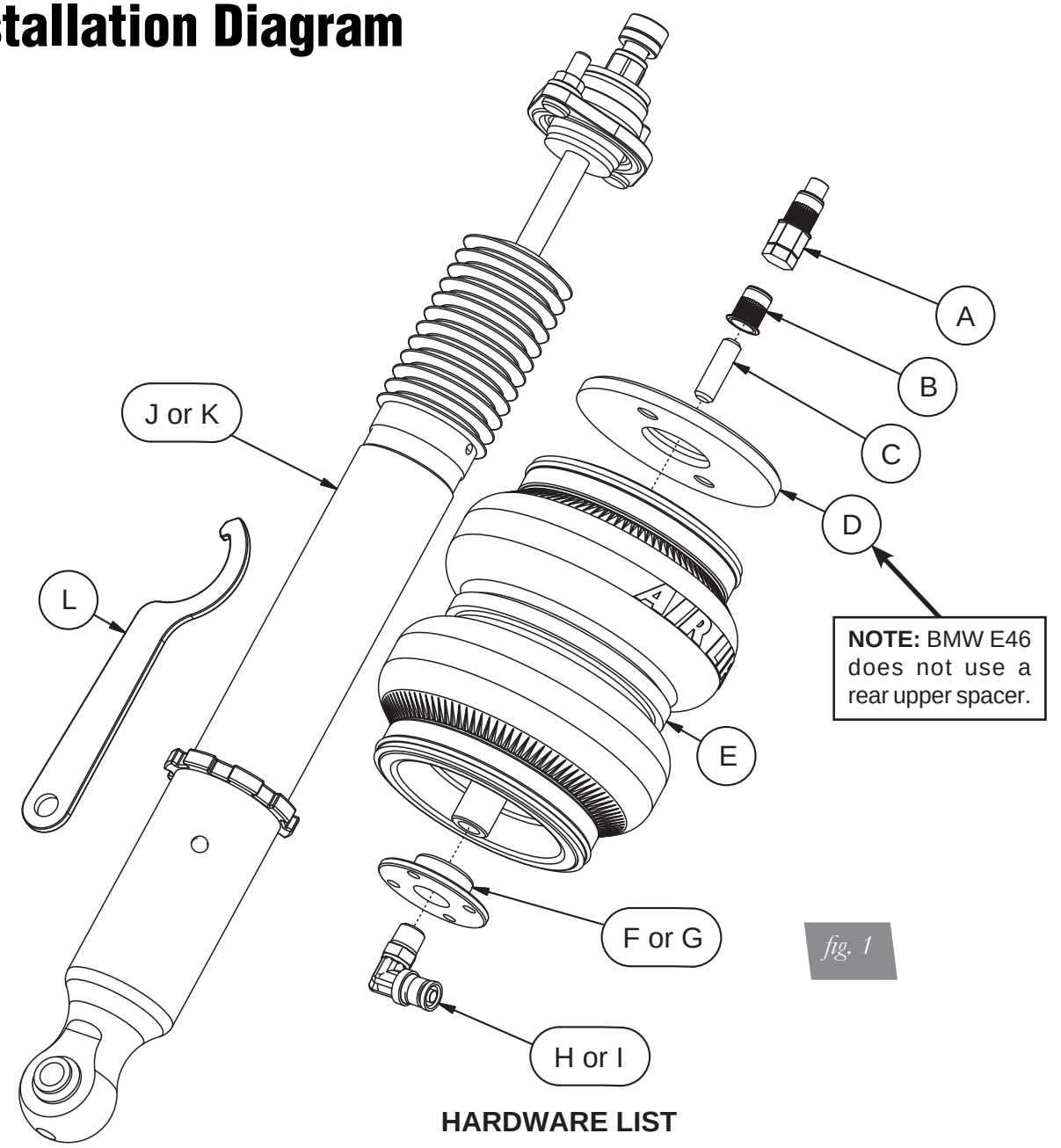


fig. 1

HARDWARE LIST

Item	Part #	Description	Qty
A	10936	3/8” Nutsert Tool	1
B	18585	3/8”-16 Nutsert	2
C	17447	3/8”-16 X 1.25” Threaded Rod	2
D	13308A	Rear Upper Spacer	2
E	58532	Air Spring 2B6 Regular (Recess/Center Port)	2
F	13984	Locking Spacer, BMW E36	2
G	13987	Locking Spacer, BMW E46	2
H	21851	1/4” MNPT X 3/8” PTC 90° Elbow (DOT)	2
I	21779	1/4” MNPT X 1/4” PTC 90° Elbow (DOT)	2
J	26984	Shock, BMW E36 Rear	2
K	26704	Shock, BMW E46 Rear	2
L		Spanner Wrench	1

Installing the Air Suspension

PREPARING THE VEHICLE

1. Support the vehicle with jack stands or a hoist at approved lifting points.
2. Remove the rear wheels (fig. 2).

fig. 2

STOCK SPRING AND SHOCK REMOVAL

1. Support the trailing arm assembly. If retaining the factory shocks, continue to Step 2. Remove the trim panels from within the trunk and unthread the upper mount nuts (fig. 3).
   a. Convertible models: Shock nuts are located within the convertible top area.
   b. Some models may require the rear speakers to be removed to gain access to the upper mount nuts before the trim panels can be removed.

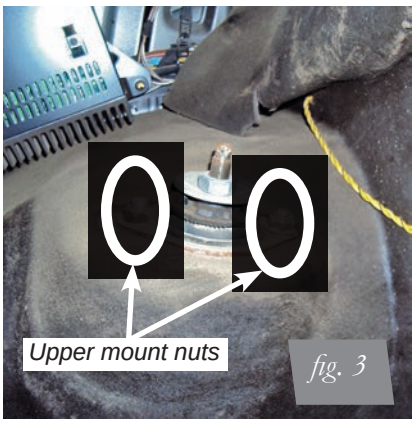


fig. 3

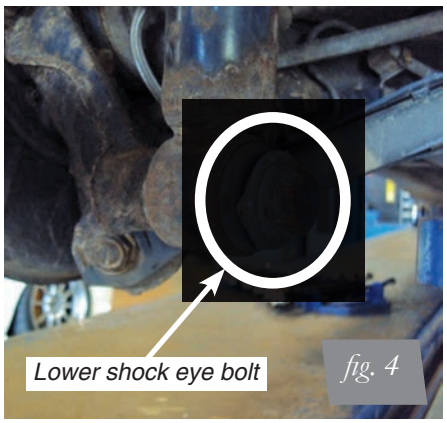


fig. 4

2. Unbolt the lower shock bolt and remove the shock from the vehicle (fig. 4).

NOTE

There is a thin gasket on the top of the factory upper mount (fig. 5a). Retain this gasket for later use (fig. 5b).

fig. 5a

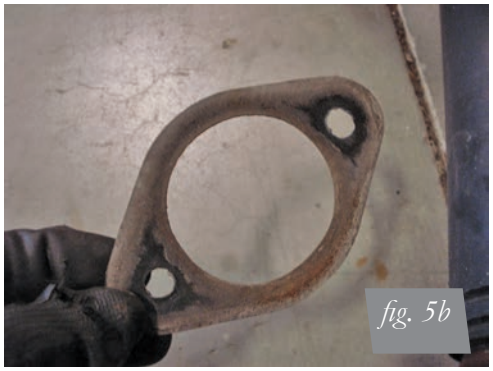


fig. 5b

3. Remove the coil spring and isolators from the spring seats (fig. 6).

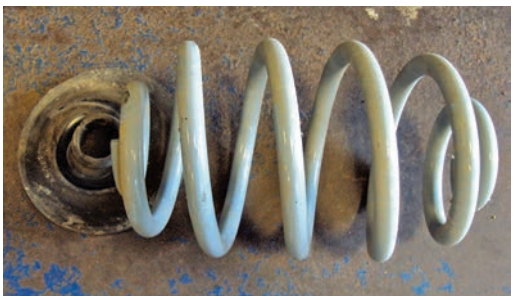


fig. 6

AIR SUSPENSION INSTALLATION

1. Use a 17/32" drill bit to enlarge the hole in the upper coil spring perch (figs. 7, 8).

NOTE

The hole MUST be 17/32" for the nutsert to be effective.

2. Assemble the nutsert and nutsert tool together and insert into the 17/32" hole. Review figures 9-10 on how to attach the nutsert to the vehicle.

fig. 7

fig. 8

fig. 9

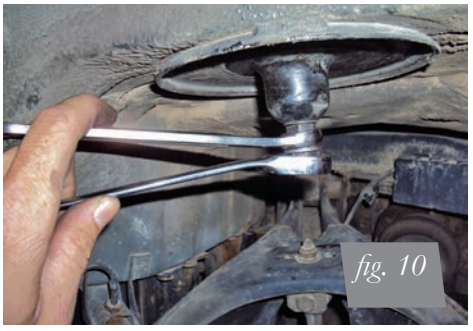


fig. 10

3. Remove the locking spacer from the air spring air port on the bottom side of the air spring. Place the rear upper spacer around the spring seat. Thread the air spring assembly into the spring seat (fig. 11). Tighten the air spring assembly forcefully by hand (fig. 12).

NOTE

BMW E46 does not use a rear upper spacer.

fig. 11

fig. 12

4. Lift the hub assembly and feed the air spring air port through the lower spring seat (figs. 13, 14). Spin the supplied locking spacer onto the lower air port and tighten one turn beyond hand tight (fig. 15).


fig. 13


fig. 14


fig. 15

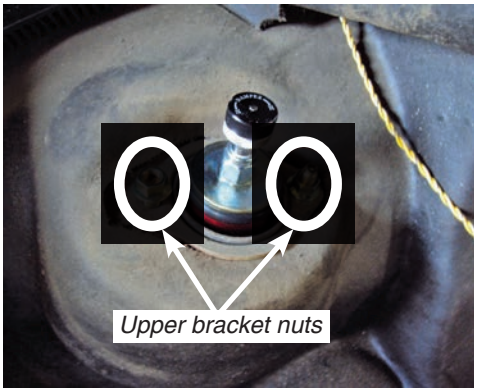

fig. 16

5. Apply Teflon tape or thread sealant to the threads of the air fitting and tighten into the lower air spring end cap 1 ¾ turns beyond hand tight (fig. 16).
6. Place the previously removed gasket on top of the shock upper bracket (fig. 17). Install the shock and torque the upper bracket nuts to 24Nm or 18Ft-lbs. (fig. 19). Install the lower shock eye bolt (fig. 20). Do not torque the bolt at this time.

fig. 17

fig. 18

fig. 19



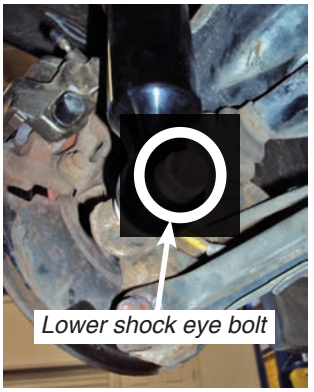


fig. 20

7. Reinstall the wheels. Torque wheels to 107Nm or 79 ft-lbs. (for BMW E36). Torque wheel to 120Nm or 89 ft-lbs. (for BMW E46).
8. Set the vehicle to your desired ride height and torque the lower shock eye bolt. Torque to 100Nm (74 ft-lbs.).
9. With the suspension fully compressed, take a measurement from the fender to some reference point – typically the center of the axle. Record this measurement as Max Compression.
10. Cycle the suspension to Max Extension and record the measurement from the same reference points.
11. Add ME and MC then divide by 2. Set the suspension to this point. This position will give 50% stroke in either direction and is a starting point for ride height (fig. 21).

Formula for Calculating Ride Height
(ME+MC)÷2=MID STROKE

fig. 21

12. With the suspension at this position, loosen, then re-torque the lower control arm bolts to manufacturer's specifications (Table 1).

Table 1

Torque Specifications		
Location	Nm	Ft-lbs.
Shock upper bracket nuts	24	18
Shock eye bolt	100	74
Trailing arm to rear axle carrier	67	49
Trailing arm to rear axle carrier (grade 10.9)	77	58
Trailing arm to console	110	81
Trailing arm console to body	77	57
Lower control arm to subframe	127	94
Lower control arm to trailing arm	77	57
Upper control arm to subframe	127	94
Upper control arm to trailing arm	77	57
Wheel lugs (BMW E36)	107	79
Wheel lugs (BMW E46)	120	89
Air fitting (use thread sealant)	1 and 3/4 turns beyond hand-tight	

ALIGNING THE VEHICLE

1. Using the control system, set the vehicle height to the new custom ride height.
2. If the custom ride height is lower than stock, we recommend loosening all pivot points (bolts, nuts) on any control arm, strut arm or radius rod that contains bushings. Once they have been loosened, re-torque to stock specifications (Table 1).

It may be necessary to cycle the suspension to loosen the bushing up from its mount. This will help re-orient the bushing at its new position based on the custom ride height.

DAMPING ADJUSTMENT

The shocks in this kit have 30 settings or “clicks” of adjustable compression and rebound damping characteristics. Damping is changed through the adjuster at the top of the shock rod. Turn the adjuster clockwise and the damping settings are hardened. Turn the adjuster counterclockwise and the damping is softened. Each rear shock is preset to “-20 clicks”. This means that the shock is adjusted 20 clicks away from full stiff. Counting down from full stiff is the preferred method of keeping track/setting of damping. This setting may need to be adjusted to different vehicles and driving characteristics (figs. 22, 23).

fig. 22

fig. 23

ADJUSTING EXTENDED OR DROP HEIGHT USING LOWER MOUNT

Your dampers have been pre-set at the factory to provide maximum drop height while maintaining adequate tire clearance to the air spring. If you wish to gain more extended height (lift), which is the same as reducing drop height, or want to lower the chassis further and there is still adjustment available at the lower mount, please use the following procedure:

1. Support the vehicle with jack stands or a hoist at approved lifting points.
2. Remove the wheel.
3. Using the supplied spanner wrench, loosen the lower locking collar (fig. 24).

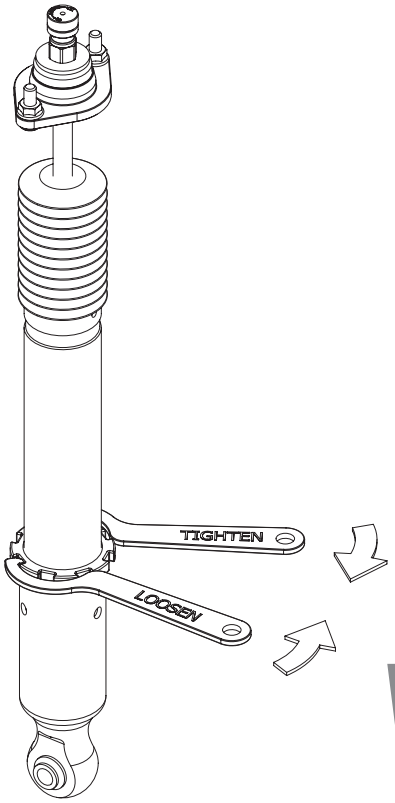


fig. 24

4. Deflate the air spring to 0 PSI on the corner you are adjusting.
5. Disconnect lower mount from suspension.
6. Spin the lower mount to the desired location.

NOTE

Not all models will have further drop height available.

7. Re-install lower mount to suspension and torque fasteners.
8. Tighten the lower locking collar to the lower mount using significant force.

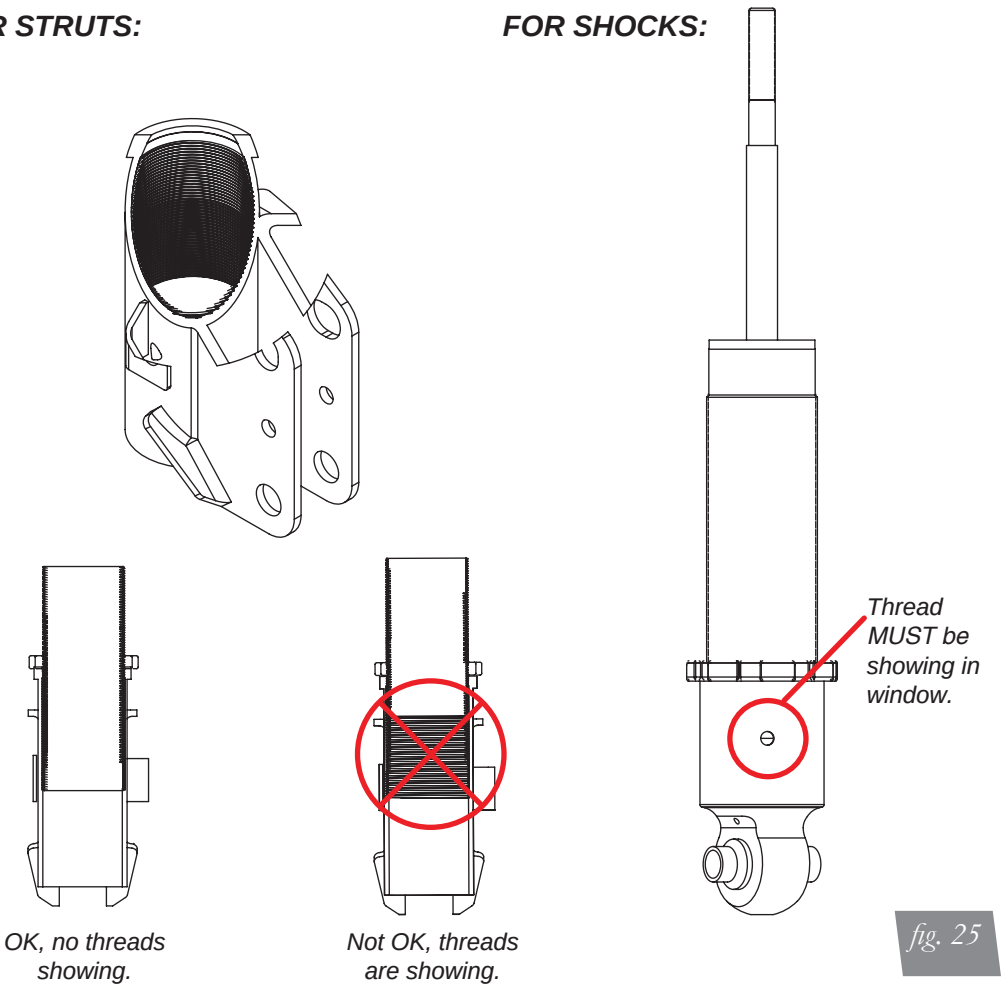
⚠ CAUTION

WHEN ADJUSTING HEIGHT UPWARDS, MAKE SURE THAT THE DAMPER BODY ENGAGES ALL THE THREADS OF THE LOWER MOUNT. (FIG. 25) WHEN ADJUSTING DOWNWARDS, MAKE SURE THERE IS ADEQUATE AIR SPRING CLEARANCE TO THE TIRE/WHEEL ASSEMBLY. CLEARANCE MUST BE CHECKED WITH SYSTEM FULLY DEFLATED AS WELL AS FULLY INFLATED TO ENSURE THAT NO RUBBING OCCURS. FAILURE TO MAINTAIN ADEQUATE CLEARANCE CAN RESULT IN AIR SPRING FAILURE AND WILL NOT BE COVERED UNDER WARRANTY.

⚠ CAUTION

DO NOT ADJUST HEIGHT BY SPINNING AIR SPRING ON DAMPER! DOING SO MAY CAUSE AN AIR LEAK AND COMPROMISE THE ASSEMBLY.

FOR STRUTS: ***FOR SHOCKS:***



OK, no threads showing.

Not OK, threads are showing.

fig. 25