Air Lift™
PERFORMANCE

Kits 75673 & 78615

BMW E30 and E36/5/7/8 Compact

Rear Application

AIRLIFT PERFORMANCE®

INSTALLATION GUIDE

IMPORTANT: KIT 78615 DOES NOT COME WITH REAR SHOCKS.

PERFORMANCE SUSPENSION PARTS

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.

Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of this BMW E30 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, 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

HARDWARE LIST

Item	Part #	Description	Qty
A	58536	Air Spring	2
B	11802	Roll Plate	2
C	20997	Leader Hose, 1/4” ID	2
D	21810	Union, 1/4”FNPT X 1/4” PTC, DOT	2
E	21987	Union, 1/4”FNPT X 3/8” PTC, DOT	2
F	26720	Shock, BMW E30 Rear	2
G		Flexible Adjuster Extension	2
H		Spanner Wrench	1

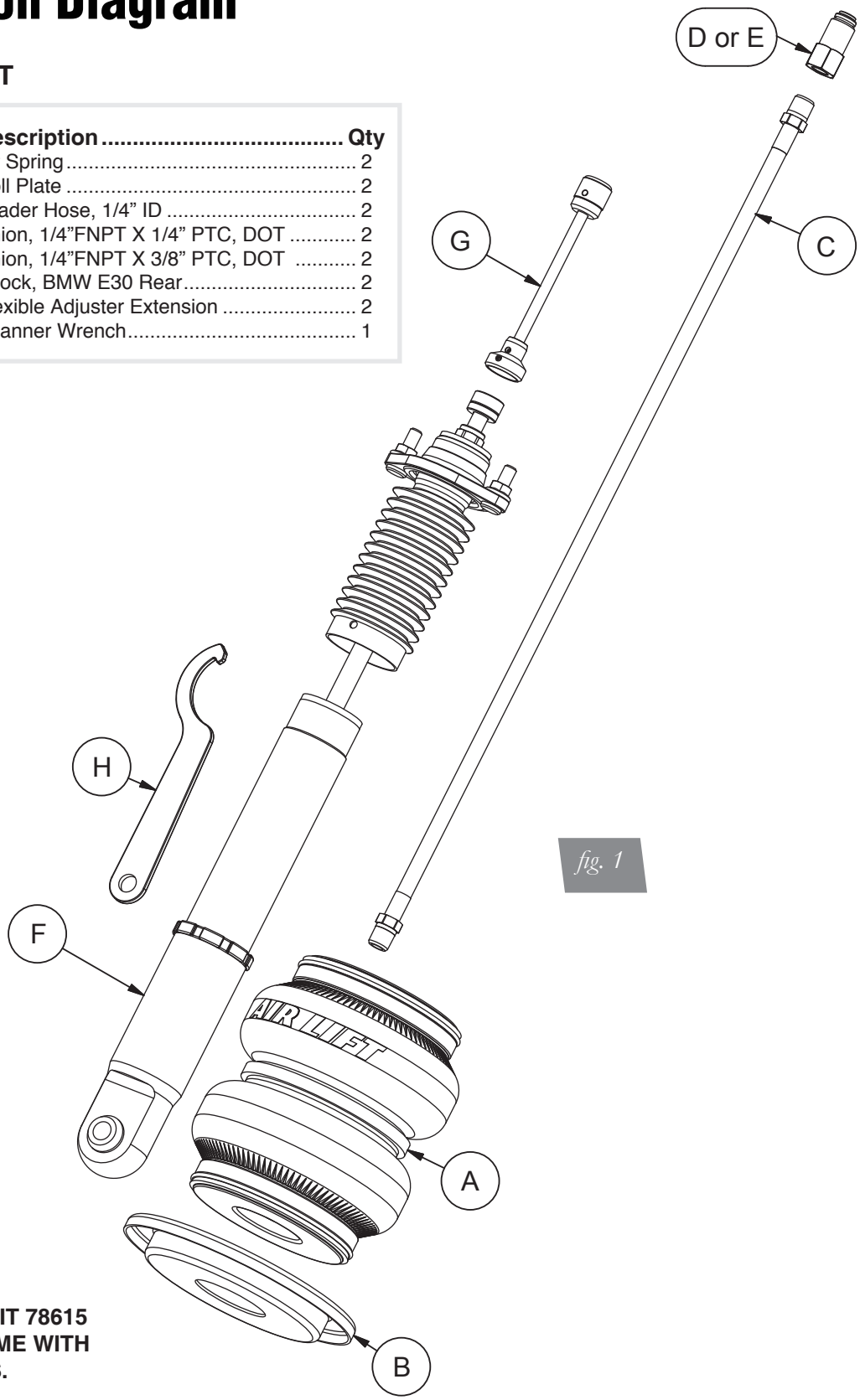


fig. 1

IMPORTANT: KIT 78615 DOES NOT COME WITH REAR SHOCKS.

Installing the Air Suspension

PREPARING THE VEHICLE

1. Elevate and support the vehicle with a hoist or jack stands.
2. Remove the rear wheel and support the hub assembly (fig. 2).


fig. 2

REMOVING THE REAR SUSPENSION

⚠ CAUTION

COIL SPRING UNDER LOAD!

1. With the hub supported, unbolt the shock eye from the hub assembly (fig. 3). Slowly lower the hub to release the load on the coil spring (fig. 4). Remove the coil spring and spring pads from the vehicle (fig. 5).

⚠ CAUTION

IF THE LOWER CONTROL ARM IS ALLOWED TO HANG FREE, THE AXLE SHAFT CONSTANT VELOCITY JOINTS WILL BE DAMAGED!


fig. 3


fig. 4


fig. 5

2. Unbolt the shock upper mount and remove the shock assembly from the vehicle (fig. 6). If rear shocks are not being replaced, move to next step.


fig. 6

PREPARING THE VEHICLE CHASSIS

1. Place the supplied template (on page 17) over the upper coil spring bump (fig. 7). The small circle centerline will designate the location where you want the air line to exit through the upper spring seat. Position as desired, center punch and drill through the upper spring seat. A .67” diameter (17mm) hole will be required to pass the air line through (fig. 8).


fig. 7


fig. 8

2. Measure from the flats of the upper and lower spring seats 24mm to the end of the spring seat bump and mark this position (fig. 11). This should be near the end of the bump. Trim the bump material away at this line. When finished, the spring bump is to be no longer than 24mm (figs. 12, 13 and 14).

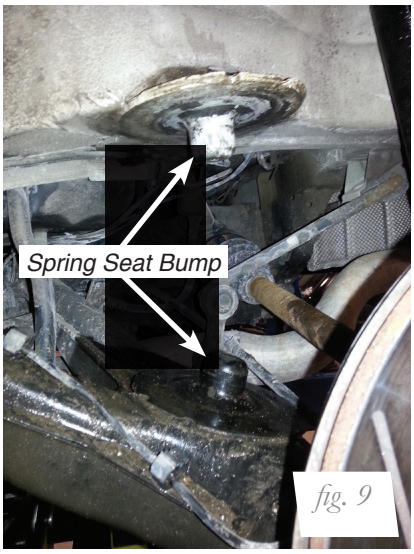


fig. 9


fig. 10


fig. 11


fig. 12


fig. 13


fig. 14

AIR SUSPENSION INSTALLATION

1. Apply thread sealant to the threads of the air line and thread into the air spring 1 3/4 turns beyond hand tight.
2. Place the roll plate over the lower spring bump (fig. 15).


fig. 15

3. Route the air line through the previously cut hole (fig. 16). Install the leader line in the air spring port 1 3/4 turns past hand tight. Nest the air spring around the upper and lower spring seats (fig. 17).


fig. 16


fig. 17

4. Install the shock assembly (fig. 18). Torque the upper mount bolts to 22Nm (16lb-ft). Install, but do not torque the lower shock eye bolt at this time (fig. 19).

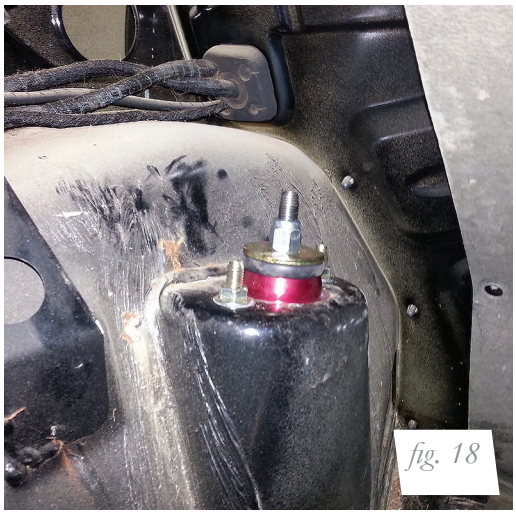


fig. 18


fig. 19


fig. 20

5. Apply thread sealant to the threads of the leader hose and thread the desired fitting (D or E) onto the hose 1 3/4 turns beyond hand tight (fig. 21).

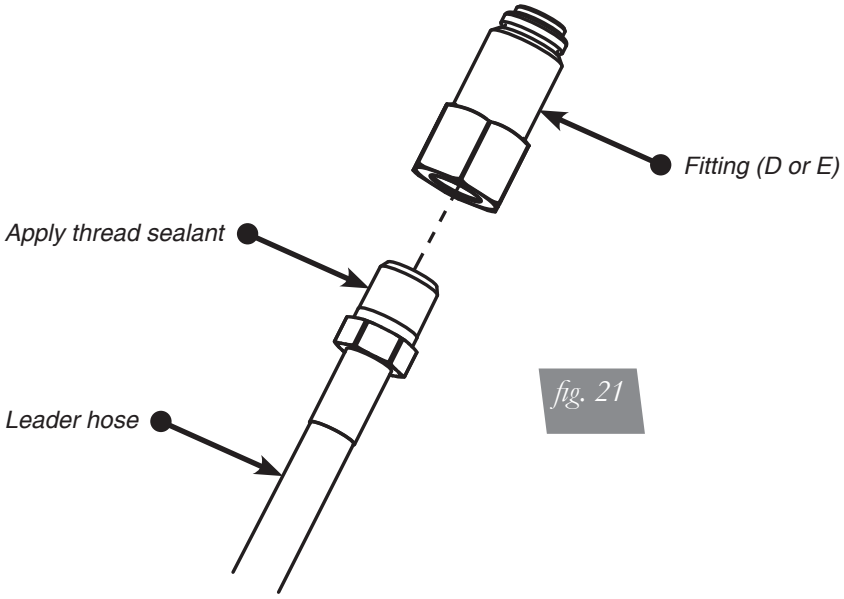


fig. 21

6. Fully compress the suspension using a jack. With the suspension compressed, review the best routing for the leader hose that is clear of all suspension components and axle. Routing should also allow for the suspension to extend without kinking or pulling the line tight or rubbing on other components. Check clearances to all other components.
7. 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.
8. Cycle the suspension to Max Extension and record the measurement from the same reference points.
9. 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. 22).

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

fig. 22

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

Torque Specifications		
Location	Nm	lb-ft
Shock eye bolt	72-87	52-63
Shock upper mount nuts	22-24	16-17
Wheels	120 +/-10	89 +/-1
Air line and fitting threads	1 and 3/4 turns beyond hand tight	

Table 1

DAMPING ADJUSTMENT

The struts in this kit have 30 settings, or “clicks”, of adjustable compression and rebound damping characteristics. Damping is changed through the strut rod using the supplied adjuster (figs. 23 & 24) or a 3mm allen wrench.

Turn the adjuster clockwise and the damping settings are hardened. Turn the adjuster counterclockwise and the damping is softened.

Each shock is preset to “-16 clicks”. This means that the shock is adjusted 16 clicks away from full stiff. Counting down from full stiff is the preferred method of keeping track of, or setting, damping. This setting was developed on a 1986 BMW 325ES and may need to be adjusted to different vehicles and driving characteristics.

fig. 23

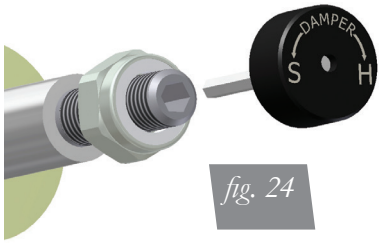


fig. 24

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.

NOTE

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 and increase life of the bushings based on the custom ride height.

ADJUSTING EXTENDED OR DROP HEIGHT USING LOWER MOUNT

Your struts 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. 25).

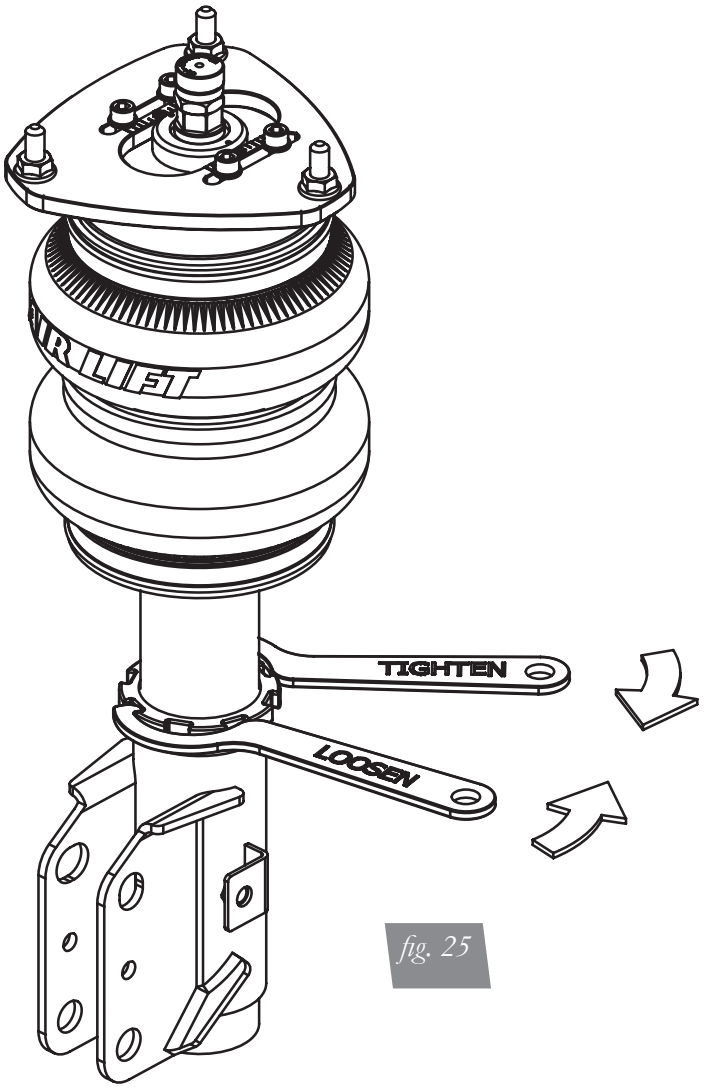


fig. 25

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.

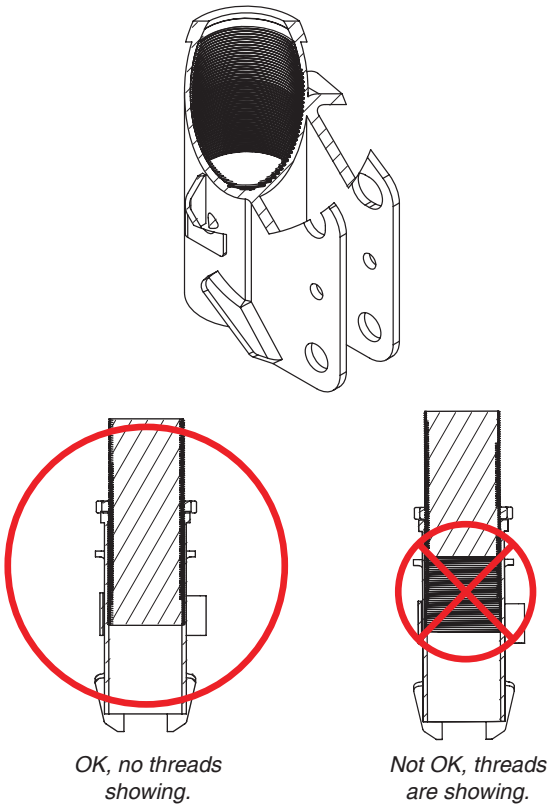
NOTE *Not all models will have further drop height available.*

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 STRUT BODY ENGAGES ALL THE THREADS OF THE LOWER MOUNT (FIG. 26). 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 STRUT! DOING SO MAY CAUSE AN AIR LEAK AND COMPROMISE THE ASSEMBLY.

FOR STRUTS:



OK, no threads showing.

Not OK, threads are showing.

FOR SHOCKS:

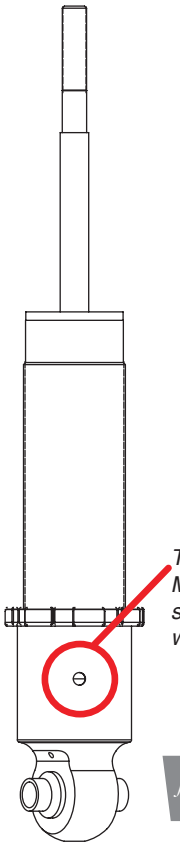


fig. 26