



Kits 78555 78568

BMW F22/F23/F30/
F31/F32/F33/F36

3-bolt/5-bolt upper mount

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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A. 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 and 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 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.

B. 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.

**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.

C. Installation Diagram

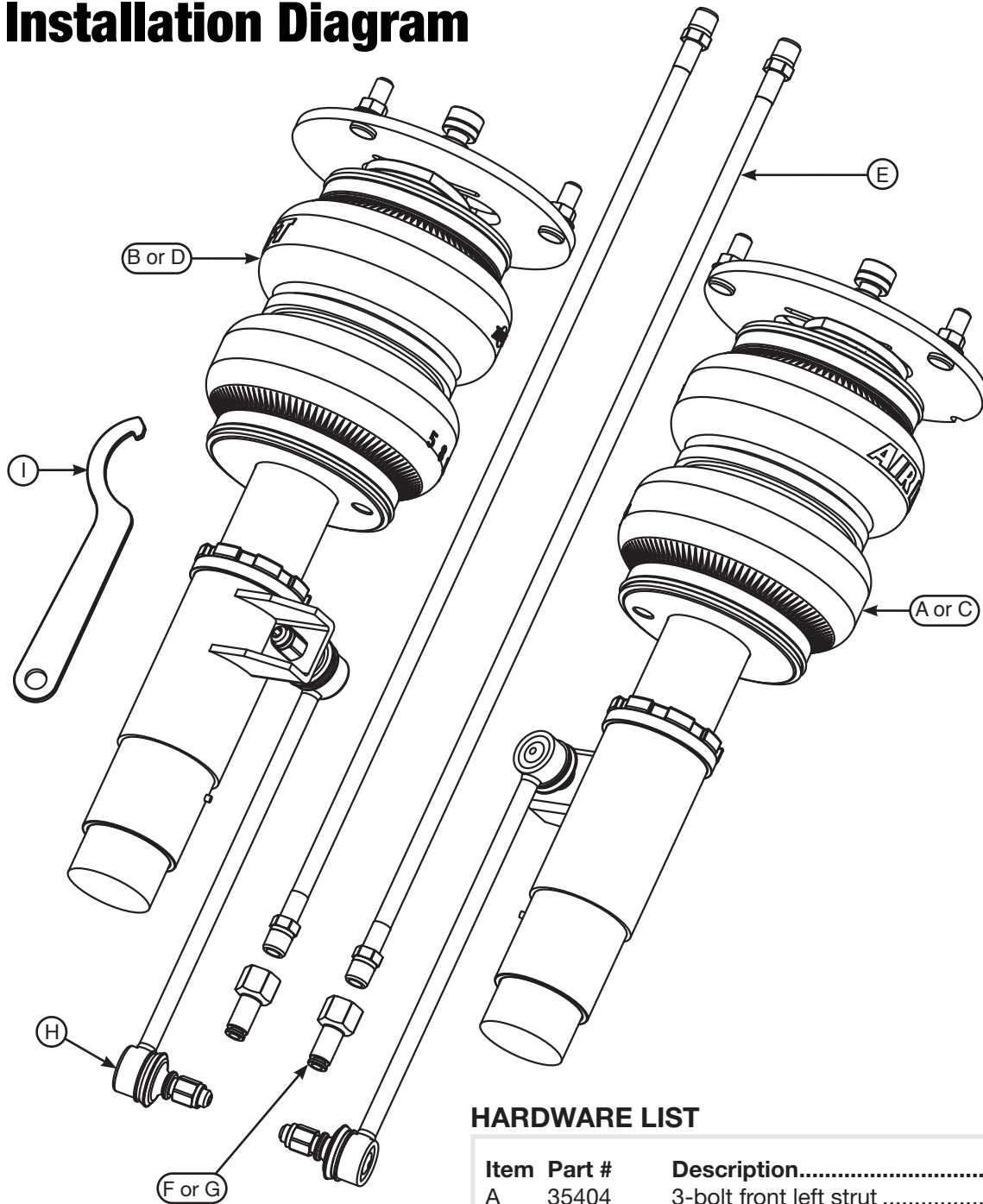


fig. C.1

NOTE *The photos in this manual show the 3-bolt upper mount.*

*FNPT x 3/8" PTC fittings are not included in this kit, but are available as a special order.

HARDWARE LIST

Item	Part #	Description.....	Qty
A	35404	3-bolt front left strut	1
B	35405	3-bolt front right strut.....	1
C	35427	5-bolt front left strut	1
D	35426	5-bolt front right strut.....	1
E	20997	Leader line, 1/4" ID.....	2
F*	21987	Union, 1/4" FNPT x 3/8" PTC, DOT ...	2
G	21810	Union, 1/4" FNPT x 1/4" PTC, DOT ..	2
H	26842-009	End link (pair).....	1
I	11289	Spanner wrench	1



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

D. Installing the Air Suspension

NOTE See important safety notices on page 2.

REMOVING THE SUSPENSION

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

1. Elevate and support the vehicle using its approved lifting points. Remove the front wheel (Figs. D.1 & D.2).



fig. D.1



fig. D.2

2. On vehicles with headlight alignment systems, disconnect the linkage from the control arm (Figs. D.3 & D.4)

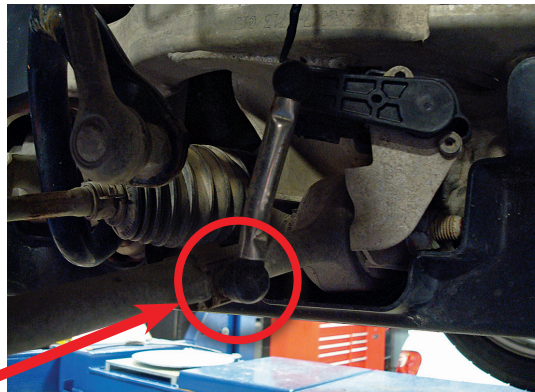


fig. D.3

Headlight alignment bracket

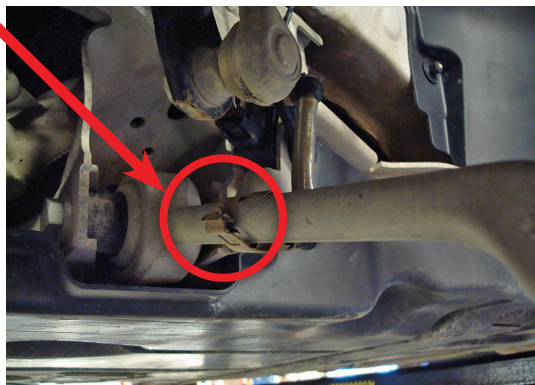


fig. D.4

3. Remove stabilizer bar end link (Figs. D.5, D.6 & D.7).

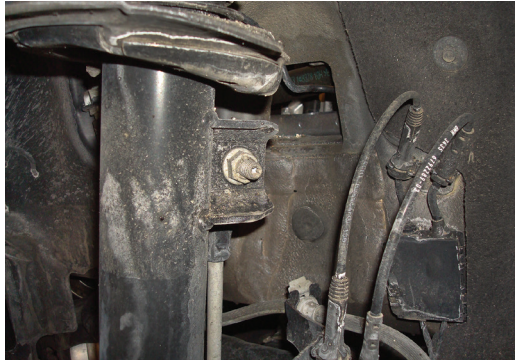


fig. D.5



fig. D.6



fig. D.7

4. Loosen both lower control arm pivot bushing bolts that are fastened to the subframe (Figs. D.8 & D.9).



fig. D.8



fig. D.9

- Support the hub and remove the lower strut pinch bolt (Figs. D.10 & D.11). Unclip the attached brake line bracket from the knuckle (Fig. D.12).

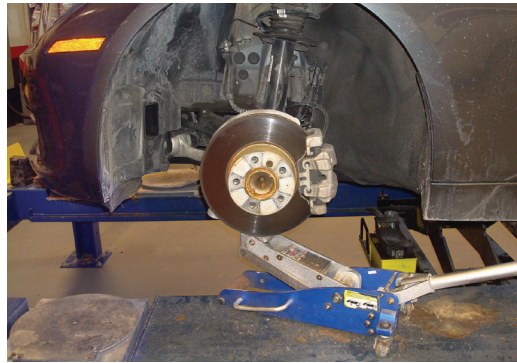


fig. D.10

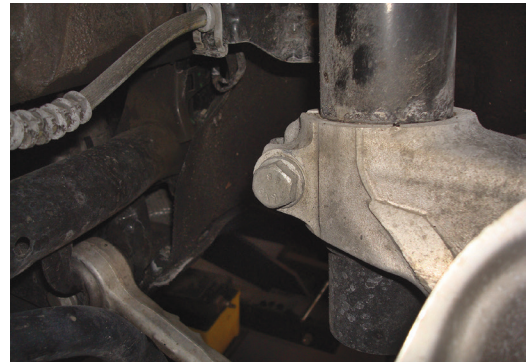


fig. D.11



fig. D.12

- Within the engine compartment, remove the plastic cover, exposing the support bearing bolts. Remove the strut brace bolt and the three support bearing bolts (Figs. D.13, D.14 & D.15).



fig. D.13



3-bolt upper mount shown.

fig. D.14



fig. D.15

7. Lower the hub and remove the strut from the vehicle (Fig. D.16).



fig. D.16

INSTALLING THE KIT COMPONENTS

1. Begin by installing the leader hose into the air spring. Tighten the appropriate fitting to the air line (1 3/4 turns beyond hand-tight). Tighten the leader hose into the air spring 1 3/4 turns beyond hand-tight (Fig. D.17).

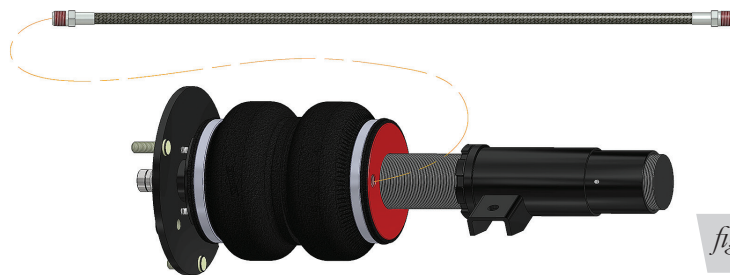


fig. D.17

2. Insert and fully seat the strut into the steering knuckle (Fig. D.18).

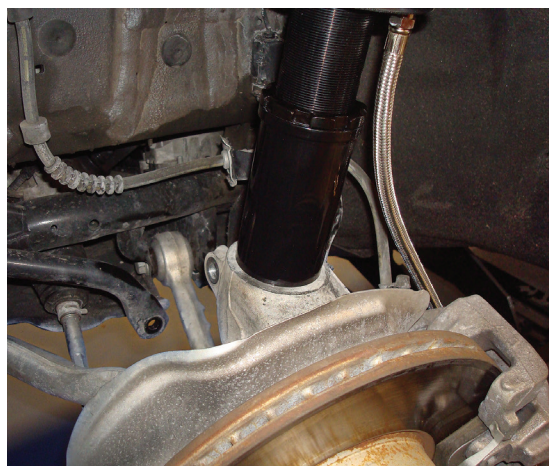
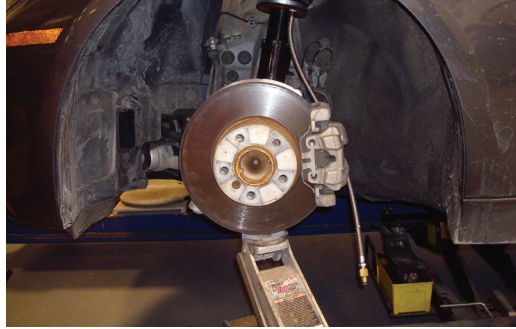


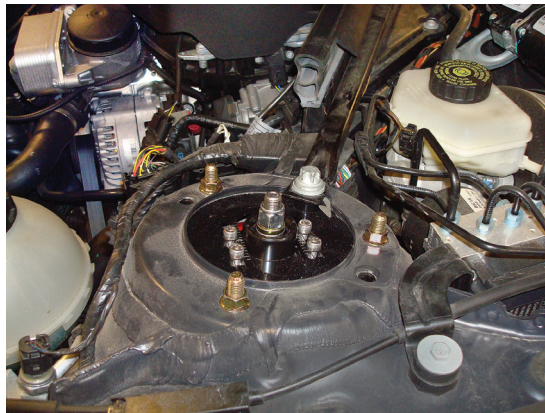
fig. D.18

- Lift the knuckle assembly and align the camber plate into the upper mounting position. Torque camber plate M10 nuts (3-bolt) to 56Nm (41 lb.-ft.) + 90 degrees or M8 (5-bolt) nuts to 30Nm (22lb.-ft.) + 90 degrees (Figs. D.19 & D.20).

*fig. D.19**fig. D.20***CAUTION**

TORQUE-TO-YIELD BOLTS ARE DESIGNED TO BE REPLACED AFTER THEY HAVE BEEN LOOSENED.

- Attach the strut tower brace to the camber plate. Torque bolt to 56Nm (41 lb.-ft.) + 90 degrees. Reinstall the plastic cover (Fig. D.21).

*fig. D.21*

- Clip the brake line tab back into position on the knuckle. Insert the lower strut pinch bolt. Torque to 44Nm (32 lb.-ft.) + 90 degrees (Figs. D.22 & D.23).

*fig. D.22**fig. D.23*

6. Attach the supplied stabilizer end link (H) to the strut and stabilizer bar. Torque nuts to 56Nm (41 lb.-ft.) (Figs. D.24 & D.25).

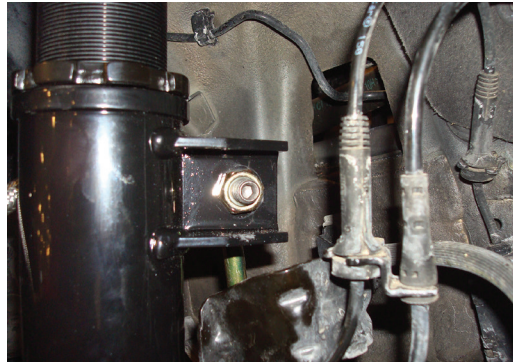


fig. D.24

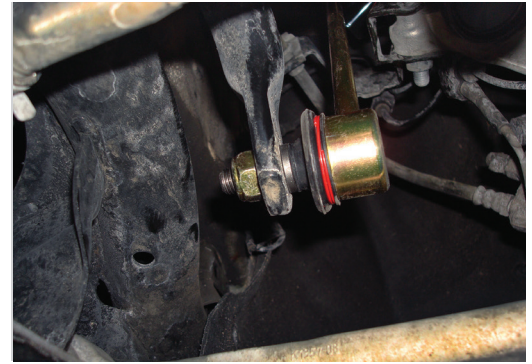


fig. D.25

ROUTING THE AIR LINES

1. 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 and steering components.
2. 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.

 **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.

E. Before Operating

SETTING THE RIDE HEIGHT

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

Torque Specifications			
Location	TTY*	Nm	Lb.-ft.
Camber plates to chassis M10 (3-bolt)	✓	56 + 90 degrees	41 + 90 degrees
Camber plates to chassis M8 (5-bolt)	✓	30 + 90 degrees	22 + 90 degrees
Camber plate to tower brace bolt	✓	56 + 90 degrees	41 + 90 degrees
Lower pinch bolts	✓	44 + 90 degrees	32 + 90 degrees
Stabilizer end link nuts		56	41
Forward lower control arm to subframe pivot bolt	✓	100 + 90 degrees	74 + 90 degrees
Rearward lower control arm to subframe pivot bolt	✓	100 + 90 degrees	74 + 90 degrees
Camber adjustment bolts		10	7
Strut locking collar		Tighten with significant force	
Braided hose/fitting		1 3/4 turns beyond hand tight	
Wheel bolts		140	103

* Torque-to-yield bolts



TORQUE-TO-YIELD BOLTS ARE DESIGNED TO BE REPLACED AFTER THEY HAVE BEEN LOOSENED.

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



Suggested Driving Air Pressure



Maximum Air Pressure



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



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

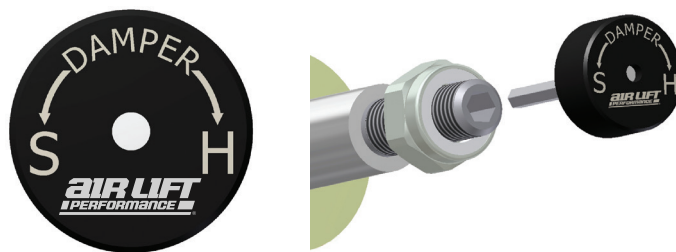
1. Inflate and deflate the system (do not exceed 8.6BAR [125 PSI]) to check for clearance or binding issues. With the air springs deflated, check clearances on everything so as not to pinch brake lines, vent tubes, etc. Clear lines if necessary.
2. Inflate the air springs to 5.2-6.2BAR (75-90 PSI) and 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 30 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 in this kit is preset to “-18 clicks.” This means that the damper is adjusted 18 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 2012 BMW 328i.

For more information, refer to the User Guide.

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.

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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