

AIR LIFT
PERFORMANCE

Kit 78577

Mercedes W204 RWD

Front Application



Installation Instructions

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 Mercedes W204 RWD. 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.

Air Lift reserves the right to make changes and improvements to its products and publications at any time.

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 VEHICLE 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.



WARNING

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



CAUTION

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

⚠ CAUTION

THIS KIT REQUIRES THE REMOVAL OF FACTORY TORQUE-TO-YIELD BOLTS. THESE BOLTS ARE DESIGNED TO BE REPLACED AFTER THEY HAVE BEEN LOOSENED. TORQUE-TO-YIELD BOLTS ARE INDICATED IN THE INSTRUCTIONS AND IN THE TORQUE SPECIFICATION CHART.

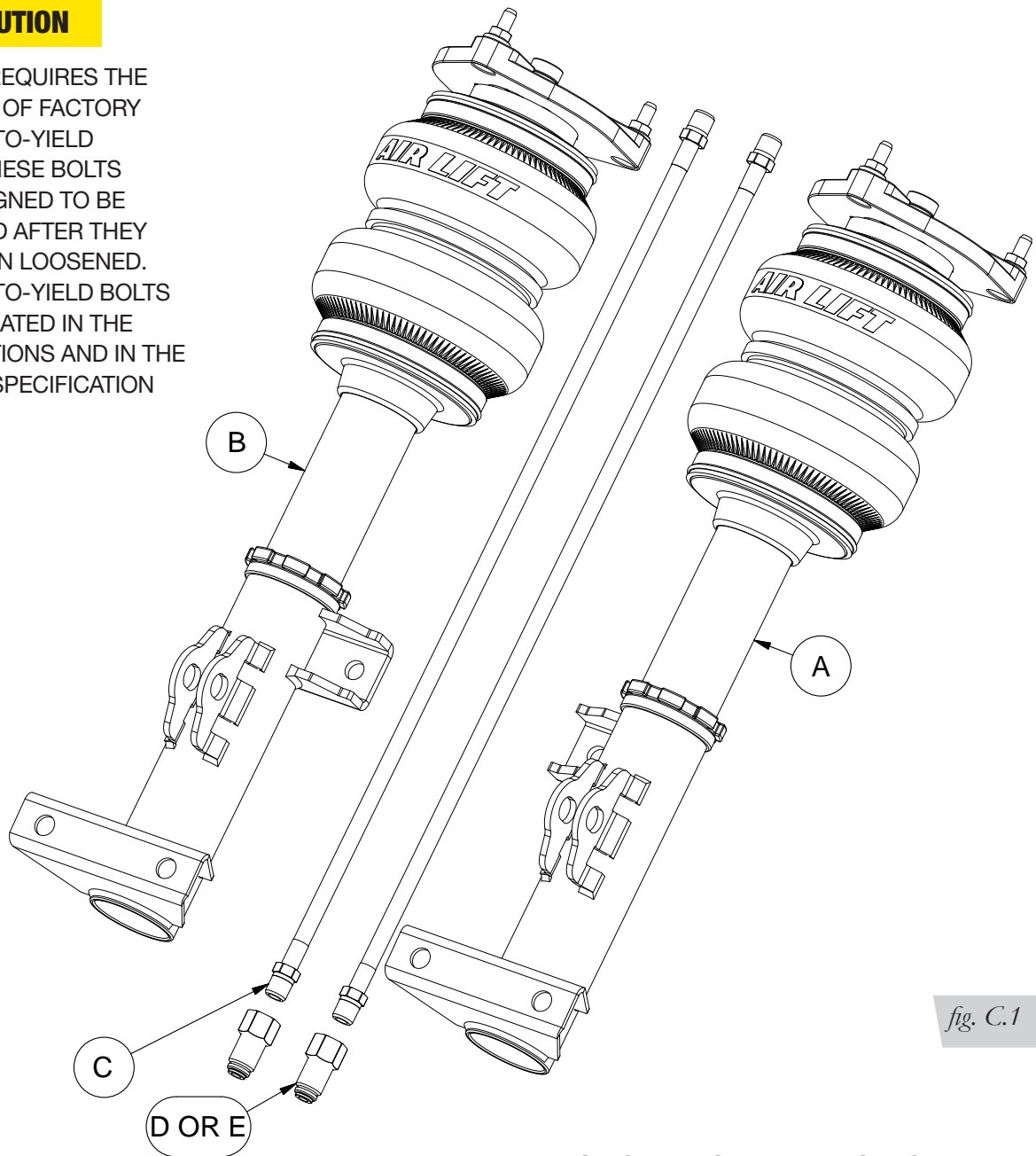


fig. C.1

HARDWARE LIST

Item	Part #	Description	Qty
A	35438	Strut, W204 right front	1
B	35439	Strut, W204 left front	1
C	20997	Leader line	2
D	21810	Fitting 1/4" FNPT x 1/4" PTC	2
E	21987	Fitting 1/4" FNPT x 3/8" PTC	2
F	11289	Spanner	1
G*	22635	Zip Tie.....	2

TORQUE-TO-YIELD BOLTS**

Description.....	Qty
Damper to spindle mount upper M14 bolt	2
Damper to spindle mount lower M12 bolt.....	4

* Not shown in Figure 1

**These bolts are not included with this kit

D. Installing the Air Suspension

NOTE

See "Important Safety Notices" on page 2.

PREPARING THE VEHICLE

1. Elevate and support the vehicle with a hoist or safety stands.
2. Remove the front wheel (Figs. D.1 & D.2).



fig. D.1



fig. D.2

REMOVING THE FRONT STRUT

1. If equipped, unbolt the height sensor from the stabilizer bar (Figs. D.3 & D.4).



fig. D.3



fig. D.4

2. Disconnect the stabilizer bar linkage from the stabilizer bar (Fig. D.5).



fig. D.5

3. Clip the plastic tie holding the brake line bracket and slide the bracket out from behind the mount. To get the bracket dislodged, push the tabs inboard to unclip, and rotate out from behind the mount (Figs. D.6 & D.7).

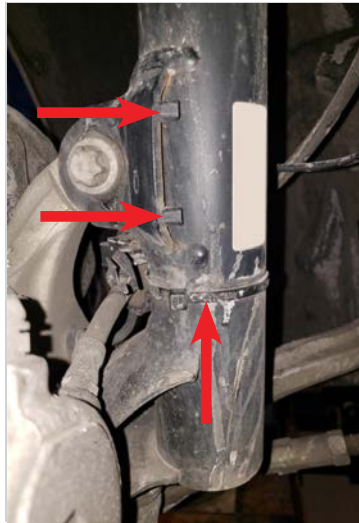


fig. D.6



fig. D.7

4. Unbolt the knuckle from the damper assembly (Figs. D.8, D.9 & D.10).



fig. D.8



fig. D.9



fig. D.10

5. Within the engine compartment, remove the three upper mount bolts, push in on to release the retention clip and remove the front strut (Figs. D.11 & D.12).

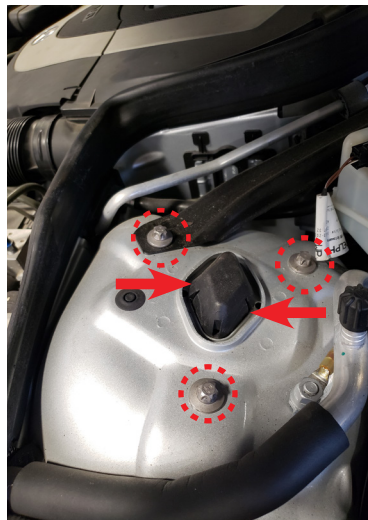


fig. D.11



fig. D.12

INSTALLING THE AIR SUSPENSION

1. Apply thread sealant to the threads of the leader line. Tighten the appropriate fitting to the air line by 1 3/4 turns beyond hand-tight. Tighten the leader line into the air spring 1 3/4 turns beyond hand-tight (Fig. D.13).

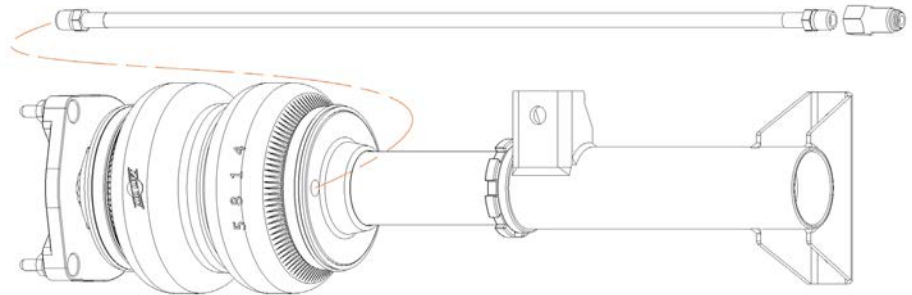


fig. D.13

2. Attach the camber plate to chassis. Torque nuts to 33Nm (24 lb.-ft.) (Fig. D.14).



fig. D.14

3. Attach the lower mount to the knuckle. Torque the lower M12 spindle bolts to 70Nm, release pressure and torque again to 100Nm (52 lb.-ft., then 74 lb.-ft.) (Fig. D.15). Torque the upper M14 spindle bolt to 100Nm + 90 degrees (74 lb.-ft. + 90 degrees) (Fig. D.16).



fig. D.15



fig. D.16

4. Route the supplied zip tie through brake line bracket and attach through the joining tabs (Figs. D.17 & D.18).



fig. D.17



fig. D.18

5. Attach the stabilizer end link to the damper and bar (Fig. D.19). Torque to 98Nm (72 lb.-ft.) (Fig. D.20).



fig. D.19

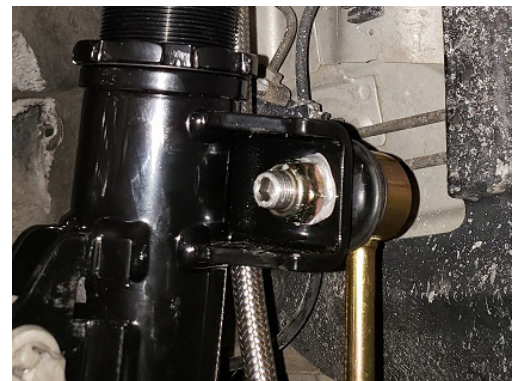


fig. D.20

6. Reattach the sensor to the stabilizer bar. Torque nuts to 12Nm (9 lb.-ft.). Reinstall wheels and torque to 110Nm (81 lb.-ft.).



fig. D.21

ROUTING 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.

1. 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.
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.
3. Reinstall the front wheels (see torque specifications in *Table 1*).

E. Finished Installation Photo



fig. E.1

F. 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.
Damper to spindle mount upper M14 bolt	✓	100 + 90 degrees	74 + 90 degrees
Damper to spindle mount lower M12 bolts	✓	70, release then 100	52, then 74
Camber plate to chassis		33	24
Stabilizer bar linkage to damper		98	72
Sensor to stabilizer bar		12	9
Wheel bolts		110	81
Damper locking collar		45 degrees beyond hand tight	
Braided leader line threads		1 3/4 turns beyond hand tight with thread sealant	

Table 1



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

Suggested Driving Air Pressure	Maximum Air Pressure
45-60 PSI (3.1-4.1BAR)	125 PSI (8.6BAR)
<p>FAILURE TO MAINTAIN ADEQUATE MINIMUM PRESSURE (OR PRESSURE PROPORTIONAL TO LOAD) MAY RESULT IN EXCESSIVE BOTTOMING OUT AND WILL VOID THE WARRANTY.</p>	

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.

INSTALLATION CHECKLIST

- Clearance** — Inflate the air springs to 75-90 PSI (5.2-6.2BAR) 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 (5.2-6.2BAR) 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) from air springs and air lines.
- Fastener** — Recheck all bolts for proper torque.
- Road** — Inflate the springs to recommended driving pressures (Table 2). 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.

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. F.1 & F.2) 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 “-14 clicks.” This means that the damper is adjusted 14 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 2009 Mercedes C300.

For more information, refer to the User Guide.



fig. F.1



fig. F.2