

Kit 78574

Mercedes C117 CLA/GLA Infiniti QX30

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 Mercedes C117, CLA/GLA, and Infiniti QX30. 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. 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.



INDICATES IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.



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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



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



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



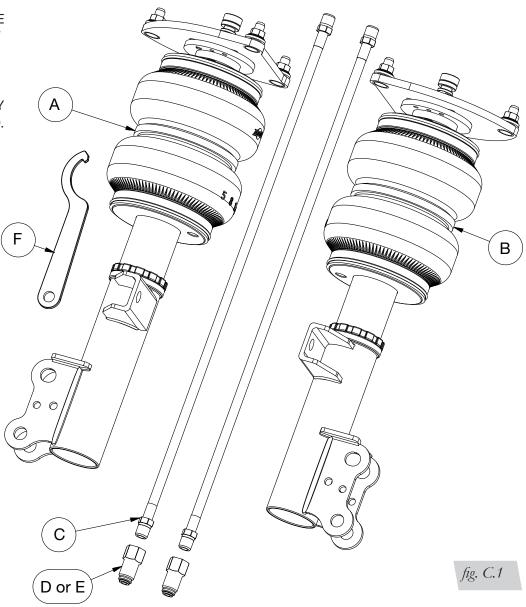
AFTER INSTALLATION, ENSURE ALL ORIGINAL EQUIPMENT VEHICLE SAFETY FEATURES ARE PROPERLY CALIBRATED BY A QUALIFIED TECHNICIAN. CHANGING VEHICLE HEIGHT MAY AFFECT FUNCTIONING OF SAFETY SENSORS AND CAMERAS.



C. Installation Diagram



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.



HARDWARE LIST

Item Part # Description Qty Strut. RF1 Α 35434 35435 В С 20997 Leader hose......2 Fitting 1/4" PTC-1/4" FNPT......2 D 21810 Ε 21987 F 11289 M50 spanner...... 1

TORQUE-TO-YIELD BOLTS*

Description

Lower damper mount bolts

* These bolts are not included with this kit

STOP!

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

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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.

REMOVING THE FRONT STRUT

1. Disconnect the anti-roll bar linkage from the damper (Figs. D.1 & D.2).





fig. D.1

2. Pull the pins from the plastic brake line bracket and remove from the damper (Figs. D.3, D.4 & D.5).







fig. D.3

fig. D.4

fig. D.5



3. Unbolt the knuckle from the damper assembly (Figs. D.6 & D.7).



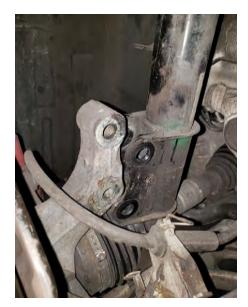


fig. D.6

4. Within the engine compartment, remove the three upper mount bolts (Figs. D.8 & D.9). Remove damper assembly from the vehicle (Fig. D.10).





fig. D.8

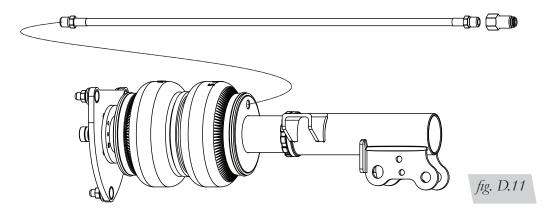




fig. D.10

INSTALLING THE AIR SUSPENSION

1. Apply thread sealant to the threads of the leader hose. Tighten the appropriate fitting to the air line (1 3/4 turns beyond hand-tight). Tighten the leader line into the air spring 1 3/4 turns beyond hand-tight (Fig. D.11).



2. Attach the camber plate to chassis (Fig. D.12). Place washers with stepped edge downward (Fig. D.13). Torque nuts to 35Nm (26 lb.-ft.) (Fig. D.14).





- 3. Attach the lower mount to the knuckle. Torque the lower mount bolts to 110Nm + 90 degrees (81 lb.-ft. + 90 degrees) (Fig. D.15).
 - a. Camber can be adjusted at the lower mount and at the camber plate. If adjusting the lower mount camber inboard, maintain clearance between the tire/ wheel and locking collar (factory 18" wheels shown) (Fig. D.16).





fig. D.15

fig. D.16

- 4. Clip the brake line bracket in place.
- 5. Attach the anti-roll bar to the damper. Torque to 60Nm (44 lb.-ft.) (Fig. D.17).

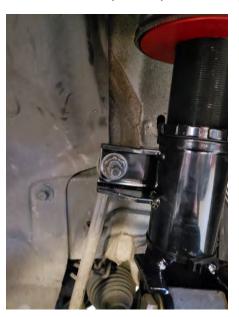


fig. D.17

6. Reinstall wheels and torque to 130Nm (96 lb.-ft.).

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ROUTING THE AIR LINES

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.
- 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.



E. Finished Installation Photo



fig. E.1



F. Before Operating

SETTING THE RIDE HEIGHT

- With the suspension fully compressed, take a measurement from the fender to a chosen reference point - typically the center of the axle. Record this measurement as max compression (MC),
- 2. Cycle the suspension to max extension (ME) and record the measurement from the fender to the same reference point.
- 3. Add ME and MC, then divide the total 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. F.1).

Formula for Calculating Ride Height

(ME+MC)÷2=MID STROKE

fig. F.1

4. With the suspension at this position, loosen, then re-torque all suspension bushing pivot joint fasteners to the manufacturer's specifications (Table 1):

Torque Specifications					
Location	TTY*	Nm	lbft.		
Lower damper mount bolts	✓	100 + 90 degrees	81 + 90 degrees		
Camber plate to chassis		35	26		
Anti-roll bar linkage to damper		60	44		
Wheel bolts		130	96		
Damper locking collar		45 degrees beyond hand tight			
Air line and fitting		1 3/4 turns beyond hand tight with thread sealant			

Table 1

Suggested Driving Air Pressure

Maximum Air Pressure

45-60 PSI (3.1-4.1BAR)

125 PSI (8.6BAR)

FAILURE TO MAINTAIN ADEQUATE MINIMUM PRESSURE (OR PRESSURE PROPORTIONAL TO LOAD) MAY RESULT IN EXCESSIVE BOTTOMING OUT AND WILL VOID THE WARRANTY.

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.

CAUTION

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. 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 (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 "-17 clicks." This means that the damper is adjusted 17 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 2015 Mercedes AMG CLA45.

For more information, refer to the User Guide.



Notes



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.

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For calls outside the U.S. or Canada, dial (517) 322-2144.







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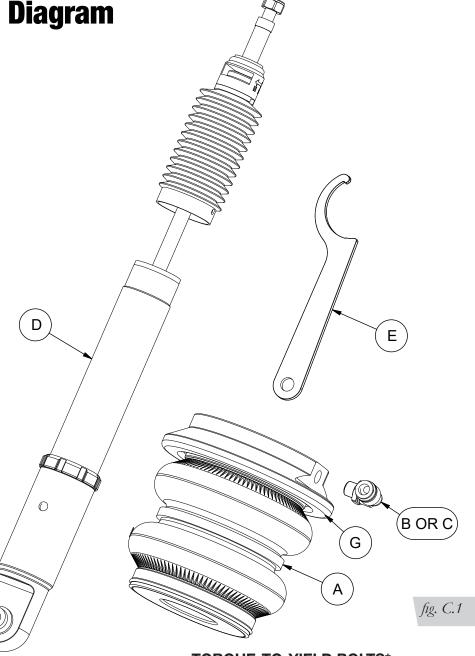
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HARDWARE LIST

Item Part # Description Qty 58554 Air spring 2B6......2 Α В 21851 1/4 MNPT x 3/8 PTC Elbow...... 2 21779 1/4 MNPT x 1/4 PTC Elbow...... 2 С 26882 D Shock, Rear 2 Ε 11291 M44 Spanner 1 F* 21714 O Ring...... 2 G 11312 Roll Plate, 2B6 Upper......2

TORQUE-TO-YIELD BOLTS*

Description

Lower control arm to wheel bearing housing Lower control arm to axle carrier (cam bolt)

18628

H*



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

^{*} These bolts are not included with this kit

I* 17516 M10-1

* Not shown on Figure C.1

D. Installing the Air Suspension

NOTE

See "Important Safety Notices" on page 2.



RAISE THE REAR OF THE VEHICLE WITH A JACK AT THE APPROVED LIFTING POINTS AND USE SAFETY STANDS TO SUPPORT THE VEHICLE.

PREPARING THE VEHICLE

1. Gain access to the rear upper shock mounts by removing the storage compartment trim and side panels (Figs. D.1, D.2 & D.3).





fig. D.1



fig. D.3

2. Unthread the shock upper mount nuts (Fig. D.4).



fig. D.4



- 3. Elevate and support the vehicle with a hoist or safety stands.
- 4. Remove the rear wheel (Fig. D.5).



fig. D.5

REMOVING THE SHOCKS AND SPRINGS

1. Remove the fender liner (Fig. D.6).



fig. D.6

2. Unthread the lower shock bolt and remove the shock (Figs. D.7 & D.8).





fig. D.7

3. Support the lower control arm and remove the outer bolt from the wheel bearing housing. Lower the control arm and remove the spring and rubber isolators (Figs. D.9, D.10 & D.11).

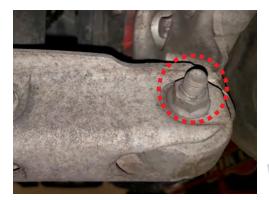


fig. D.9





fig. D.11

fig. D.10

4. Unfasten the upper mount from the shock rod (Fig. D.12). Retain the mount.



fig. D.12



INSTALLING THE AIR SUSPENSION

- Remove the rod nut from the new shock assembly while retaining the rod spacer (Fig. D.13). Apply the upper mount to the rod, over the spacer. Reapply the rod nut and torque to 25Nm (18 lb.-ft) (Fig. D.14).
 - a. When assembling the rod to the mount, orient the adjuster so the letters face outboard when installed on the vehicle (Fig. D.15).







fig. D.13

fig. D.14

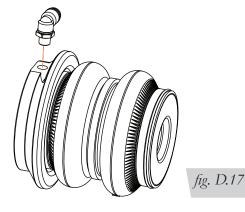
fig. D.15

Attach the shock upper mount to the chassis. Torque nuts to 50Nm (37 lb.-ft.) (Fig. D.16).



fig. D.16

3. Tighten the appropriate fitting to the air spring 1 3/4 turns beyond hand-tight. Make certain the fitting flats are parallel to the top side of the air spring (Fig. D.17).



4. With the fitting on the top side, apply the air spring over the lower spring land and position the fitting in a desired location, free from air line routing obstructions (Figs. D.18 & D.19).



fig. D.18



fig. D.19

5. Attach the lower control arm to the wheel bearing housing. Torque at ride height 50Nm + 90 degrees (37 lb.-ft. + 90 degrees) (Fig. D.20).



fig. D.20

6. Attach the shock to the lower control arm. Torque at ride height 50Nm + 90 degrees (37 lb.-ft. + 90 degrees) (Fig. D.21).



fig. D.21



- 7. Reinstall the fender liner (Figs. D.22 & D.23).
 - a. Adjusting the damping involves removing the fender liner or cutting access through the fender liner. Take note of where the adjuster is in relation to the liner and cut and "X" in the liner (Fig. D.24). This will allow access without removing the liner while preventing debris from collecting behind it.





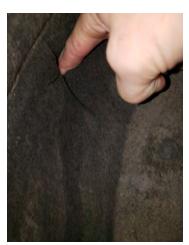


fig. D.22

fig. D.23

fig. D.24

- 8. Reinstall wheel and torque to 130Nm (96 lb.-ft.).
- 9. Reattach interior storage compartment trim (Figs. D.25 & D.26).





fig. D.25

fig. D.26

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 components and axle.
- Routing should also allow for the suspension to extend without kinking or 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.



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. Finished Installation Photo

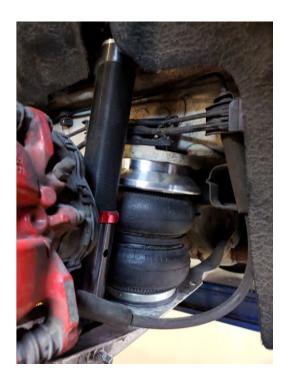


fig. E.1



F. Before Operating

SETTING THE RIDE HEIGHT

- 1. With the suspension fully compressed, take a measurement from the fender to a chosen reference point typically the center of the axle. Record this measurement as max compression (MC),
- 2. Cycle the suspension to max extension (ME) and record the measurement from the fender to the same reference point.
- 3. Add ME and MC, then divide the total 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. F.1).

Formula for Calculating Ride Height

(ME+MC)÷2=MID STROKE

fig. F.1

4. With the suspension at this position, loosen, then re-torque all suspension bushing pivot joint fasteners to the manufacturer's specifications (Table 1):

Torque Specifications			
Location	TTY*	Nm	Lbft.
Shock rod nut		25	18
Upper shock mount nuts		50	37
Lower shock mount bolt		50	37
Lower control arm to wheel bearing housing	√	50 + 90 degrees	37 + 90 degrees
Lower control arm to axle carrier (cambolt)	√	50 + 90 degrees	37 + 90 degrees
Wheel bolts		130	96
Damper locking collar		45 degrees beyond hand-tight 1 3/4 turns beyond hand-tight with thread sealant	
Air line and fitting			

Table 1

Suggested Driving Air Pressure

Maximum Air Pressure

35-60 PSI (2.4-4.1BAR)

125 PSI (8.6BAR)

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Table 2

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- 2. Inflate the air springs to 75-90 PSI (5.2-6.2BAR) and check all connections for leaks.



INSTALLATION CHECKLIST

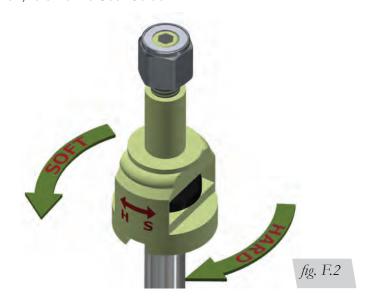
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