

Air Lift™
PERFORMANCE

Kit 78522

Volkswagen MKVII

Front Application

(for vehicles with 55mm lower strut diameter)



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 Volkswagen MKVII 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.

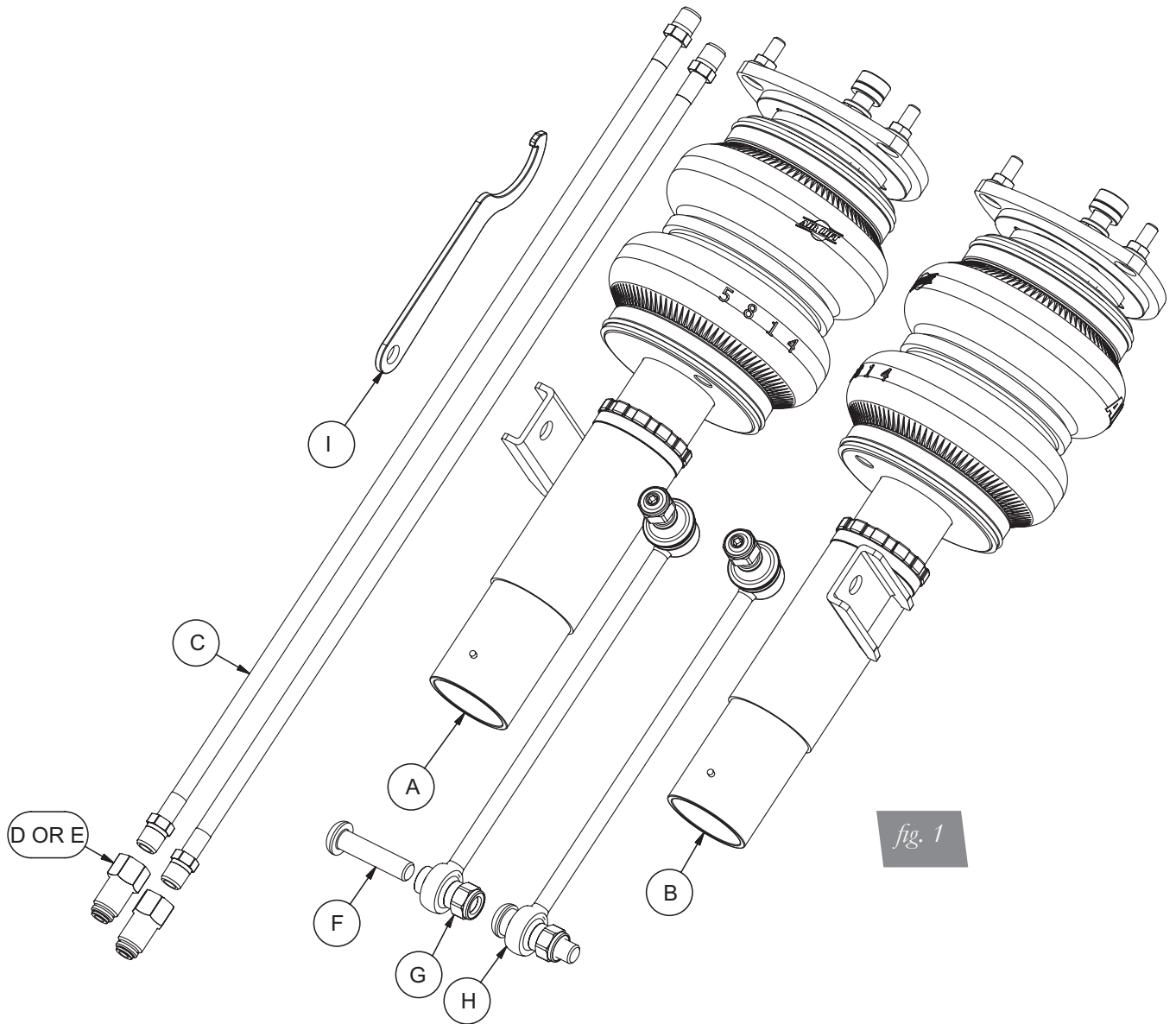
 **WARNING**

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/SOCKS IN ANY WAY. DAMAGE TO UNIT MAY OCCUR AND WILL VOID WARRANTY.

Installation Diagram



HARDWARE LIST

| Item | Part # | Description | Qty |
|------|--------|---|-----|
| A | 35310 | ASM, Strut, MKV7 Front (55mm) Right | 1 |
| B | 35311 | ASM, Strut, MKV7 Front (55mm) Left..... | 1 |
| C | 20997 | Leader Hose, 1/4" ID | 2 |
| D | 21987 | Union, 1/4"FNPT X 3/8" PTC, DOT | 2 |
| E | 21810 | Union, 1/4"FNPT X 1/4" PTC, DOT | 2 |
| F | 17491 | Male 12x1.25-50 Button Head Cap Screw ... | 2 |
| G | 18546 | Nyloc Nut..... | 2 |
| H | | End Link, VW MKV7 Front..... | 2 |
| I | | Spanner Wrench..... | 1 |

Installing the Air Suspension

PREPARING THE VEHICLE

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

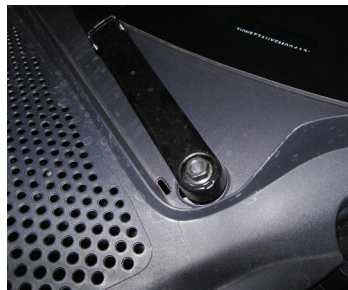


REMOVING THE FRONT SUSPENSION

1. Within the engine compartment, remove the weather-stripping from the plastic cowl cover (figs. 3 and 4).



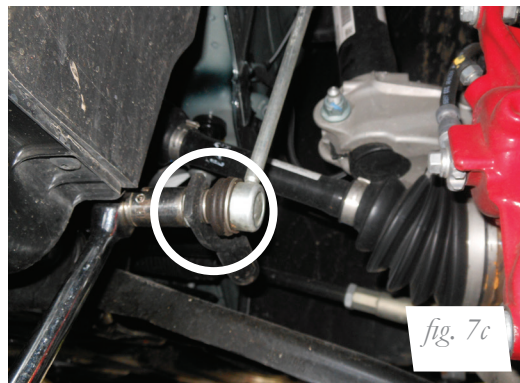
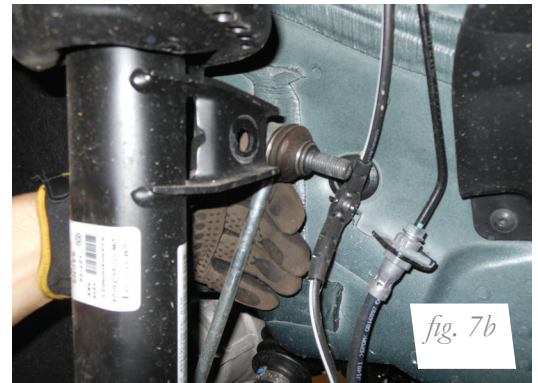
2. Remove both wiper arms (figs. 5a-5c).



3. Unclip the hose from the cowl cover and remove both sections of cover from the vehicle (figs. 6a-6d).



4. Remove the stabilizer bar end link from the strut and bar (figs. 7a-d).



5. Remove the axle bolt from the bearing hub (figs. 8a and 8b).



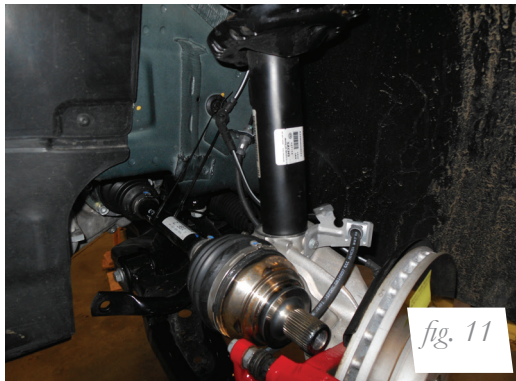
6. Remove the lower strut pinch bolt (fig. 9).



7. Support the hub assembly and remove the three lower ball joint bolts (fig. 10).



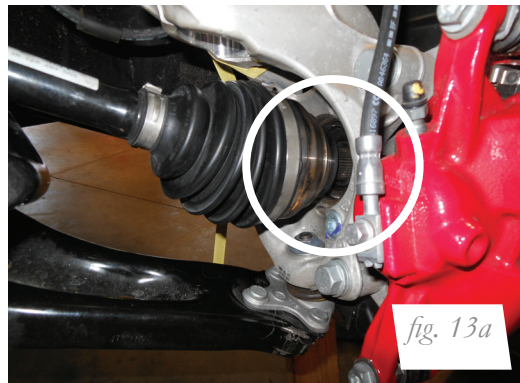
8. Rotate the hub and remove the axle from the bearing. Support the axle and slide the hub down from the strut (fig. 11).



9. Unbolt the three upper strut mount bolts and remove the strut from the vehicle (figs. 12a and 12b).



10. Insert the axle through the bearing (fig. 13a), reattach the axle bolt and three lower ball joint nuts (fig. 13b). Torque ball joint nuts to 60Nm (44 ft-lbs.) Thread the axle bolt in place (fig. 13c). See Torque Specifications for axle bolt values.



AIR SUSPENSION INSTALLATION

1. Install the braided air line into the air spring (fig. 14) with thread sealant, torque one and three-quarter turns beyond hand-tight. Attach the desired air fitting to the braided air line with thread sealant, torque one and three-quarter turns beyond hand-tight.

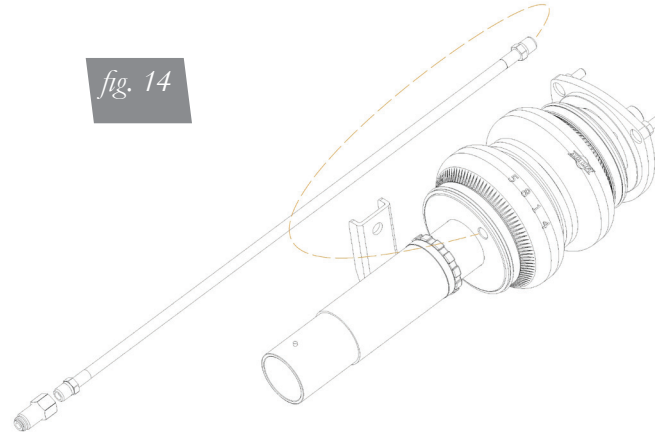


fig. 14

2. Attach the strut camber plate to the chassis (fig 15b). Torque nuts to 27Nm (20 ft-lbs.)



fig. 15a



fig. 15b

3. Lift the hub assembly, sliding over the strut lower mount with the locating pin between the clamp area (fig. 16a). With the lower mount fully seated (fig. 16b), install the lower clamp bolt (fig. 16c). Torque to 70Nm (52 ft-lbs.).

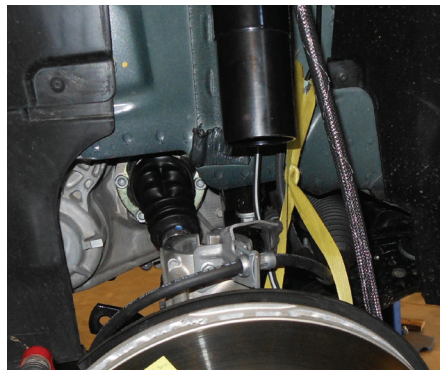


fig. 16a



fig. 16b

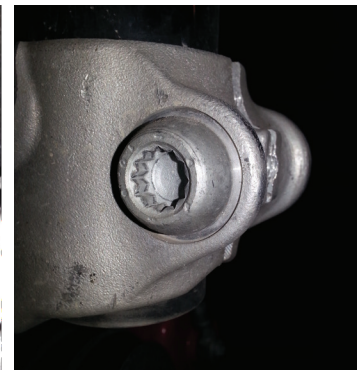
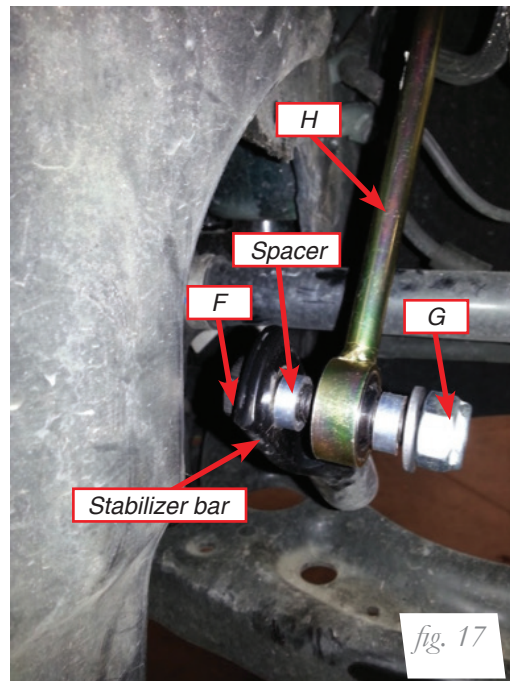


fig. 16c

4. Insert the supplied bolt (F) through the stabilizer bar with the bolt head inboard toward the engine compartment. Slide the supplied end link (G) with spacer on each side of the rod end onto the bolt. Thread the nut onto the bolt and torque to 65Nm (48 ft-lbs.) (fig. 17).



5. Attach the end link stud to the endlink tab on the strut (fig. 18). Torque to 65Nm (48 ft-lbs.)



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. Following the brake line routing is often a good place to start. 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. 19).

Formula for Calculating Ride Height

$$(ME+MC) \div 2 = \text{MID STROKE}$$

fig. 19

10. With the suspension at this position, loosen and then re-torque the forward control arm to sub-frame bolt to manufacturer's specifications (Table 1).

| Torque Specifications | | |
|---|-----------------------------------|------------------|
| Location | Nm | lb-ft |
| Camber plate to chassis | 27 | 20 |
| Lower strut clamp bolt | 70 | 52 |
| Stabilizer end link to bar | 65 | 48 |
| Stabilizer end link to strut | 65 | 48 |
| Camber adjustment bolt | 15 | 11 |
| Ball joint to control arm | 60 | 44 |
| Axle bolt (12 point without ribs) | 200 | 148 |
| Axle bolt (12 point with ribs) | 70 + 90 degrees | 52 + 90 degrees |
| Forward control arm to sub-frame bushing bolt | 70 + 180 degrees | 52 + 180 degrees |
| Wheel studs | 120 | 89 |
| Braided air line 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. 20 and 21) 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 “-15 clicks”. This means that the shock is adjusted 15 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 2015 Volkswagen Golf GTI and may need to be adjusted to different vehicles and driving characteristics.



fig. 20



fig. 21

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.

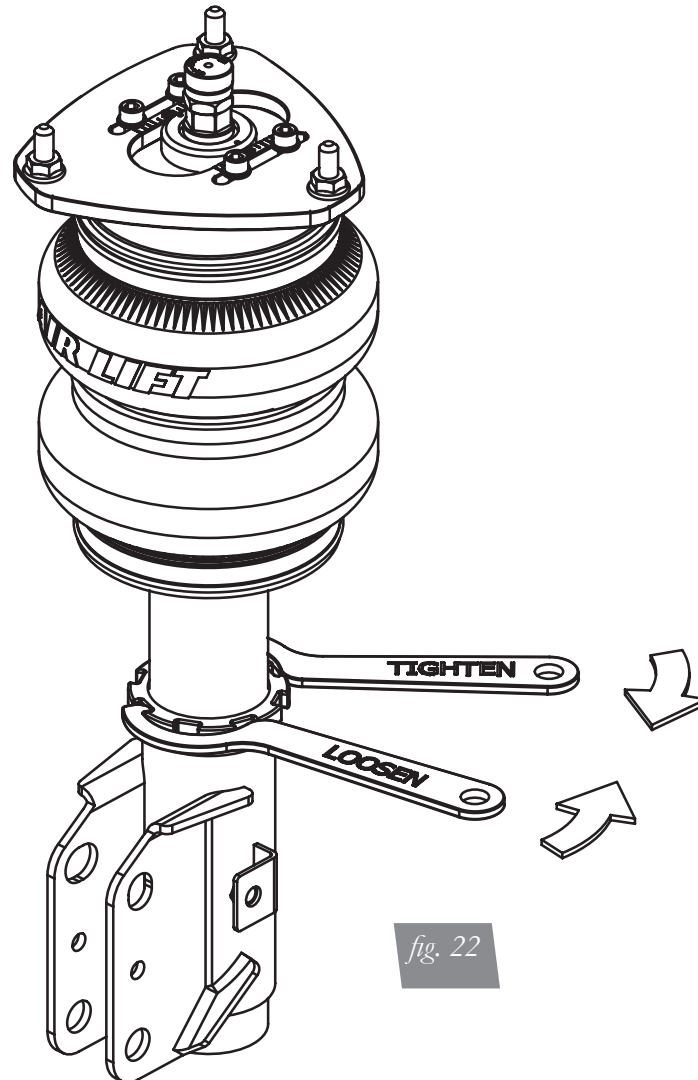
NOTE

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. 22).



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. 23). 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:

FOR SHOCKS:

