

**AIR LIFT**  
**PERFORMANCE**

## Kit 78641

Subaru Impreza (GR),  
WRX/STI (VA),  
BRZ, Scion FR-S and  
Toyota 86/FT86/GT86

### ***Rear Application***



## INSTALLATION GUIDE



SEE PAGE 9 FOR IMPORTANT INFORMATION  
ABOUT SLEEVE-STYLE DAMPERS AFTER INITIAL  
INSTALLATION.

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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# Introduction

Air Lift Performance thanks you for purchasing the most complete, fully engineered high-performance air suspension made for the Subaru Impreza/WRX/STI, BRZ, Scion FR-S and Toyota 86/FT86/GT86. 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.

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**NOTE**

*Indicates a procedure, practice or hint which is important to highlight.*

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## Important Safety Notices

 **WARNING**

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

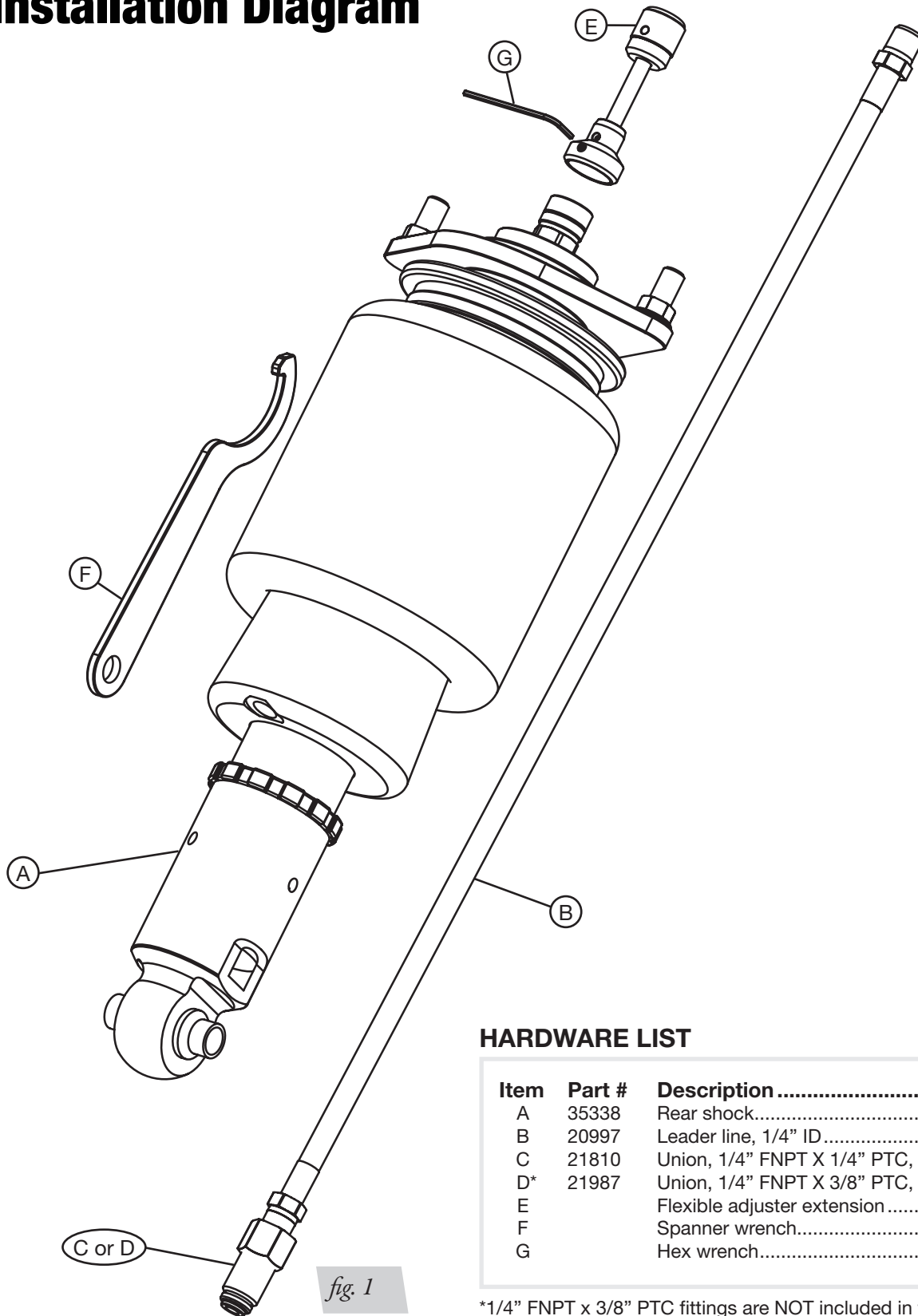
 **CAUTION**

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.

# Installation Diagram



*fig. 1*

## HARDWARE LIST

Item	Part #	Description .....	Qty
A	35338	Rear shock.....	2
B	20997	Leader line, 1/4" ID.....	2
C	21810	Union, 1/4" FNPT X 1/4" PTC, DOT .....	2
D*	21987	Union, 1/4" FNPT X 3/8" PTC, DOT .....	2
E		Flexible adjuster extension.....	2
F		Spanner wrench.....	1
G		Hex wrench.....	1

\*1/4" FNPT x 3/8" PTC fittings are NOT included in this kit, but are available as a special order.



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

# Installing the Air Suspension

## REMOVAL OF STOCK SUSPENSION

1. Raise the vehicle and remove the wheel. Support the lower control arm with a jack. (Fig. 2)



*fig. 2*

2. Remove the two nuts for the upper shock mount that are located in the storage compartment. (Fig. 3)



*fig. 3*

3. Remove the bolt for the lower shock mount and the sway bar end link to the lower control arm. (Figs. 4 & 5)



*fig. 4*



*fig. 5*

4. Lower the jack and remove the rear shock from the vehicle. (Fig. 6)



*fig. 6*

5. **For 2022+ BRZ model only** - Remove the inner fender liner (Fig. 7). Trim the inner fender liner as shown by the red line in the photo (Fig. 8). Reinstall the inner fender liner before continuing the suspension install.

**CAUTION**

**STEP 5 IS NECESSARY TO CREATE SUFFICIENT CLEARANCE FOR THE AIR SPRING. FAILING TO COMPLETE THIS STEP COULD CAUSE THE AIR SPRING TO RUB AND POTENTIALLY VOID THE WARRANTY.**



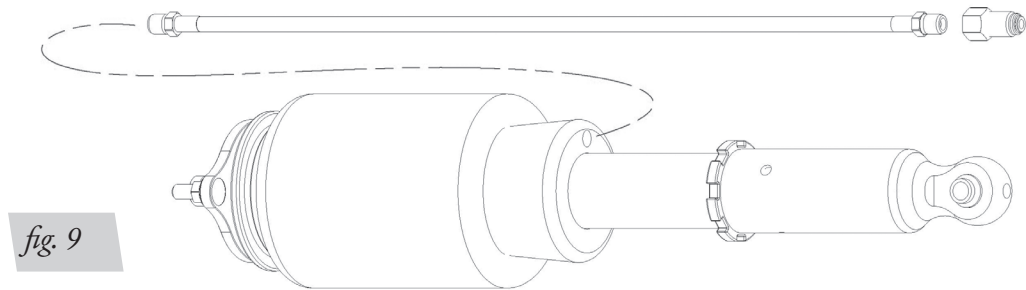
*fig. 7*



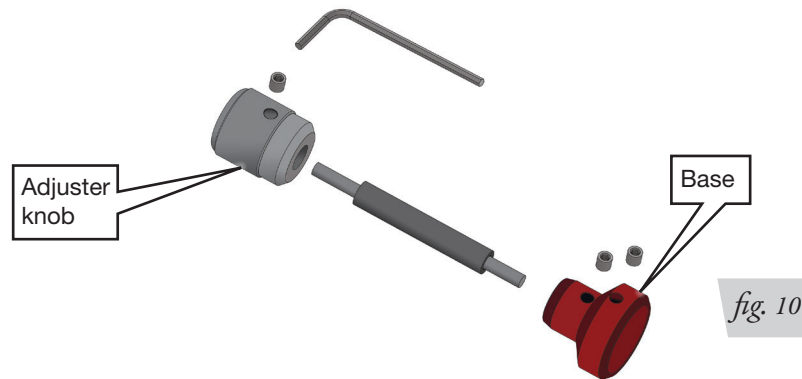
*fig. 8*

## INSTALLING THE KIT COMPONENTS

1. Install the leader line into the air spring. Tighten the desired fitting to the leader line (1 3/4 turns beyond hand-tight). Tighten the leader line into the air spring (1 3/4 turns beyond hand-tight). (Fig. 9)



2. The optional flexible adjuster extension (E) can be installed at this time (Fig. 10).
  - a. Use the supplied 2mm hex wrench (G) to disassemble the flexible adjuster extension. Cut the black sheathing down to approximately 40mm (1 9/16"). Cut the inner cable of the flexible adjuster extension to 65mm (2 9/16"). Verify the cable is not protruding beyond the mounting surface of the base.
  - b. Reassemble the adjuster. Tighten the set screws one turn beyond hand-tight. Verify the cable is not protruding beyond the mounting surface of the base.



3. Insert the lower mount of the shock into the lower control arm with the leader line on the inboard side of the shock and reinstall the bolt. Do not torque at this time. (Fig. 11)





4. Raise the jack while guiding the upper mount into the holes in the chassis. Then thread the nuts on to the upper mount from inside the storage compartment and torque to 30Nm (22 lb.-ft.). (Figs. 12 & 13)



*fig. 12*



*fig. 13*

5. Reinstall the bolt through the sway bar end link to the lower control arm and torque to 38Nm (28 lb.-ft.). (Fig. 14)



*fig. 14*

## ROUTING THE AIR LINES

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 components and axle.
2. 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.



### 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.

# Before Operating

## SETTING THE RIDE HEIGHT

Read the User Guide that came with this kit to set up the suspension.

TORQUE SPECIFICATIONS		
Location	Nm	lb.-ft.
Upper shock mount nuts	30	22
Lower shock mounting bolt (2015+ Subaru [VA] WRX/STI)	80	59
Lower shock mounting bolt (Subaru GR/BRZ/86)	120	89
Sway bar end link bolt	38	28
Wheel studs	100	74

*Table 1*

Suggested Driving Air Pressure	Maximum Air Pressure
<b>40-65 PSI (2.8-4.5BAR)</b>	<b>125 PSI (8.6BAR)</b>
<p>FAILURE TO MAINTAIN ADEQUATE MINIMUM PRESSURE (OR PRESSURE PROPORTIONAL TO LOAD) MAY RESULT IN EXCESSIVE BOTTOMING OUT AND <b>WILL VOID THE WARRANTY.</b></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.



**CAUTION**

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

 **CAUTION**

## AFTER INITIAL INSTALLATION OF SLEEVE-STYLE DAMPERS

DO NOT CYCLE THE SUSPENSION WITH THE AIR LINE CONNECTED TO THE LEADER LINE WITHOUT FIRST ADDING AIR SPRING PRESSURE. DOING SO MAY CAUSE THE AIR SPRING TO IMPROPERLY INFLATE (FIG. 15). IT IS SAFE TO CYCLE THE SUSPENSION TO CHECK FOR CLEARANCES ETC. WITH THE LEADER LINE OPEN TO ATMOSPHERE (DISCONNECTED FROM AIR LINE).

BEFORE SETTING VEHICLE ON THE GROUND FOR THE FIRST TIME, IT IS VERY IMPORTANT TO INFLATE THE AIR SPRINGS TO AT LEAST 50 PSI (3.5BAR). THIS WILL PREVENT ANY POSSIBILITY OF THE AIR SPRING KICKING OUT AND CAUSING A LEAK (FIG. 16). FIGURE 17 SHOWS THE SPRING INSTALLED CORRECTLY.



*fig. 15*

Caused by cycling with air line attached without pressure. Remove air line from spring to release vacuum and re-attach. Inflate to more than 50 PSI (3.5BAR) before lowering car to ground.

**Do NOT drive!**



*fig. 16*

Shows what spring looks like after lowering car to ground with less than 50 PSI (3.5BAR) and raising it with air pressure.

**Do NOT drive!**



*fig. 17*

Shows what spring looks like when installed correctly.

## 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 air 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.

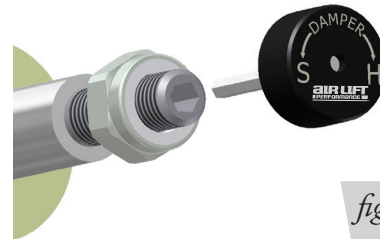
## DAMPING ADJUSTMENT

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. 18 & 19) 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 “-13 clicks.” This means that the damper is adjusted 13 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 2016 Toyota Camry SE.

For more information, refer to the User Guide.



*fig. 18*



*fig. 19*

# Notes

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## 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](http://www.airliftperformance.com/warranty).

For additional warranty information contact Air Lift Company customer service.

Air Lift Company 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 Company at **(800) 248-0892** or visit [www.airliftperformance.com](http://www.airliftperformance.com).



## 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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Air Lift Performance • 2727 Snow Road • Lansing, MI 48917 or P.O. Box 80167 • Lansing, MI 48908-0167  
Toll Free (800) 248-0892 • Local (517) 322-2144 • Fax (517) 322-0240 • [www.airliftperformance.com](http://www.airliftperformance.com)

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