AIR LIFT PERFORMANCE®

INSTALLATION GUIDE

# TOYOTA SUPRA (A90)

## *REAR APPLICATION*

Kit 76512

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 which could result in damage to the vehicle, minor to severe personal injury or death.*

MN-2512 • (012602) • ERN 10188

# Protect your Air Lift Performance Purchase by Completing your Warranty Registration

Thank you for purchasing an Air Lift Performance product!

Take a photo of your sales receipt and then scan the QR code to complete your online warranty registration.

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# Introduction

Air Lift Performance thanks you for purchasing the most complete, fully engineered high-performance air suspension made for the Toyota Supra (A90). 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 System Overview 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 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** — *Used to help emphasize areas of procedural importance and provide helpful suggestions.*

**TECH TIP** — *Used to provide helpful tips to ease the installation process.*

# System Overview

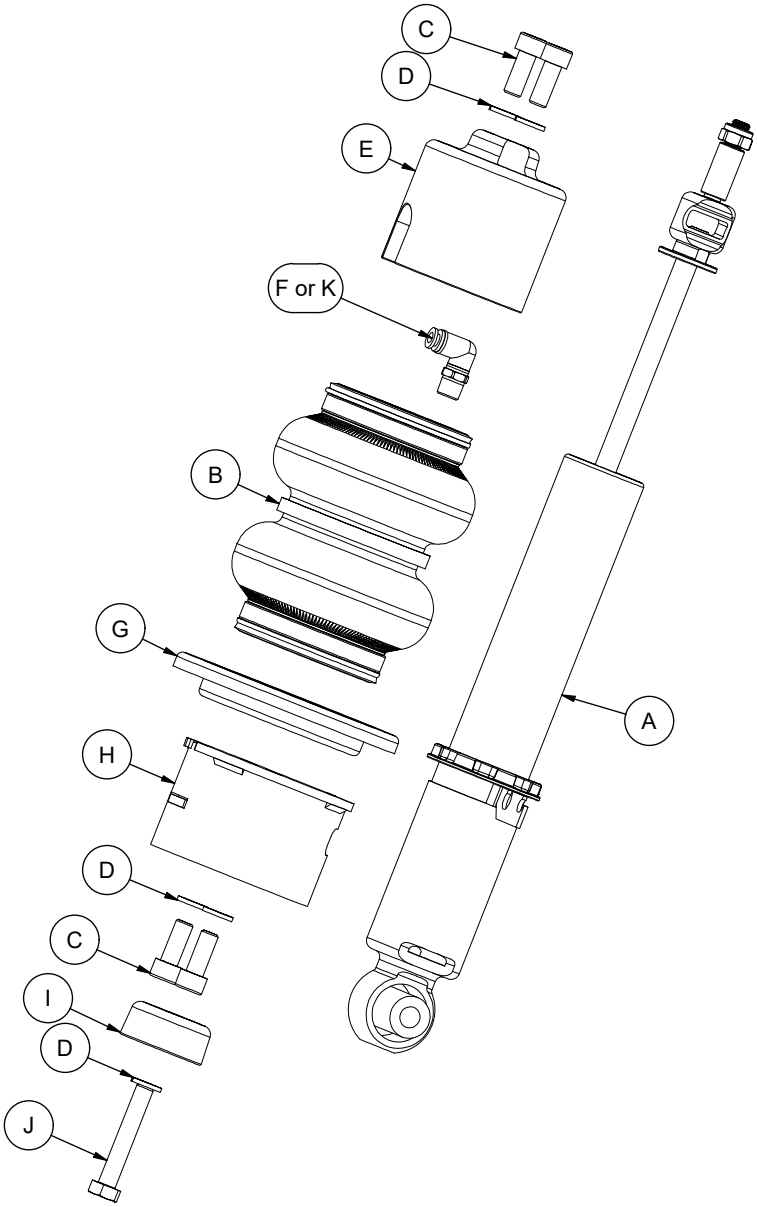



*Fig. 1*

## HARDWARE CONTENT

| Item | Part # | Description | Qty |
|---|---|---|---|
| A | 39144 | SHOCK, SUPRA GR, REAR | 2 |
| B | 58558 | AIR SPRING, 2B5, METRIC | 2 |
| C | 17516 | M10-1.5x25 SOCKET-HEAD CAP SCREW | 8 |
| D | 18628 | M10, SPLIT LOCK WASHER | 10 |
| E | 13303 | SPACER, SUPRA (A90) UPPER | 2 |

| Item | Part # | Description | Qty |
|---|---|---|---|
| F | 21779 | 1/4" MNPT X 1/4" PTC, ELBOW FITTING - DOT | 2 |
| G | 11803 A | ROLL PLATE - 2B5 | 2 |
| H | 03052A | BRACKET, SUPRA (A90) LWR REAR | 2 |
| I | 13993 B | CENTERING SPACER | 2 |
| J | 17930 | M10X1.5X60 HEX CAP SCREW | 2 |
| K | 21851 | 1/4" MNPT X 3/8" PTC, ELBOW FITTING - DOT | 2 |

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

# Install the System

**NOTES** *See important safety notices on page 2.*

## SECTION 1. PREPARE THE VEHICLE

1. Elevate and support the vehicle with a hoist or jack stands.

2. Remove the rear wheel (Figs. 2 & 3).

*Fig. 2*

*Fig. 3*

## SECTION 2. STOCK SUSPENSION REMOVAL

1. Unbolt the splash guard from the spring control arm (Figs. 4 & 5).

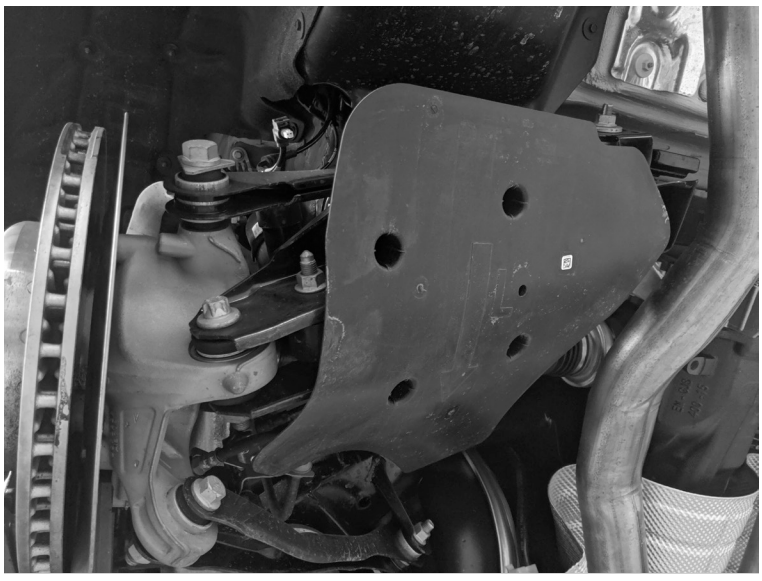


*Fig. 4*

*Fig. 5*

2. Disconnect the sensor linkage from the spring control arm (Figs. 6-9).

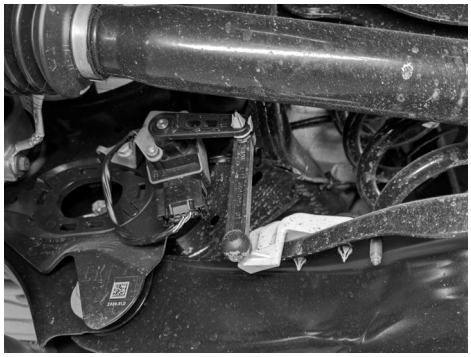


*Fig. 6*

*Fig. 7*

*Fig. 8*

*Fig. 9*

3. Disconnect the electronic damping control wires from the damper (Figs. 10-12).

*Fig. 10*

*Fig. 11*

*Fig. 12*

4. Support the spring control arm at the outermost point and loosen the eccentric cam bolt (Figs. 13 & 14).

*Fig. 13*

*Fig. 14*

5. Unbolt and remove both the lower damper and spring control arm to hub assembly bolts. Lower the spring control arm. Remove the spring and spring isolators (Figs. 15 & 16).

*Fig. 15*

*Fig. 16*

6. Remove the three upper mount bolts from the damper assembly and remove from the vehicle (Figs. 17 & 18).

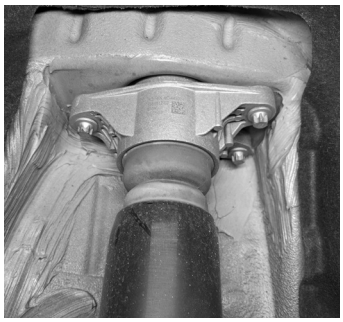


*Fig. 17*

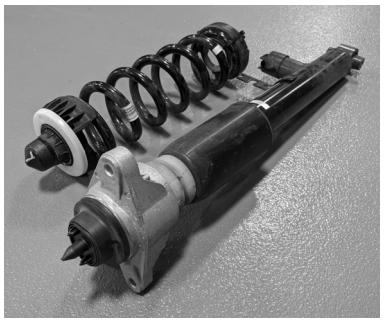


*Fig. 18*

## SECTION 3. INSTALL THE KIT COMPONENTS

### PLEASE READ – IMPORTANT INSTALLATION INFORMATION

**FOR COIL TO AIR UPGRADE KIT INSTALLATIONS ONLY:** Please refer to the included Coil to Air Upgrade Kit installation guide (MN-2000) for details on how to disassemble the coilovers and assemble the air springs.

Also refer to your control system installation guide to ensure the installation of your air suspension system is complete.

**NOTES**

*All dampers come pre-set to even lengths, and locking collars are pre-tightened. It is always recommended to double-check that the dampers are the same length side to side, and the locking collars are tight.*

*Please refer to the User Guide included with the kit for any suspension setup adjustments.*

1. Attach the damper assembly to the chassis with replacement bolts (Fig. 19). Torque to 28Nm (21 lb.-ft.).


*Fig. 19*

2. Clip the sensor wires to the damper (Fig. 20).

*Fig. 20*

3. Apply thread sealant to the threads of the fitting (F or K). Tighten the fitting to the air spring 1 3/4 turns beyond hand-tight (Fig. 21).

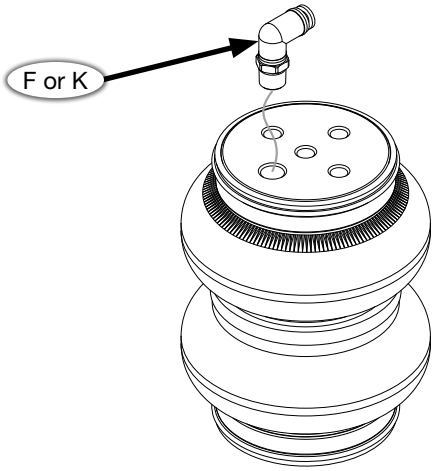



*Fig. 21*

4. Fasten the air spring (B) to the lower rear bracket (H) with the window cutout pointing toward the wheel. Ensure the fitting points toward the subframe (Fig. 22). Torque bolts to 27Nm (20 lb.-ft.).

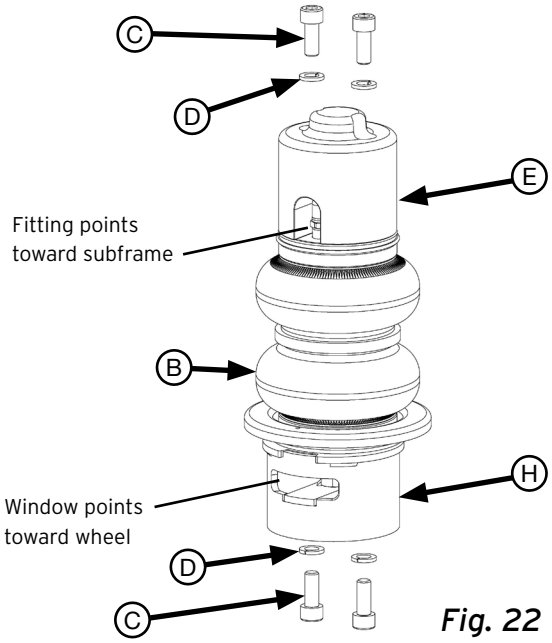



*Fig. 22*

5. Attach and fasten the upper spacer (E) to the air spring and torque bolts to 27Nm (20 lb.-ft.). (Fig. 22)

6. Insert the air spring assembly while attaching the spring control arm to the wheel bearing housing (Figs. 23 & 24). Torque bolt to 165Nm + 90 degrees (122 lb.-ft. + 90 degrees).

*Fig. 23*

*Fig. 24*

7. Assemble the damper to the spring control arm (Fig. 25). Do not torque at this time. Torque at ride height with suspension loaded. Torque to 100Nm (74 lb.-ft.).

*Fig. 25*

8. Insert the air line into the fitting and align the upper mount with the locating feature in the chassis (Figs. 26 & 27).

*Fig. 26*

*Fig. 27*

9. Attach the centering spacer (I) to the spring control arm (Fig. 28) and torque to 27Nm (20 lb.-ft.). Ensure the lower bracket window is pointed toward the wheel and centered in the control arm. Verify air spring clearance to all other components.

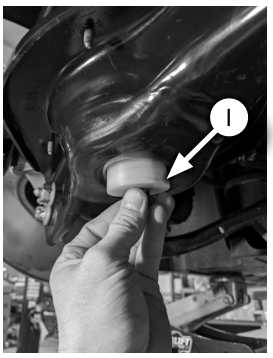



*Fig. 28*

10. Reattach the sensor linkage to the spring control arm (Figs. 29 & 30).

*Fig. 29*

*Fig. 30*

11. Reinstall the splash guard (Fig. 31). Torque nuts to 6Nm (53 lb.-in.).

*Fig. 31*

12.

## SECTION 4. ROUTE 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 components and axle.

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.

**PLEASE READ – IMPORTANT INSTALLATION INFORMATION**

Please refer to your control system installation guide for more details on air line routing and to ensure the installation of your air suspension system is complete.

## FINISHED INSTALLATION PHOTO

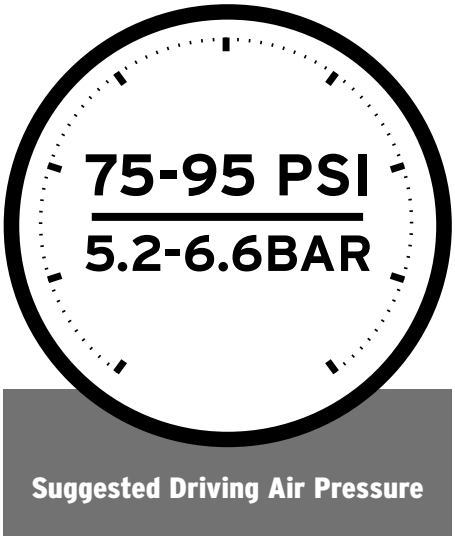
# Before Operating

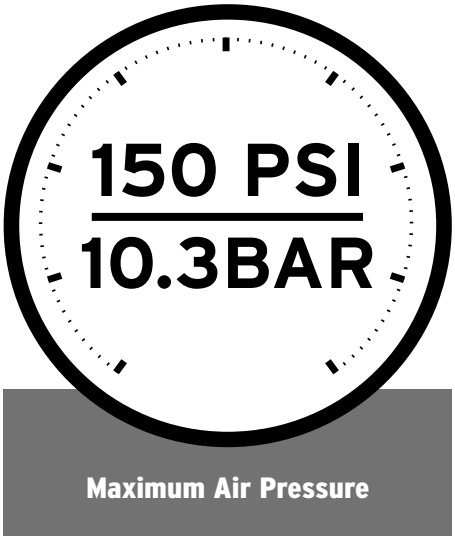
## SET THE RIDE HEIGHT

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

| Torque Specifications | | | |
|---|---|---|---|
| **Location** | **Nm** | **Lb.-ft.** | **lb.-in.** |
| Upper mount to chassis | 28 | 21 | |
| Damper to spring control arm bolt | 100 | 74 | |
| Spring control arm to wheel bearing housing | TTY 165+90 degrees | TTY 122+90 degrees | |
| Spring control arm to subframe | 175 | 129 | |
| Toe control link to subframe | 108 | 80 | |
| Toe control link to wheel bearing housing | TTY 100+90 degrees | TTY 74+90 degrees | |
| Other control arms to subframe | TTY 100+90 degrees | TTY 74+90 degrees | |
| Forward upper control arm to wheel bearing housing | TTY 165+90 degrees | TTY 122+90 degrees | |
| Splash cover | 6 | 4.4 | 53 |
| Wheel bolts | 140 | 103 | |
| Damper locking collar | 45 degrees beyond hand-tight | | |
| Air line and fitting | 1 3/4 turns beyond hand-tight with thread sealant | | |
| Air spring to lower rear bracket | 27.1 | 20 | |
| Upper spacer to air spring assembly fasteners | 27.1 | 20 | |

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




**CAUTION** 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

**CAUTION** 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.

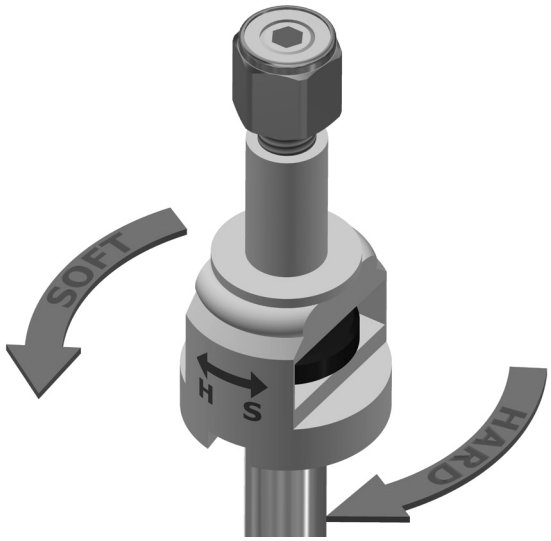
## DAMPING ADJUSTMENT

1. The dampers in this kit have 32 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 will need to be set after installation and your initial drive, as they are not pre-set. It may take multiple adjustments to dial in your ideal ride. A good starting point is in the middle at 16 clicks from full soft, then drive the vehicle and make adjustments either softer or stiffer.

For more information, refer to the user guide.



# Limited Warranty and Return Policy

Air Lift Company provides a limited warranty* to the original purchaser of Air Lift Performance Air Suspension kits from the date of original purchase, that the products will be free from defects in workmanship and materials when used on cars and trucks 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.

* Full Limited Warranty and Return Policy are available at www.airliftperformance.com/warranty
andare subject to change.

## WARRANTY REGISTRATION & CLAIMS

- To register your warranty, please visit https://www.airliftperformance.com/support/warranty-registration/
- To submit a warranty claim, please visit https://www.airliftperformance.com/support/submit-warranty-claim/

*Thank you for purchasing Air Lift Performance products!*

# Need Help?

Contact Air Lift Company Customer Service at (800) 248-0892 or +1 (517) 322-2144 for calls from outside the U.S. and Canada.

Connect by searching for **Air Lift Performance** #LifeonAir

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