



## INSTALLATION GUIDE



**Kit 78647**

## Mazda3/Mazda6 Gen 3 *REAR APPLICATION*

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.*



**Watch the video**

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## Video-enhanced installation guides

Visit [airliftcompany.com/workshop/category/install-videos](http://airliftcompany.com/workshop/category/install-videos) to access our installation video archive\*.

\* subject to availability

# Introduction

Air Lift Performance thanks you for purchasing the most complete, fully engineered high-performance air suspension made for the Mazda3/Mazda6 Gen 3. 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](http://www.airliftperformance.com)**.

An Air Lift Performance air management system is highly recommended for this product. Learn more at **[air-lift.co/productlines](http://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**

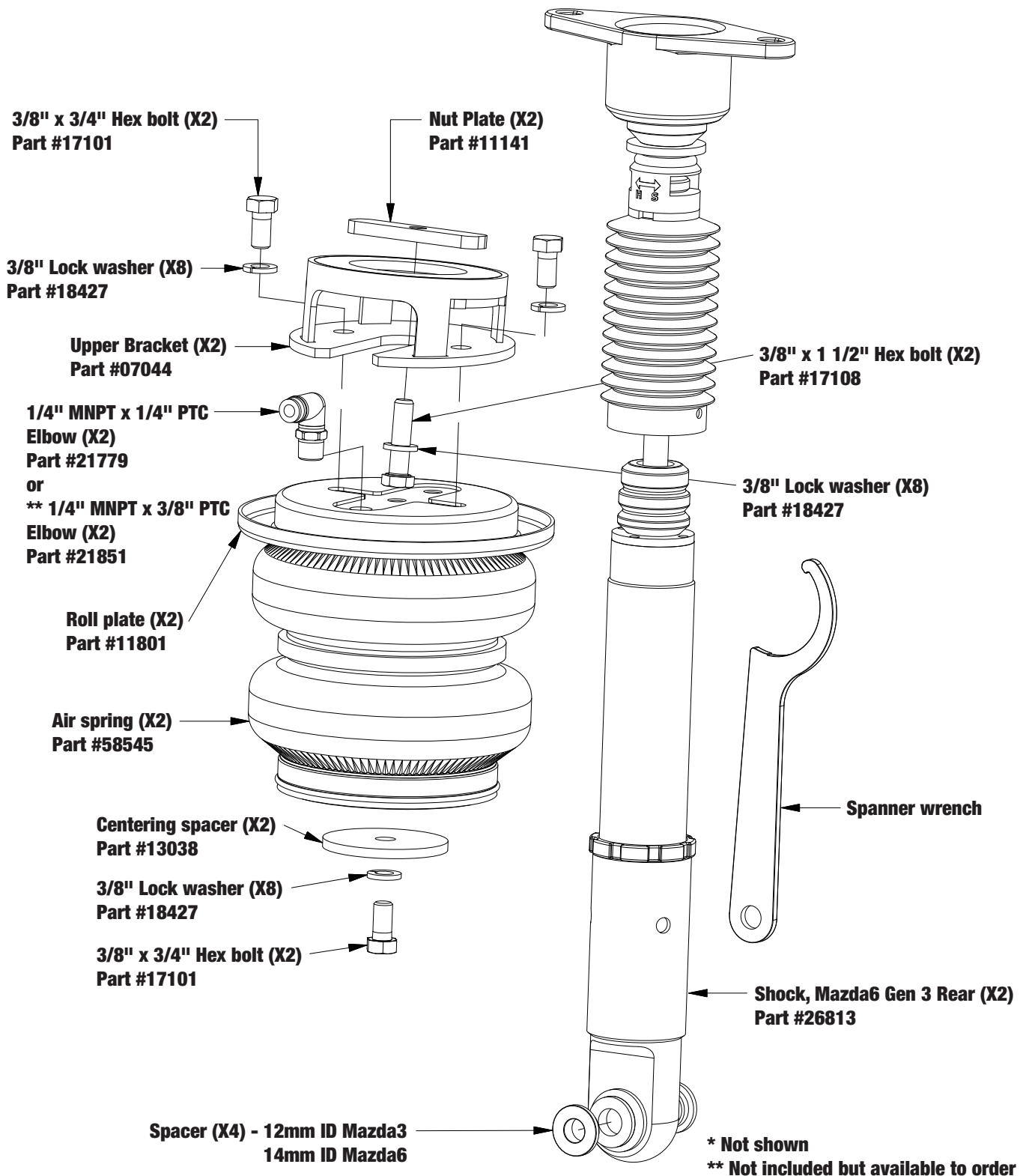
INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE VEHICLE OR MINOR PERSONAL INJURY.



### **NOTE**

*Used to help emphasize areas of procedural importance and provide helpful suggestions.*

# System Overview



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

# Installing the System

## 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.

## SECTION 1.

## PREPARE THE VEHICLE



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

1. Elevate and support the vehicle with a hoist or safety stands.
2. Remove the front wheel.





## SECTION 2. STOCK SUSPENSION REMOVAL

1. Unbolt sway bar end link from lower control arm.



2. Remove the bolt between the lower control arm and knuckle. Lower the jack far enough so that the coil spring and isolators can be removed. Remove the coil spring and both isolators from the vehicle.



3. Raise the lower control arm with the jack and reinstall the bolt between the lower control arm and the knuckle, but do not torque it at this time.



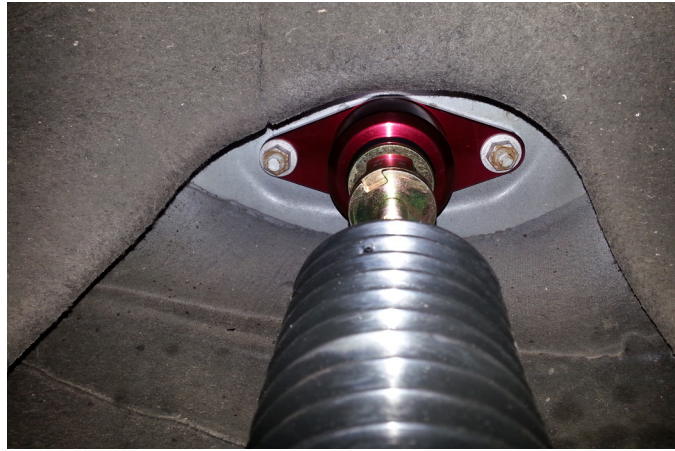
4. With the lower control arm still supported, remove the lower shock nut and upper mount nuts. Remove the shock from the vehicle.



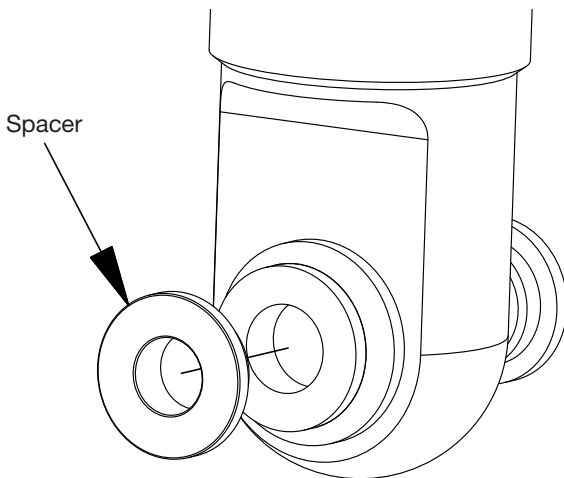


## SECTION 3. INSTALLING THE SHOCKS

1. Insert the upper shock mount onto the studs in the shock tower and thread the nuts on. Torque the upper mount nuts to 34-41 Nm (26-30 lb.-ft.).



2. Place the lower shock mount onto the stud on the knuckle and install the nut. Use the included 12mm ID spacers for Mazda3 applications, 14mm ID spacers for Mazda6 applications. Torque the lower shock mount nut to 130-158 Nm (96-116 lb.-ft.).



## **SECTION 4.**     **INSTALLING THE AIR SPRINGS**

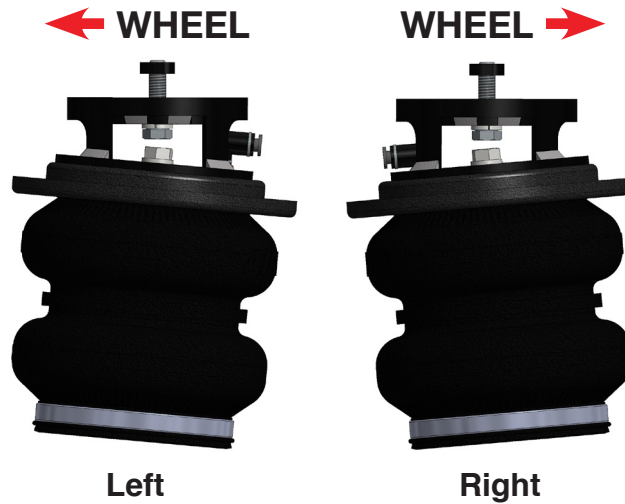
1. Insert the nut plate into the hole in the upper spring mount. Center the threaded hole in the nut plate to the center of the upper spring mount.



2. Remove the upper mount from the air spring assembly and insert the 3/8"-16x1 1/2" hex head bolt through the bottom of the upper mount. Thread the appropriate elbow fitting into the air bag 1 3/4 turns beyond hand tight. Reassemble the upper mount to the air spring and torque the two bolts to 40 Nm (30 lb.-ft.).



3. Attach the air spring assembly to the vehicle by threading the 3/8"-16x1 1/2" hex bolt in the upper mount to the nut plate that was inserted into the chassis and torque to 40 Nm (30 lb.-ft.). Notice the upper mount is angled to the outside. Orient the air spring assembly so the fitting is toward the inside of the vehicle.



4. Raise the lower control arm so the air spring assembly seats on the centering cup in the spring pocket. Then bolt the centering spacer to the air spring assembly through the bottom of the lower control arm with the 3/8"-16x3/4" hex head bolt and 3/8" lock washer. Torque it to 34 Nm (25 lb.-ft.).



## SECTION 5. ROUTE 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.
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.

# 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.
Upper shock mount nut	34-41	26-30
Lower shock mount nut	130-158	96-116
Upper bracket to air spring bolt	40	30
Lower control arm inner pivot bolt	84-101	62-74
Lower control arm outer pivot bolt	86-105	64-77
Upper control arm inner pivot bolt	78-105	58-77
Upper control arm outer pivot bolt	86-105	64-77
Upper mount to nut plate	40	30
Center spacer bolt	34	25
Lug nuts	108-147	80-108

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



**Suggested Driving Air Pressure**



**Maximum Air Pressure**



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



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

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.

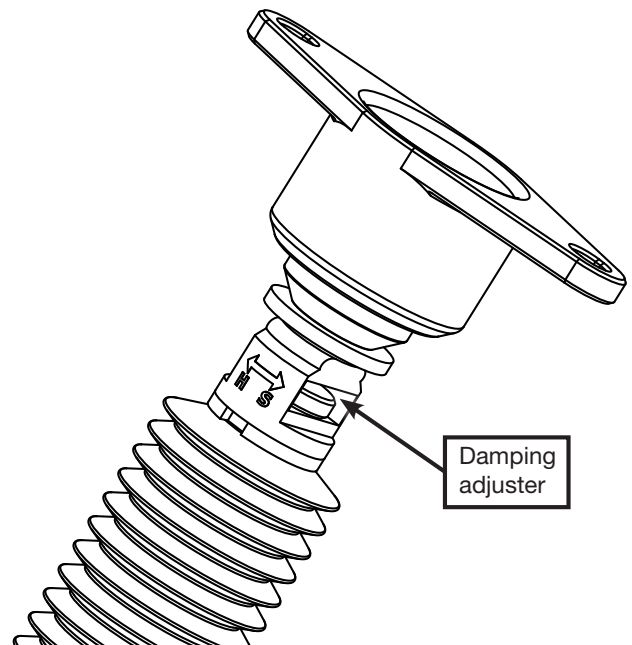
## INSTALLATION CHECKLIST

- ☐ **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 (see previous page). 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 using the integrated adjuster (example shown here).
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 "-23 clicks." This means that the shock is adjusted 23 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 2014 Mazda 6.

For more information, refer to the User Guide.





# 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.



*Thank you for purchasing Air Lift Performance products!*

## Need Help?

The Air Lift Company customer service department is open from 8 a.m. to 8 p.m. ET Monday through Friday. Call (800) 248-0892 or (517) 322-2144 for calls from outside the U.S. and Canada.



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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 [airliftperformance.com](http://airliftperformance.com).