

**AIR LIFT**  
PERFORMANCE®

**INSTALLATION GUIDE**



**Kit 78688**

**BMW G20**  
**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.*

MN-1130 • (012006) • ERN 9520

# TABLE OF CONTENTS

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## **P.02**

### **Introduction**

- 02. Notation Explanation
- 

## **P.03**

### **System Overview**

---

## **P.04**

### **Installing the System**

- 04. Important Safety Notices
  - 04. Section 1. Remove the Front Damper
  - 08. Section 2. Install the Air Suspension
  - 11. Section 3. Route the Air Lines
- 

## **P.12**

### **Before Operating**

- 12. Set the Ride Height
  - 12. Torque Specifications
  - 12. Suggested Driving Air Pressure
  - 12. Maximum Air Pressure
  - 12. Check for Binding
  - 13. Installation Checklist
  - 13. Damping Adjustment
-

# Introduction

Air Lift Performance thanks you for purchasing the most complete, fully engineered high-performance air suspension made for the BMW G20. 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.

An Air Lift Performance air management system is highly recommended for this product.

## 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**

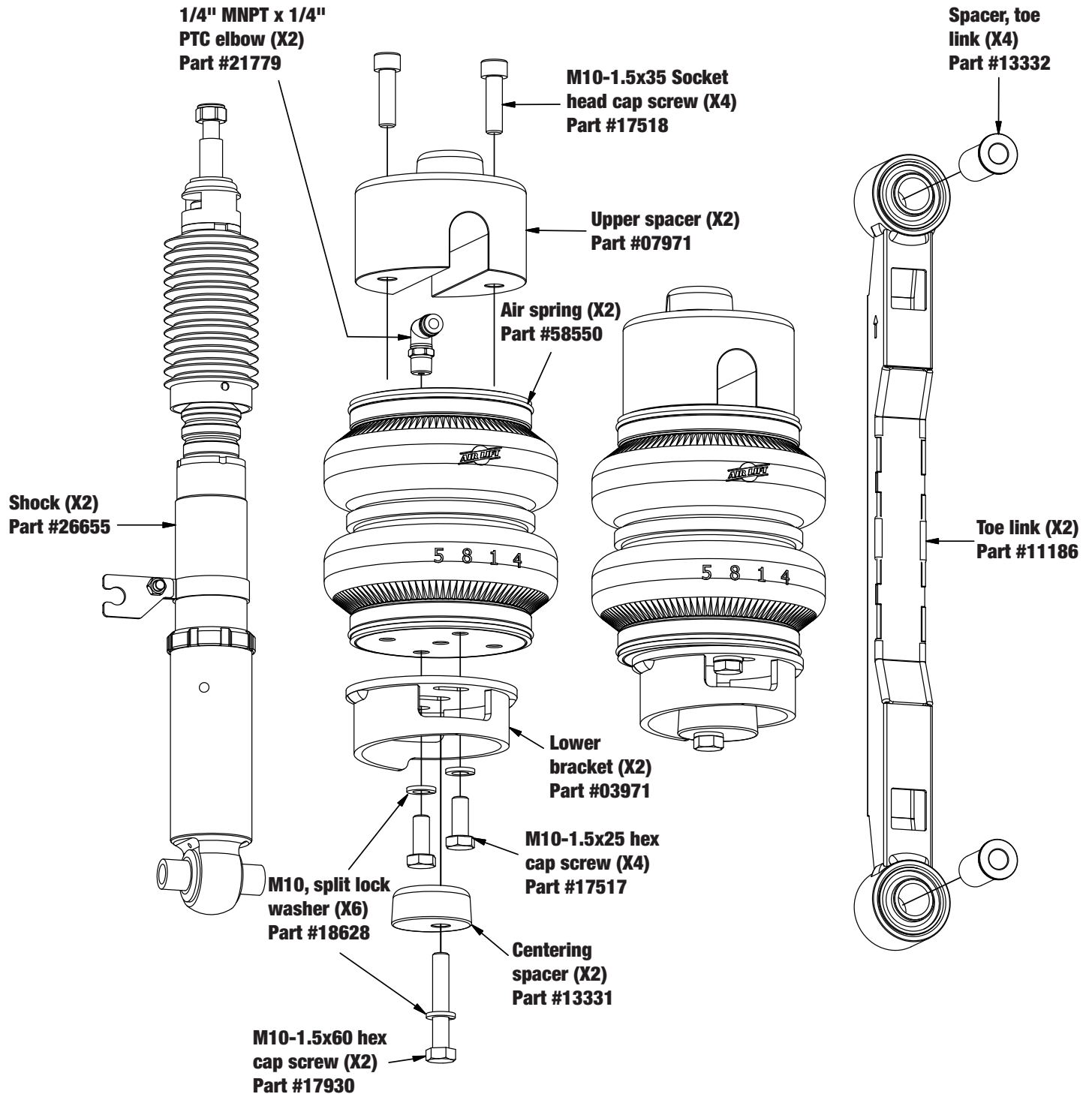
INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE VEHICLE OR MINOR PERSONAL INJURY.



### **NOTE**

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

# System Overview



# 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.

## REMOVE THE FRONT DAMPER



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

1. Raise vehicle and remove wheel.



2. Remove lower control arm rock guard. Support lower control arm with jack.





3. Remove inner and outer toe link bolts. Remove toe link from vehicle.



4. Remove ABS wire from shock tab. On vehicles equipped with adaptive suspension, remove the connector from the rear shock (not shown).



5. Remove lower shock mount bolt.



6. Remove upper shock mount bolts and remove shock from vehicle.



7. Loosen lower control arm inner pivot bolt, but do not remove. Remove lower control arm outer pivot bolt.



Inner pivot bolt

Outer pivot bolt



- Lower jack to remove tension on spring. Be careful not to overextend height sensor linkage. Remove spring and spring isolators from vehicle.



- Raise lower control arm and reinstall lower control arm outer pivot bolt. Torque bolt to 155Nm (114 lb.-ft.).

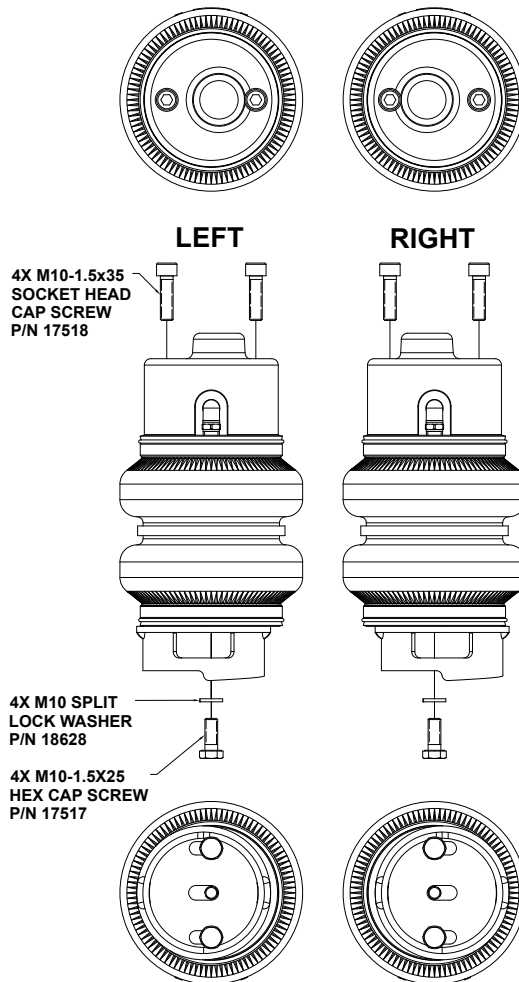




## SECTION 2.

## INSTALL THE AIR SUSPENSION

1. Install fitting in air spring and tighten 1 3/4 turns beyond hand-tight. Assemble left and right air springs according to diagram. Torque bolts to 40Nm (30 lb.-ft.).



2. Air spring assemblies are side specific. Insert the correct air spring into the lower control arm. Align lower bracket with spring pocket in lower control arm.



3. Install centering spacer with bolt. Centering spacer offset should have the bolt toward the front of the vehicle. Torque bolt to 30Nm (22 lb.-ft.).



4. Remove dust cover from upper shock mount. Unbolt the upper shock mount from the shock rod. Separate the jounce bumper/dust cover from the upper mount.



5. Install upper shock mount on Air Lift Performance shock with supplied nylon lock nut. Torque nut to 20Nm (15 lb.-ft.). Reinstall dust cap on upper shock mount.





6. Insert upper shock mount into vehicle chassis. Install bolts and torque to 28Nm (20 lb.-ft.).



7. Raise lower control arm and install lower shock mount bolt. Do not torque bolt at this time. Reinstall ABS sensor wire on shock tab.



8. Install Air Lift Performance toe link with previously removed bolts and included spacers. Arrow on toe link should point toward wheel. Do not torque bolts at this time.





- Reinstall lower control arm rock guard and torque nuts to 6Nm (4 lb.-ft.).



- Before lowering vehicle on wheels upper air spring spacer should be seated. Install air line in air spring and slowly inflate to at least 3.5BAR (50PSI) while guiding upper mount pilot into chassis.



### **SECTION 3.**

### **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.

- 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.

## **Congratulations!**

You are now the proud owner of an industry leading Air Lift Performance air suspension system. Enjoy!

# Before Operating

## SET THE RIDE HEIGHT

1. Refer to the User Guide supplied with this kit to set up the suspension. After setting the ride height, retorque all bolts per the specifications below.

Torque Specifications		
Location	Nm	lb.-ft.
Lower control arm rock guard nuts	6	4
Air spring upper/lower spacer bolts	40	30
Centering spacer bolt	30	22
Upper shock mount to shock rod nut	20	15
Upper shock mount bolts	28	<b>20</b>
Lower shock mount bolt	100	74
Lower control arm inner/outer pivot bolts	155	114
Toe link inner/outer pivot bolts	100	74
Wheel lug studs	140	103
Air line and fitting	1 3/4 turns beyond hand-tight with thread sealant	

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 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.
- 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 30 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 in this kit is preset to “-16 clicks.” This means that the damper is adjusted 16 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 2020 BMW 330Xi.

For more information, refer to the User Guide.