

# E-WM05-0000011

## MOUNTING INSTRUCTION



### IMPORTANT! READ THIS FIRST!

Installation of shock absorbers or other suspension components requires special tools and expert knowledge. Accordingly, installation of all BILSTEIN products must be performed by a professional automotive suspension technician.

When replacing other brands, BILSTEIN shock absorbers or other suspension components should always be installed as a set. All BILSTEIN products must only be used for the specific, intended application as indicated in the application guide. **Any use of any BILSTEIN product other than for its intended use may result in serious bodily injury or death.**

Always use a chassis hoist for the installation of BILSTEIN products and make certain that the raised vehicle is securely attached to the hoist and/or supported to prevent the vehicle from slipping, falling, or moving during the installation process.

**If you install any BILSTEIN product without the necessary special tools, expertise, and chassis hoist, you may subject yourself to the risk of serious bodily injury or death.**

BILSTEIN shock absorbers are gas-filled and are highly pressurized.

- Never place any BILSTEIN shock absorbers in a vise or use a clamp on any BILSTEIN shock absorber.
- Never apply heat near any BILSTEIN shock absorber.
- Never attempt to open or repair any BILSTEIN product, in order to prevent **serious bodily injury or death.**

Any attempt to misuse, misapply, modify, or tamper with any BILSTEIN suspension product voids any warranty and **may result in serious bodily injury or death.**

While installing any BILSTEIN product:

- Do not use impact tools for loosening or tightening fasteners, because this may destroy the screw threads.
- Self-locking fasteners must only be used **once!**
- Reuse original equipment components only if they are in good condition, otherwise replace them with new components.
- Never remove the slight film of oil on the shock absorber piston rod and seal.
- All mounting fasteners for shock absorbers and other suspension components must be securely tightened before tension is placed on the suspension system, unless otherwise specified in the manufacturer's service manual or in this instruction.

After installing any BILSTEIN product:

- The suspension caster and camber must be checked and/or adjusted to comply with the vehicle manufacturer's specifications.
- The (load dependent) brake compensator and the anti-lock brake system must be checked and/or reset to comply with the vehicle manufacturer's specifications.
- The headlight aim must be checked and adjusted.

### **CAUTION for COILOVER TYPE SUSPENSIONS!!!**

**If disassembling a coilover type suspension, refer to the vehicle manufacturer's service manual for proper procedures. The coil spring is preloaded and must be compressed with a spring compressor to release load before the upper mount is disassembled. Failure to follow the vehicle manufacturer's procedures may cause serious injury or death, and may damage the vehicle.**

### **IMPORTANT!!!**

**This BILSTEIN product may or may not be compatible with non-BILSTEIN aftermarket products and/or vehicle modifications. It is the responsibility of the professional automotive suspension technician performing the installation to identify any non-OEM components and/or modifications on the vehicle that may interact with the suspension system. These must be evaluated for any potential physical static or dynamic interference with and/or effect on the function of this BILSTEIN product.**



## Subaru Outback '10-'14; 1.5" Front / 1" Rear Lift\*\*

\*\* Lift heights indicated are typical. Actual lift height is influenced by which factory suspension the vehicle is equipped with and its condition; optional equipment and accessories on your vehicle, and other vehicle modifications such as replacement coil springs, wheel and tire combinations, etc.

Modifying/lifting the suspension to your vehicle may raise its center of gravity and may make it more susceptible to loss of control and/or rollover, which may result in death or serious injury. We strongly recommend that you offset the loss of rollover resistance as much as possible by increasing tire track width, and that you equip the vehicle with a functional roll bar and cage system.

Wear seat belts and shoulder harnesses at all times, and avoid situations where a side rollover may occur.

### Instructions for disassembly of the front OE strut and spring unit:

- A. Remove the existing strut and spring unit from the vehicle following all procedures in the vehicle manufacturer's service manual.
- B. Note how the top and bottom coil of the spring is indexed in the spring seat and isolator (important for reassembly alignment: mark a line down the OE coil spring isolator, mount cap seal, and spring.)
- C. Using an appropriate spring compressor, compress the spring until the strut can be rotated freely by hand. Then, disassemble the strut and spring unit.

### Instructions for assembly of the front Bilstein strut and spring unit:

[Refer to Figure 1 on page 3 for steps D-J]

- D. Install the OE bump stop and OE dust boot onto the piston rod.
- E. Using an appropriate spring compressor, compress the OE spring and assemble it with the Bilstein strut. Align the bottom coil of the spring so it's indexed into the spring seat and as noted in step B.
- F. Install the OE mount cap seal on top of the spring and align it with the line marked in step B.
- G. Install the OE coil spring isolator on top of the spring, and align it with the line marked from step B.
- H. Install the OE strut spacer on the threaded stem of the Bilstein strut.
- I. Install the OE top mount plate over the threaded stem and onto the OE strut spacer.
- J. Install the supplied locknut and tighten to vehicle manufacturer's specifications.  
**\*\*\*\* DO NOT USE AN IMPACT WRENCH TO TIGHTEN THE LOCKNUT! \*\*\*\***
- K. Slowly release the spring compressor.
- L. Install the strut and spring unit onto the vehicle and tighten all fasteners to vehicle manufacturer's specifications.
- M. Check wheel alignment and adjust to the vehicle manufacturer's specifications. This completes the front installation.

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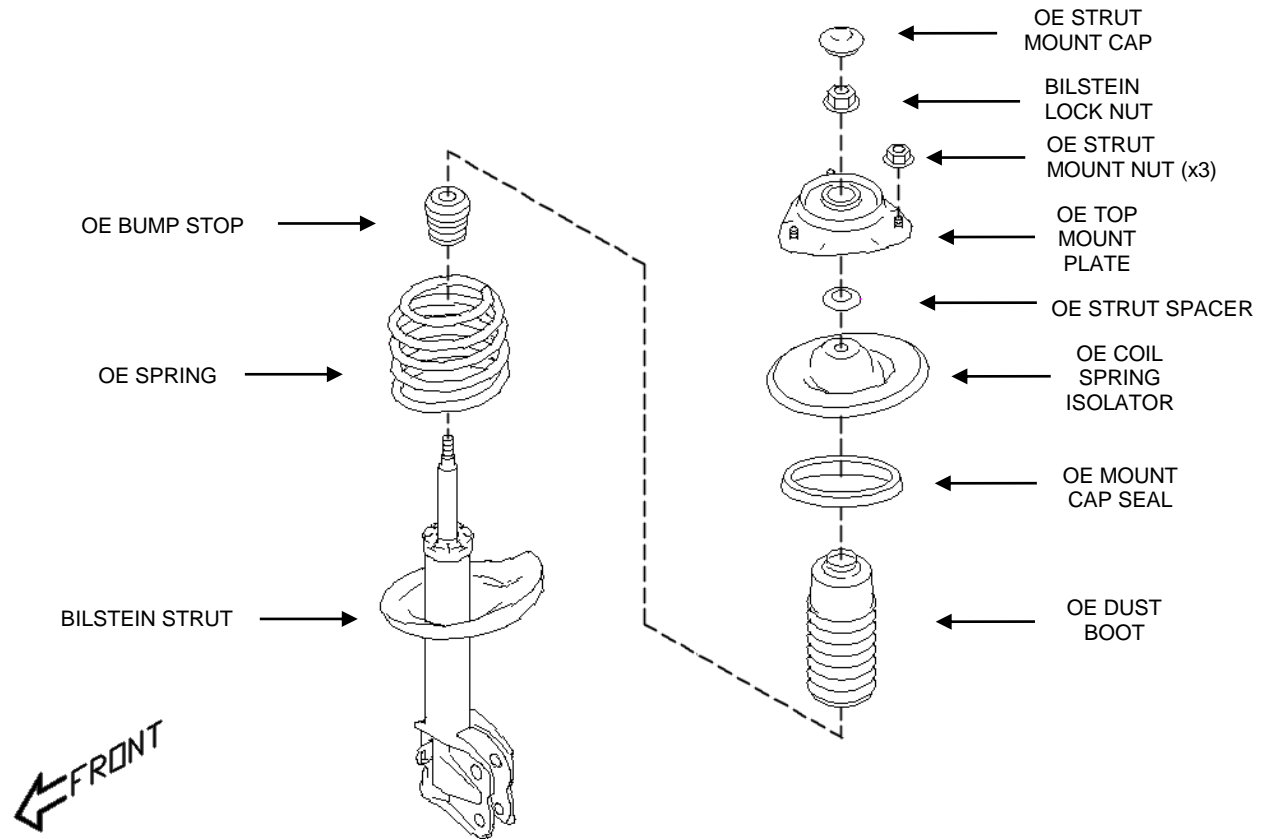


Figure 1.  
Driver's side depicted

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### Instructions for disassembly of rear OE shock absorber module:

- N. Remove the existing shock and spring unit from the vehicle following all procedures in the vehicle manufacturer's service manual.
- O. Note the clocking of the lower mount bushing relative to the studs on the upper mount. Also note the clocking of the end of the upper coil relative to the studs on the upper mount (important for reassembly).
- P. Using an appropriate spring compressor, compress the spring until it can be rotated freely by hand. Then, disassemble the shock and spring unit.
- Q. Loosen the OE flange bolt securing the brake line to the spindle as shown below in Figure 2.



Figure 2.  
Driver's side depicted

Note: The shocks/components depicted herein may differ slightly in appearance from what is supplied.

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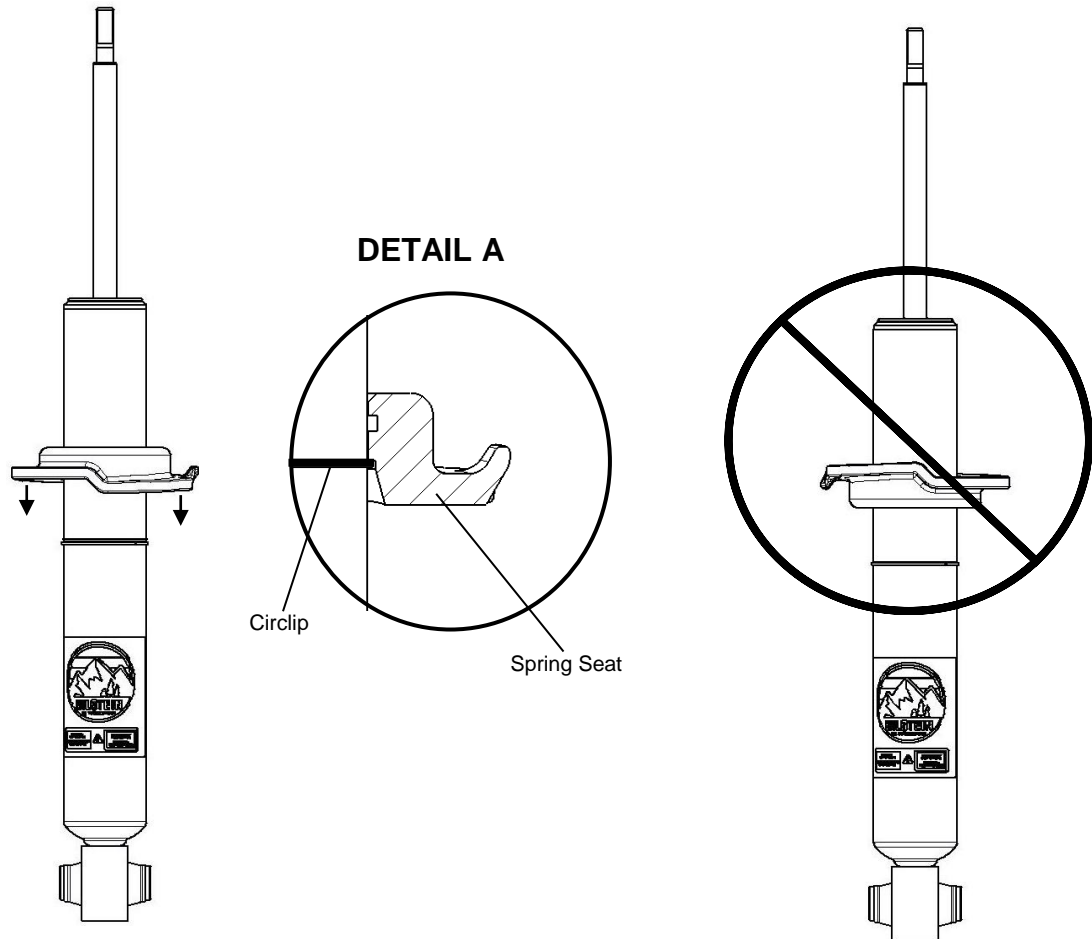
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### Instructions for assembly of rear Bilstein shock absorber module:

[Refer to Figure 3 on page 6 for steps R-X]

- R. Install the supplied spring seat on to the new Bilstein shock such that the groove inside the spring seat fits over the circlip on the shock body as shown below. Install the spring seat in the direction shown only. The circlip must fit completely in the groove inside the spring seat (see DETAIL A below). Improper installation will cause permanent damage to the shock.



- S. Install the supplied rod adapter (counter bore side down) onto the stem of the rod as shown. Ensure that the rod adapter is oriented correctly (see Detail B).
- T. Install the OE bump stop and OE dust cover.
- U. Using an appropriate spring compressor, compress the OE coil spring and assemble it with the new Bilstein shock.
- V. Install the OE spring isolator and OE upper mount over the threaded stem on the new Bilstein shock and on top of the spring. Rotate the upper mount so the studs are aligned with the end of upper coil as noted in Step O. Rotate the shock so that the lower mount is aligned with the upper mount studs as noted in Step O. Rotate the spring seat so the ramp is indexed with the bottom coil.
- W. Install the supplied washer onto the threaded stem.

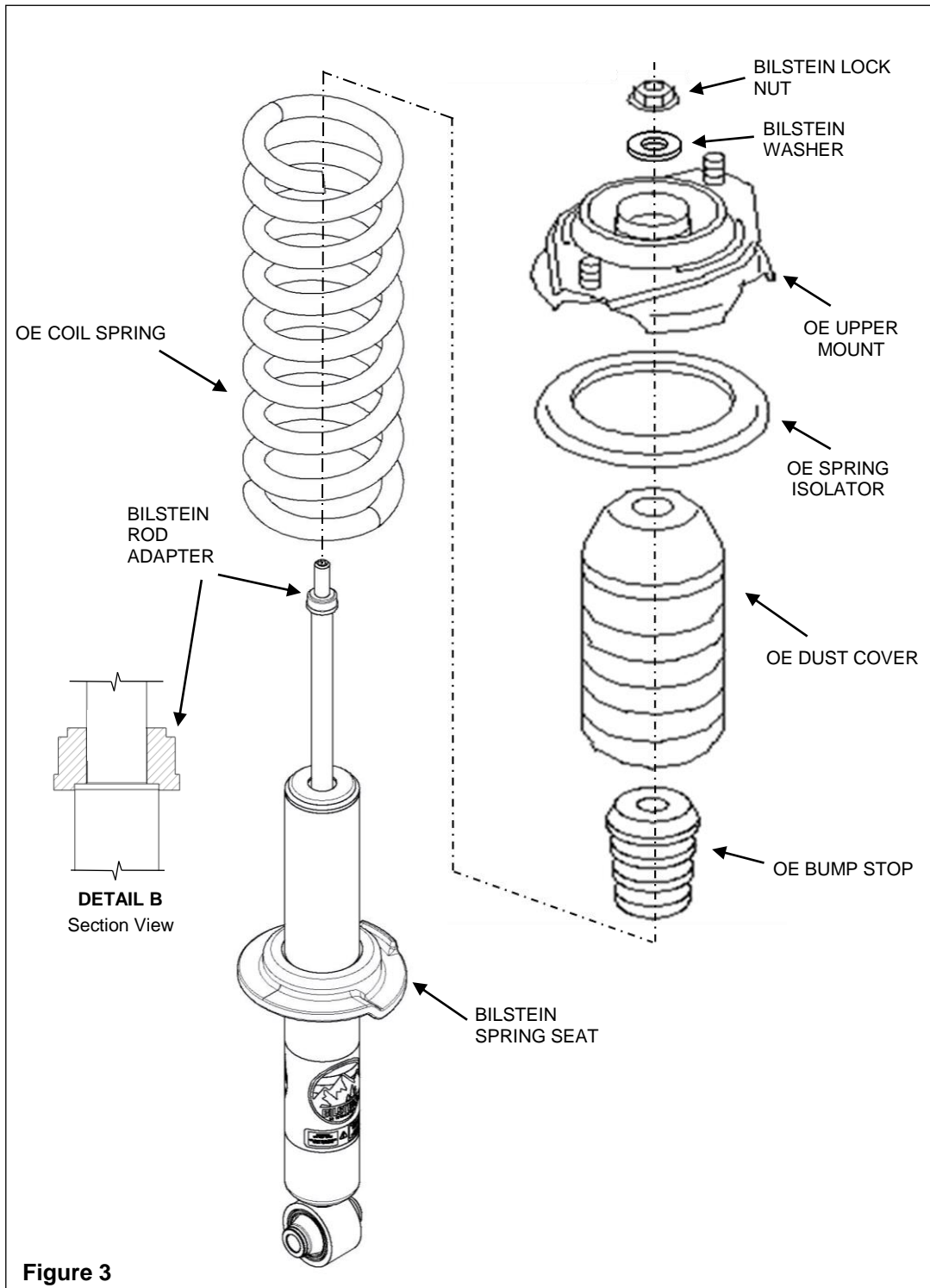
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- X. Install the supplied locknut and tighten to 27 N·m (20 lb·ft). Use a 5mm allen key to prevent the piston rod from rotating while tightening the locknut.

**\*\*\*\* DO NOT USE AN IMPACT WRENCH TO TIGHTEN THE LOCKNUT! \*\*\*\***

- Y. Slowly release the spring compressor while ensuring that everything remains aligned as noted in Step V.



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**Z.** Install the module assembly on to the vehicle and tighten all fasteners to vehicle manufacturer's specifications excluding the OE flange bolt that was removed from the spindle in Step Q.

**AA.** Apply non-permanent thread locker to the OE flange bolt and use it to install the rounded end of the supplied Bilstein brake line relocation bracket to the spindle. Make sure to orient the relocation bracket so the bent flanges are pointing towards the front of the vehicle as shown below in Figure 4.

Torque the OE flange bolt to 13 N·m (10 ft·lbs).

**BB.** Attach the brake line to the front side of the relocation bracket so it is in between the two bent flanges (to prevent rotation). Use the supplied Bilstein M8 flange bolt and nut to secure the brake line to the relocation bracket as shown below in Figure 4.

Torque the supplied M8 flange nut to 13 N·m (10 ft·lbs).

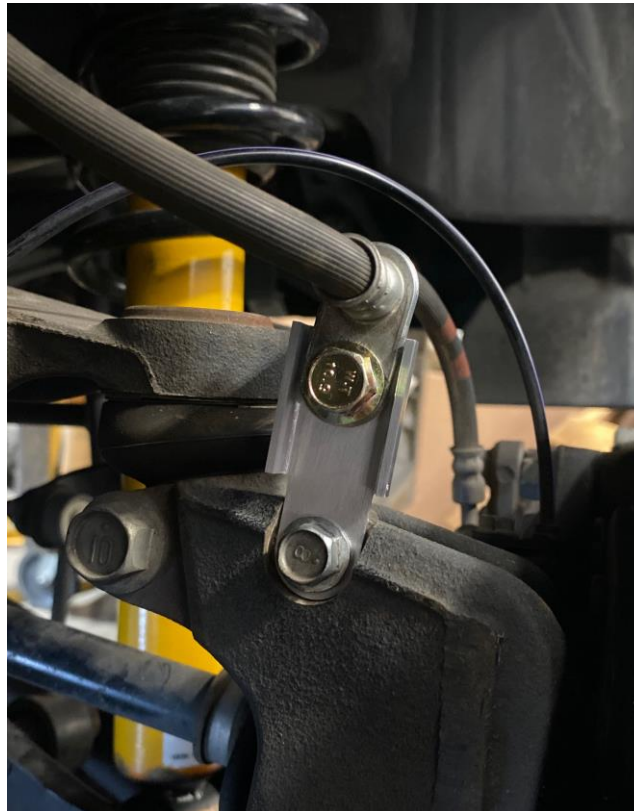


Figure 4.  
Driver's side depicted

**CC.** Check wheel alignment and adjust to the vehicle manufacturer's specifications. This completes the installation.