

E4-WM5-Y645A00 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. Or, if applicable, adaptive headlights must be checked and recalibrated to comply with the vehicle manufacturer's specifications.
- If applicable, any/all Advanced Driver Assistance Systems (ADAS) must be checked and recalibrated to comply with the vehicle manufacturer's specifications.

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.

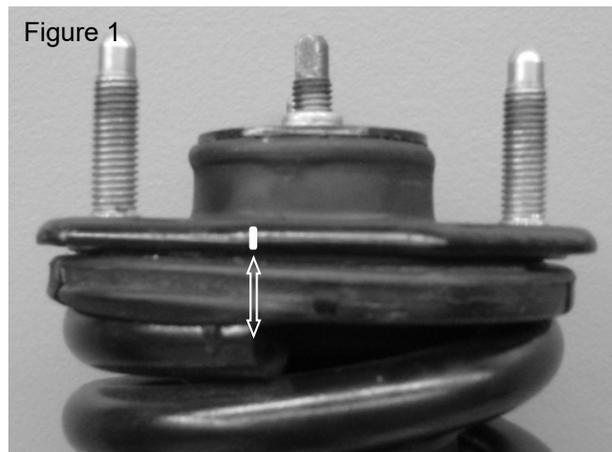
IMPORTANT!!!

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.

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- A. Remove the existing shock and spring unit from the vehicle following all procedures in the vehicle manufacturer's service manual.
- B. Note the clocking of the lower mount bushing relative to the studs on the upper mount (important for reassembly).
- C. Also note the clocking of the suspension spring relative to the upper mount. It is recommended to mark the upper mount (on the metallic area) as shown in Figure 1 to indicate the position of the end of the top coil (important for reassembly).

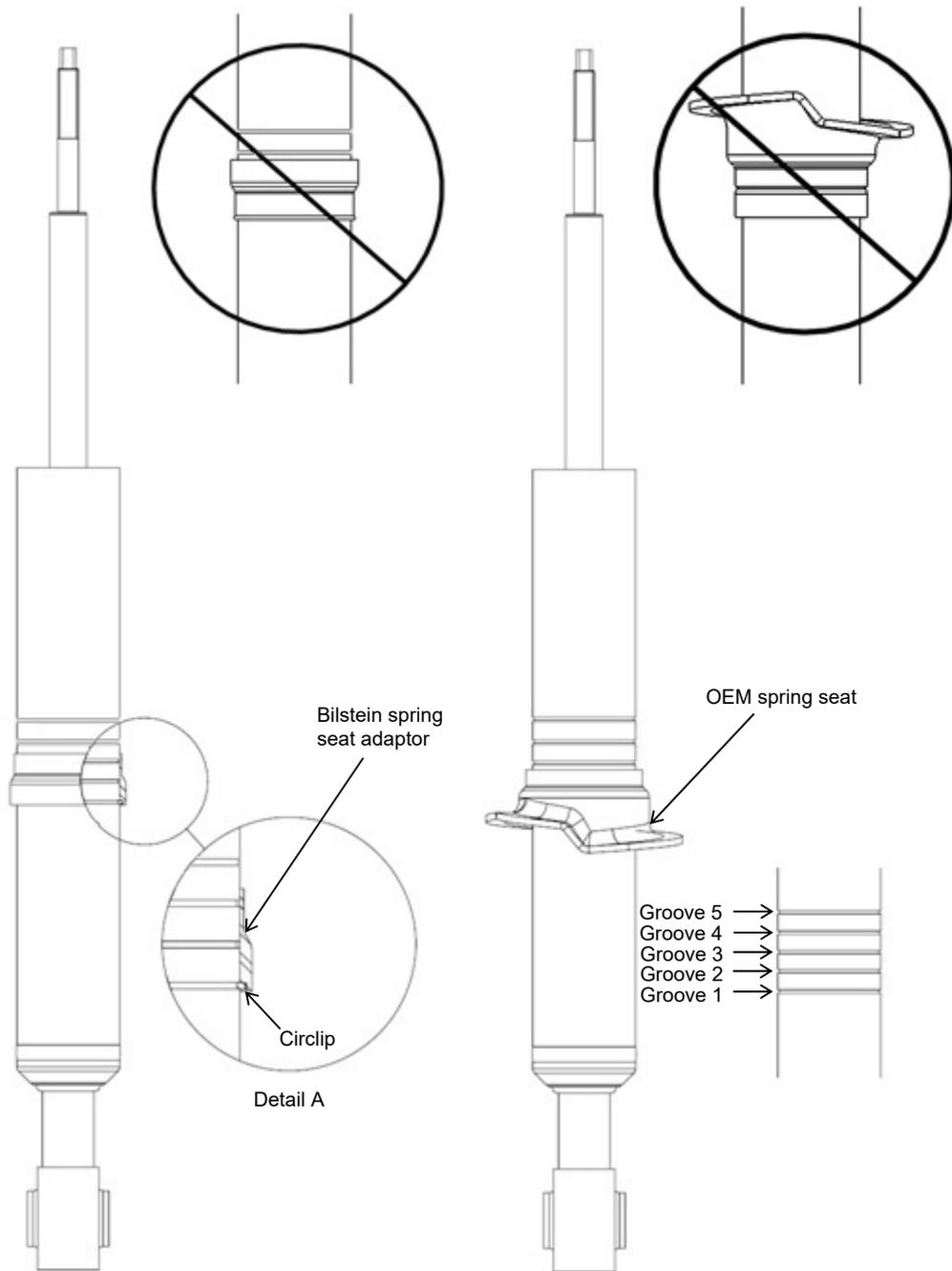


- D. Using an appropriate spring compressor, compress the spring until it can be rotated freely by hand. Then, disassemble the shock and spring unit.
- E. Remove the endcap from the existing shock. Then, remove the OEM spring seat from the existing shock so that it can be reused.
- F. Temporarily remove the dust boot from the new Bilstein shock.
- G. If you want to lift the vehicle, move the circlip to the appropriate groove to achieve desired lift height (refer to typical lift height table on page 4). Use appropriate tools to move the circlip. Ensure that the circlip is fully seated in the groove after moving it (you should be able to rotate it manually in the groove).
- H. Install the provided spring seat support on to the new Bilstein shock (with the smaller end up) such that the groove inside the spring seat support fits over the circlip on the shock body as shown in Figure 2. Install the spring seat support in the direction shown only. The circlip must fit completely in the groove inside spring seat support (see detail view). Improper installation will cause permanent damage to the shock.
- I. Install the OEM spring seat on to the new Bilstein shock and over the spring seat support in the direction shown only; see Figure 2. Improper installation will cause permanent damage to the shock.

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Figure 2



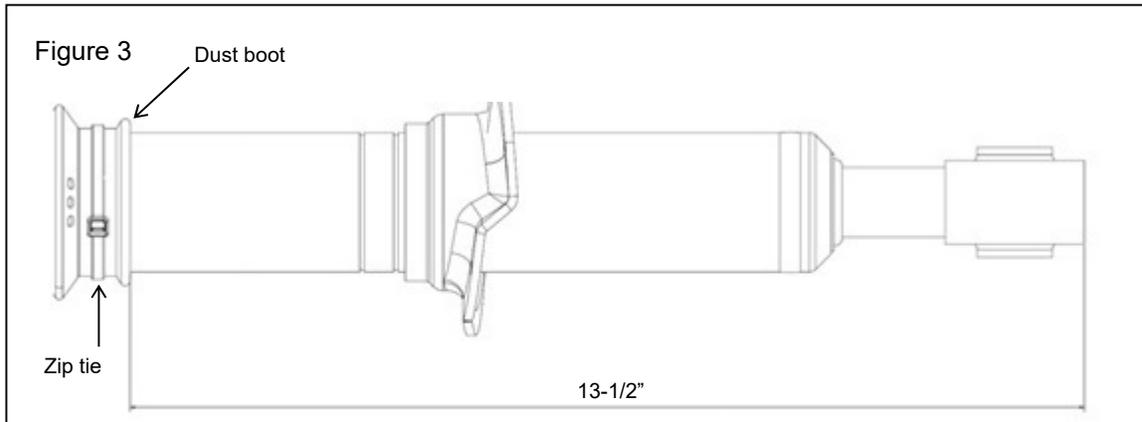
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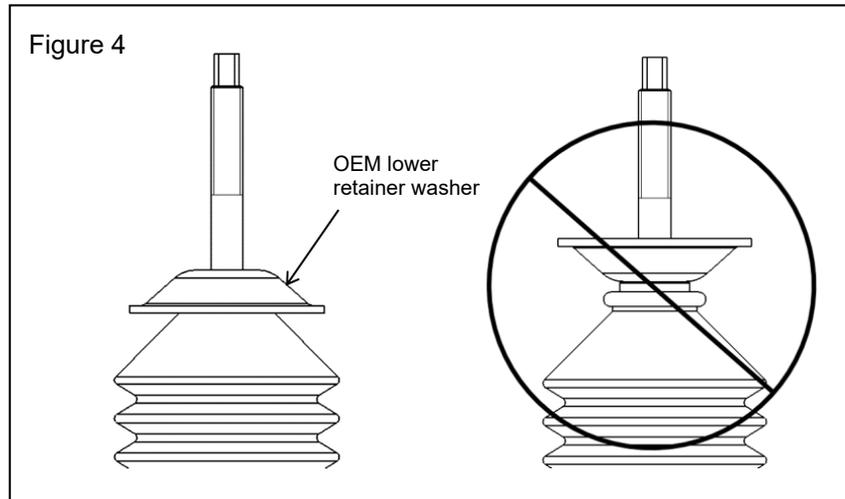
B8 5100 Typical Lift heights**			
Groove Position	4WD Gas	2WD Gas	4WD/2WD Diesel
5	2.6"	*DO NOT USE*	*DO NOT USE*
4	1.9"	1.9"	2.0"
3	1.3"	1.3"	1.3"
2	0.7"	0.6"	0.7"
1	Stock	Stock	Stock

** Ride heights indicated are typical. Actual ride 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.

- J. Install the new dust boot back on to the new Bilstein shock.
- K. Position the dust boot such that the bottom edge of the boot is approximately 13-1/2 inches from the bottom of the shock as shown in Figure 3. Secure the boot with the provided zip tie. Trim the excess zip tie length after installation.



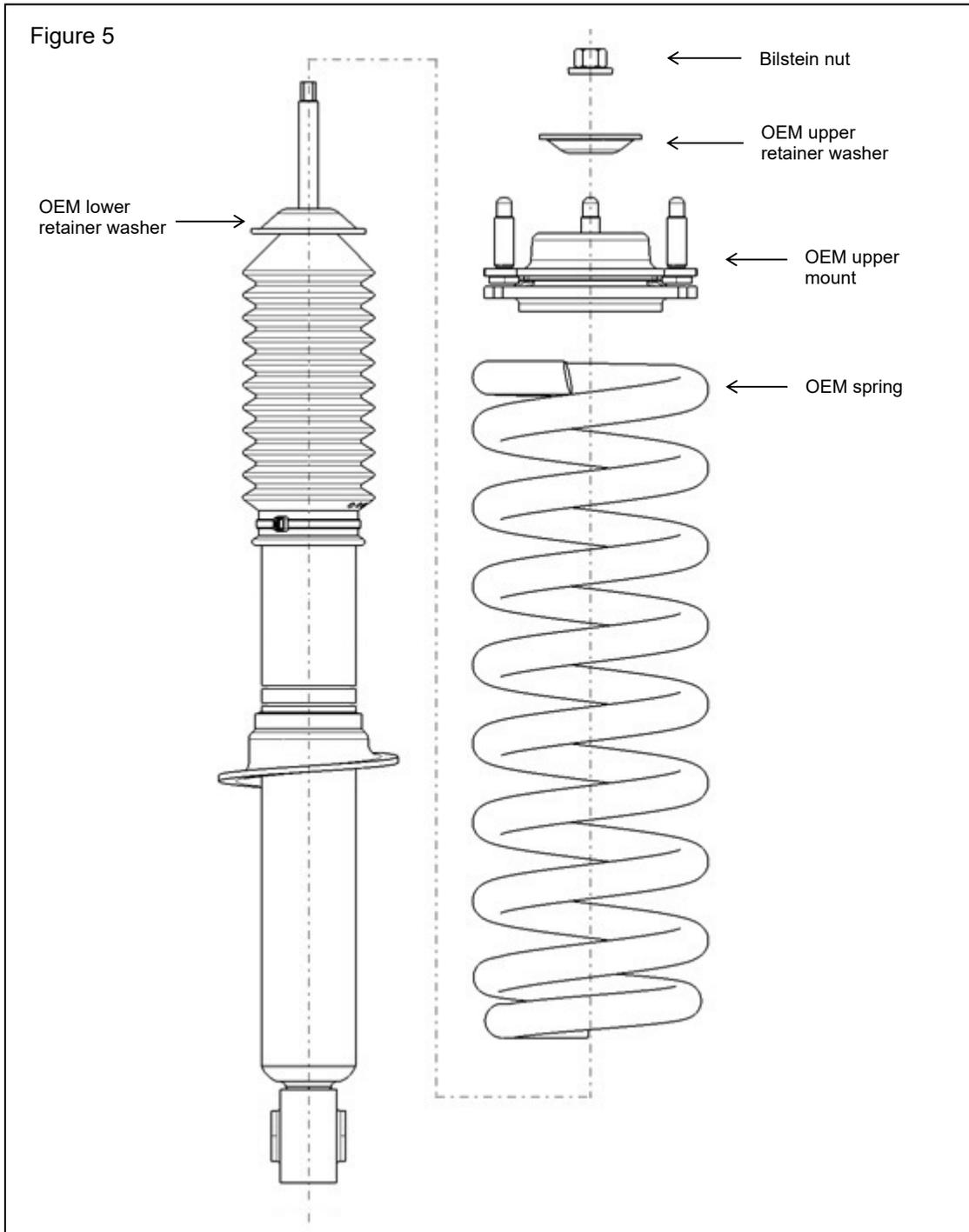
- L. Remove the OEM lower retainer washer from the dust boot of the existing shock.
- M. Install the OEM lower retainer washer on the new Bilstein shock with the concave side down as shown in Figure 4.



- N. Using an appropriate spring compressor, compress the OEM spring and assemble it with the new Bilstein shock. Align the bottom coil of the spring with the ramp on the spring seat. Refer to Figure 5 for the order of the remaining components.
- O. Install the OEM upper mount over the threaded stem on the new Bilstein shock and on top of the spring. Rotate the upper mount so that the end of the top coil is aligned with the mark on the upper mount made in step C. Rotate the shock so that the lower mount is aligned with the upper mount studs as noted in step B.
- P. Install the OEM upper retainer washer with the concave side up.
- Q. Install the provided new locknut and tighten to 25 N·m (19 lb·ft). Use a 6mm wrench to keep the piston rod from rotating while torquing the locknut.

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

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- R. Release the spring compressor while ensuring that the ends of the spring remain aligned with the spring seat and upper mount.
- S. Install the assembly on to the vehicle and tighten all fasteners to vehicle manufacturer's specifications. This completes the installation.
- T. Check wheel alignment. If necessary, adjust to the vehicle manufacturer's specifications.