



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.

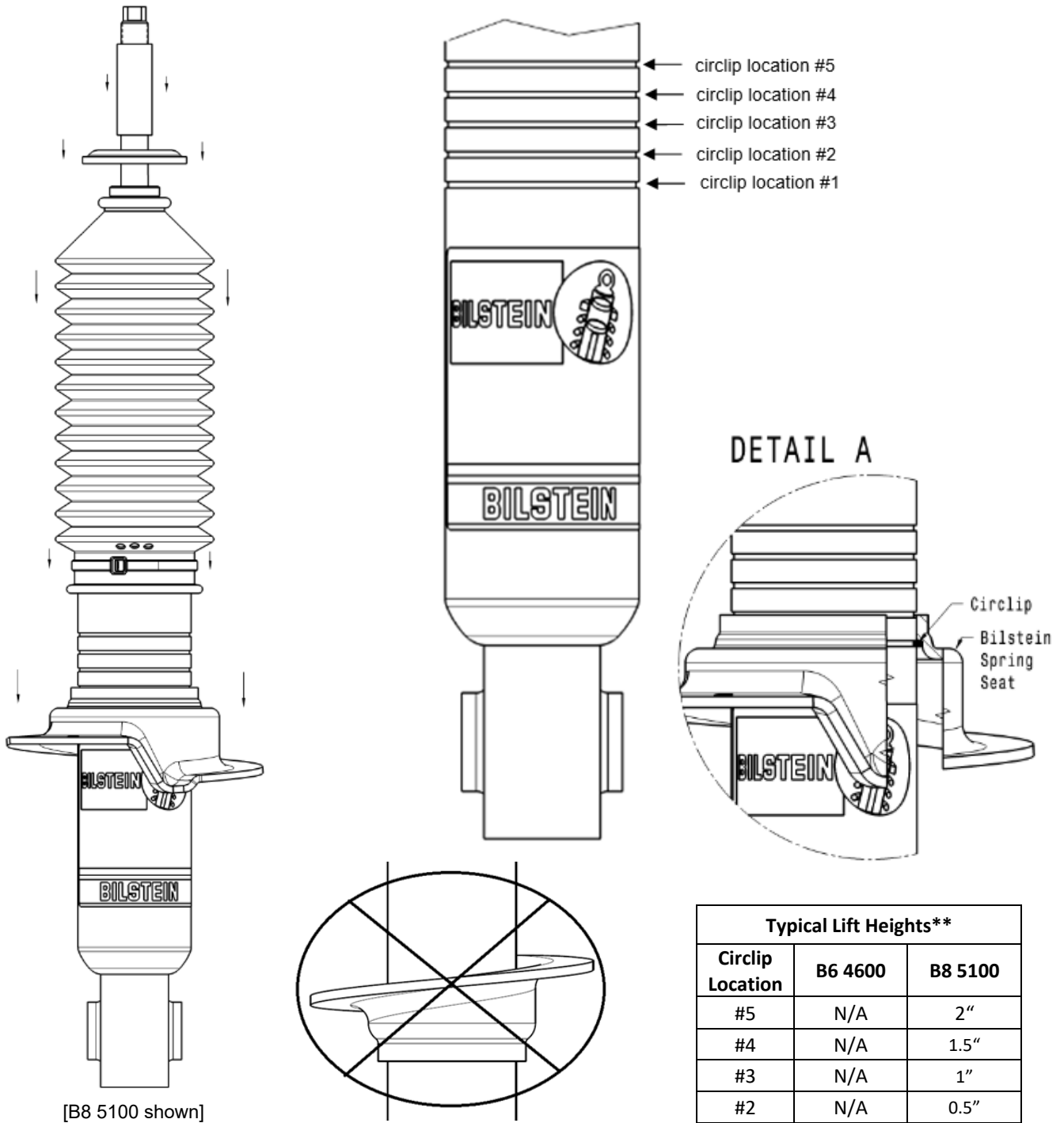
E-WM05-000062 MOUNTING INSTRUCTION



IMPORTANT:

PLACE CIRCLIP IN APPROPRIATE GROOVE TO ADJUST RIDE HEIGHT (B8 5100 ONLY).

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). Install the supplied Bilstein spring seat in the direction shown only. The circlip must fit completely in the groove inside the spring seat (DETAIL A). **Improper installation will cause permanent damage to the shock!**



[B8 5100 shown]

Figure 1

Typical Lift Heights**		
Circlip Location	B6 4600	B8 5100
#5	N/A	2"
#4	N/A	1.5"
#3	N/A	1"
#2	N/A	0.5"
#1	Stock	Stock

** 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 OE shock absorber module:

- 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 relative to the studs on the upper mount (important for reassembly).
- C. Also note the clocking of the coil spring relative to the upper mount. Mark the top mount plate and spring isolator as shown in Figure 2 to indicate the position of the end of the top coil relative to the studs on the top mount plate (important for reassembly).

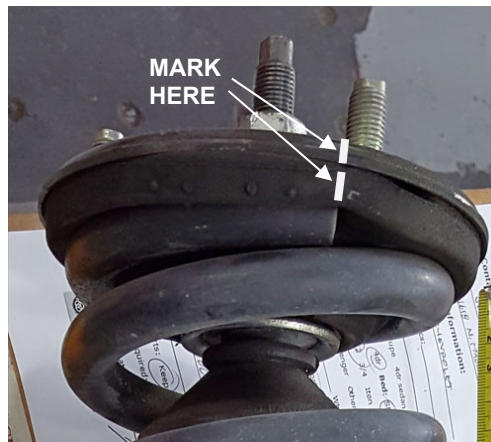


Figure 2

- D. Using an appropriate spring compressor, compress the spring until it can be rotated freely by hand. Then, disassemble the shock and spring unit. Inspect the OE parts intended to be reused and replace the ones that show significant signs of wear.

Instructions for assembly of Bilstein B6 4600 or B8 5100 shock absorber module:

[Refer to Figure 1 on page 2 for steps E-G]

- E. Select desired lift height by seating the circlip in the appropriate circlip location (**B8 5100 ONLY**).
- F. Temporarily remove the dust boot, then install the Bilstein 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. The circlip must fit completely in the groove inside the spring seat (see DETAIL A). Improper installation will cause permanent damage to the shock.
- G. Install the dust boot. If you are installing **B8 5100** dampers proceed to install tie strap as shown below in Figure 3 and position the bottom of the boot to be approximately 215mm (8.5") from the bottom of the lower mount, snip excess end of tie strap when finished.

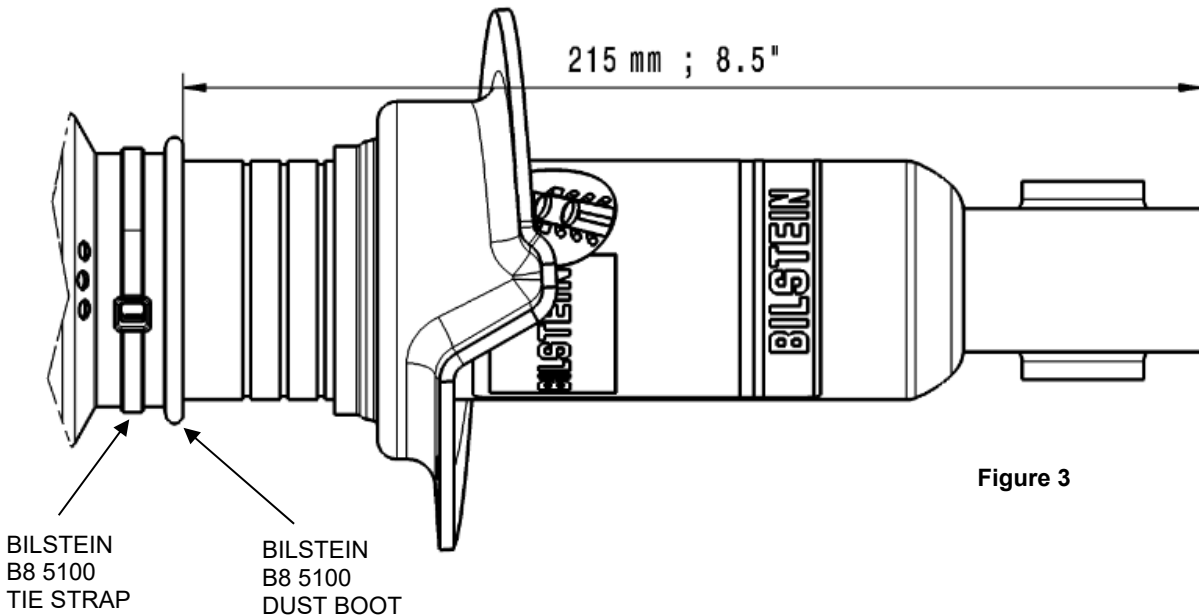


Figure 3



[Refer to Figure 4 on page 6 for steps H-P]

- H. Install the Bilstein lower washer (concave side down) onto the stem of the rod as shown.
- I. Install the Bilstein sleeve onto the stem of the rod as shown.
- J. Using an appropriate spring compressor, compress the OE spring and assemble it with the new Bilstein shock.
- K. Install the OE upper mount assembly over the threaded stem on the new Bilstein shock and on top of the spring.
- L. Rotate the OE upper mount so the marks made in Step C align with the end of the top coil of the spring.
- M. Rotate the shock so the lower mount is aligned with the upper mount studs as noted in step B.
- N. Install the Bilstein upper bushing onto the stem of the rod as shown.
- O. Install the Bilstein upper washer (concave side down) onto the stem of the rod as shown.
- P. Install the Bilstein locknut and tighten to 45 Nm (34 lb·ft). Use an 8mm wrench on the flats at the top of the piston rod to prevent it from rotating while tightening the locknut.
****** DO NOT USE AN IMPACT WRENCH TO TIGHTEN THE LOCKNUT! ******
- Q. Slowly release the spring compressor while ensuring that the lower shock mount remains aligned with the upper mount studs and the end of the bottom coil of the spring is indexed into the spring seat ramp.
- R. Install the assembly on to the vehicle and tighten all fasteners to vehicle manufacturer's specifications. Be sure to lower the vehicle such that its full weight is on the suspension prior to tightening the lower shock mount bolt.
- S. Check wheel alignment. If necessary, adjust to the vehicle manufacturer's specifications.

This completes the installation.

E-WM05-000062 MOUNTING INSTRUCTION

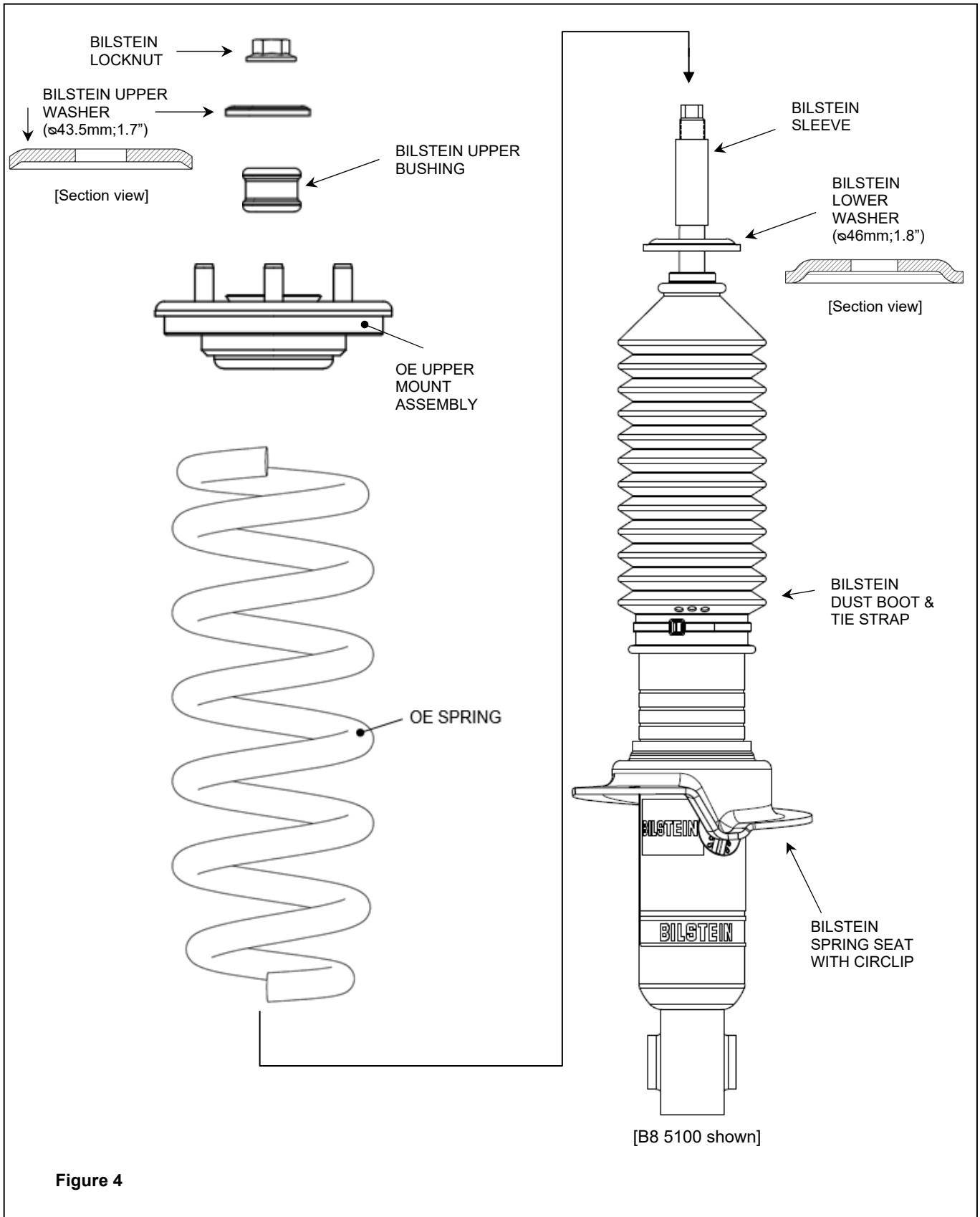


Figure 4