

# E4-WM5-Y640A00

## 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.**

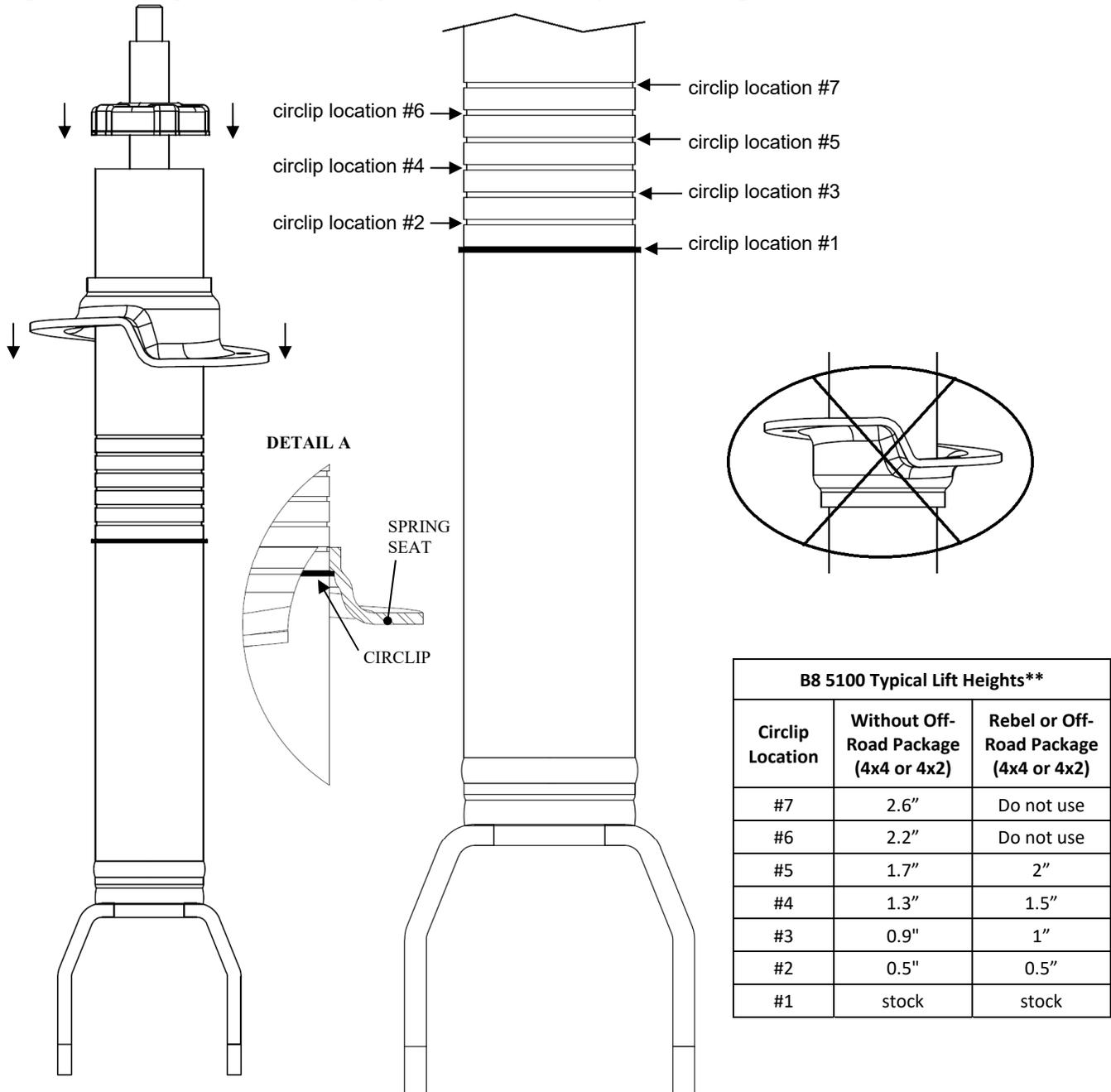
# E4-WM5-Y640A00 MOUNTING INSTRUCTION



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



**Figure 1**  
B8 5100 is depicted

B8 5100 Typical Lift Heights**		
Circlip Location	Without Off-Road Package (4x4 or 4x2)	Rebel or Off-Road Package (4x4 or 4x2)
#7	2.6"	Do not use
#6	2.2"	Do not use
#5	1.7"	2"
#4	1.3"	1.5"
#3	0.9"	1"
#2	0.5"	0.5"
#1	stock	stock

# E4-WM5-Y640A00

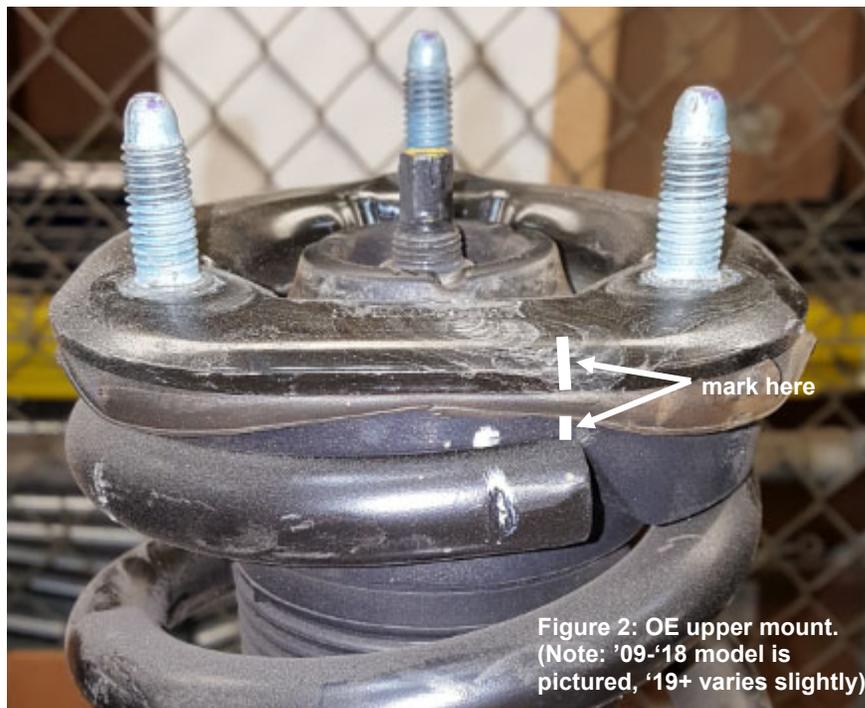
## MOUNTING INSTRUCTION



\*\* 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 clevis 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. It is recommended to mark the top mount plate and spring adapter 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).



- D. Using an appropriate spring compressor, compress the spring until it can be rotated freely by hand. Then, disassemble the shock and spring unit.

# E4-WM5-Y640A00 MOUNTING INSTRUCTION

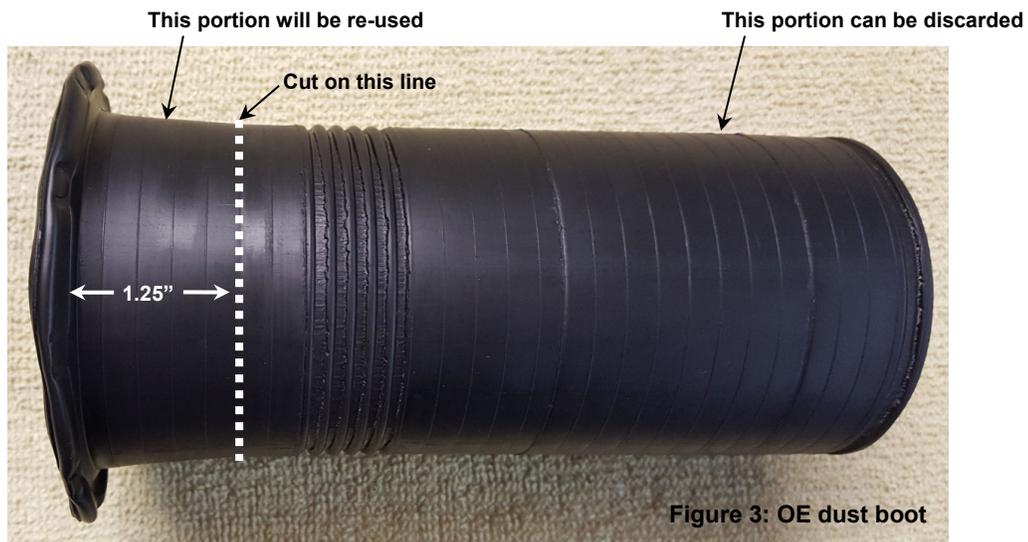


## Instructions for assembly of Bilstein B6 4600 or B8 5100 shock absorber module:

B6 4600: Re-use the OE dust boot without any modifications (skip steps E-G).

B8 5100: Re-use the OE dust boot without any modifications if using circlip locations #1-#6 (skip steps E-F). If using circlip location #7, continue to step E. Trimming the OE dust boot is only necessary if circlip location #7 is being used.

- E. Remove the spring adapter and dust boot from the top mount plate. Leave the rubber isolator on the top mount plate.
- F. Using scissors, cut the OE dust boot on the dotted line shown below in Figure 3:



The result should look as depicted below in Figure 4:





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

- G. Select desired lift height by seating the circlip in the appropriate circlip location.
- H. 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. Install the spring seat in the direction shown only. The circlip must fit completely in the groove inside the spring seat (see DETAIL A). Improper installation will cause permanent damage to the shock.
- I. Install the supplied jounce cap on the tube as shown. Tap on to and over the tube with a mallet (be careful to not damage the piston rod chrome during this step).

### [Refer to Figure 5 on page 6 for steps J-P]

- J. Install the OE jounce bumper onto the piston rod as shown.
- K. Using an appropriate spring compressor, compress the OE spring and assemble it with the new Bilstein shock.
- L. Install the OE spring adapter, OE dust boot, and OE top mount plate (including OE rubber isolator) over the threaded stem on the new Bilstein shock and on top of the spring.
- M. Rotate the OE spring adapter so the mark made in Step C aligns with the mark made on the OE top mount plate.
- N. Rotate the OE spring until the end of the top coil is seated into the OE spring adapter as shown in step C.
- O. Rotate the shock so the lower mount clevis is aligned with the upper mount studs as noted in step B.
- P. Install the supplied new locknut and tighten to 45 Nm (34 lb·ft). Use a 6mm Allen key to keep the piston rod from rotating while torquing the locknut.  
**\*\*\*\*DO NOT USE AN IMPACT WRENCH TO TIGHTEN THE LOCKNUT! \*\*\*\***
- Q. Release the spring compressor while ensuring that the end of the top coil remains seated in the OE spring adapter and that the OE spring adapter remains aligned with the OE top mount plate.
- R. Install the assembly on to the vehicle and tighten all fasteners to vehicle manufacturer's specifications. This completes the installation.
- S. Check wheel alignment. If necessary, adjust to the vehicle manufacturer's specifications.

# E4-WM5-Y640A00 MOUNTING INSTRUCTION

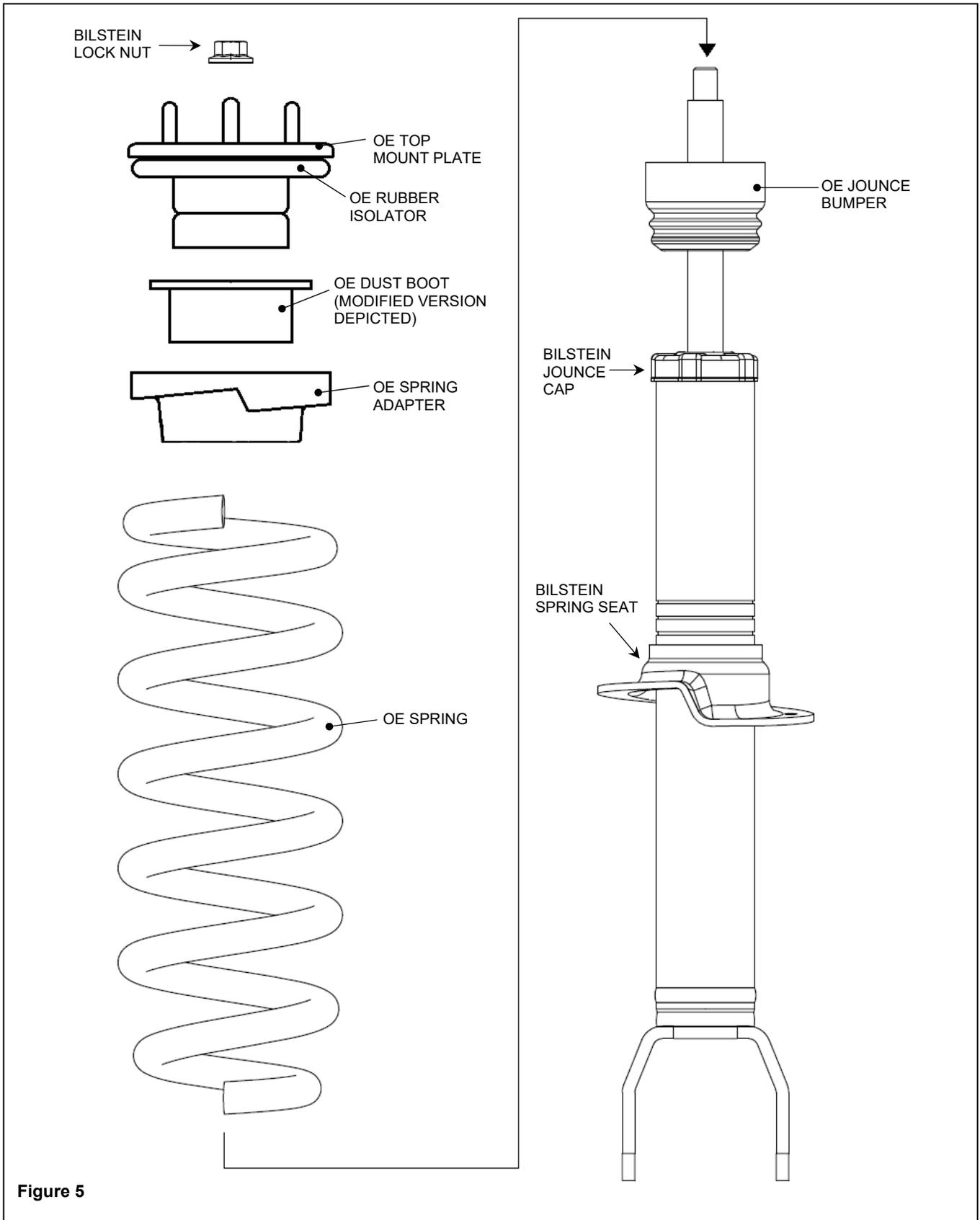


Figure 5