



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.

Bill of Materials (1 per shock)		
Item #	Part Description	Quantity
1	Locknut, M14x1.5	1
2	Washer; 17.8mm ID	2
3	Bushing	1
4	Spring Isolator; Lower	1
5	Zip Tie	1
6	Bump Stop Spacer; Washer; 10mm ID	1

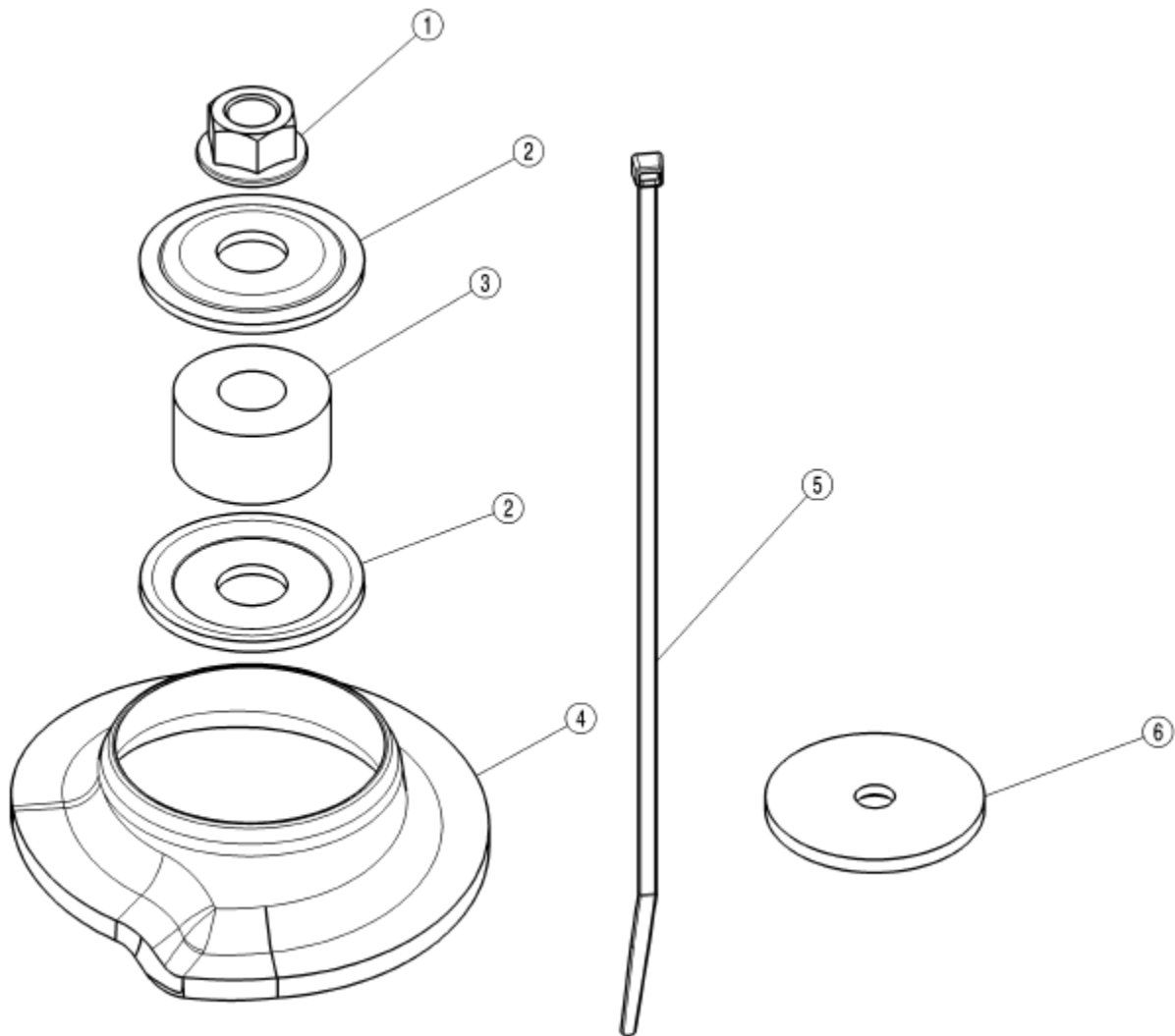


Figure 1

E-WM05-0000038 MOUNTING INSTRUCTION



IMPORTANT:

PLACE CIRCLIP IN APPROPRIATE GROOVE TO ADJUST RIDE HEIGHT.

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 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!**

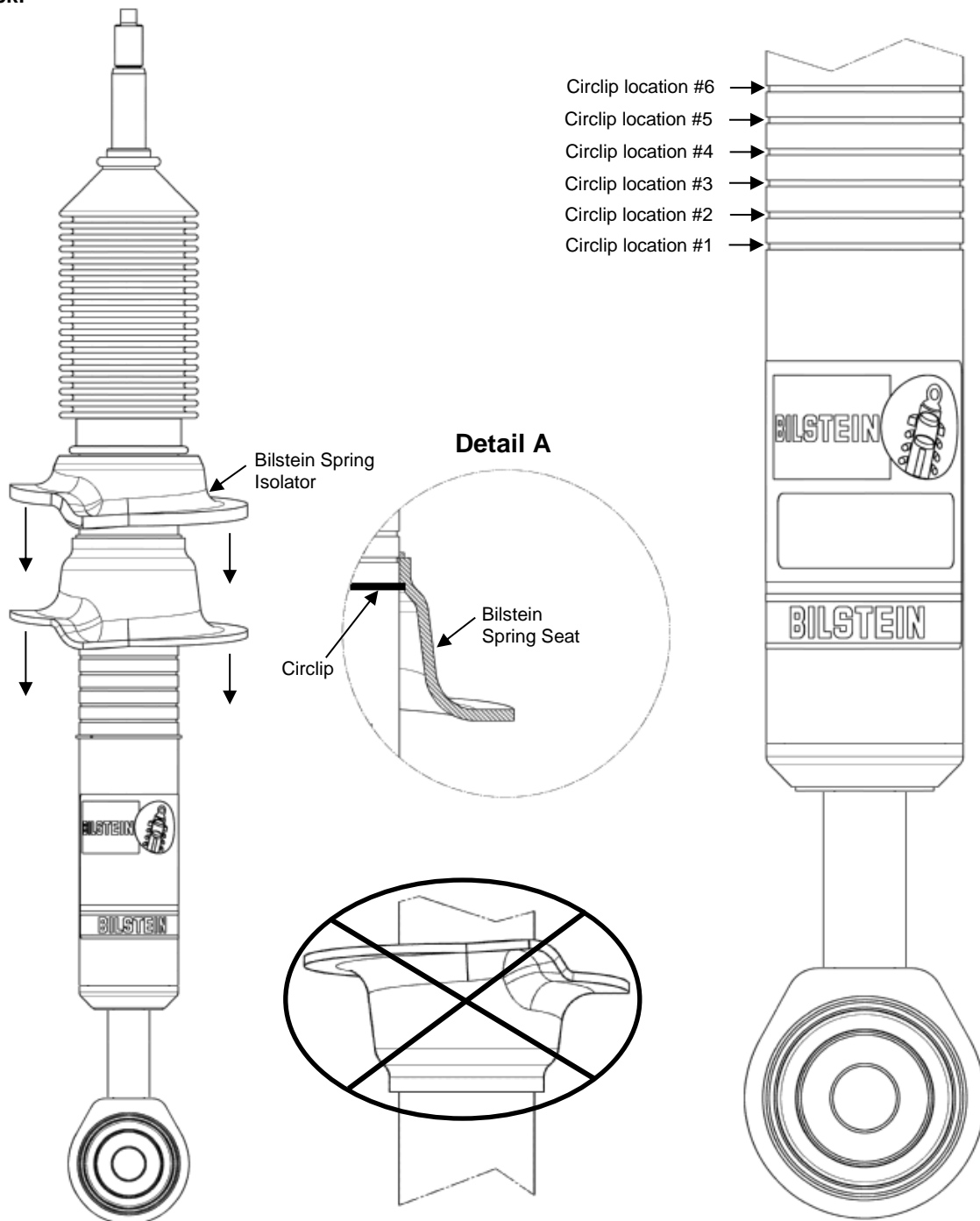


Figure 2 (B8 5100 is depicted)



B8 5100 Typical Lift Heights**		
Circlip Location	4WD	RWD
#6	DO NOT USE	2.4"
#5	2.3"	2.0"
#4	1.8"	1.5"
#3	1.3"	1.1"
#2	0.7"	0.6"
#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 OE upper mount and OE upper spring seat isolator. It is recommended to mark the OE top mount plate, OE upper spring isolator, and top end coil to help indicate proper component alignment relative to the studs on the OE top mount plate (important for reassembly). Refer to Figure 3.



Figure 3

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



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

[Refer to Figure 2 on page 3 for steps E-G]

- E. Select desired lift height by seating the circlip in the appropriate circlip location (**B8 5100 only**).
- F. Install the supplied spring seat on to the new Bilstein shock (with the smaller end up) 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 spring seat (see DETAIL A). Improper installation will cause permanent damage to the shock.
- G. Install the supplied spring isolator on to the new Bilstein shock and on to the spring seat in the direction shown only.
- H. Position the dust boot such that the bottom edge of the boot is approximately 12.5 inches from the bottom of the shock as shown in Figure 4. Secure the boot with the provided zip tie. Trim the excess zip tie length after installation.

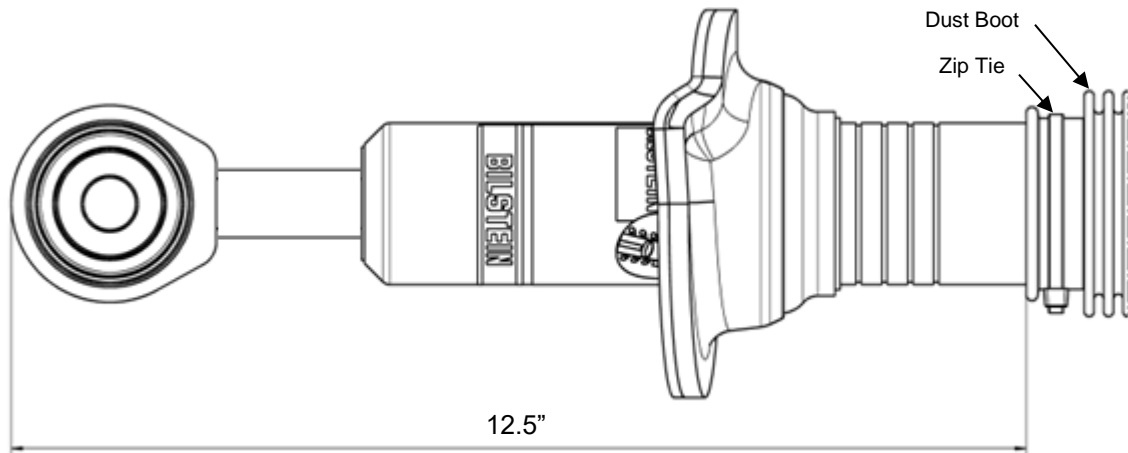


Figure 4

E-WM05-0000038

MOUNTING INSTRUCTION



[Steps I-K are ONLY required for Hybrid 4WD models using circlip location #5 on B8 5100]

- I. If installing the B8 5100 Bilstein shock with ride height set to circlip #5 on a Hybrid 4WD model, additional installation of a Bilstein bump stop spacer is required. To install the Bilstein bump stop spacer, first remove the existing front bump stop from the vehicle following all procedures in the vehicle manufacturer's service manual (one per side). Note: the bump stop spacer is the 4mm (0.16") thick flat washer that has a 10.05mm (0.4") inner diameter and 55mm (2.17") outer diameter.
- J. Place the Bilstein bump stop spacer between OEM bump stop and frame as shown in Figures 5a and 5b.
- K. Install the bump stop and spacer assembly to the frame and tighten the bump stop to 27 Nm (20 lb-ft).



Figure 5a



Figure 5b

[Refer to Figure 6 on page 7 for steps L-P]

- L. Using an appropriate spring compressor, compress the OE spring and assemble it with the new Bilstein shock.
- M. Install one supplied washer (concave side up), OE top mount plate (including OE rubber isolator), supplied rubber bushing, and another supplied washer (concave side down) over the threaded stem on the new Bilstein shock and on top of the spring.
- N. Rotate the OE spring until the end of the top coil is seated into the OE top mount as shown in step C.
- O. Rotate the shock so the lower mount is aligned with the upper mount studs as noted in step B.
- P. Install the supplied new locknut and tighten to 65 Nm (48 lb-ft). Use an 8mm wrench to keep the threaded stem 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 isolator and that the OE spring isolator 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. Be sure to lower the vehicle such that its full weight is on the suspension prior to fully tightening the lower shock bolt.
- S. Check wheel alignment. If necessary, adjust to the vehicle manufacturer's specifications. This completes the installation.

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MOUNTING INSTRUCTION

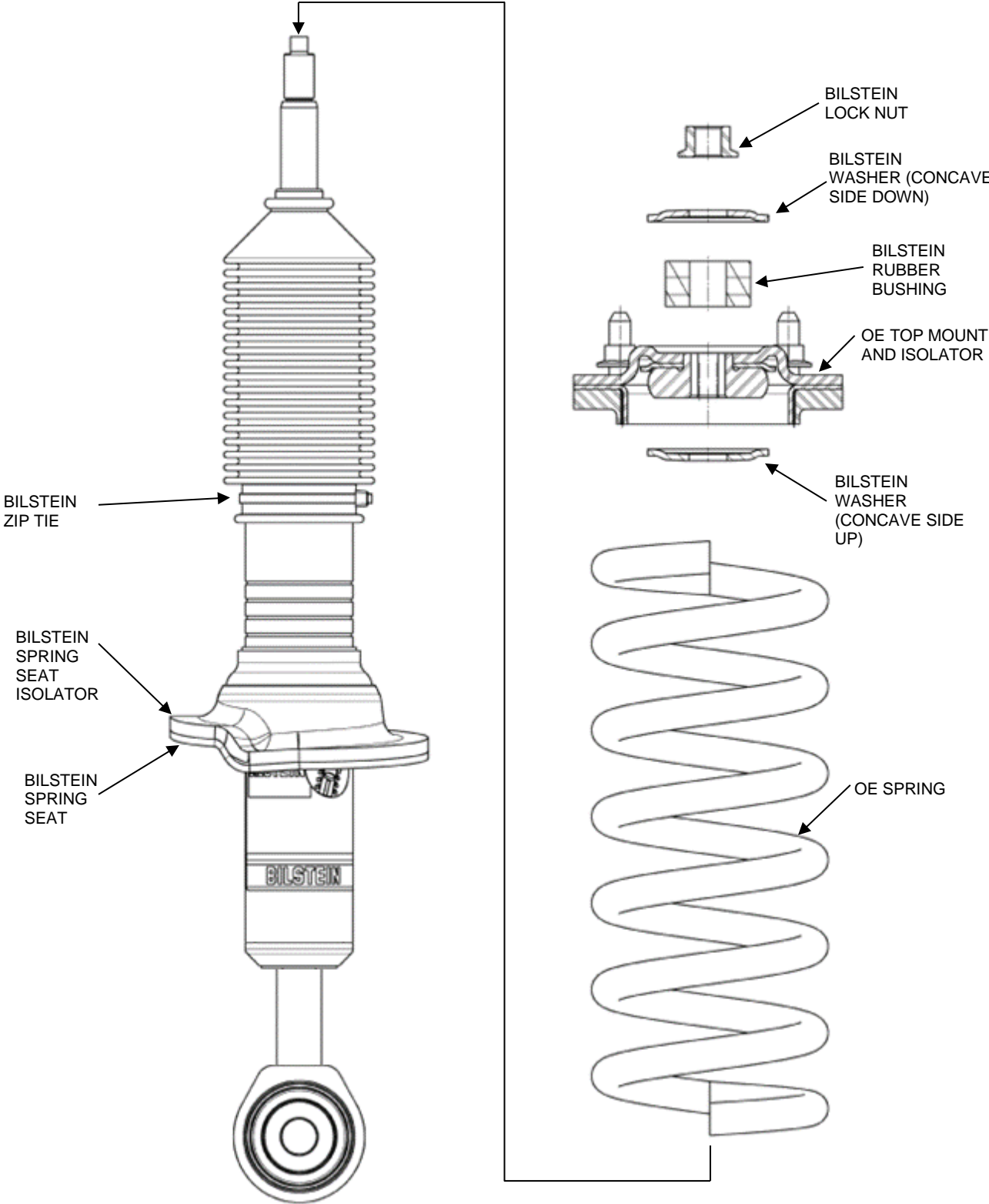


Figure 6