

# E4-WM5-Y654A00 MOUNTING INSTRUCTION



## IMPORTANT! READ THIS FIRST!

Installation of shock absorbers requires special tools and expert knowledge. Accordingly, installation of all BILSTEIN products must be performed by a qualified suspension specialist.

When replacing other brands, BILSTEIN shock absorbers 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 choose to install any BILSTEIN product without the necessary special tools, expertise or chassis hoist, you may subject yourself to the risk of serious bodily injury or death.** If you elect not to use a chassis hoist, at least make sure the vehicle is on level ground, that all tires on the ground during installation are blocked to prevent movement, that at least two tires are on the ground at all times, and that adequately secured safety stands (jack stands) are used to support the chassis. **NEVER** get under the vehicle until you have checked to make sure all of these steps are performed.

BILSTEIN suspension products are gas-filled and are highly pressurized.

- Never place any BILSTEIN product in a vise or use a clamp on any BILSTEIN product.
- Never apply heat near any BILSTEIN product.
- 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 piston rod and seal.
- All mounting fasteners for shocks and struts must be securely tightened before tension is placed on the suspension system.

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!!!**

**Before disassembling the front 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.**

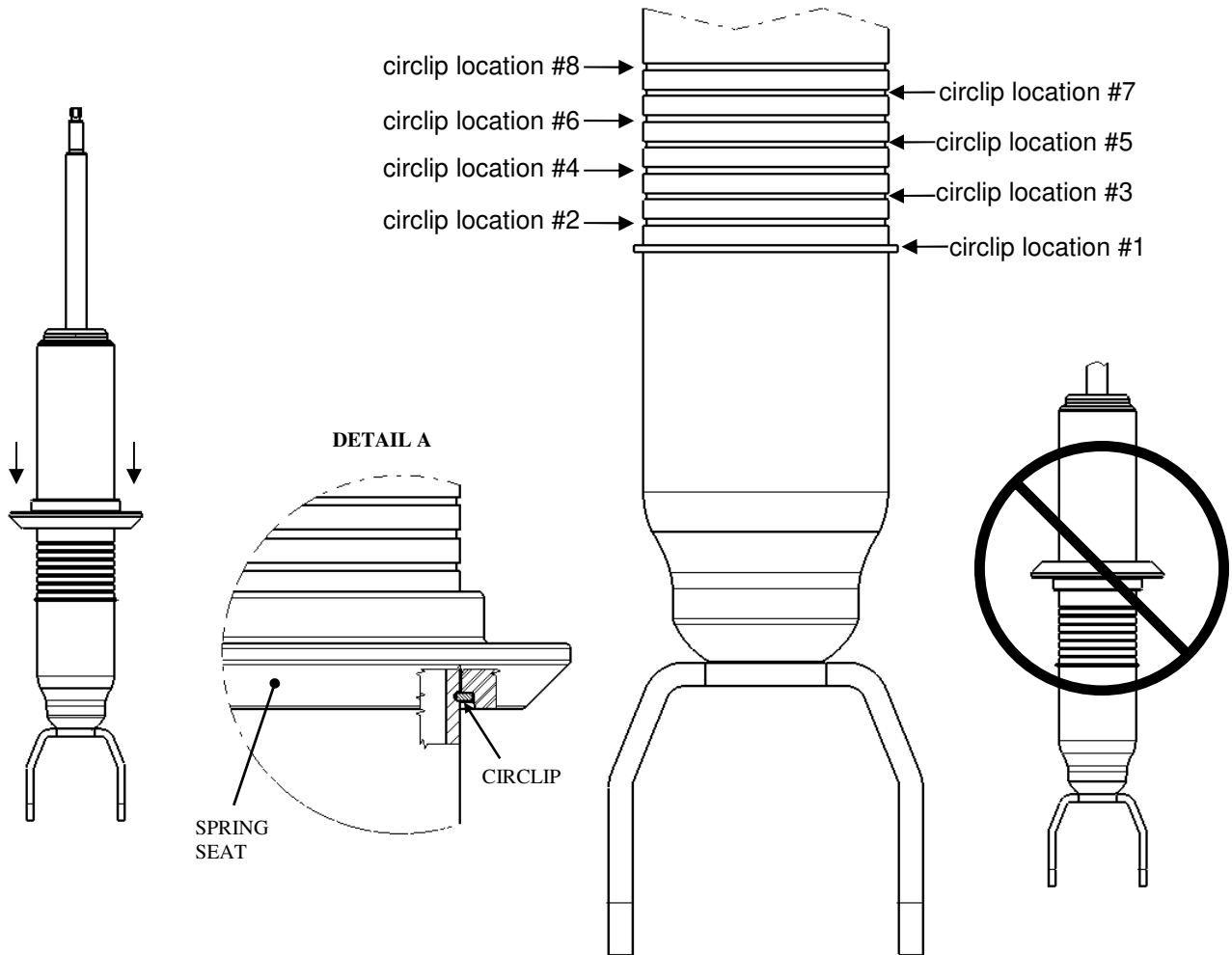
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## IMPORTANT:

### 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!**



B8 6112 Typical Lift Heights**				
Circlip Location	Without Off-Road Package, 5.7L V8, 4WD	Without Off-Road Package, 5.7L V8, 2WD	Rebel or Off-Road Package, 5.7L V8, 4WD	Rebel or Off-Road Package, 5.7L V8, 2WD
#8	2.6"	DO NOT USE	2"	DO NOT USE
#7	2.2"	2.6"	1.6"	2"
#6	1.9"	2.3"	1.2"	1.7"
#5	1.5"	1.9"	0.8"	1.3"
#4	1.1"	1.6"	0.4"	1"
#3	0.7"	1.2"	Stock	0.6"
#2	0.4"	0.9"	DO NOT USE	0.3"
#1	Stock	0.6"	DO NOT USE	Stock

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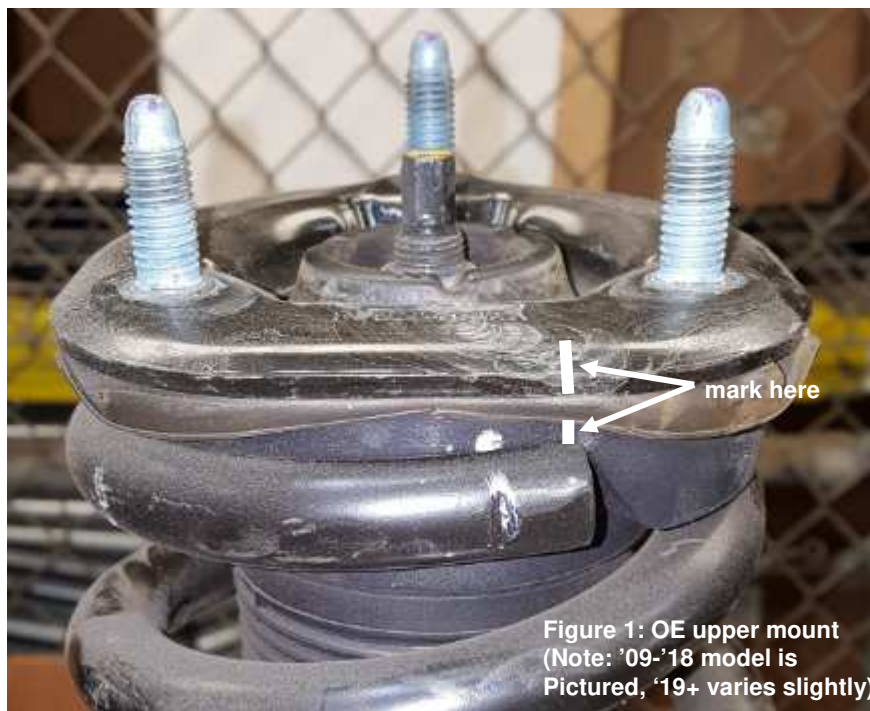
\*\* Ride heights indicated are typical. Actual ride height is influenced by which factory suspension the vehicle is equipped with and its condition; optional equipment and accessories on your vehicle, and other vehicle modifications such as replacement coil springs, wheel and tire combinations, etc.

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.

### 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 adaptor as shown in Figure 1 to indicate the position of the end of the top coil relative to the studs on the top mount plate (important for reassembly).



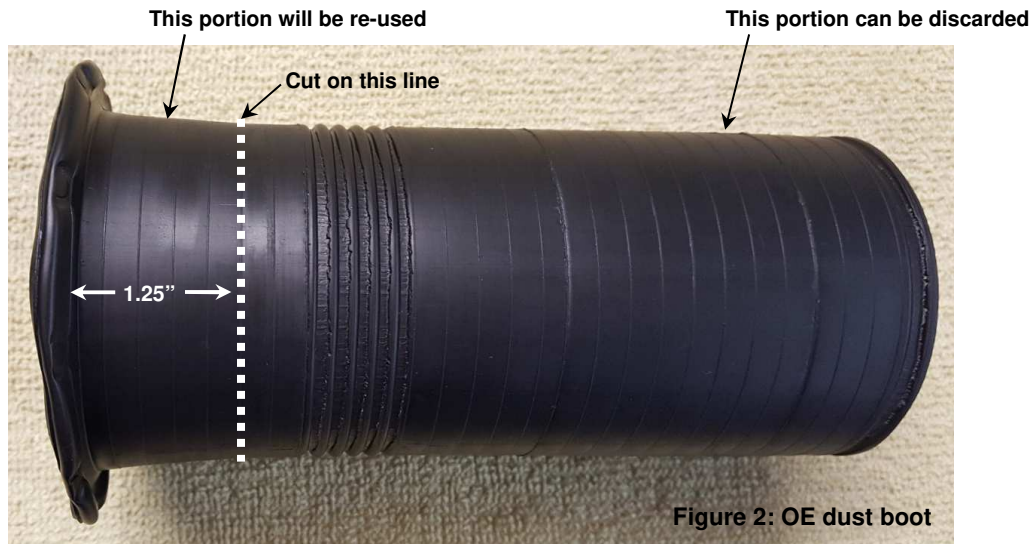
- D. Using an appropriate spring compressor, compress the spring until it can be rotated freely by hand. Then, disassemble the shock and spring unit.
- E. Remove the spring adaptor and dust boot from the top mount plate. Leave the isolator on the top mount plate.

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## Instructions for assembly of Bilstein B8 6112 Series shock absorber module:

F. Using scissors, cut the OE dust boot on the dotted line shown below in Figure 2:



The result should look as depicted below in Figure 3:



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- G. Install the supplied spring seat in the correct orientation onto the new Bilstein shock body as shown in figure 5. Ensure that the groove inside the spring seat fits over the circlip on the shock body [see page 2 (DETAIL A)]. Improper installation will cause permanent damage to the shock.
- H. Install the supplied jounce bumper onto the piston rod as shown in Figure 5.
- I. Using an appropriate spring compressor, compress the supplied spring and assemble it with the new Bilstein shock. Ensure that the supplied coil spring is installed in the direction shown only. Refer to Figure 5.
- J. Install the OE spring adaptor, modified 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. Refer to Figure 5.
- K. Rotate the OE spring adaptor so the mark made in Step C aligns with the mark made on the OE top mount plate as shown in Figure 4.
- L. Rotate the coil spring until the end of the top coil is seated into the OE spring adaptor as shown in Figure 4.
- M. Rotate the shock so the lower mount clevis is aligned with the upper mount studs as noted in step B.
- N. Install the provided new locknut and tighten to 45 Nm (34 lb-ft).  
**\*\*\*\*DO NOT USE AN IMPACT WRENCH TO TIGHTEN THE NUT! \*\*\*\***
- O. Release the spring compressor while ensuring that the end of the top coil remains seated in the OE spring adaptor and that the OE spring adaptor remains aligned with the OE top mount plate.
- P. Install the assembly on to the vehicle and tighten all fasteners to vehicle manufacturer's specifications. This completes the installation.
- Q. Check wheel alignment. If necessary, adjust to the vehicle manufacturer's specifications.



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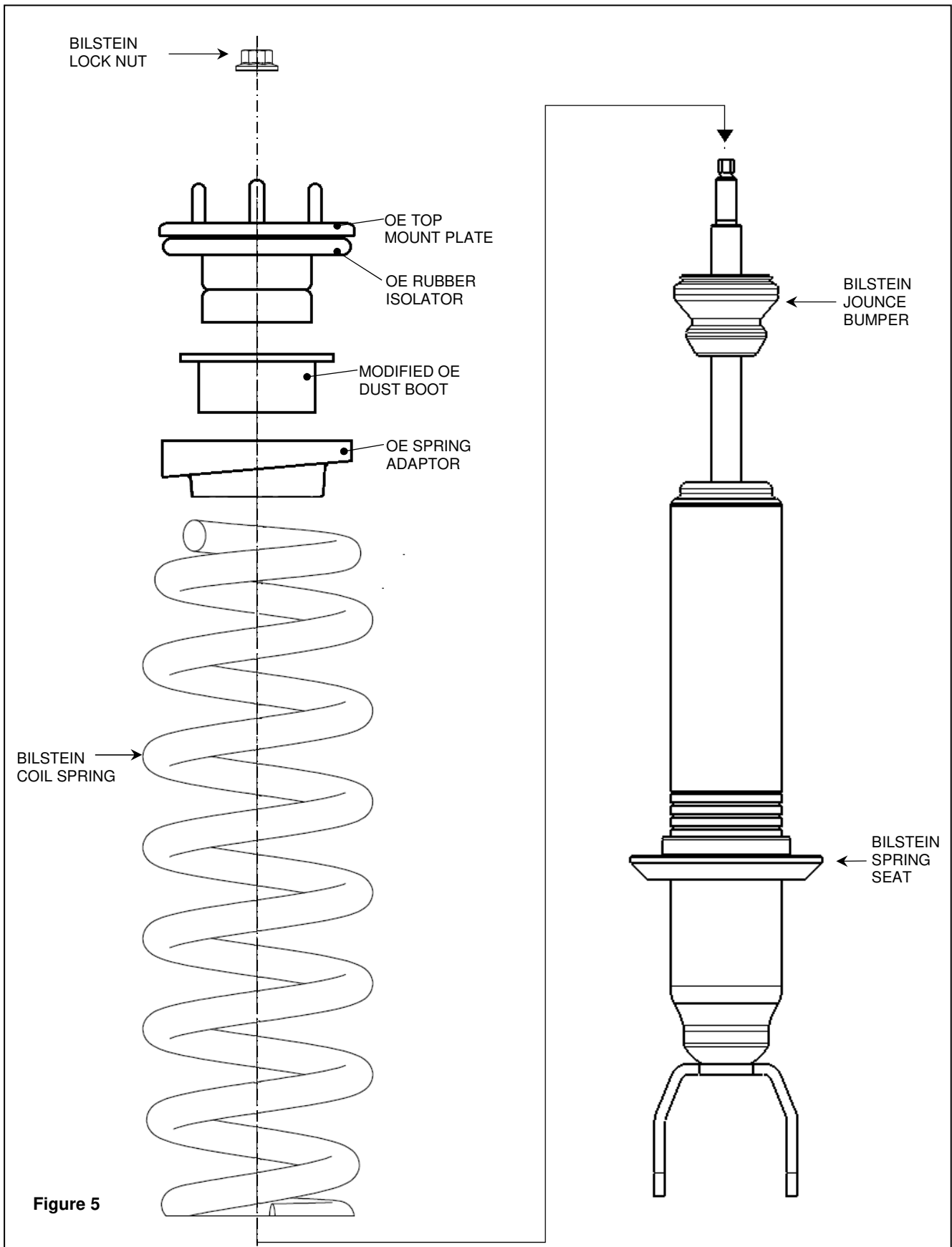


Figure 5



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**WARNING:** The front OE ABS line bracket needs to be replaced with the supplied ABS line relocation bracket to provide clearance with the spring at full droop / full steering lock. The ABS line bracket is in hardware kit #B4-KT1-Z425A00. Additionally, the cable clip that connects the brake line with the ABS line may need to be adjusted slightly.

## ABS Relocation Bracket Installation Procedure:

- R. After installing the B8 6112 shocks onto the vehicle, locate the ABS mounting bracket on the vehicle. The OE ABS line brackets are different on both sides but they are located at the same location. See Figure 6 and 7 for reference.



Figure 6. Passenger side front

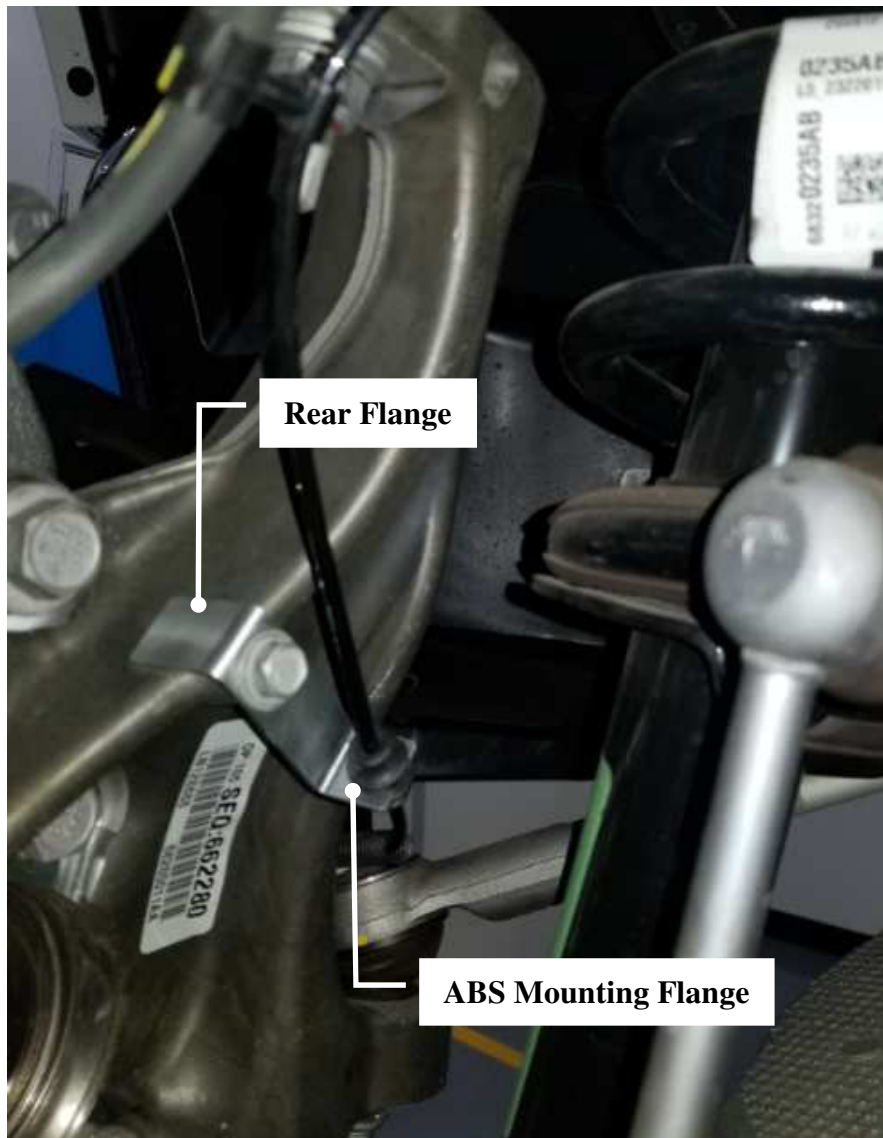


Figure 7. Driver side front

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- S. Starting with the driver side, remove the OE bracket to install the supplied ABS relocation bracket onto the spindle. Use the OE bolt to mount the bracket onto the spindle with the ABS mounting flange pointing away from the spindle. Do not tighten the bolt yet. See Figure 8 for reference.
- T. Slide the bracket forward till the rear flange makes contact with the spindle. Then torque down the bolt to the manufacturer's service manual specification. Clip the ABS line onto the bracket.



**Figure 8. ABS relocation bracket mounted**



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- U. Locate the cable clip that holds the brake line and ABS line together. See Figure 9 for reference.



**Figure 9. Cable Clip**

- V. With the front suspension drooped out, check the tension of the ABS line through the full steering range (full left and full right). Readjust the clip location to relieve tension if necessary.
- W. Repeat instruction for the other side.
- X. Installation is complete.