

E-WM05-0010002AA

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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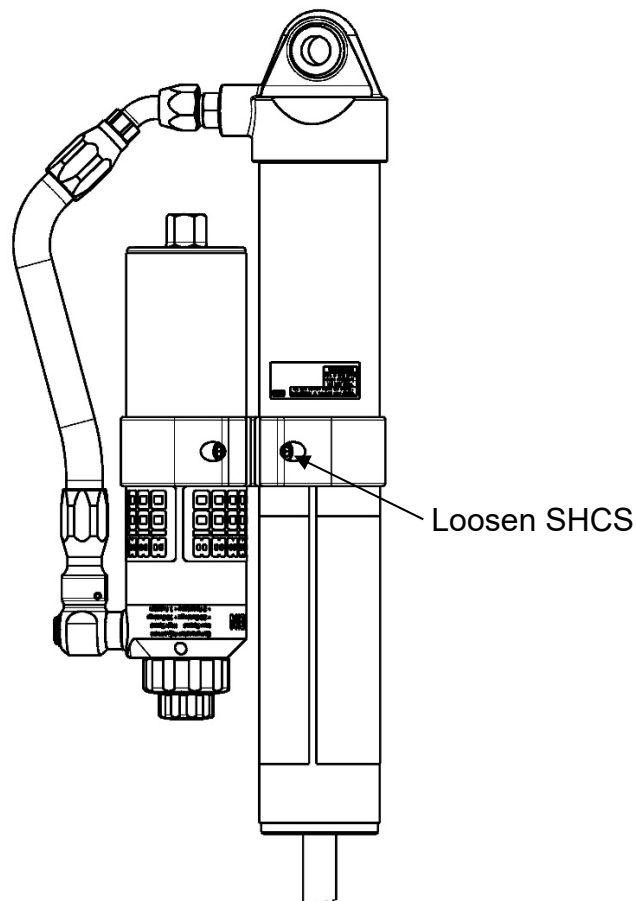
BILSTEIN B8 8100 Series Reservoir Shock Absorbers are designed to fit your vehicle's original shock mounts with no modifications. Except for reservoir placement and upper offset spacer, the B8 8100 Series shocks are installed in the same manner as a standard replacement shock.

- A.** Remove the existing rear shocks from the vehicle following all procedures in the vehicle manufacturer's service manual.

NOTE: 2005–2016 vehicles do not require any reservoir clocking and can be installed as-is on both left (driver) rear and right (passenger) rear. Skip to Step D for installation.

For 2017 and newer vehicles, proceed to step B:

- B.** Using a 5 mm Allen wrench, remove the reservoir bracket socket head cap screw that secures the bracket to the main shock body. Apply a non-permanent thread locker to the screw threads, re-insert, and tighten until loose enough to allow minor rotation of the bracket and attached reservoir.



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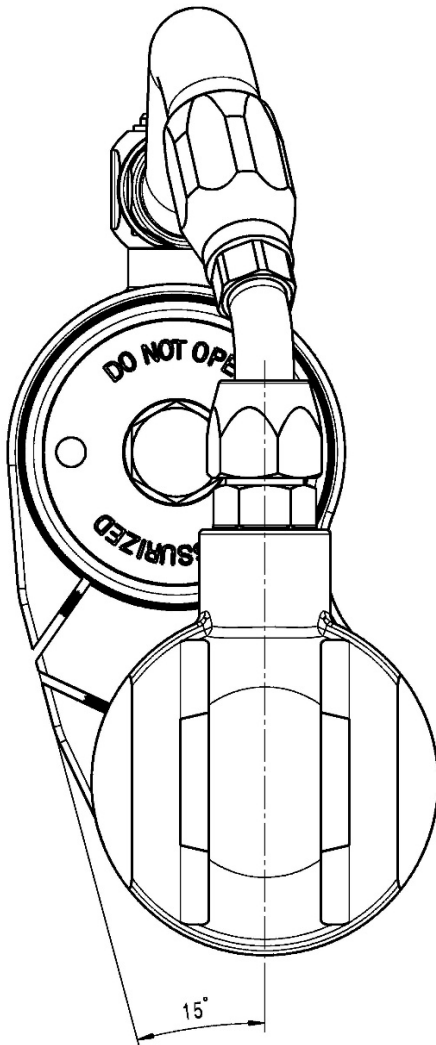
C. For 2017 and newer vehicles, the shock reservoir bracket must be clocked prior to installation to ensure proper clearance.

- Rotate the left (driver) rear reservoir to 15° from vertical as shown below on the left.
- Rotate the right (passenger) rear reservoir to 0° (vertical) as shown below on the right.

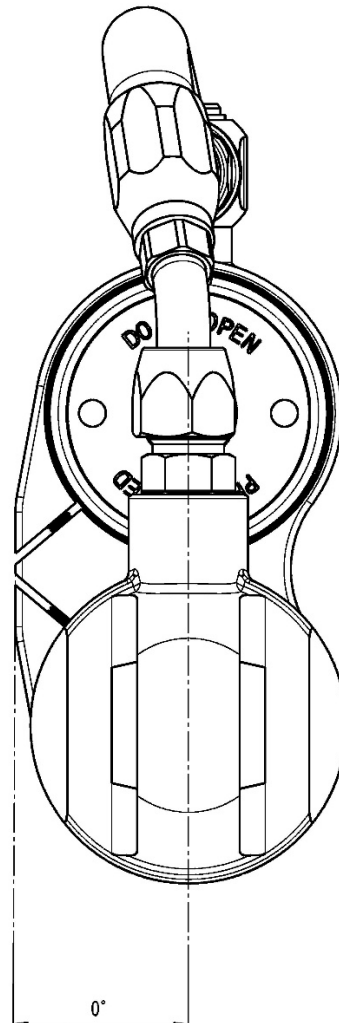
For reference the as-delivered angle is 6.5 degrees.

Tighten the reservoir bracket SHCS fully using a 5mm Allen wrench and **torque to 6 ft-lb (8 Nm)**.

**2017+ left (driver) rear
reservoir bracket
clocking:**



**2017+ right (passenger)
rear reservoir bracket
clocking:**



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- D. Place the supplied upper offset spacers over the upper mount stems as depicted in Figure 1. The spacer provides clearance between the shock/reservoir and the frame during suspension travel.



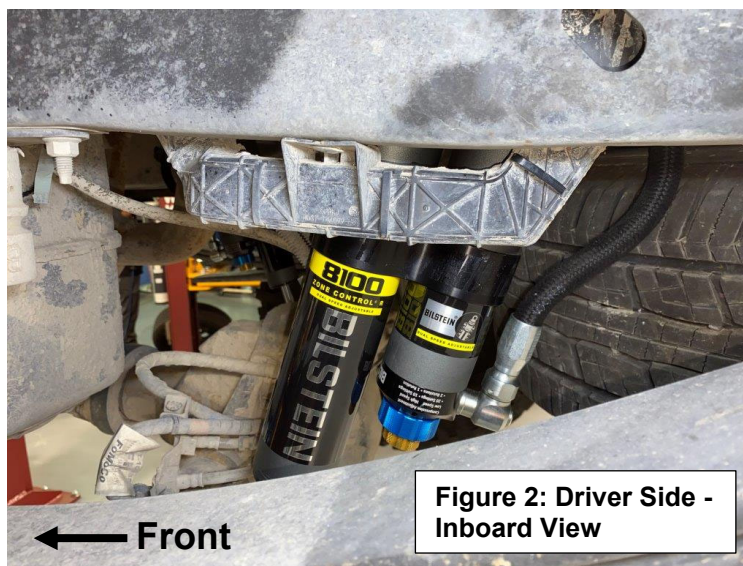
Figure 1: Passenger Side – Upper Mount

- E. With the offset spacers installed (1 per side), mount the shock assemblies. Position the reservoir for the driver's side as shown in Figures 2 and 3 and the passenger side as shown in Figures 4 and 5. The OE lower mount hardware can be reused. The OE upper mount nut should be replaced with the supplied Bilstein version. Do not torque the upper and lower nuts/bolts at this time, only hand tighten for now.

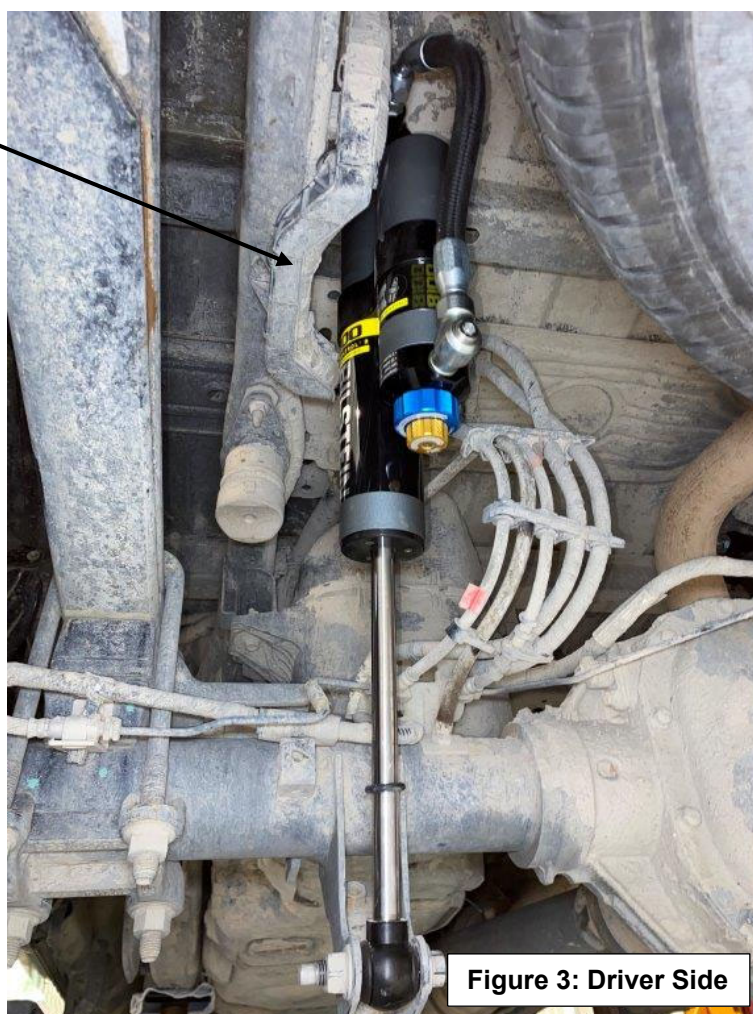
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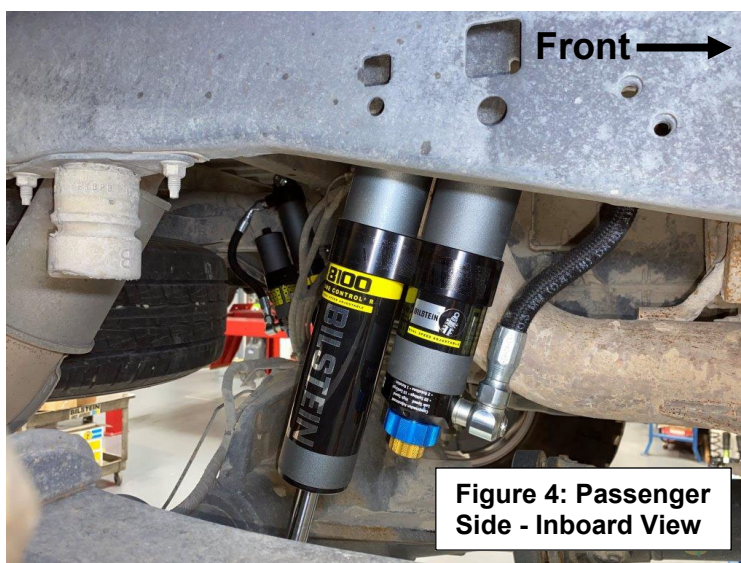
2017+, 15° reservoir clocking



Note: wiring harness
pictured only present on
'17+ vehicle models



2017+, 0° reservoir clocking



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- F.** Cycle the suspension through its full range of motion and check for any dynamic interference between the shock bodies, reservoir hoses, reservoirs, and surrounding components. If any interference is found, verify the dampers are correctly oriented and installed on the proper side of the vehicle. Also verify the reservoir/bracket has been clocked correctly based on the model year. The reservoir orientations depicted herein are appropriate for most Ford F250/350 4WD vehicles, however, some lift kit combinations and aftermarket parts may create interference problems. It is the responsibility of the installer to determine if there is any potential for interference.

*** Be sure to lower the vehicle such that its full weight is on the suspension prior to fully tightening the fasteners. ***

- G.** Tighten the OE hardware that was hand tightened in Step E and torque according to vehicle manufacturer's service manual specifications. This completes the installation.

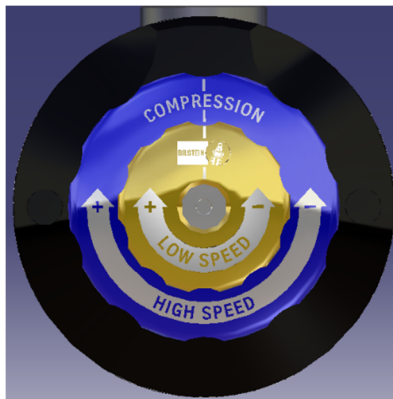
Dual Speed Reservoir Adjustment

DSA dampers come equipped with independent high and low speed compression damping adjusters located on the reservoir. The high speed is the blue knob and is labeled as such, and the low speed is the gold knob and is labeled as such. The **FULL FIRM** setting for each adjuster knob is achieved when the knob is turned all the way **CLOCKWISE**. The **FULL SOFT** setting for each adjuster knob is achieved when the knob is turned all the way **COUNTER-CLOCKWISE**. To make high or low speed adjustments, simply turn each knob individually until the desired level of control is achieved. To stiffen the ride, turn the knobs clockwise. To soften the ride, turn the knobs counter-clockwise.

The factory setting of these adjusters are as follows:

- High Speed (blue knob) – 6 clicks counter-clockwise from fully firm (10 total settings are available which translates to 9 clicks; 1 rotation)
- Low Speed (gold knob) – 13 clicks counter-clockwise from fully firm (20 total settings are available which translates to 19 clicks; 2 rotations)

Please note: It's normal for the high speed (blue) knob to become significantly more difficult to turn when progressing to the firmer end of the adjustment range; particularly during the last 3 to 4 settings/clicks. This increased difficulty is a result of the increasing preload of the high speed valve stack shims. To aid in ease of adjustment at the firmest end of the high speed range, it's optional to use the included Bilstein wrench part # E-XS01-0000004. Additionally, it's normal for the clicks on the high speed (blue) knob to become less pronounced at the firmer end of the adjustment range.



Dual Speed Reservoir Adjuster

B8 8100 service:

For service of your B8 8100 shocks, please contact:

THYSSENKRUPP BILSTEIN OF AMERICA

Toll Free: 1-800-537-1085

bilsteinus.com