



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.

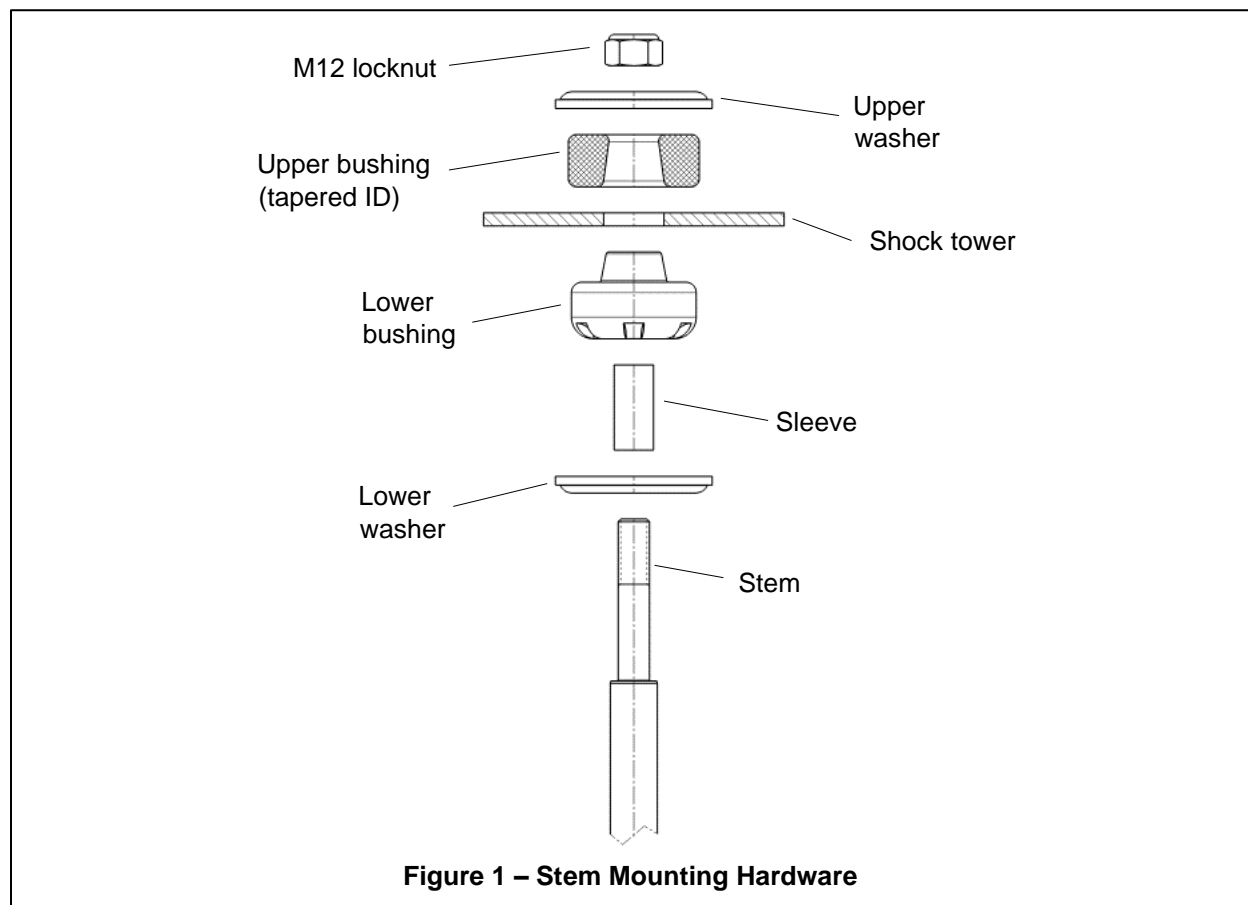
Shock Installation Procedure:

Axle: Rear left (driver) and Rear right (passenger)

Product: B8 8100 DSA

BILSTEIN 8100 Series Reservoir Shock Absorbers are designed to fit your vehicle's original shock mounts with no modifications. With the exception of reservoir placement, the 8100 Series shocks are installed in the same manner as a standard replacement shock.

- A. The 8100 dampers will be installed in the original damper location. Left and right dampers are side-specific. During install, position each so the reservoir is towards the axle and angled towards the outside of the vehicle. Installation of one side will be described and pictures for both sides will be shown.
- B. Raise the vehicle so the dampers are almost fully extended. Remove the existing rear dampers from the vehicle following all procedures in the vehicle manufacturer's service manual. Removing the inner fender wells will simplify installation.
- C. Using the supplied stem mounting hardware, install the lower washer, sleeve, and lower bushing onto the shock stem. Press the sleeve into the lower bushing before sliding it onto the stem. Refer to Figure 1 for the proper order of installation and orientation of the stem hardware.



- D. Align the stem with the upper mounting hole in the truck's frame rail.



Figure 2 – Stem mount alignment

- E. Align the damper mount cap with the truck's lower mounting bracket on the axle, then install the lower mounting bolt and nut. Hand thread the nut onto the mounting bolt, but do not tighten. Ensure the bolt head is facing the outside of the vehicle. See Figures 3 through 6.



Figure 3 – Lower mount, passenger side



Figure 4 – Lower mount, driver side



Figure 5 – Lower bolt, passenger side

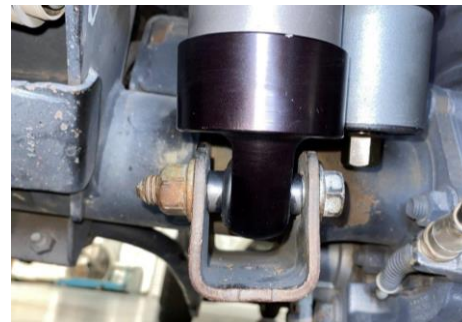


Figure 6 – Lower bolt, driver side

- F. Install the upper bushing, upper washer, and M12 nut onto the stem of the damper. Do not tighten. Refer to Figure 1 for the proper order of installation and orientation of the stem hardware. The upper

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MOUNTING INSTRUCTION



bushing is tapered. If the nut cannot be threaded on, verify orientation of the upper bushing. See Figure 7 for post install condition.



Figure 7 – Stem upper mounting hardware installed

- G.** Lower the vehicle so the full weight is on the suspension.
- H.** Torque the lower mounting fastener to the specification listed in the vehicle manufacturer's service manual.
- I.** Torque the stem locknut to 45 Nm (34 ft lb). Insert a 6mm allen key into the stem top to prevent the piston rod from rotating while torqueing the locknut.
- J.** Carefully check for any possible interference between the reservoirs and any other components on the vehicle. If any interference is found, verify the dampers are correctly oriented and installed on the proper side of the vehicle. The reservoir positions depicted herein are appropriate for most Ram trucks for which these shocks are intended. However, some wheel/tire and/or lift kit combinations may create interference problems. It is the responsibility of the installer to determine if the reservoirs are positioned appropriately and if there is any potential for interference.
- K.** Tighten all remaining fasteners to the torque specifications listed in the vehicle manufacturer's service manual.
- L.** Installation is complete. Final installed condition is shown below.



Figure 8 – Final install, passenger side



Figure 9 – Final install, driver side

Dual Speed Reservoir Adjustment

These 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 Bilstein wrench part # E-XS01-0000004. This is included in most kits and if not, available separately. 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

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