

E4-WM5-Y684A00

MOUNTING INSTRUCTION



IMPORTANT! READ THIS FIRST!

B8 8100 bypass shocks are corner specific. This instruction applies to both the left (P/N: 25-281804) and right (P/N: 25-259018) rear shocks. Skip to page 10 and 11 to see the final result for both sides. A bill of materials of the included mounting parts is shown on the next page.

Installation of shock absorbers 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 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 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, 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.

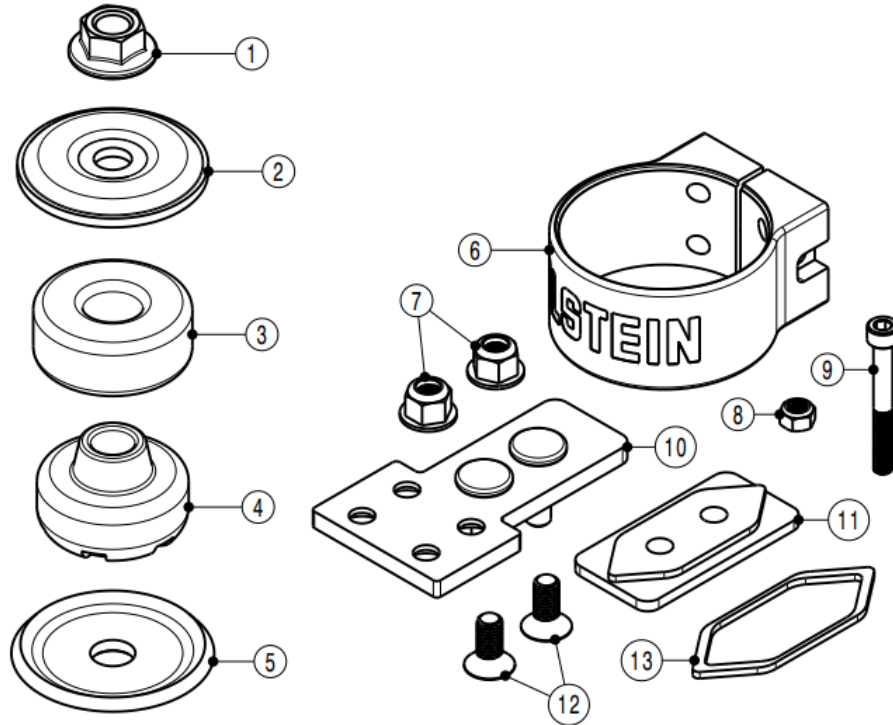
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B8 8100 bypass shocks feature a proprietary BILSTEIN zinc plated finish. This finish must be serviced in order to maintain its luster. Particularly in moist climates, a protective coating, such as a wax or lubricating oil should be periodically applied to prevent tarnishing. This finish is not covered under warranty.

It is normal to hear a slight audible clicking noise during compression and rebound strokes in the B8 8100 bypass shocks, most notably during low velocity events. This is due to the internal check pistons opening and closing to create the externally adjustable compression and rebound zones.



Bill of Materials - REAR		
Item #	Description	Qty.
1	Flange Locknut; M12x1.25	1
2	Rate Washer	1
3	Upper Bushing	1
4	Lower Bushing	1
5	Alignment Washer	1
6	Reservoir Clamp	1
7	Nut; M8x1.25	2
8	Nylon Insert Locknut; M6x1	1
9	Socket Head Cap Screw; M6x1; L=50mm	1
10	Support Plate Assembly	1
11	Support Bracket	1
12	Flat Head Cap Screw, M8x1.25, L=18mm	2
13	Extension Ring	1

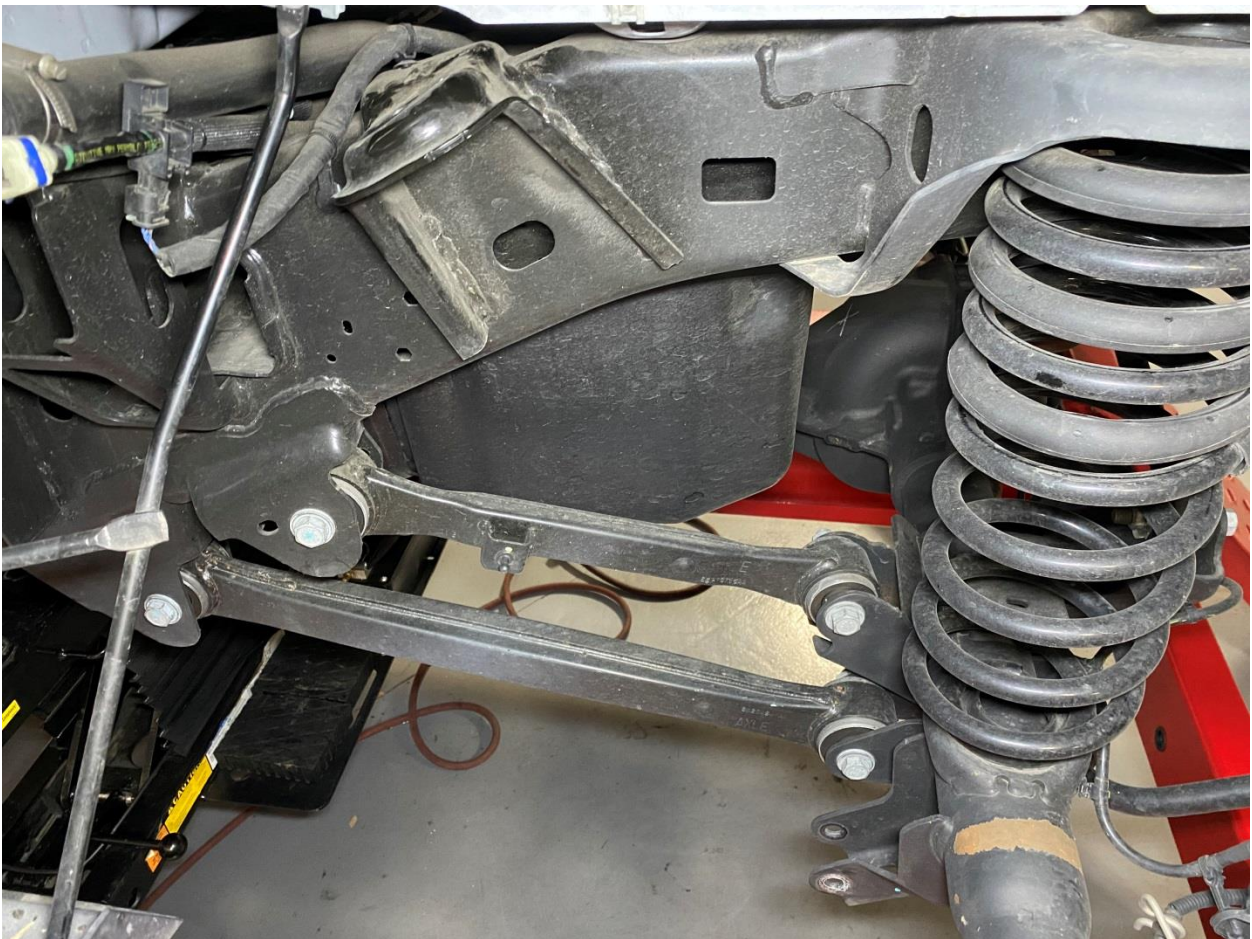
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B8 8100 bypass shock installation procedure:

B8 8100 bypass shocks are corner specific. This instruction applies to both the left (P/N: 25-281804) and right (P/N: 25-259018) rear shocks. Left rear installation shown, right rear is a mirror image. Skip to page 10 and 11 to see the final result for both sides.

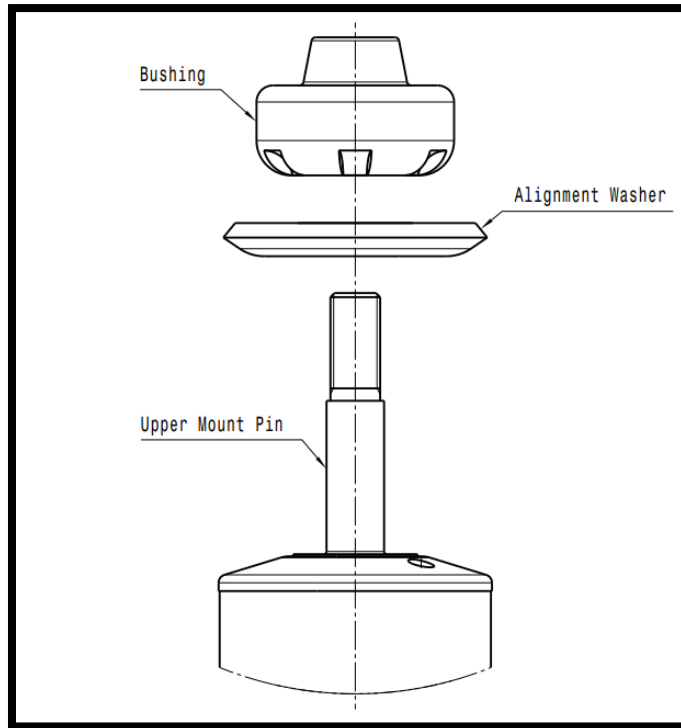
- A. Remove the existing shock from the vehicle following all procedures in the vehicle manufacturer's service manual. Inspect the OE upper and lower mount hardware for any damage or excessive wear. If these components are in good condition, save them for reuse later. If damage or excessive wear is present on any of these components, purchase the required replacement OE components.
- B. Also remove the fender liners in the front of the wheel well and save all mount hardware for use at end of installation.



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- C. Slide the alignment washer (BOM item #5) and the lower bushing (BOM item #4) over the threaded mount pin on the shock body as shown below.



- D. With the above complete, slide the threaded pin on the shock body through the chassis mount and carefully center the lower bushing (BOM item #4) in the mount hole. Slide the upper bushing (BOM item #3) over the threaded mount pin, followed by the rate washer (BOM item #2). Thread the M12x1.25 flange nut (BOM item #1) onto the threaded pin on the shock body. Using an open end or box end wrench, thread the flange nut down the threaded pin until all the gap in the bushing and cushion is taken up as shown below. Do not torque the nut at this time.



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Left (Driver) Rear



Right (Passenger) Rear

- E. For the left rear, orient the rebound (red) adjuster towards the front of the vehicle with the hose fitting clocked 20 degrees outboard as shown above. Allow the reservoir to hang for now.
- F. For the right rear, orient the rebound (red) adjuster towards the front of the vehicle with the hose fitting clocked 20 degrees outboard as shown above. Allow the reservoir to hang for now.
- G. Align the lower shock mount in the rear axle mount clevis using the OE lower shock bolt that was removed in step A (1 per side). Make sure the hex head of the bolt is facing outboard. Slide the OE washer over the bolt threads, and tighten the OE flange nut until the gap between the components and the rear axle mount clevis is taken up as shown below. Do not torque the bolt and flange nut at this time (the lower mount hardware should still be free to rotate).

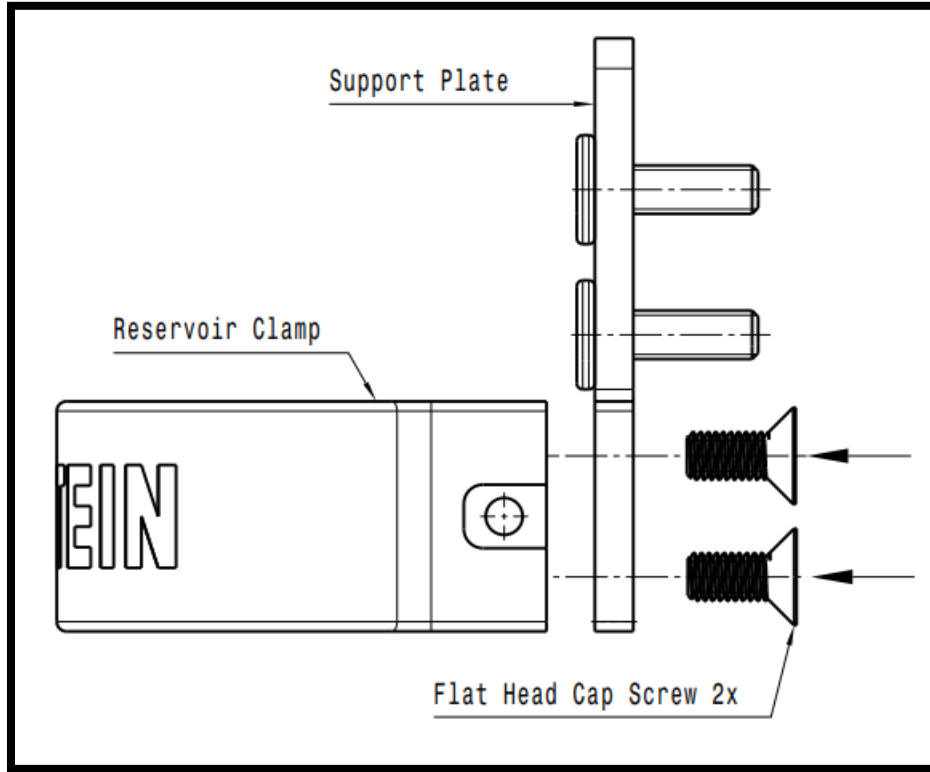


Left (Driver) Rear

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- H. Prepare the reservoir support plates as shown below. Attach the reservoir clamp (BOM item #6) to the support plate (BOM item #10) using the two M8x1.25 flat head cap screws (BOM item #12). Apply a non-permanent thread locker and **torque Flat Head Cap Screws to 18 ft-lb (25 Nm)**.



- I. Install the M6x1 socket head cap screw (BOM item #9) and the M6 nylon insert locknut (BOM item #8) on the reservoir clamp (BOM item #6) as shown below. Ensure the nut is located on the inside of the assembly and the screw head facing outboard as you will need access to the screw head for installation. Hand tighten for now allowing the reservoir to slide freely in and out of the Reservoir Clamp.



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- J. Slide the reservoir into the bracket and snug reservoir clamp using a 5mm allen wrench to prevent slipping. (do not torque at this time).



- K. The reservoir will be mounted to the oval slot on the vehicle's frame, forward of the wheel well (see circle in image below). Locate the reservoir support bracket (BOM item #11) and position in the slot as shown below.



*** Please refer to the following instructions for vehicles with larger mount slot:**

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- L. Some vehicles have a larger mount slot than others and the included extension ring (BOM item #13) will be needed. Fit the extension ring (BOM item #13) over the support bracket (BOM item #11) and insert in the slot as shown below.



- M. Mount the reservoir and support plate assembly (BOM item #10) through the frame slot and support bracket (BOM item #11). Secure in place with supplied M8x1.25 nuts (BOM item #7) and a 13mm wrench. Apply a non-permanent thread locker and **torque to 18 ft-lb (25 Nm)**.



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- N. Adjust the reservoir so the hose port is positioned as shown and the reservoir clamp is approx. 110mm from the bottom of the reservoir. Tighten the clamp using a 5mm Allen wrench and **torque to 6 ft-lb (8 Nm)**.



Final Shock Mounting:

- O. After mounting the reservoirs, ensure the main shock body is still oriented in the position described in Steps E and F.
- P. Once the shock body is oriented properly, tighten the Flanged Locknut (BOM item #1) that was installed onto the threaded pin on the shock body in Step D. **Torque the Flanged Locknut to 34 ft-lb (45 Nm)**.
- Q. Fully tighten the lower shock bolt to the torque specified in the manufacturer's service manual.
- *If a chassis hoist has been used, be sure to lower the vehicle such that it's full weight is on the suspension prior to fully tightening the lower shock bolt.***
- R. Carefully check for any possible dynamic interference the shock bodies, reservoir hoses and reservoirs may have with any other components on the vehicle. Make any necessary adjustments to the shock alignment and/or reservoir position. The mounting locations depicted are appropriate for this application; however, some aftermarket components such as tires and/or lift kit combinations may create interference problems. It is the responsibility of the installer to determine if there is a potential for interference.

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Final rear left (driver) 25-281804 B8 8100 bypass shock installed on vehicle:



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Final rear right (passenger) 25-259018 B8 8100 bypass shock installed on vehicle:



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Fender Liner Modification Procedure:

- S. Using one of the following examples, trim the inner fender liner for hose clearance and reinstall using 8mm socket. First example is trimmed for minimum clearance. Second example is trimmed just below the fender support rod for maximum shock and reservoir visibility.



- T. Installation is now complete.

B8 8100 bypass shocks allow the user to tune the damping for the best possible ride quality of their vehicle. The shocks offer multiple zones of compression and rebound damping, depending upon the bypass configuration. The factory setting is:

Rebound – 7 full turns out from fully closed
Compression – 7 turns out from fully closed

Note: The bypass adjusters allow adjustment up to 10 full turns out from fully closed.

B8 8100 bypass adjustment procedure:

Rotate the blue and red adjuster knobs to make the desired adjustment.

TURN IN (Clockwise) the adjuster knob to **INCREASE** damping

TURN OUT (Counter Clockwise) the adjuster knob to **DECREASE** damping

B8 8100 bypass service:

For service of your B8 8100 bypass shocks, please contact:

THYSSENKRUPP BILSTEIN OF AMERICA
Toll Free: 1-800-537-1085
bilsteinus.com