

E4-WM5-Y566A00 MOUNTING INSTRUCTION



IMPORTANT!

PLEASE READ ALL INSTRUCTIONS FIRST!

If in doubt, please contact your local BILSTEIN dealer or our sales department before installation.

When replacing other brands, BILSTEIN shock absorbers should always be installed as a set. Installation of shock absorbers, struts and cartridges requires special tools and expert knowledge. Accordingly, installation of all BILSTEIN products must be performed by a qualified suspension specialist.

Always use a chassis hoist for the installation of BILSTEIN products, and make certain that the raised vehicle is securely attached to the hoist 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 things are done.

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.**

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, and 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**.

Do not use impact tools for loosening or tightening fasteners, because this may destroy the screw threads. Self-locking nuts 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. Also, 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. Also the headlight aim must be checked and adjusted.

Be sure to properly dispose of all old parts.

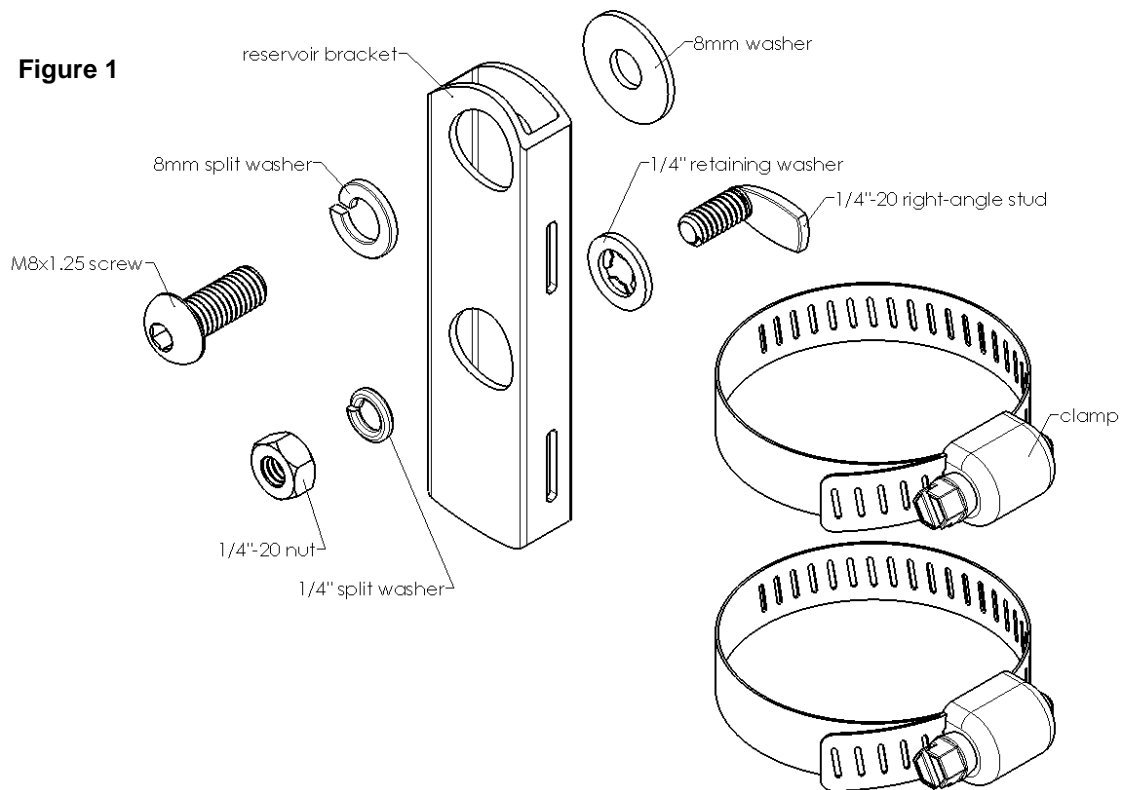
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BILSTEIN 5160 Series Reservoir Shock Absorbers are designed to fit your vehicle's original shock mounts with no modifications. With the exception of reservoir placement, the 5160 Series shocks are installed in the same manner as a standard replacement shock.

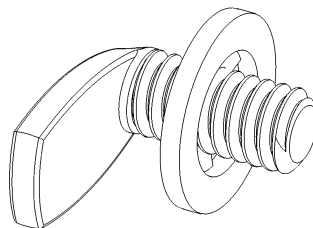
Installation Procedure:

- A. Remove the existing rear shocks from the vehicle following all procedures in the vehicle manufacturer's service manual.
- B. A mount kit is included to allow the remote reservoir to be attached to the vehicle frame rail. This kit is depicted in Figure 1.



- C. Place the 1/4" nylon retaining washer over the 1/4" right-angle stud. Push the washer about half way down the stud threads. The side of the washer with the larger opening should face away from the tab on the stud. This is depicted in Figure 2.

Figure 2

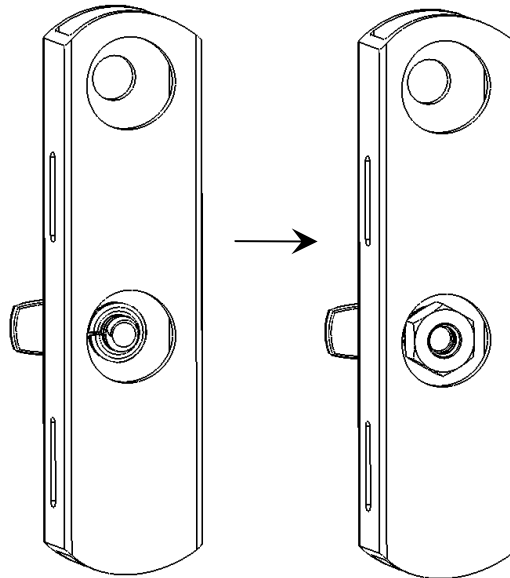


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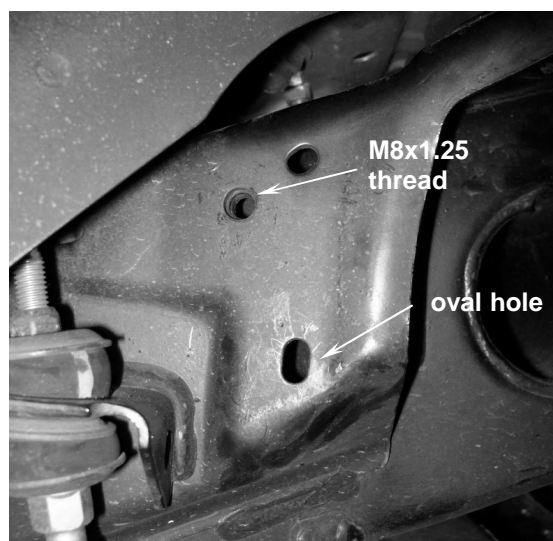
- D. Place the stud into the lower round hole on the back side of the bracket. Install the ¼" split washer over the stud. Install the ¼" nut on to the stud but only engage one or two threads for now. A non-permanent thread locking compound may be used on the threads in addition to the split washer for additional durability. This is depicted in Figure 3.

Figure 3



- E. Figure 4 shows the vehicle frame rail on the driver side toward the front of the wheel well. There are two existing holes in the frame rail that will be used to secure the reservoir bracket. The upper hole has an M8x1.25 thread, the lower hole is oval and has no threads (for vehicles not equipped with the M8x1.25 thread in the upper mounting hole, refer to the supplemental mounting instructions, page 7).

Figure 4



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- F. Install the 8mm split washer on to the M8 screw.
- G. With the tab on the threaded stud facing toward the front of the vehicle, hook the tab into the lower oval hole. Once the tab is completely inside the frame, the back of the bracket should be able to sit essentially parallel to the side of the frame rail.
- H. Line up the upper round hole in the bracket with the M8x1.25 hole in the frame and slip the 8mm nylon flat washer behind the bracket, then line it up with the same hole.
- I. Install the M8 screw through the upper bracket hole and washer to engage the M8x1.25 threaded hole in the frame. A non-permanent thread locking compound may be used on the threads in addition to the split washer for additional durability.
- J. Tighten the M8 screw until it just contacts the split washer.
- K. Tighten the ¼" nut on the stud and torque to 8 lb•ft (10.9 N•m). The tab on the stud will catch on an interior feature of the frame which will prevent it from rotating and allow the nut to be tightened.

(Note: In the event that the bracket ever needs to be removed from the vehicle, the nylon retaining washer will prevent the stud from falling into the frame when the nut is removed.)
- L. Torque the 8mm screw to 10 lb•ft (13.6 N•m).
- M. Using the provided clamps, slide the open bands through the thin slots on the sides of the bracket and engage the screw on the clamps.
- N. The installed bracket is depicted in Figure 5.

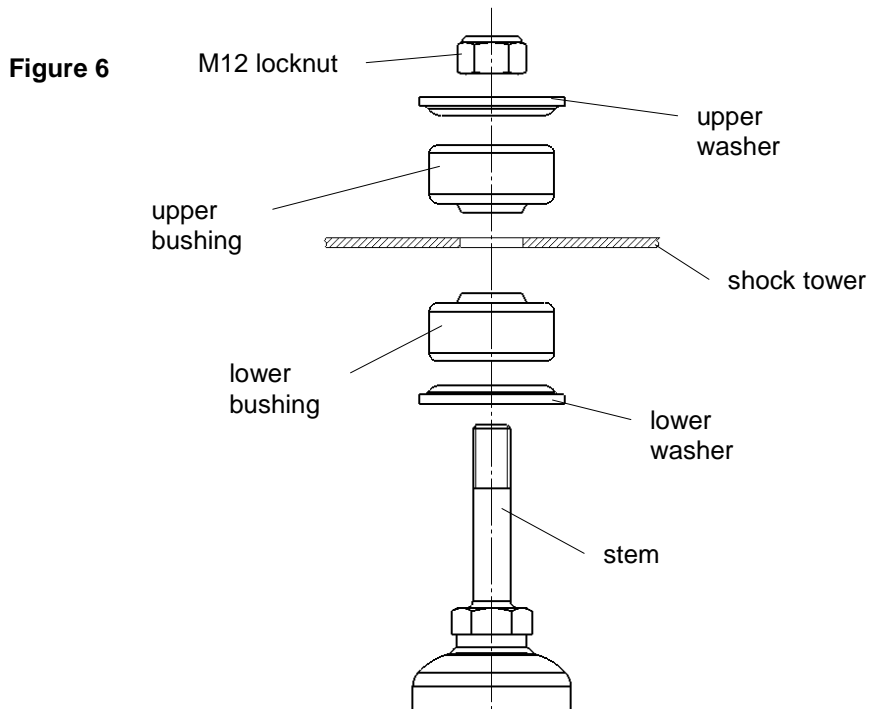
Figure 5



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- O. Install the shock in the original location and attach the lower mount.
- P. Using the supplied stem mounting hardware kit, install the upper mount. Refer to Figure 6 for the proper order of installation of the stem hardware. If a chassis hoist has been used, be sure to lower the vehicle such that its full weight is on the suspension prior to fully tightening the fasteners.



- Q. Orient the hose fitting toward the rear of the vehicle as shown in Figure 7.

Figure 7



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- R. Tighten the lower mount fasteners to the vehicle manufacturer's service manual torque specification. Tighten the locknut on the upper mount until it bottoms out on the last thread.
- S. Figure 8 depicts the reservoir and shock installed. Orient the reservoir so that the hose fitting is on the bottom. Route the hose as shown and secure the reservoir to the bracket using the clamps. The hose fittings are designed to swivel to allow the reservoir and hose to be more easily positioned. (Note: the reservoir depicted is equipped with an optional Schrader valve cap.)

Figure 8



- T. Tighten the hose clamps until the reservoir cannot be manually rotated.
- U. The installation procedure for the passenger side of the vehicle is the same, the component positioning is just a mirror image of the driver side.
- V. Carefully check for any possible interference between the reservoirs/hoses and any other components on the vehicle. The reservoir mounting location depicted is appropriate for most vehicles for which this kit is intended, however, some wheel/tire and/or lift kit combinations and/or other vehicle modifications may create interference problems. It is the responsibility of the installer to determine if the reservoirs are mounted appropriately and if there is any potential for interference.
- W. If no potential interference is found, the installation is complete.

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Supplemental Mounting Instructions:

1. Refer to the instructions above; disregard steps F, H, I, J, and L. Instead, complete the procedure described below.
2. Discard the M8 hardware shown here:

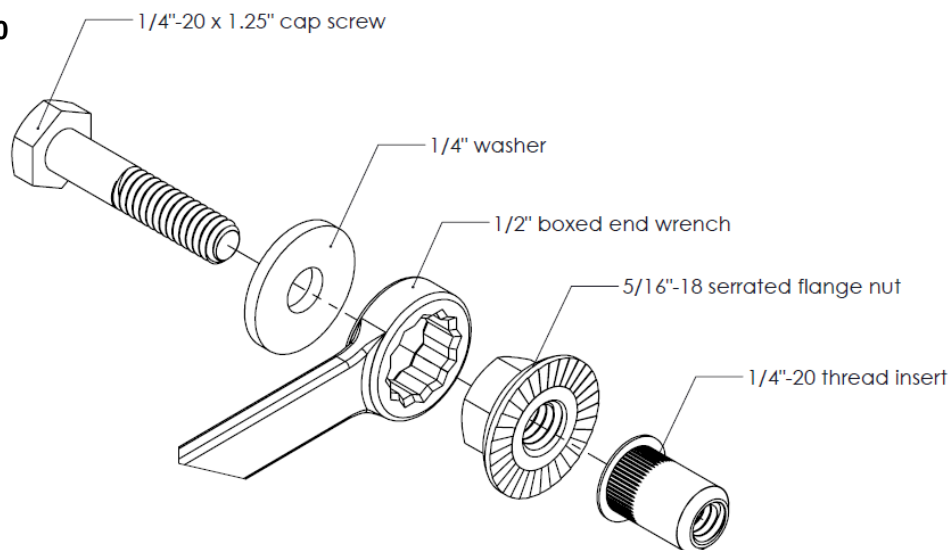
Figure 9



3. The upper hole on the frame is 0.35" in diameter. It must be drilled out to 0.39" using a 25/64" drill bit (not provided).
4. If you have access to a nutsert gun or pliers, that may be preferable to set the provided nutsert. Otherwise, using the items in the supplemental hardware kit, and a 1/2" box end wrench, arrange them as shown and turn the 1/4"-20 screw by hand until it is snug.

Note that the screw will pass through the serrated flange nut without engaging the threads. The threads will instead engage the nutsert. The serrations on the flange nut prevent the nutsert from rotating while setting it.

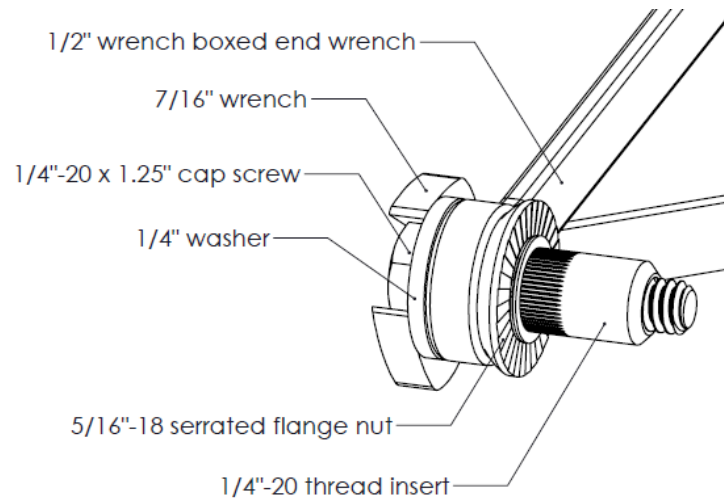
Figure 10



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Figure 11



5. Insert the nutsert into the drilled out hole.

Figure 12



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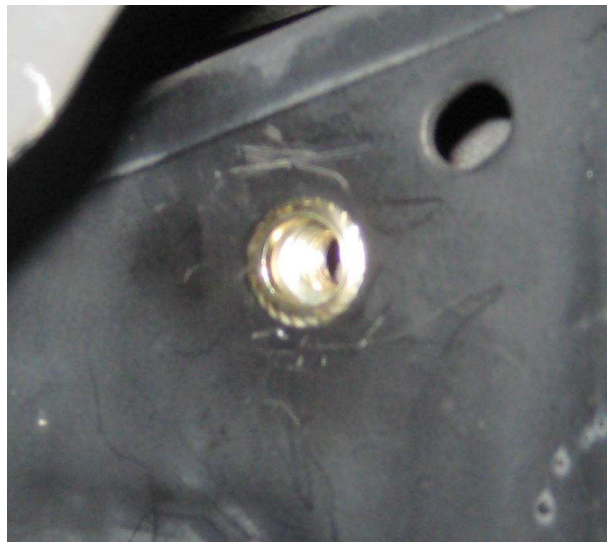
6. While keeping the nutsert flange firm and parallel against the frame rail, tighten the screw using a 7/16" box end wrench or socket. Turn it 2.5 rotations to set the nutsert. Tightening in ¼ turn increments tends to work well.

Figure 13



7. Remove and discard the screw, washer, and flange nut. The nutsert should now be rigidly fixed in the hole:

Figure 14

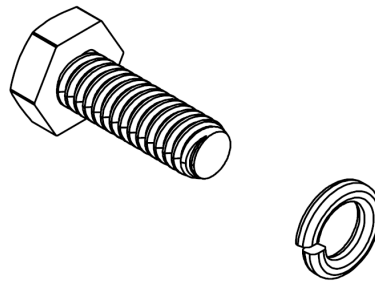


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8. With the tab on the threaded stud facing toward the front of the vehicle, hook the tab into the lower oval hole. Once the tab is completely inside the frame, the back of the bracket should be able to sit essentially parallel to the side of the frame rail.
9. Using the shorter $\frac{1}{4}$ "-20 socket cap screw and split washer from the supplemental hardware kit, secure the bracket by the upper hole. A non-permanent thread locking compound is recommended. Tighten the screw until it just contacts the split washer.

Figure 15



10. Tighten the $\frac{1}{4}$ " nut on the stud and torque to 8 lb•ft (10.9 N•m). The tab on the stud will catch on an interior feature of the frame which will prevent it from rotating and allow the nut to be tightened.
(Note: In the event that the bracket ever needs to be removed from the vehicle, the nylon retaining washer will prevent the stud from falling into the frame when the nut is removed.)
11. Torque the $\frac{1}{4}$ "-20 screw to 10 lb•ft (13.6 N•m).
12. Proceed with step M and all of the subsequent steps in the installation instructions.