

E4-WM5-Y671A00

MOUNTING INSTRUCTION



This instruction is for both left front (driver) 25-304909 and right front (passenger) 25-304916 B8 8100 shocks. A bill of materials (BOM) of the included mounting parts kits is shown on the next 2 pages.

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 operating the vehicle.

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.

B8 8100 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.

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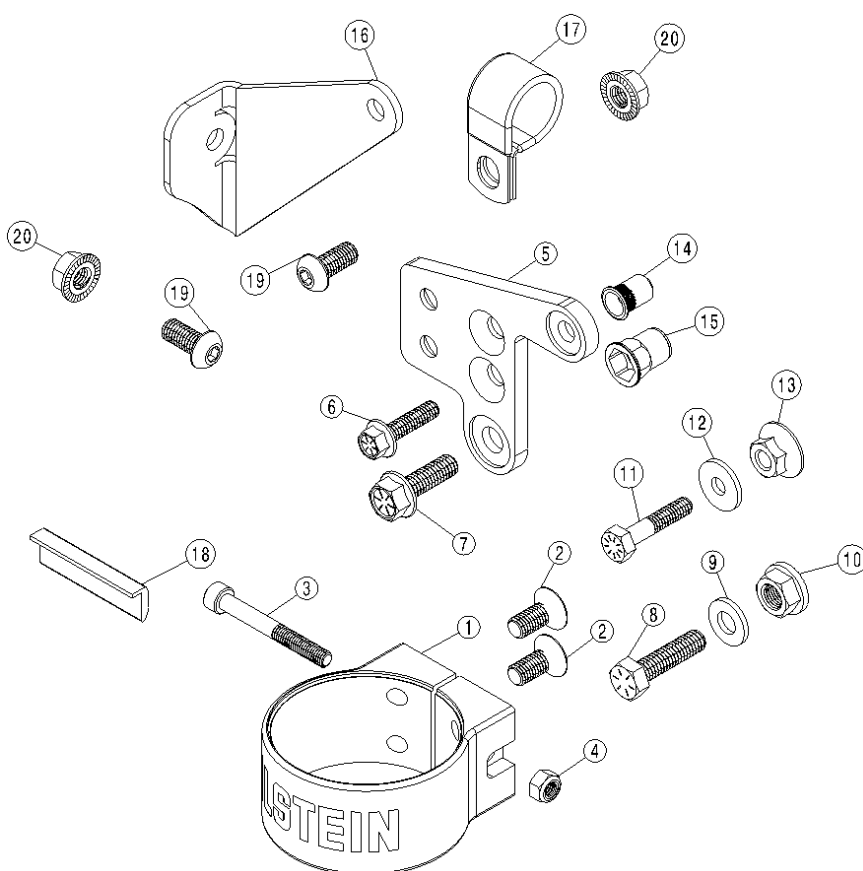
Installation Procedure:

Installation of B8 8100 shocks requires the use of wheels with a maximum of 4.5" backspacing to ensure clearance between the tire and the shocks.

- A. Remove the existing front 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 behind the front bumper. This kit is depicted in Figure 1 and 2.

Item	Description	Qty.
1	RESERVOIR CLAMP	1
2	M8 x 1.25 x 18mm COUNTERSUNK SCREW	2
3	M6 x 1 x 50mm SOCKET HEAD CAP SCREW	1
4	M6 x 1 LOCK NUT	1
5	RESERVOIR MOUNT PLATE	1
6	1/4"-20 x 1" HEX SCREW	1
7	5/16"-18 x 1" HEX SCREW	1
8	5/16"-18 x 1.25" HEX SCREW	1
9	5/16" WASHER	1
10	3/8"-24 SERRATED FLANGE NUT	1
11	1/4"-20 x 1.25" CAP SCREW	1
12	1/4" WASHER	1
13	M8 x 1.25 SERRATED FLANGE NUT	1
14	1/4"-20 THREADED INSERT	1
15	5/16"-18 HEX THREADED INSERT	1
16	MOUNT BRACKET, RESERVOIR HOSE	1
17	LOOP CLAMP	1
18	RUBBER STRIP	1
19	M8 x 1.25 x 18mm BUTTON SCREW	2
20	M8 x 1.25 SERRATED FLANGE NUT	2

Figure 1: Passenger Side Reservoir Mount Kit

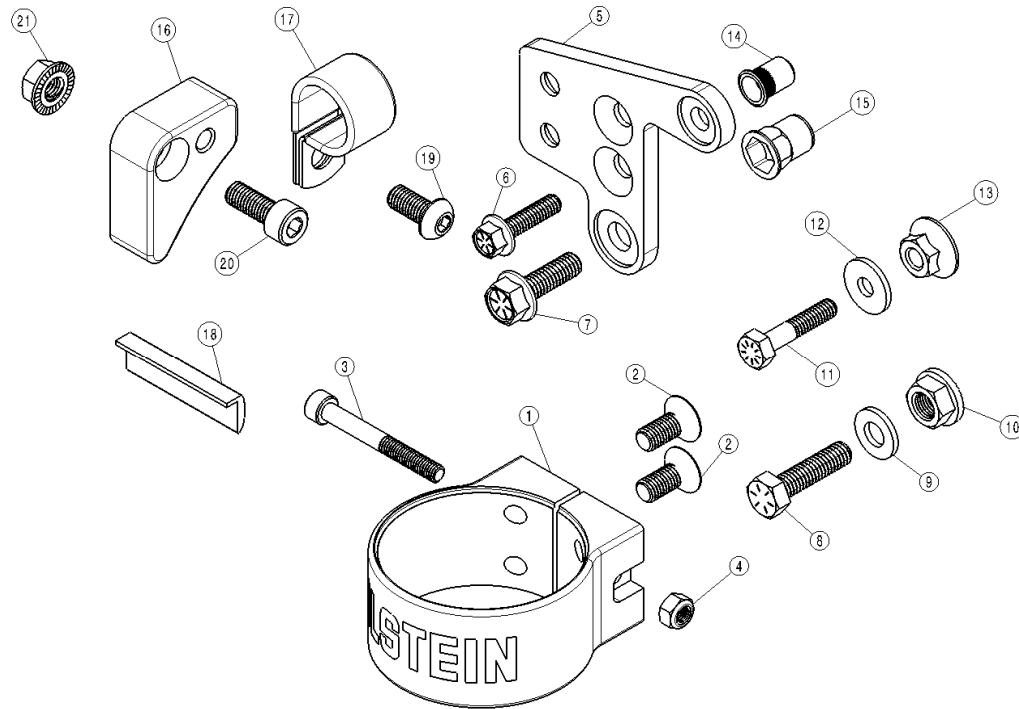


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Figure 2: Driver Side Reservoir Mount Kit



Item	Description	Qty.
1	RESERVOIR CLAMP	1
2	M8 x 1.25 x 18mm COUNTERSUNK SCREW	2
3	M6 x 1 x 50mm SOCKET HEAD CAP SCREW	1
4	M6 x 1 LOCK NUT	1
5	RESERVOIR MOUNT PLATE	1
6	1/4"-20 x 1" HEX SCREW	1
7	5/16"-18 x 1" HEX SCREW	1
8	5/16"-18 x 1.25" HEX SCREW	1
9	5/16" WASHER	1
10	3/8"-24 SERRATED FLANGE NUT	1
11	1/4"-20 x 1.25" CAP SCREW	1
12	1/4" WASHER	1
13	M8 x 1.25 SERRATED FLANGE NUT	1
14	1/4"-20 THREADED INSERT	1
15	5/16"-18 HEX THREADED INSERT	1
16	MOUNT BRACKET, RESERVOIR HOSE	1
17	LOOP CLAMP	1
18	RUBBER STRIP	1
19	M8 x 1.25 x 18 BUTTON SCREW	1
20	M8 x 1.25 x 20mm SOCKET HEAD CAP SCREW	1
21	M8 x 1.25 SERRATED FLANGE NUT	1

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Threaded Insert installation

- C. Starting with the 1/4"-20 threaded insert, if you have access to a nutsert gun or pliers, that may be preferable to set the provided threaded insert. Otherwise, using the items in Figure 3, and a 1/2" box end wrench, arrange them as shown and turn the 1/4"-20 screw by hand until it is snug as shown in Figure 4.

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

Figure 3

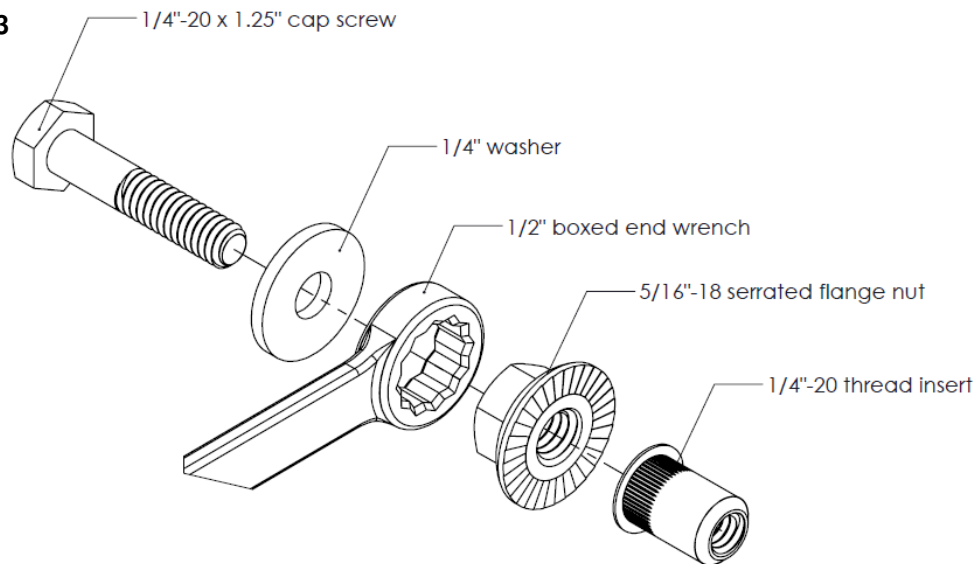
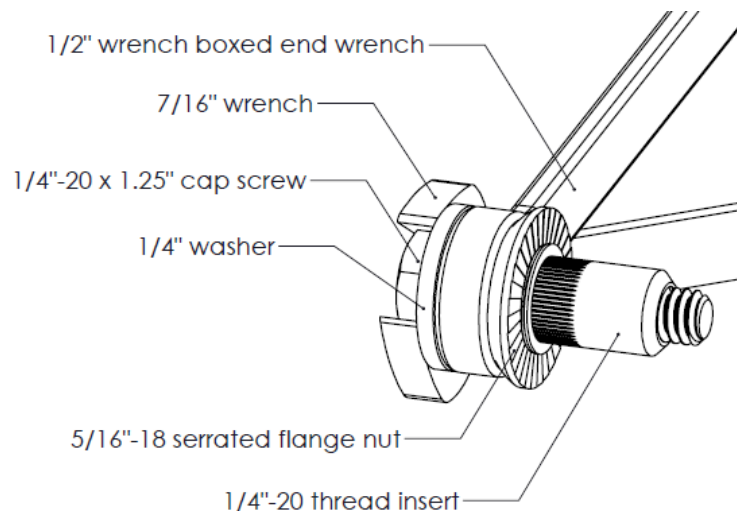


Figure 4



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- D. For the driver side, place the threaded insert into the holes shown in Figure 5. For the passenger side, insert the threaded insert into the holes shown in Figure 6.

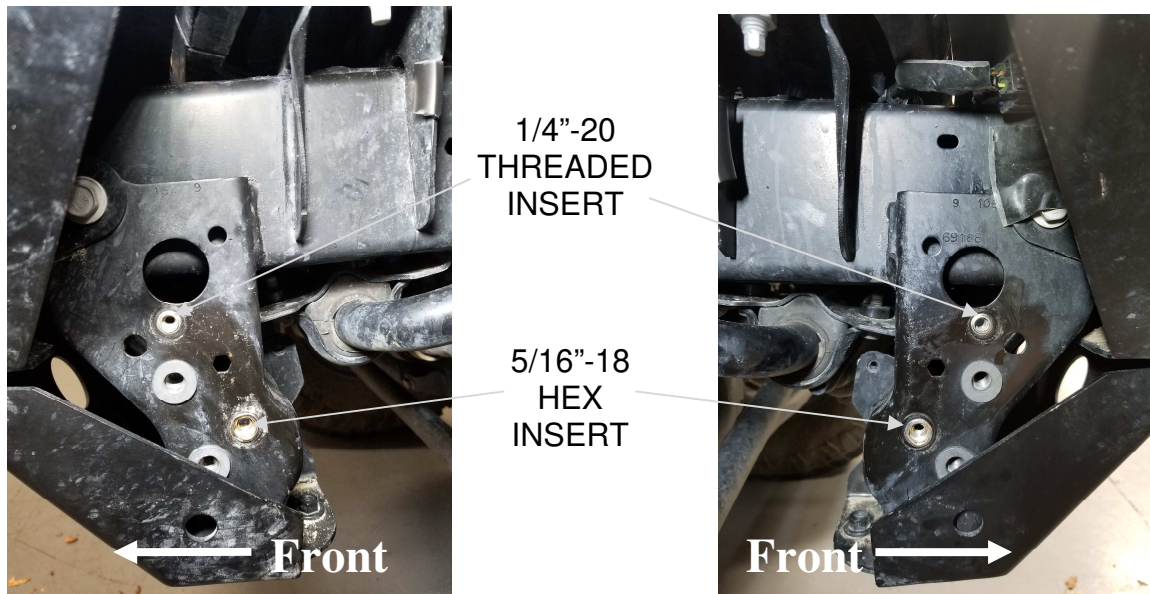


Figure 5 – Driver Side

Figure 6 – Passenger Side

- E. For the 1/4"-20 threaded insert, keep the insert's flange firm and parallel against the bumper support, and tighten the screw using a 7/16" box end wrench or socket. Turn it 2 rotations to set the threaded insert. Tightening in 1/4 turn increments tends to work well.
- F. Remove and discard the screw, washer and flange nut. The threaded insert should now be rigidly fixed in the hole.
- G. Assemble the 5/16"-18 hex screw, 5/16" flat washer, a 9/16" boxed end wrench, the 3/8" serrated flange nut and hex threaded insert the same way as in Figure 3.
- H. For the driver side, place the threaded insert into the holes shown in Figure 5. For the passenger side, insert the threaded insert into the holes shown in Figure 6.
- I. While keeping the threaded insert flange firm and parallel against the bumper support, tighten the 5/16"-18 hex screw using a 1/2" box end wrench or socket. Turn it 2 rotations to set the threaded insert. Tightening in 1/4 turn increments tends to work well.
- J. Remove the screw and washer. Discard the washer and serrated flange nut. The threaded insert should now be rigidly fixed in the hole.



Shock Installation

- K. Install the driver side shock in the original location with the top mount offsetting outboard away from the vehicle and hose fitting angled towards the rear of the vehicle as shown in Figures 7 & 8.

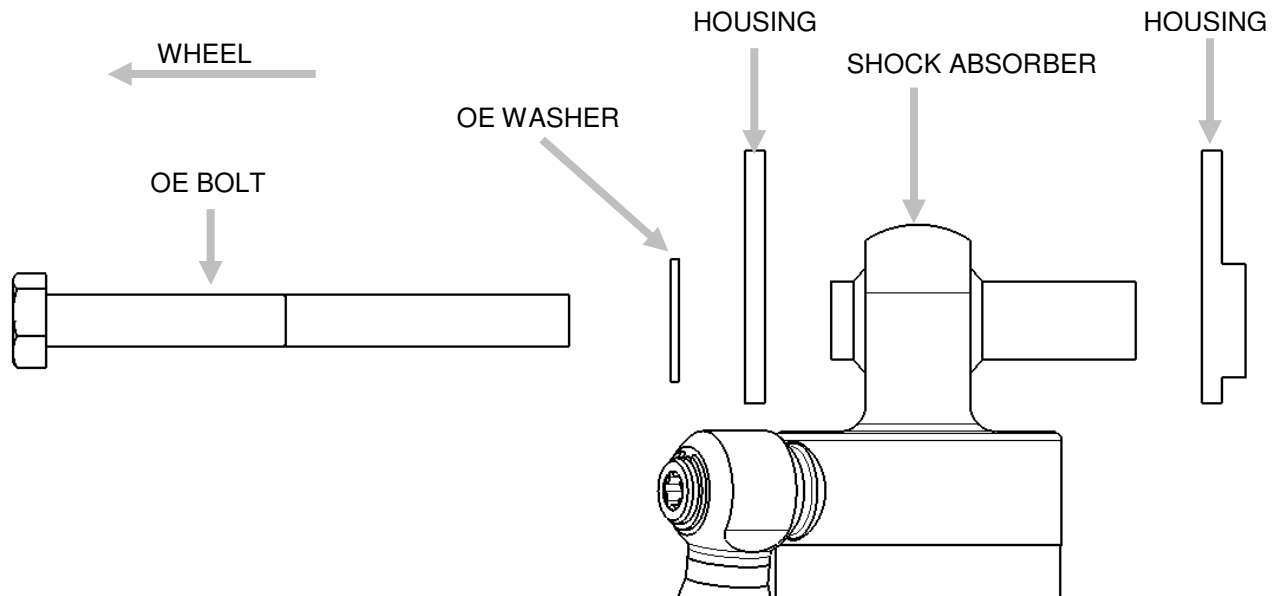


Figure 7 – Driver Side Top Mount

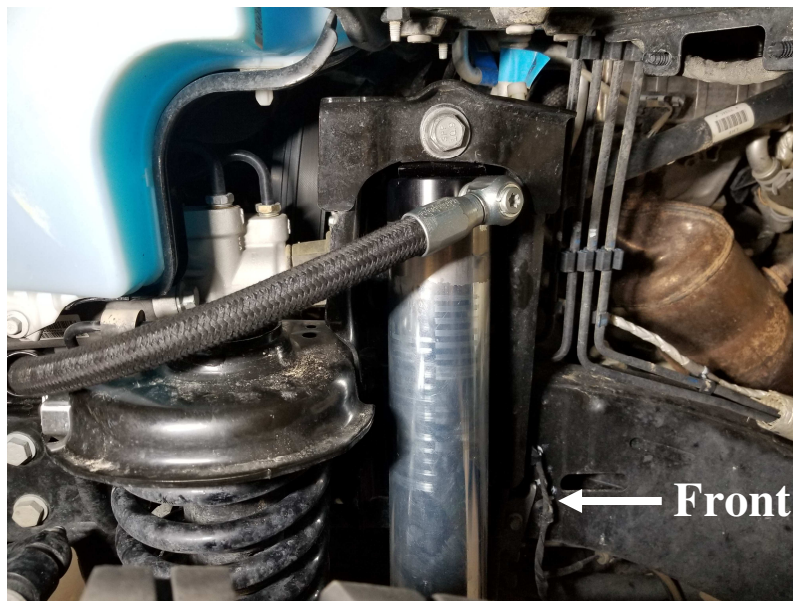


Figure 8 – Driver Side Top Mount

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- L. Install the Passenger side shock in the original location with the top mount offsetting away from the vehicle and hose fitting angled towards the rear of the vehicle as shown in Figures 9 & 10.

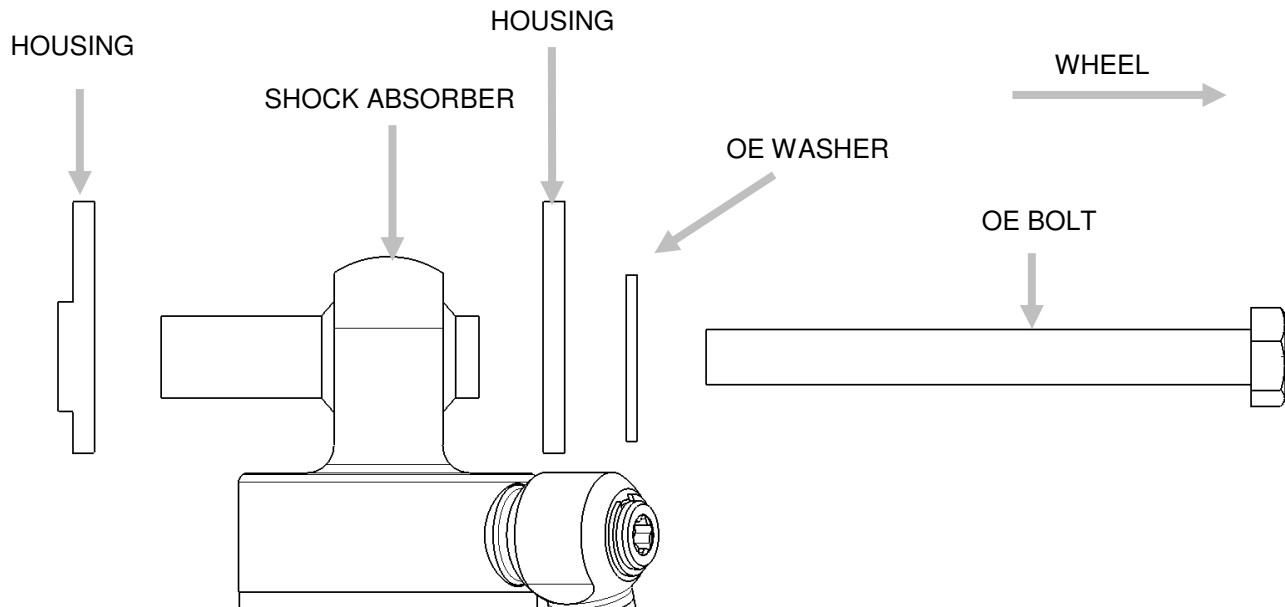


Figure 9 – Passenger Side Top Mount

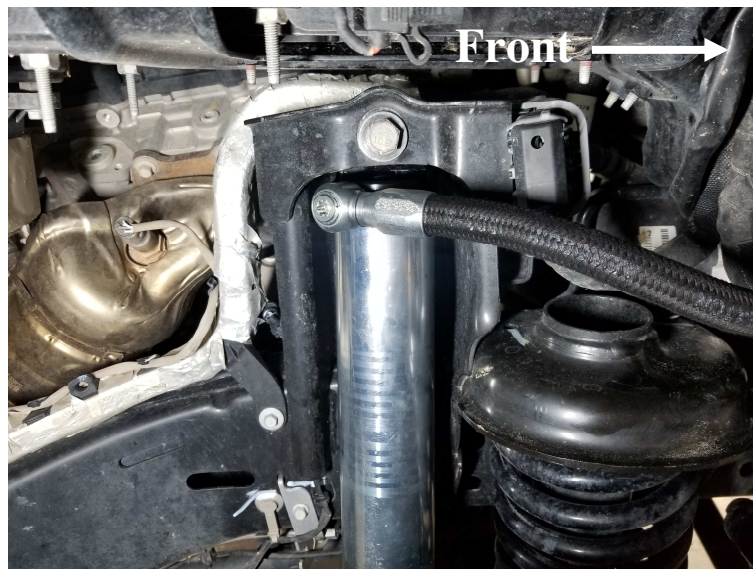


Figure 10 – Passenger Side Top Mount

- M. A mount kit is included to allow the lower shock mount to be offset away from the frame. This kit is depicted in Figure 11.

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Item	Description	Qty.
1	clevis	1
2	Spacer, 12.8 ID, L = 40	1
3	Screw, M8x1.25, L = 25	1
4	Screw, M10x1.5, L = 25	1
5	Nut M8 x 1.25	1
6	Nut M10 x 1.5	1
7	Nut M12 x 1.75	1
8	M12x1.75, L=120, Class 12.9	1

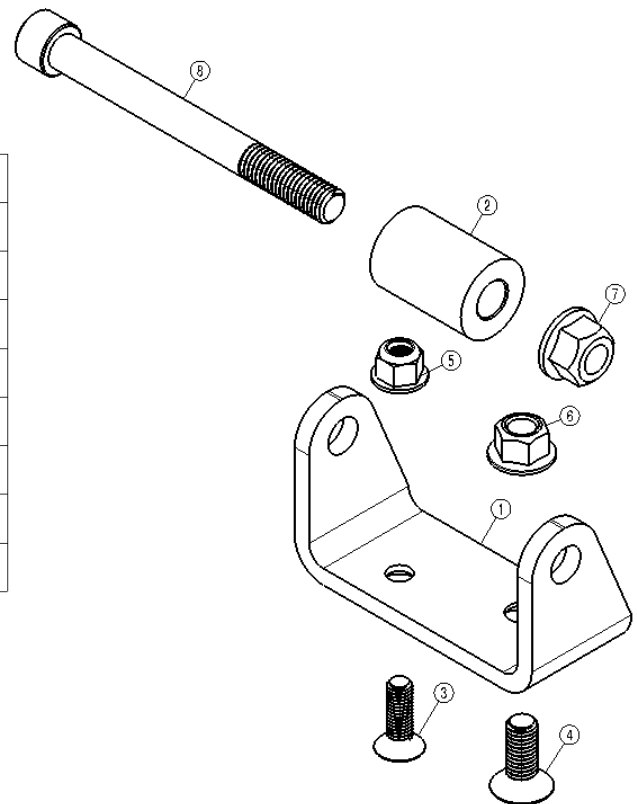


Figure 11 – Lower Mount Offset Bracket

- N.** Install the clevis from the mount kit in Figure 11 as shown in Figures 12 & 13. The position of the clevis should allow the shock lower mount to be offset outboard towards the wheel. Use M8 screw and nut for both driver and passenger side, and torque fastener to 19 lb•ft (25 N•m).

Note: This lower mount kit is for both the JL Wrangler and JT Gladiator. The M10 bolt and nut can be discarded for the Gladiator's application.



Figure 12 – Driver Side Offset Bracket

Figure 13 – Passenger Side Offset Bracket

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- O. Place the spacer in between the flanges of the OE mount. Then position the shock's lower mount outside of the OE's mount as shown in Figures 14 & 15 with the rod positioned rearward and inboard of the lower eyelets center. Secure it with the M12 bolt and nut.



Figure 14 – Driver Side Bottom Mount



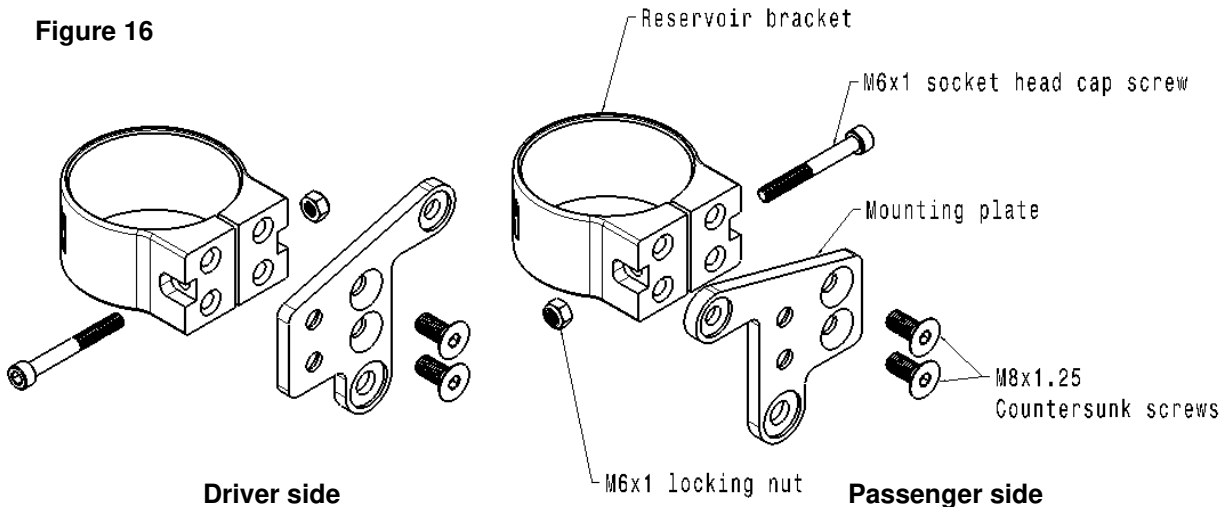
Figure 15 – Passenger Side Bottom Mount

- P. Torque the top and bottom mounting fasteners to factory specification.

Reservoir Mounting

- Q.** Prepare the reservoir mount assembly by applying non-permanent thread locker to M8x1.25 countersunk screws. Assemble the reservoir bracket onto the mounting plate using the M8x1.25 countersunk screws as shown in Figure 16. Torque the M8x1.25 countersunk screws to 16 lb•ft (22 N•m). Do not torque the M6x1 cap screw at this time.

Figure 16



- R.** Install the plate and bracket assembly with the 5/16"-18 x 1" screw in the bottom threaded insert. Rotate the assembly and slide the reservoir into the bracket as shown in Figures 17 and 19. Rotate the bracket assembly back up and install the 1/4"-20 x 1" screw in the upper threaded insert as shown in Figure 18 & 20. Using a nonpermanent thread locker is recommended.



Figure 17 – Driver Side



Figure 18 – Driver Side

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Figure 19 – Passenger Side



Figure 20 – Passenger Side

- S. Torque the two screws to 10 lb•ft (13.6 N•m).
- T. Clock the reservoirs back so the hose will be closer to the frame, this will allow clearance from the sway bar as it articulates. Then position reservoirs vertically in the bracket as shown in Figures 18 & 20. Torque the M6x1 socket head cap screw to 6 lb•ft (8 N•m).

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Reservoir Hose Mounting

- U. For the Driver side, install hose clip mounting bracket using existing hole in spring tower with socket screw and nut as shown in Figure 21. Then install hose clip as shown in Figure 22.



Figure 21 – Driver Side



Figure 22 – Driver Side

- V. Route the hose as shown in Figures 23 & 24. The section of hose closest to the shock body should follow the outside perimeter the spring tower. The other half at the reservoir should be route close to the frame. Apply the rubber strip where shown.



Figure 23 – Driver Side

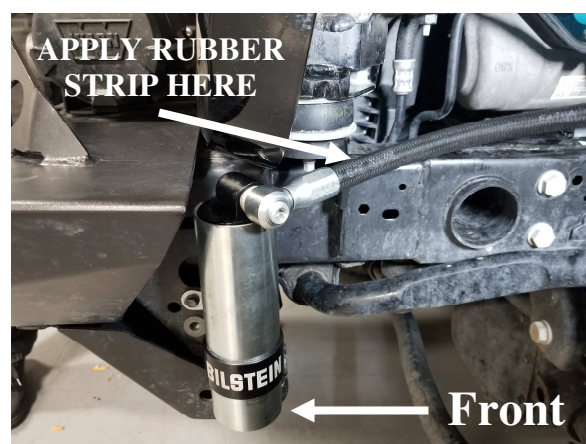


Figure 24 –Driver Side

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- W. For the Passenger side, install hose clip mounting bracket using existing hole in spring tower with socket screw and nut as shown in Figure 25. Then install hose clip as shown in Figure 26.



Figure 25 – Passenger Side



Figure 26 – Passenger Side

- X. Route the hose as shown in Figures 27 & 28. The section of hose closest to the shock body should follow the outside perimeter the spring tower. The other half at the reservoir should be route close to the frame. Apply the rubber strip where shown.



Figure 27 – Passenger Side

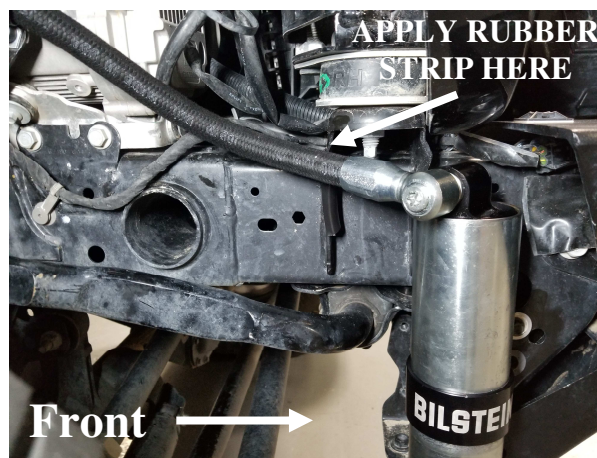


Figure 28 – Passenger Side

- Y. 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.
- Z. Check for interferences and wheel alignment. If there are no interferences and wheels are aligned to vehicle manufacturer's specification, installation is complete.