



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.

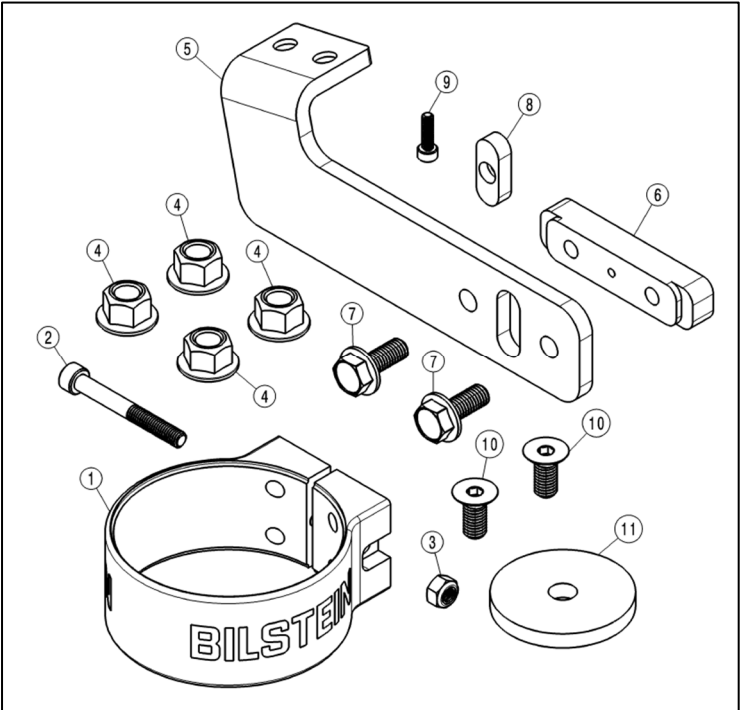
E-WM05-0000126
MOUNTING INSTRUCTION



This instruction is for both front left (driver) **41-332245** and front right (passenger) **41-332238** B8 8112 shocks. A bill of materials of the included mounting part kits is shown below and on the next page.

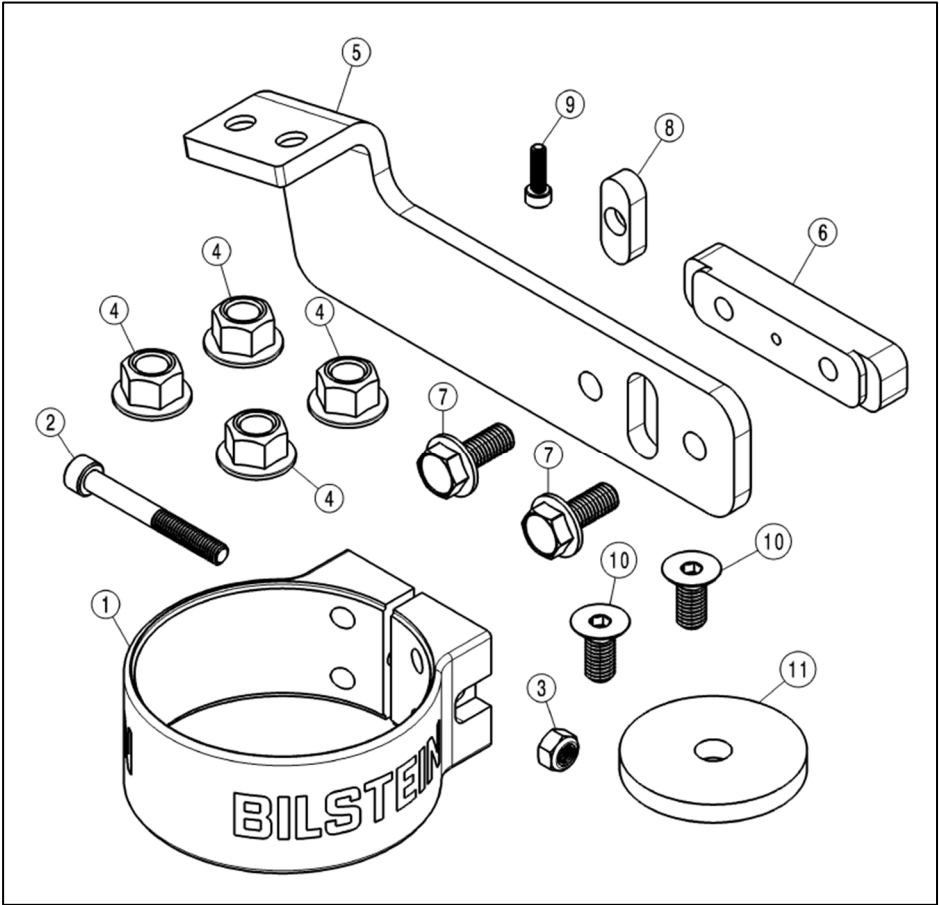
Note: These shocks must be installed with aftermarket upper control arms. The OEM upper control arms will contact the reservoir hose, potentially causing damage.

It is normal to hear a slight audible clicking noise during compression and rebound strokes in the B8 8112 shocks, most notably during low velocity events. This is due to the internal pistons engaging each other creating the position sensitive compression and rebound zones.



Bill of Materials – FRONT LEFT		
Item #	Description	Qty
1	Reservoir Clamp	1
2	Socket Head Cap Screw; M6x1; L = 50mm	1
3	Nylon-Insert Locknut; M6x1	1
4	Flange Locknut; M10x1.5	4
5	Reservoir Mount Plate; Left	1
6	Reservoir Slot Bracket	1
7	Flange Head Cap Screw; M8x1.25; L=20mm	2
8	Slot Bracket Support	1
9	Socket Head Cap Screw; M4x0.7; L=14mm	1
10	Flat Head Cap Screw; M8x1.25; L=18mm	2
11	Bumpstop Spacer	1

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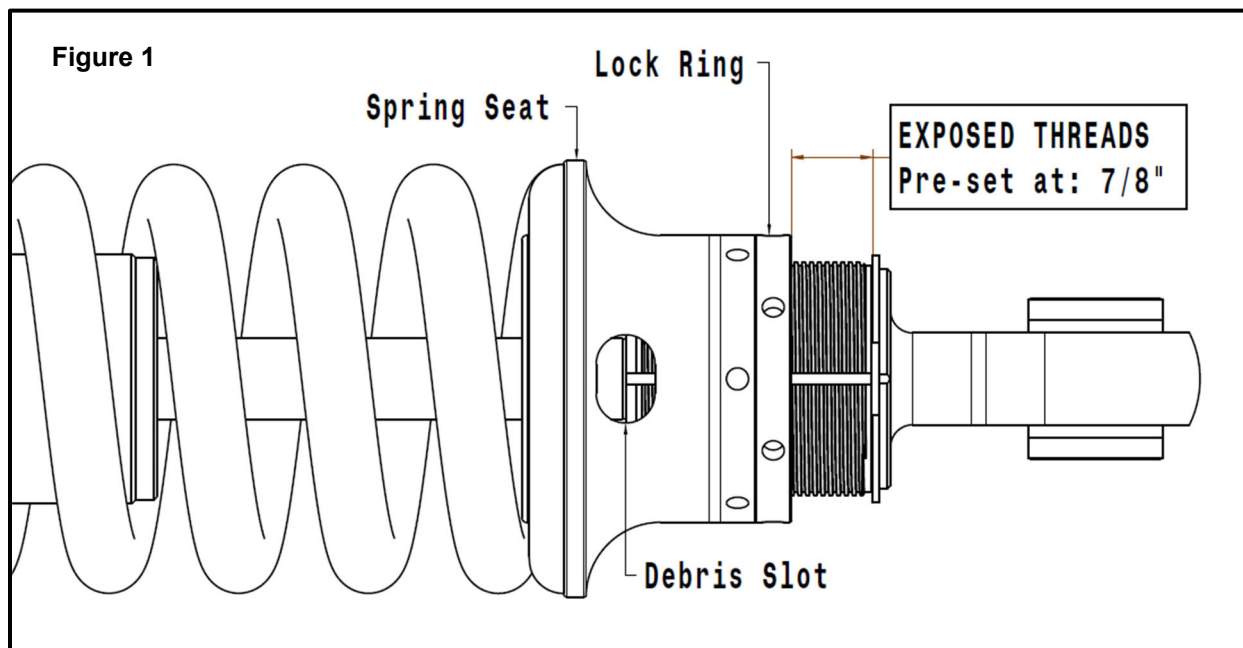
Bill of Materials – FRONT RIGHT		
Item #	Description	Qty
1	Reservoir Clamp	1
2	Socket Head Cap Screw; M6x1; L = 50mm	1
3	Nylon-Insert Locknut; M6x1	1
4	Flange Locknut; M10x1.5	4
5	Reservoir Mount Plate; Left	1
6	Reservoir Slot Bracket	1
7	Flange Head Cap Screw; M8x1.25; L=20mm	2
8	Slot Bracket Support	1
9	Socket Head Cap Screw; M4x0.7; L=14mm	1
10	Flat Head Cap Screw; M8x1.25; L=18mm	2
11	Bumpstop Spacer	1



B8 8112 Shock Installation Procedure:

Note: some components depicted herein differ in appearance from the supplied components.

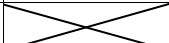
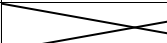
- A. Remove existing shock module from the vehicle following all procedures in the vehicle manufacturer's service manual. Save the lower shock bolt and nut as they will be used later.
- B. Before installing the B8 8112 shocks on the vehicle, check if they are set at the desired lift height using the lift height table on the next page.
- C. If the pre-set lift height is not what is desired, proceed to Step D. Otherwise, skip to Step J.
- D. Break the spring seat lock ring loose with the supplied spanner wrenches. Refer to Figure 1 below.
- E. Note the clocking of the lower mount relative to the studs on the upper mount (important for reassembly).
- F. Using an appropriate spring compressor, compress the spring until it can be rotated freely by hand. Then, spin the spring seat up or down depending on what the desired lift height is. See the lift height table on the next page for a few points of reference between the amount of exposed thread and estimated lift height. They are listed for stock weight vehicles.



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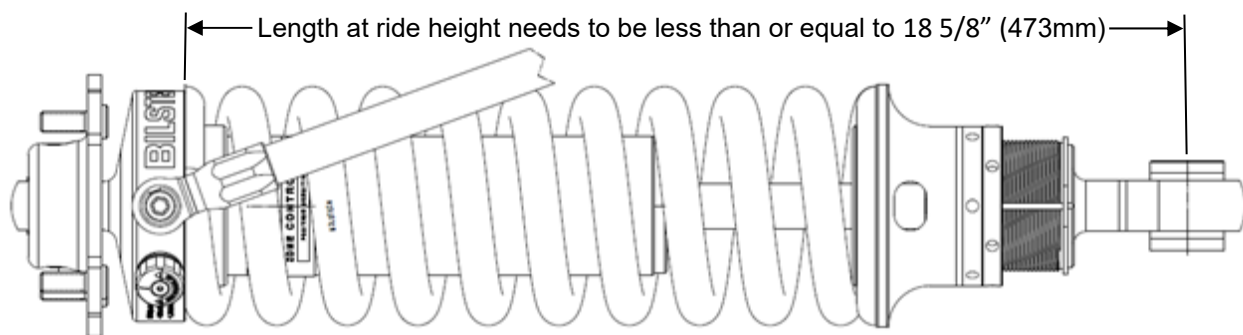


B8 8112 Typical Lift Heights**						
Exposed Threads	Tundra 4WD, i-FORCE V6, CrewMax, 5.5' or 6.5' bed	Tundra Capstone	Tundra TRD Sport 4WD, i-FORCE V6, CrewMax, 5.5' or 6.5' bed		Exposed Threads	Tundra 4WD, i-FORCE MAX V6 Hybrid, CrewMax, 5.5' or 6.5' bed
1 3/16"	***See note	1.8" lift	***See note		1 3/16"	2" lift
7/8" (preset)	2.25" lift	1.4" lift	3" lift		7/8" (preset)	1.6" lift
1/2"	1.7" lift	1" lift	2.5" lift		5/16"	1" lift
0" (bottom)	1" lift		2" lift		0" (bottom)	

DO NOT EXCEED THE EXPOSED THREAD / MAX LIFT HEIGHT LISTED FOR YOUR VEHICLE UNLESS YOU ARE ADDING SIGNIFICANT ADDITIONAL WEIGHT TO THE FRONT OF THE VEHICLE.

** Lift heights indicated are typical. Actual lift height is influenced by which factory suspension the vehicle is equipped with and its condition; optional equipment and accessories on your vehicle, and other vehicle modifications such as replacement coil springs, wheel and tire combinations, etc. Modifying/lifting the suspension to your vehicle may raise its center of gravity and may make it more susceptible to loss of control and/or rollover, which may result in death or serious injury. We strongly recommend that you offset the loss of rollover resistance as much as possible by increasing tire track width. Wear seat belts at all times and avoid situations where a side rollover may occur.

*** **DO NOT USE** this additional exposed thread for stock weight vehicles. However, if substantial additional weight is added to your vehicle (e.g. heavy bumper and winch), and this results in a loss of ride height, this additional exposed thread may be utilized to restore the vehicle to its intended ride height. Subsequently, it is essential that you verify the shock absorber module length at ride height does not exceed the value listed below. This is needed to ensure there is at least 1.75" of droop travel from static ride height and so the stiffer rebound zone is not being engaged at ride height.



Even if you are not exceeding the recommended max exposed thread dimension / lift height and have a stock weight vehicle, it's still highly recommended to verify this after installation.

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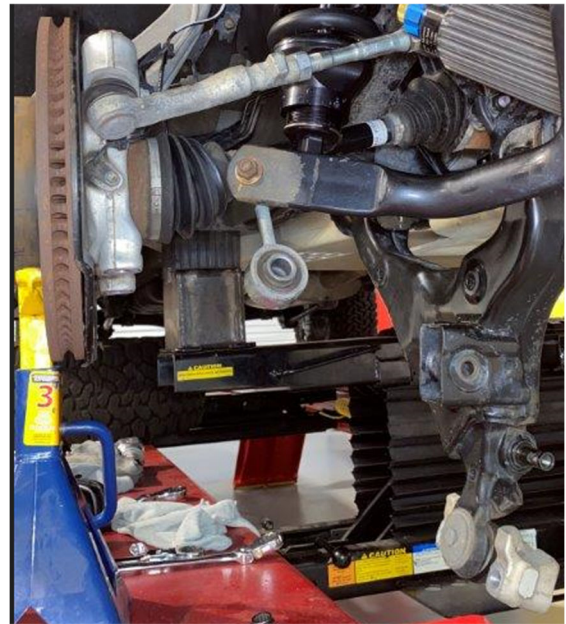
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- G. Once the desired lift height is set, tighten the lock ring against the spring seat using supplied spanner wrenches.

Torque lock ring to spring seat to approximately 37 ft-lb (50 Nm).

- H. Rotate the lower shock mount so it is aligned with the upper mount studs as noted in Step E.
- I. Slowly release the spring compressor.
- J. Disconnect the sway bar end link from the lower control arm. Remove the lower ball joint and assembly from the knuckle as shown below and use a jack or jackstand to support the knuckle at the rotor (if this wasn't done when OE shocks were removed). Let the lower control arm hang.



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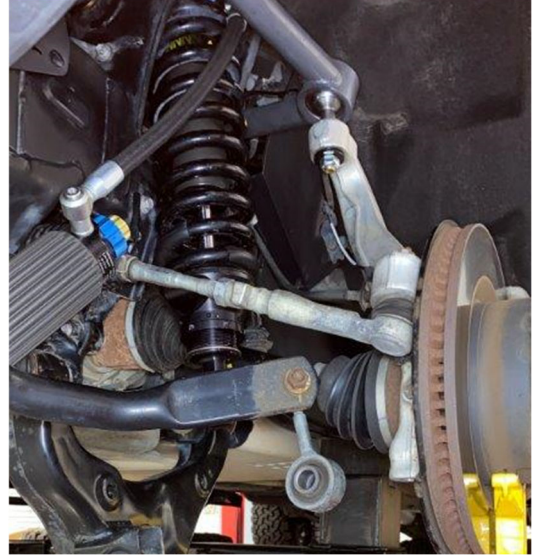


- K. Install the shock onto the vehicle as shown below. Use the four Flange Locknuts (BOM item #4) and a 15mm socket to attach the upper mount. Leave reservoir hanging temporarily towards the front of the vehicle.

Torque Flange Locknuts to 33 ft-lb (45 Nm).

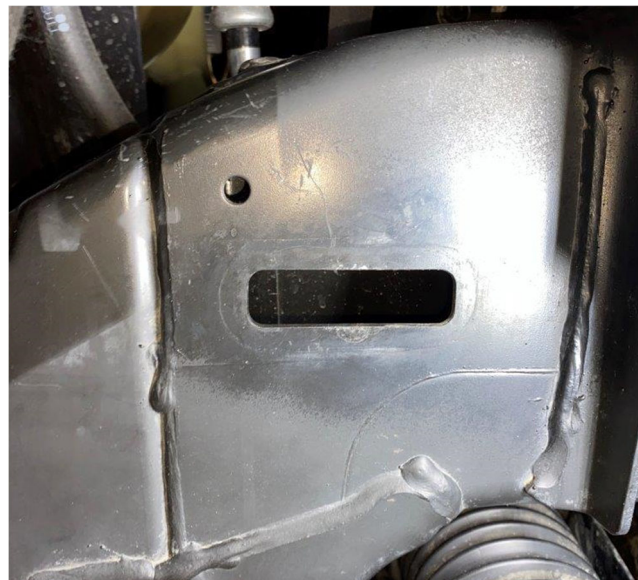
- L. Attach the lower shock mount with the OE shock bolt and nut that was removed in Step A.

Torque lower OE shock bolt and nut to service manual specification.



- M. Attach the lower ball joint and assembly to the knuckle that was removed in Step J. **Torque OE shock bolts to service manual specification.** Then attach the sway bar end link to the lower control arm. Thread the bolt in until it's snug by hand, but don't torque down at this time.

- N. Remove the splash guard and slot cap shown below. These will not be reused and can be stored away.



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MOUNTING INSTRUCTION



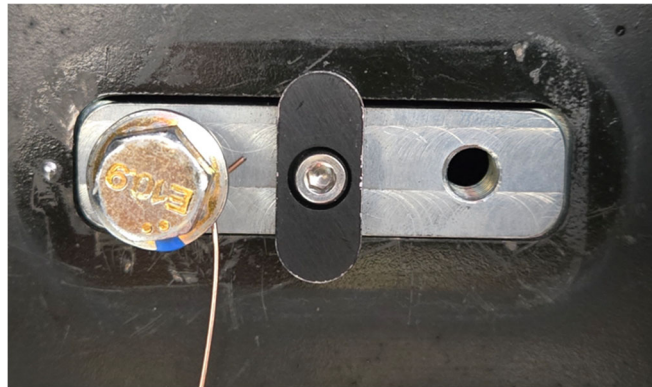
- O. Install the Slot Bracket Support (BOM Item # 8), M4 Socket Head Cap Screw (BOM Item # 9) and one of the M8 Flange Head Cap Screws (BOM Item # 7) onto the Reservoir Slot Bracket (BOM Item # 6) as shown below. Apply a non-permanent thread locker to the M4 screw (BOM Item # 9) and hand tighten for now. Only thread the M8 screw in a few threads as this is just to hold the assembly while inserting into the frame slot.

NOTE: It is recommended to tie a piece of string or wire to the M8 screw in order to keep from dropping the assembly into the vehicle frame rail.



- P. Insert the Reservoir Slot Bracket Assembly into the slot as shown below. Spin the Slot Bracket Support (BOM Item # 8) so that it is vertical as shown below - this is critical in order to fully secure the assembly to the frame rail.

Torque M4 screw to 26 in-lb (3 Nm).



- Q. Remove the M8 screw (BOM Item # 7) and set aside. This will be used to attach the Reservoir Mount Plate (BOM Item # 5) to the frame rail.



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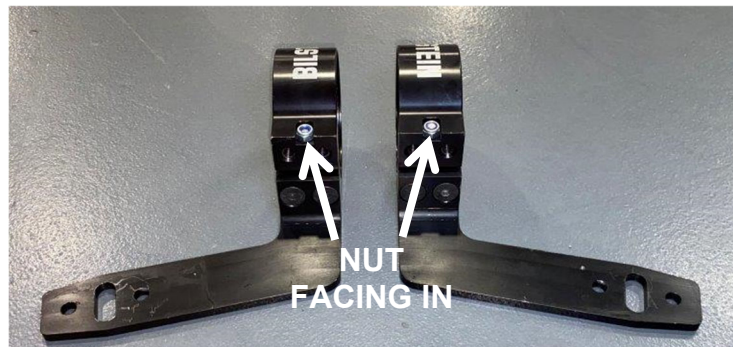
MOUNTING INSTRUCTION



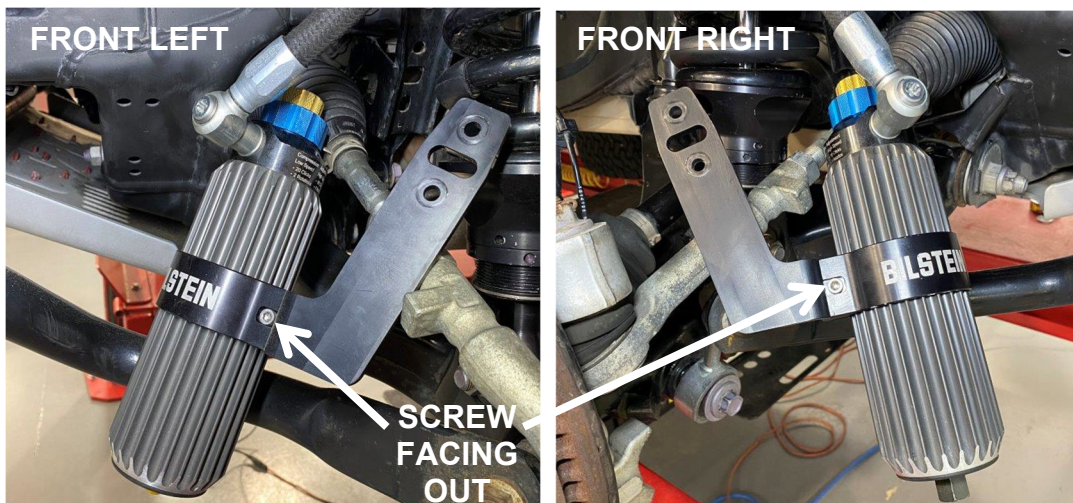
- R. Prepare the Reservoir Clamp Assembly by inserting the M6 Socket Head Cap Screw (BOM Item #2) into the Reservoir Clamp (BOM Item #1) and fastening the M6 Locknut hand tight only as shown below.



- S. Take this assembly and attach it to the Reservoir Mount Plate (BOM item # 5) using the two M8 Flat Head Cap Screws (BOM item # 10) as shown below. Apply a non-permanent thread locker to these screws before assembly. **Torque Flat Head Cap Screws to 18 ft-lb (25 Nm).** Ensure the Bilstein lettering is oriented as below and the M6 Socket Head Cap Screw (BOM item # 2) is on the outside of the bracket.



- T. Insert the Reservoir into the Reservoir Clamp (BOM item # 1) keeping the clamp loose for now.



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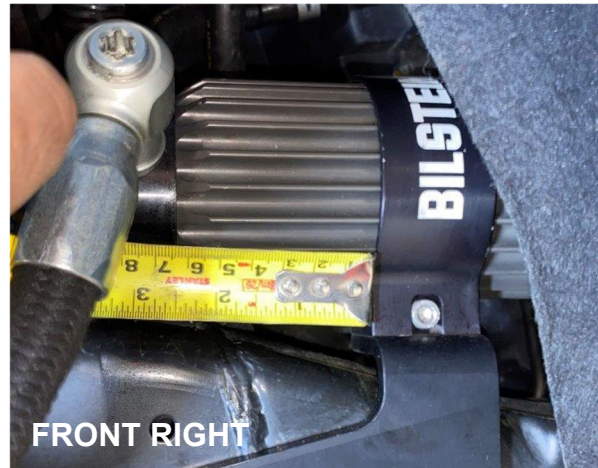


- U. Slide the reservoir and Reservoir Bracket Assembly up above the frame rail like below and attach to the Reservoir Slot Bracket (BOM Item # 6) using the two M8 Flange Head Cap Screws (BOM Item # 7). Apply a non-permanent thread locker to these screws before assembly.

Torque Flange Head Cap Screws to 18 ft-lb (25 Nm).



- V. Position the Reservoir Tube in the Reservoir Clamp (BOM Item # 1) approximately 2.5" (65mm) from the end of the Reservoir Clamp like below. Ensure that the Schrader Valve Cap is not contacting anything in the front of the reservoir. Adjust the placement of the reservoir taking this into account.



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- W. Check the position of the Reservoir Hose to the coil spring and upper control arm at full droop. Spin the reservoir in the Reservoir Clamp to move the hose either in or out depending on clearance.



- X. Once the reservoir position is confirmed, tighten the reservoir clamp screw.
Torque the Socket Head Cap Screw to 6 ft-lb (8 Nm).

Bumpstop Spacer Installation (required for all models and lift height settings)

Y. Remove original chassis jounce bumpers according to vehicle manufacturer's procedures.



Z. Apply non-permanent thread locker to the threaded bolt of the OE chassis bumpstops. Then, install the new Bumpstop Spacers (BOM Item # 11) as shown and reinstall the OE chassis bumpstops in their original positions.

Torque Jounce Bumpers to 20 ft-lb (27 Nm).

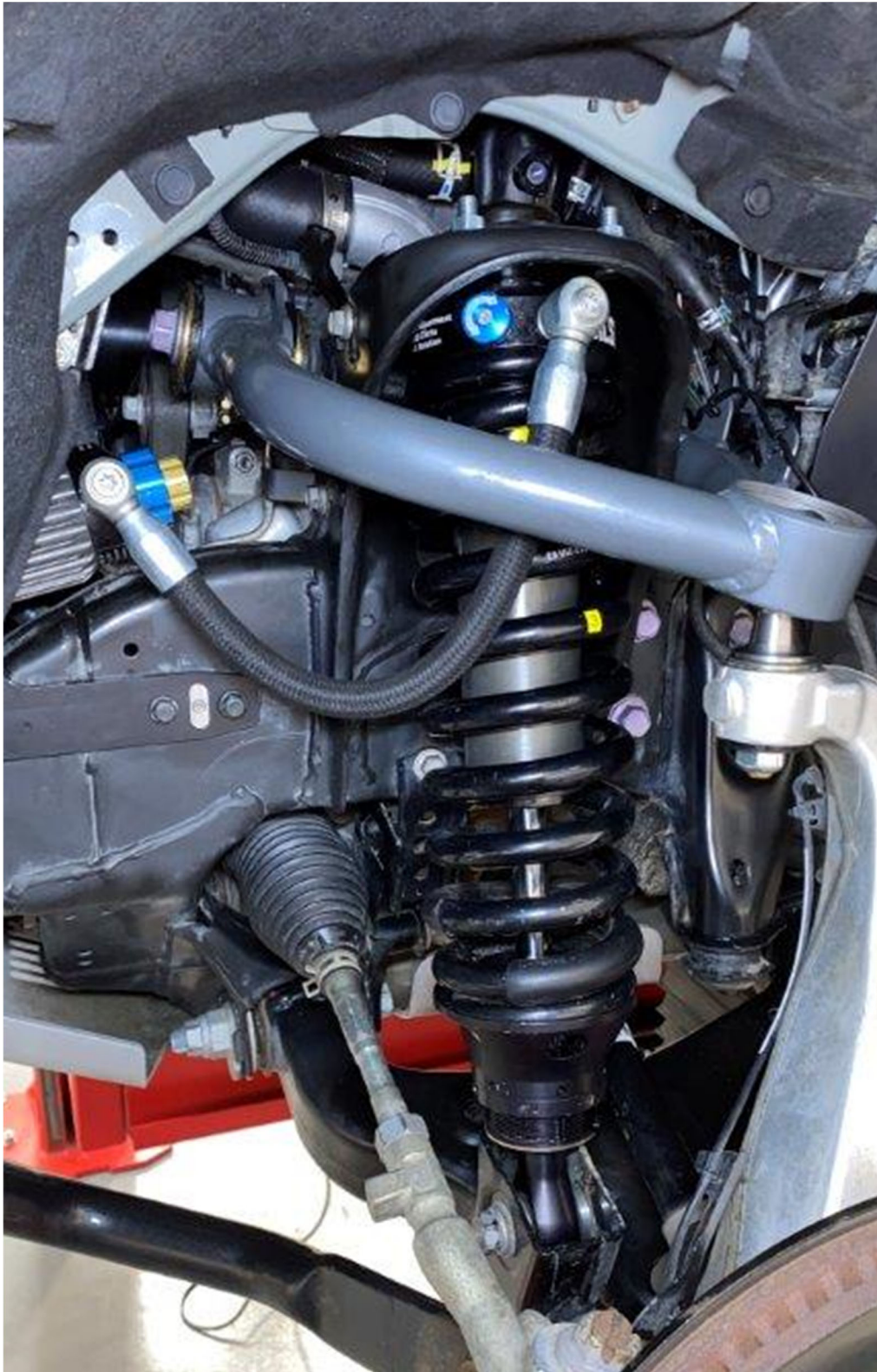


AA. Lower the vehicle such that its full weight is on the suspension prior to fully tightening the sway bar end link bolt that was threaded in in Step M.

Torque OE sway bar end link bolts to service manual specification.

BB. Check wheel alignment and adjust to the vehicle manufacturer's specifications. This completes the installation.

Final front left (driver) 41- 332245 B8 8112 shock installed on vehicle:



Final front right (passenger) 41- 332238 B8 8112 shock installed on vehicle:





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 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

Zone Control JCO (Jounce Cut-off) Adjustment

These dampers also come equipped with an adjuster for the JCO (jounce cut-off) system. This blue adjuster knob is located on the mount cap above the coil spring. The **FULL FIRM** setting for the adjuster knob is achieved when the knob is turned all the way **CLOCKWISE**. The **FULL SOFT** setting for the adjuster knob is achieved when the knob is turned all the way **COUNTER-CLOCKWISE**. To make JCO adjustments, simply turn the adjuster knob clockwise for more bottom out control and counter-clockwise for less bottom out control. The adjustment will not affect the ride quality when the vehicle is in the main damping zone at regular ride height.

The JCO adjuster factory setting is:

- 6 clicks counter-clockwise from fully firm.
(10 total settings are available which translates to 9 clicks; 1 rotation)



JCO (Jounce Cut-off) Adjuster