LIVEVALVE

Ford F-150 Raptor (2019+) OWNERS MANUAL

883-06-153: 3.0 Live Valve Internal Bypass Coil-over Kit

883-09-153: 3.0 Live Valve Internal Bypass Rear Kit

605-01-264 REV A

FOX products are subject to continuous development and improvement. To find the most up to date product information such as color installation manuals, videos, and FAQs please visit:

http://ridefox.com/manuals

To locate the correct installation manual, use the 8-digit part number found on the end of the packaging box (see illustration below):

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Installation Guide:

Thank you for choosing FOX direct-replacement shocks for your vehicle. FOX products are designed, tested, and manufactured by the finest professionals in the industry.

FOX recommends that you become completely familiar with the handling characteristics of your modified vehicle before operating it under rigorous conditions, helping to avoid potential rollover situations and other loss of control events. FOX further recommends that you use appropriate protective equipment at all times when operating your vehicle.

To achieve the best performance and product longevity, periodic service and maintenance is required. Please refer to the Service and Upgrades section for more information.

⚠ Warnings

- FOX direct-replacement shocks should always be installed as a pair for maximum performance.
- Proper installation and service procedures are essential for the safe and reliable installation of chassis parts, requiring the experience and tools specially designed for this purpose. Installation and maintenance procedures for this product must be performed by a qualified service technician, to avoid potentially unsafe vehicle handling characteristics, which may result in SERIOUS INJURY or DEATH.
- Modifying your vehicle's suspension will change the handling characteristics of your vehicle. Under certain conditions, your modified vehicle may be more susceptible to loss of control or rollover, which can result in SERIOUS INJURY or DEATH. Thoroughly familiarize yourself with the modified vehicle handling characteristics before any rigorous vehicle operation. Wear body protective gear including head protection when appropriate. Installation of vehicle roll bars or cage is highly recommended.
- FOX direct-replacement shocks are gas-charged and are highly pressurized. Placing shocks in a vise or clamp, applying heat, or attempting to open or service the shock without the proper tools and training can result in SERIOUS INJURY or DEATH. Do not attempt to modify, puncture or incinerate a FOX direct-replacement shock absorber.
- Any attempt to misuse, misapply, modify, or tamper with any FOX product voids any warranty and may result in SERIOUS INJURY or DEATH.

Guidelines

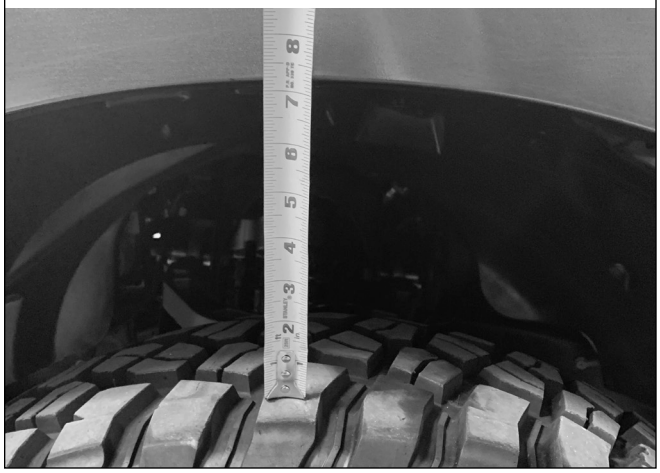
- Always use a chassis lift for the installation of shocks, and make certain that the raised vehicle is securely attached to the lift to prevent the vehicle from slipping, falling, or moving during the installation process.
- DO NOT install any FOX product without the necessary special tools, expertise and chassis lift, or you will subject yourself to the risk of SERIOUS INJURY or DEATH. If you elect to not use a chassis lift (which election may result in SERIOUS INJURY or DEATH), ensure that the vehicle is on level ground, that all tires on the ground during installation are blocked to prevent vehicle movement, that at least two tires are on the ground at all times, and that adequately secured jack stands are used to support the vehicle. NEVER get under the vehicle until you have checked to ensure that the vehicle will be stable during installation.
- FOX direct-replacement shocks are designed to fit your vehicle's shock mounts with no modifications with the exception of reservoir placement on specific models and applications.
- To adjust the ride height, first lift the vehicle (refer to the INSTALLATION GUIDELINES for instructions on how to properly lift the vehicle). After properly lifted, loosen the pinch bolt securing the main spring retainer loosen bolt until it spins freely, DO NOT remove bolt! Using a spanner wrench, adjust the main spring retainer as required. If shocks have locking rings, loosen the top lock ring and adjust main spring retainer as needed. Once set, retighten the top lock ring against the main spring retainer. IT IS HIGHLY RECOMMENDED TO USE A SPRING COMPRESSOR WHEN MAKING ANY TYPE OF PRE LOAD ADJUSTMENT.

Instructions Front Coil Over

Medium-strength thread-lock (blue) is recommended on all threads.

1.

Before lifting vehicle, record the vehicle ride height to ensure proper lift is attained after the kit is installed. Do this by measuring the distance from the top of the tire to the fender at both front tire locations on the vehicle. You will be able to make preload adjustments if needed once the shock assembly is installed. Spanner wrench required.



2.

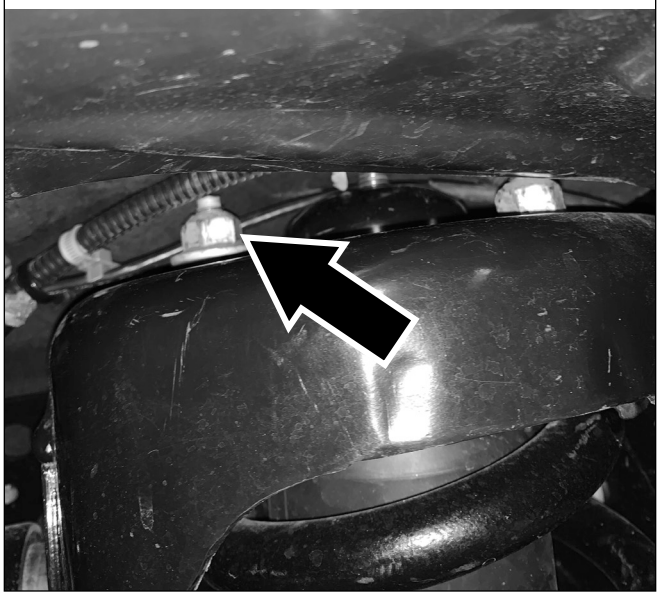
Please read the installation guidelines for instructions on how to properly lift and secure the vehicle.

3.

Using a 21mm socket, remove the lug nuts and pull both front wheels off the vehicle.

4.

Remove the three (3) top nuts that secure the stock shock assembly to the vehicle using an 18mm open end wrench. **CAUTION: DO NOT remove the center nut; doing so will release the spring from the stock assembly and could result in SERIOUS INJURY or DEATH!**

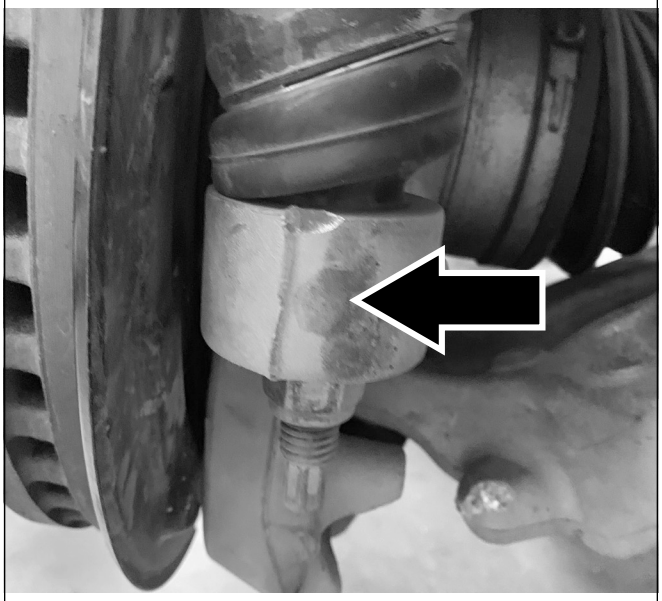


5.

Using a 27mm socket and a 30mm wrench, remove the one (1) bolt and one (1) nut connecting the shock to the lower control arm. DO NOT discard the bolt or nut as it will be used upon reinstallation of the new FOX coil over.

6.

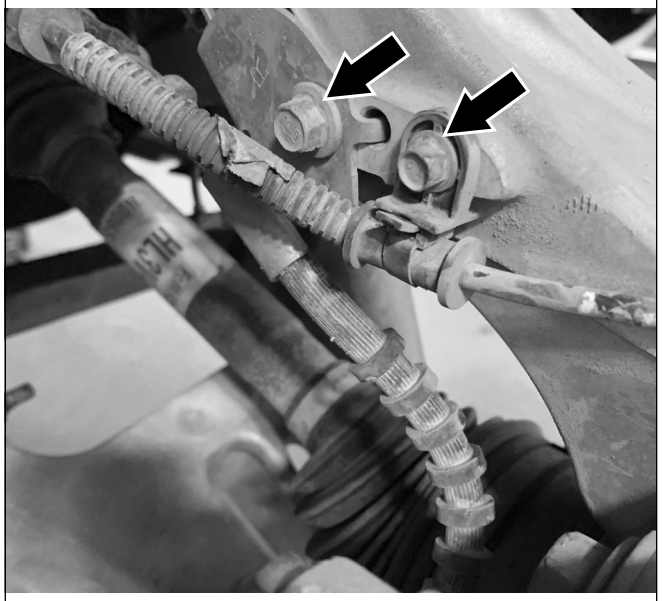
Disconnect the outer tie rod end at the knuckle using a 21 mm socket. This will provide removal/installation clearance.

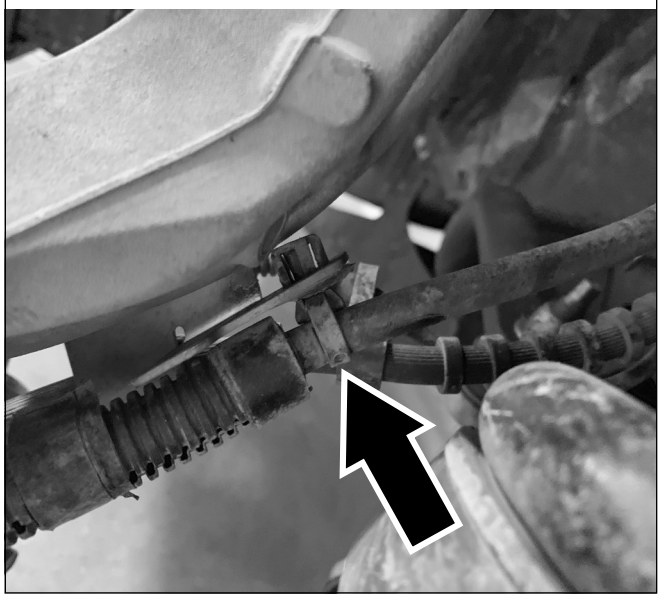


Note: Once the nut is removed use a mallet and strike the knuckle in the above highlighted area to allow the tie rod to un-index itself.

7.

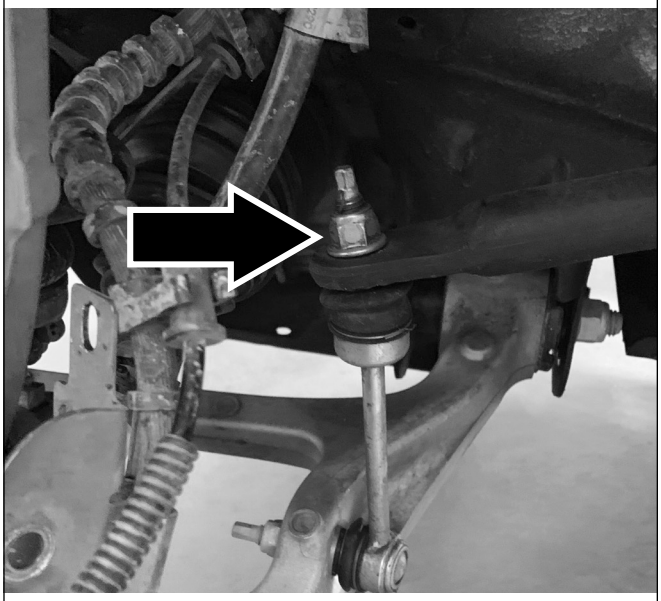
Use a 10mm socket, 8mm socket, and a trim pry tool to disconnect wires and the brake line from the knuckle.

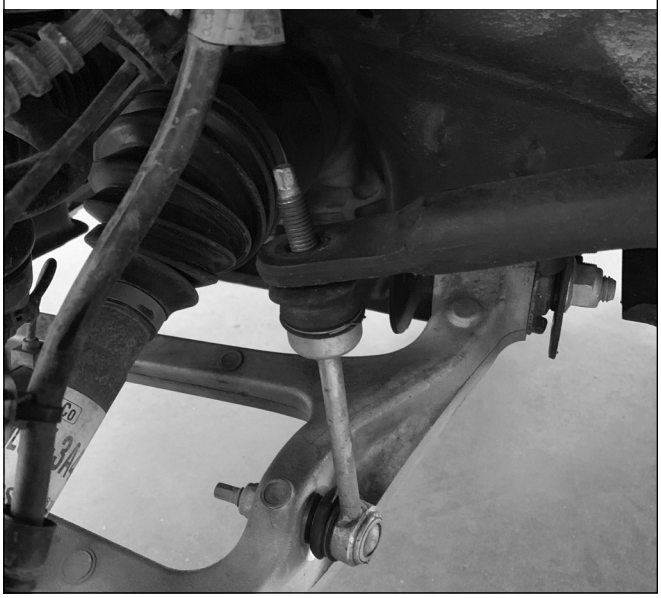




8.

Disconnect the sway bar from the sway bar link using an 18mm socket.





9.

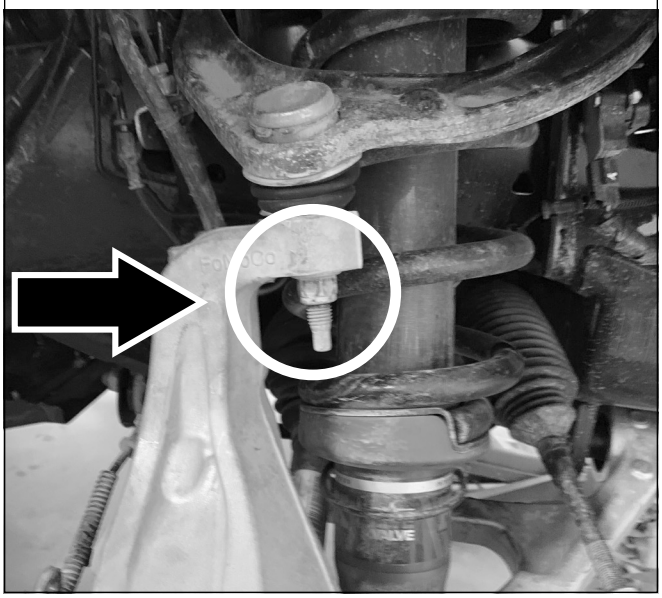
Using a set of pliers remove the CV axle nut cover located on the vehicle's hub.

10.

Remove the CV axle nut using a 13mm socket.

11.

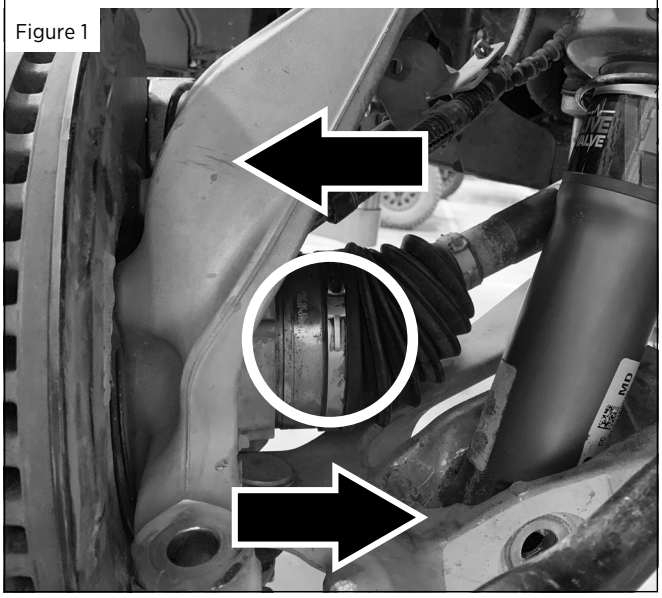
Maintain pressure on the knuckle toward the vehicle while disconnecting the upper ball joint at the knuckle using a 18mm socket. **Note: Do not allow the knuckle to pivot away from the vehicle after unbolting it from the upper control arm.**



12.

Unseat the CV axle from the knuckle by supporting the CV housing and allowing the knuckle to slowly pivot away from the vehicle.

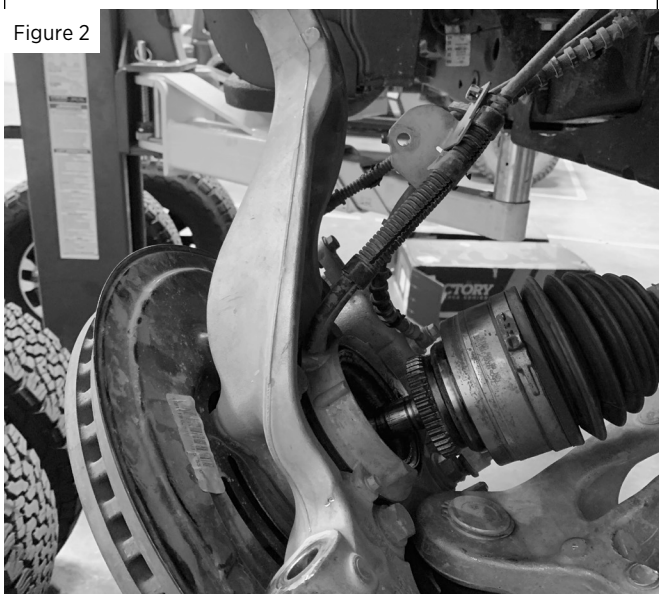
Figure 1



12. ...continued

Unseat the CV axle from the knuckle by supporting the CV housing and allowing the knuckle to slowly pivot away from the vehicle.

Figure 2



13.

Un-index the Live Valve coil wires from the shock body using a trim pry tool.

Figure 1

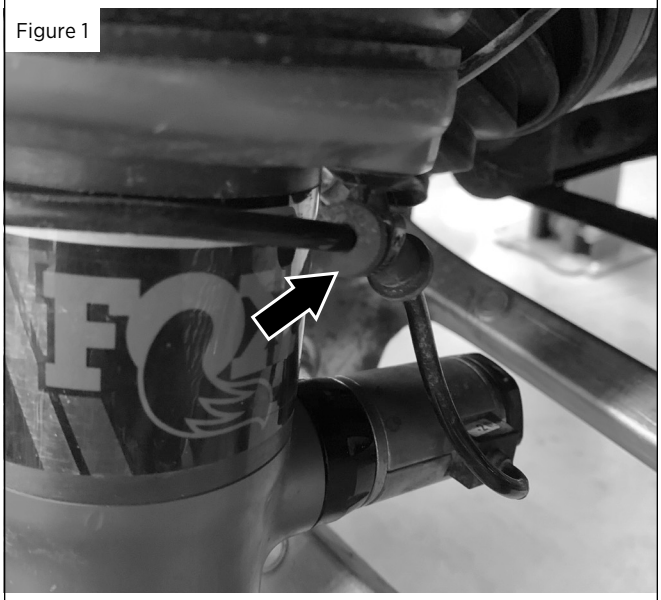


Figure 2

13. ...continued

Un-index the Live Valve coil wires from the shock body using a trim pry tool.

Figure 3

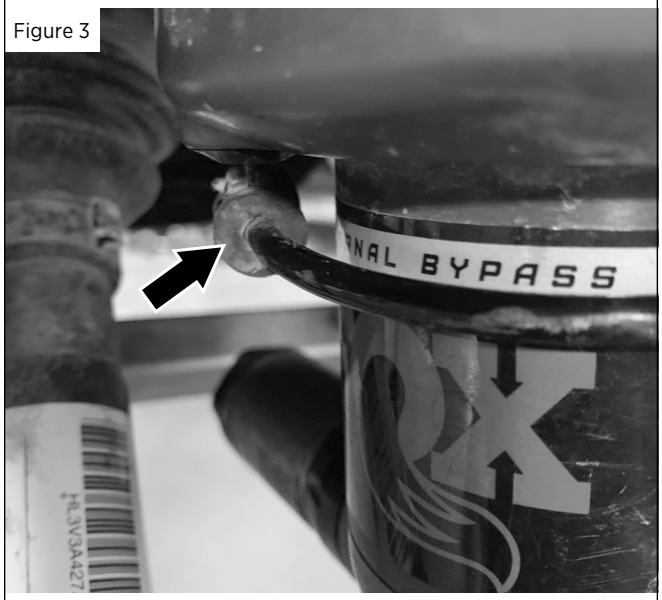


Figure 4

14.

Using a 1-3/8 in. open-end wrench remove the Live Valve coil cap from the backside of the coil by turning it counter clockwise.

Figure 1

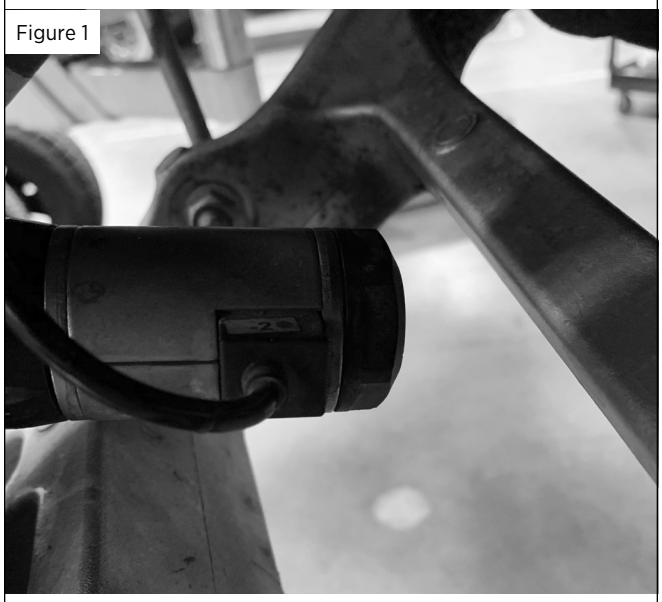
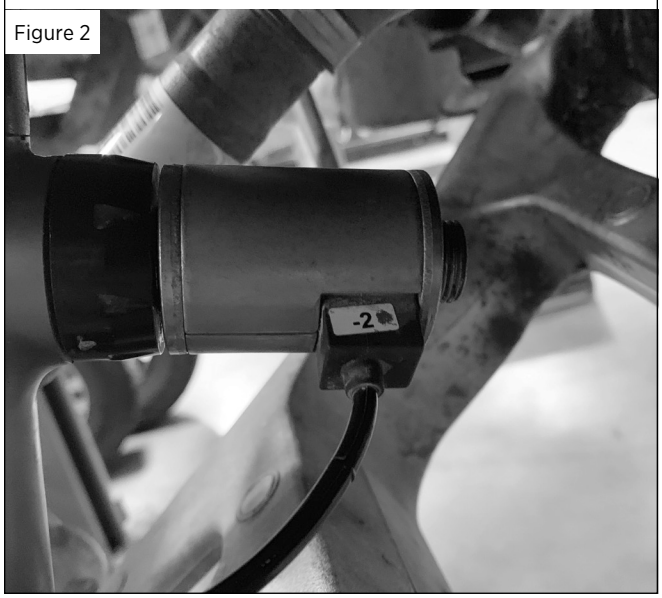


Figure 2



15.

Slowly un-index the bottom of the shock from the lower control arm using a pry bar while supporting the coil over to prevent it from falling. Once the coil over unseats from the lower control arm slide the live valve coil off the back side of the shock and place it out of the way on the lower control arm. Then remove the shock from the truck.

Figure 1

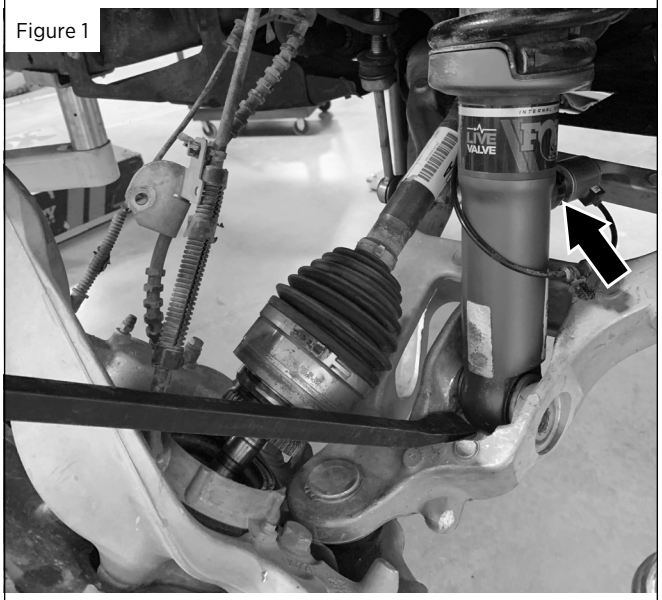
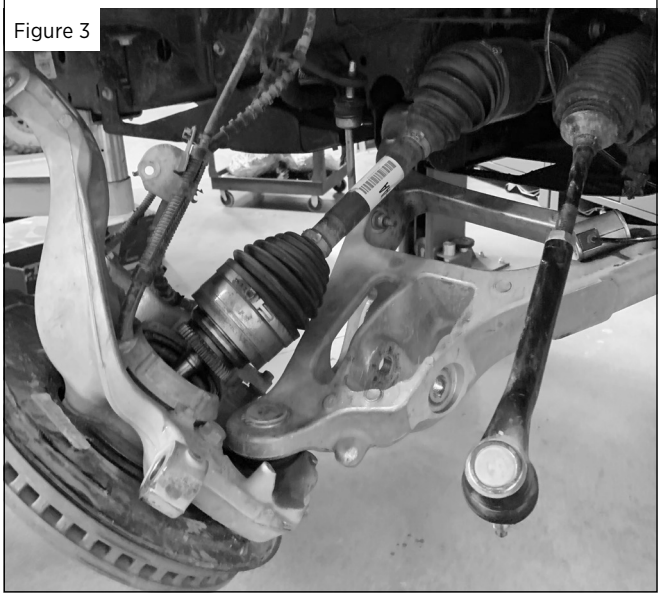


Figure 2

15. ...continued

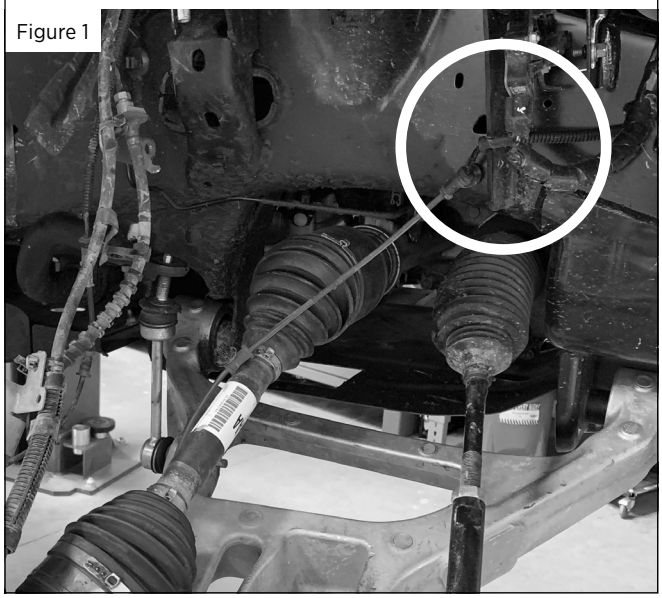
Figure 3



16.

Route the driver side Live Valve coil wire over the frame bucket towards the front of the vehicle. Do this by using the trim pry tool to un-index it from the frame, routing it over the frame bucket and attaching the wire to the vehicles existing electrical routing using the zip ties provided in the kit. Note: this is only required for the driver side of the vehicle.

Figure 1



16. ...continued

Figure 2

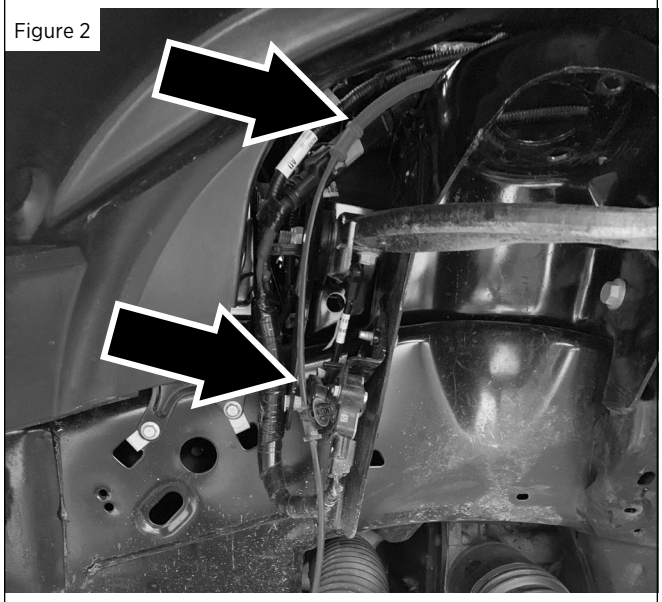
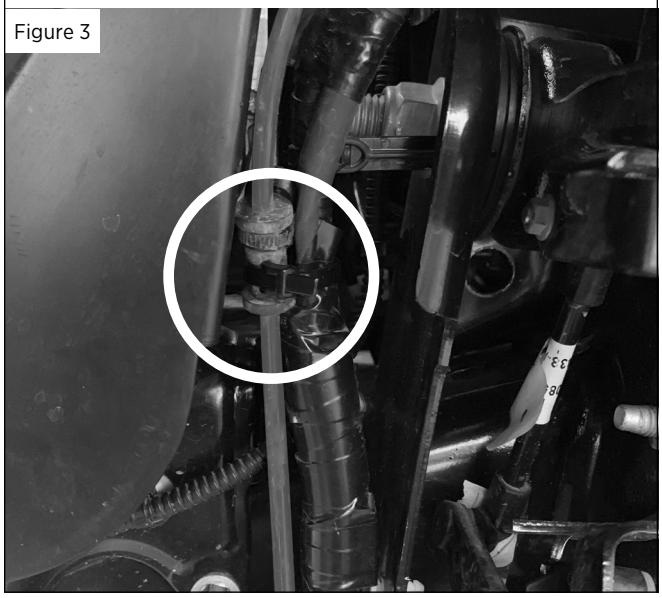
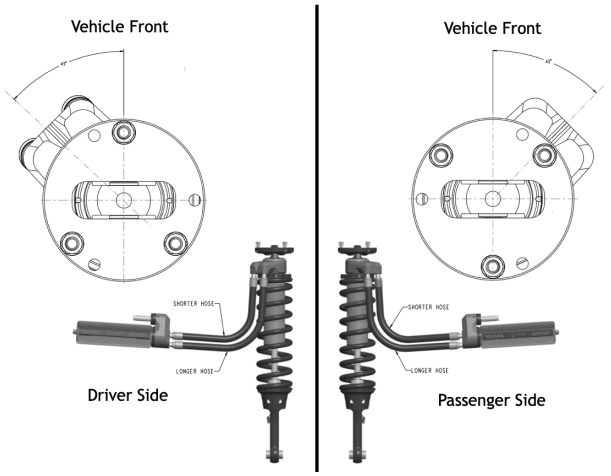


Figure 3



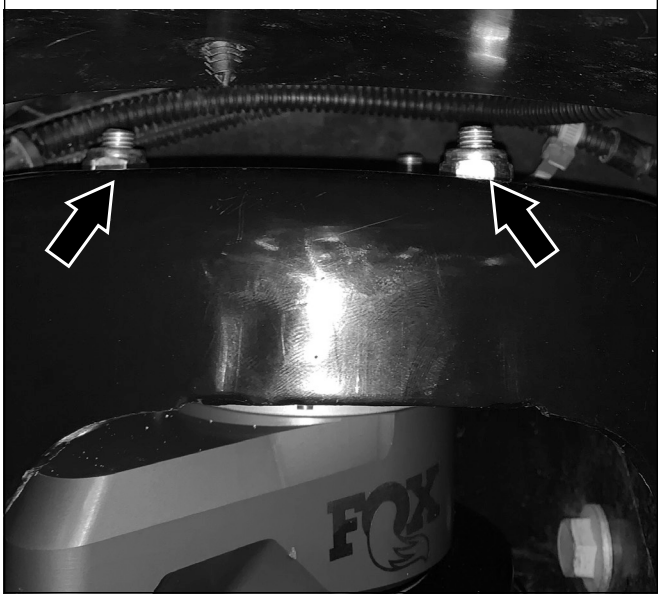
17.

Review the new front coil over shocks provided in your kit. Identify the difference between driver and passenger shocks by referencing the image below. Note how the front bridge hose mount on the shock clocks 45 degrees away from the center of the vehicle.



18.

Begin installing the shock by first sliding the top of the shock into the frame bucket. Use a 17mm wrench to secure it with the washers and nuts included in your new kit. Torque to 24 ft-lbs. (33 Nm)



19.

Using a 27mm socket and a 30mm wrench, reinstall the one (1) bolt and one (1) nut connecting the shock to the lower control arm. Torque to 406 ft-lbs. (551 Nm).
Note: the head of the bolt faces the front of the vehicle.

Note: The user can clock the eyelet with the switch facing away or towards the front of the truck. Rotate the eyelet to have the switch face the back of the truck if desired.

20.

Install the provided clip nuts at the front and rear facing holes on the sides of the body mount. Make sure the nut end is closest to the center of the body mount.

Figure 1

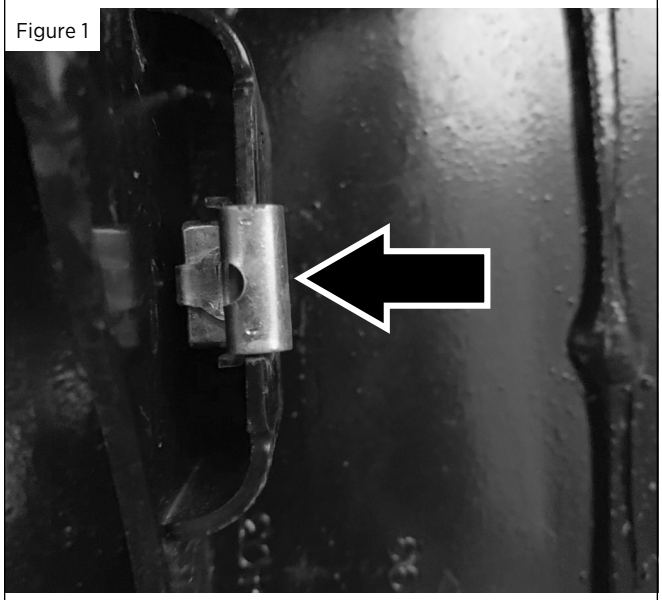
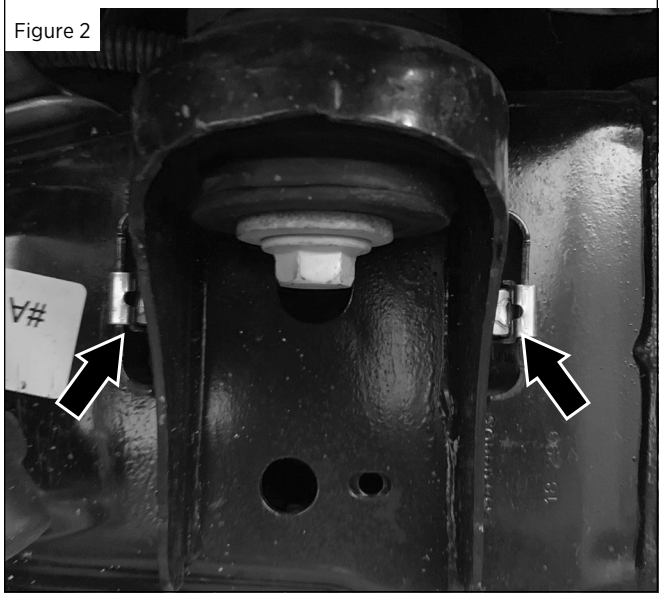


Figure 2

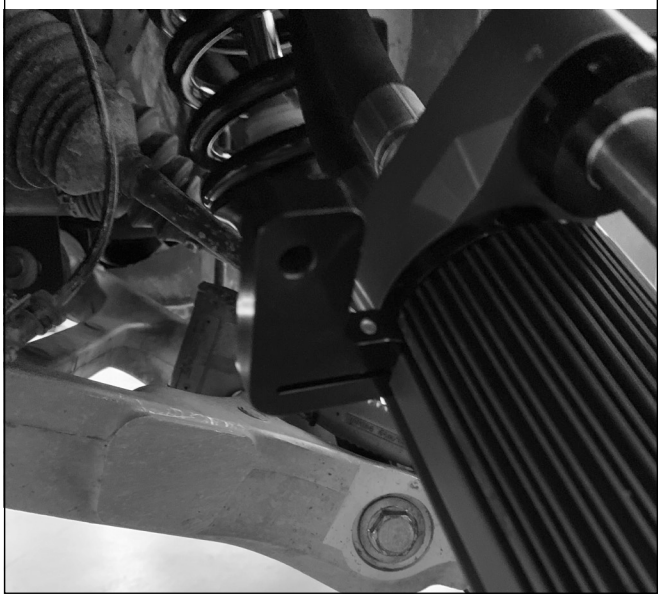


21.

Install the reservoir mounting brackets onto the reservoir by sliding them over the dovetail rail. Ensure that the included pinch bolts facing down.

22.

Slide the first bracket down until it is flush against the lock ring. Using a 3/16 allen socket torque to 18 ft-lbs. (24.4 Nm).

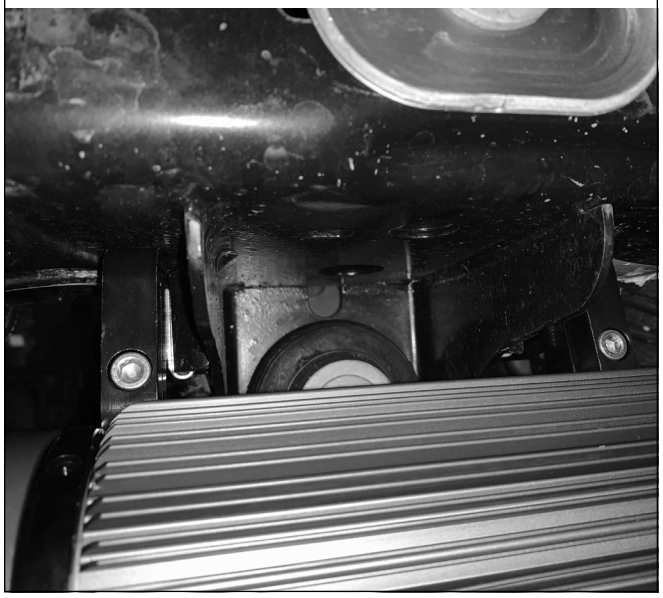


23.

Hold the reservoir in place and use the provided 3/16 allen socket to mount the first reservoir bracket to the body mount using the provided bracket bolt. Torque to 20 ft-lbs. (27 Nm)

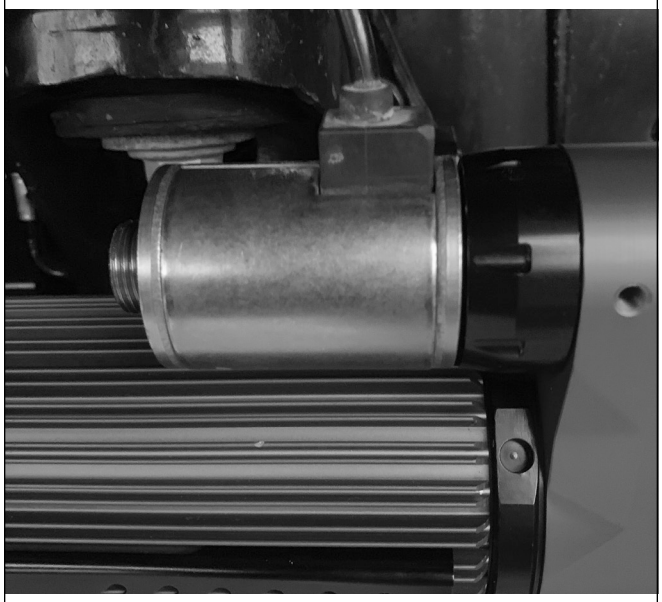
24.

Slide the second reservoir bracket up against the body mount. Secure it using a 3/16 allen socket the supplied bracket bolt. Torque to 20 ft-lbs. (27 Nm). Use the 3/16 allen socket to torque the second reservoir bracket pinch bolt to 18 ft-lbs. (24.4 Nm).



25.

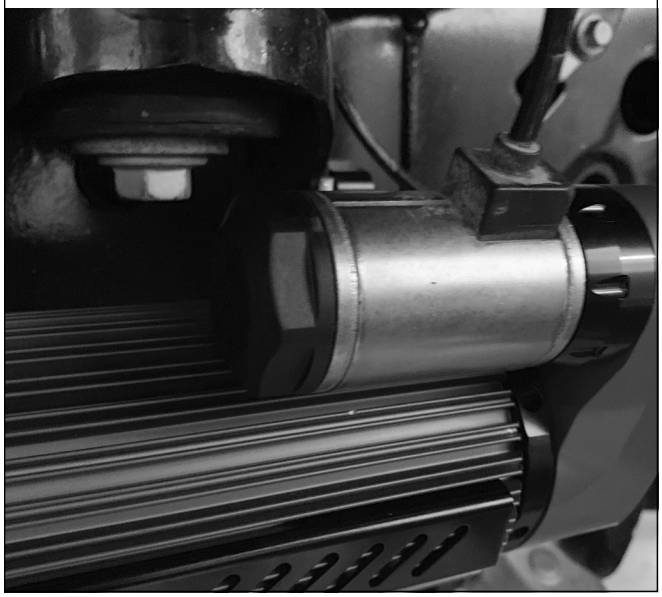
Slide the Live Valve coil over the stud and clock it such that the wire is centered between the coil cover mounting holes. Note: Keep the coil wire routed above the reservoir brackets.



Note: if the end washers unindex from the coil, simply slide them back on to the part.

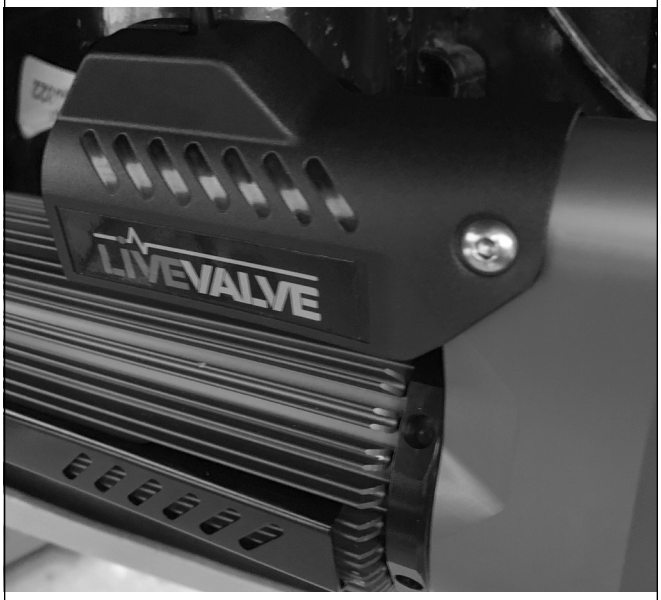
26.

Install the new live valve coil cap using a 1-3/8-inch open-end wrench to tighten firmly on the coil.



27.

Slide the Live Valve cover slot over the coil wire. Use a 1/8 Allen key to install two of the supplied cover bolts securing it to the reservoir assembly. Tighten firmly.



Note: The Live Valve decal should be facing outward.

28.

Secure the driver side loose coil wire by attaching it to the frame using one of the provided zip ties.

Figure 1

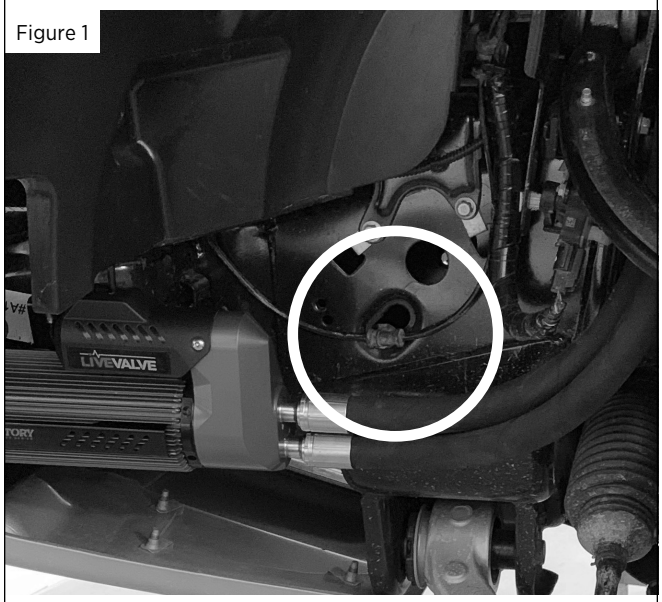
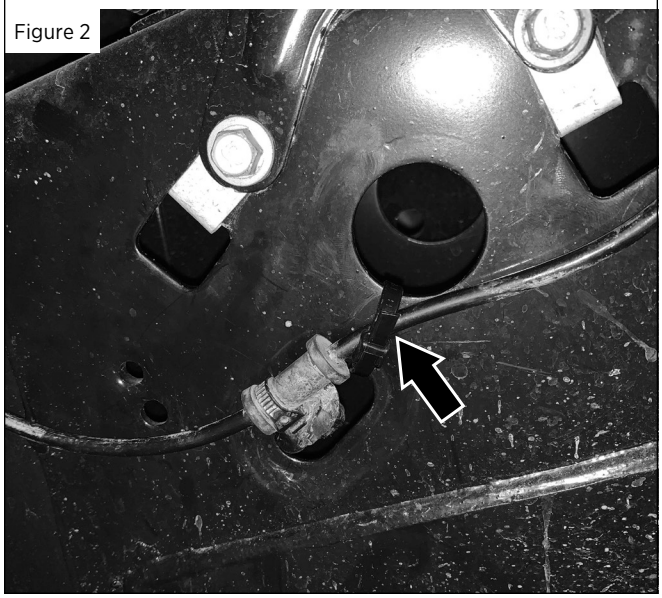


Figure 2



29.

Secure the passenger side loose coil wire by attaching it to the available electrical wire routing in the upper right portion of the wheel well.

Figure 1

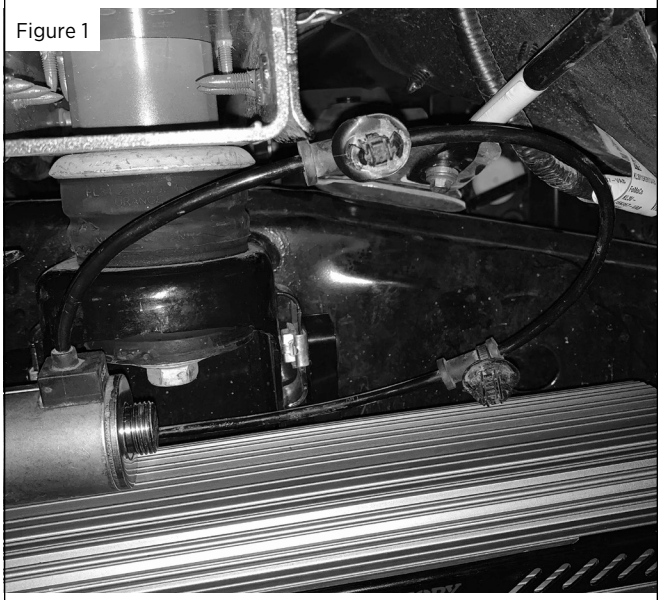
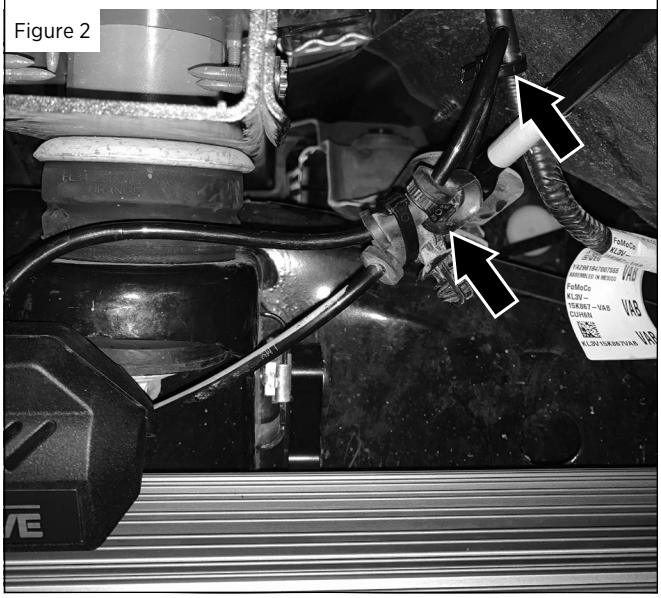


Figure 2



Note:

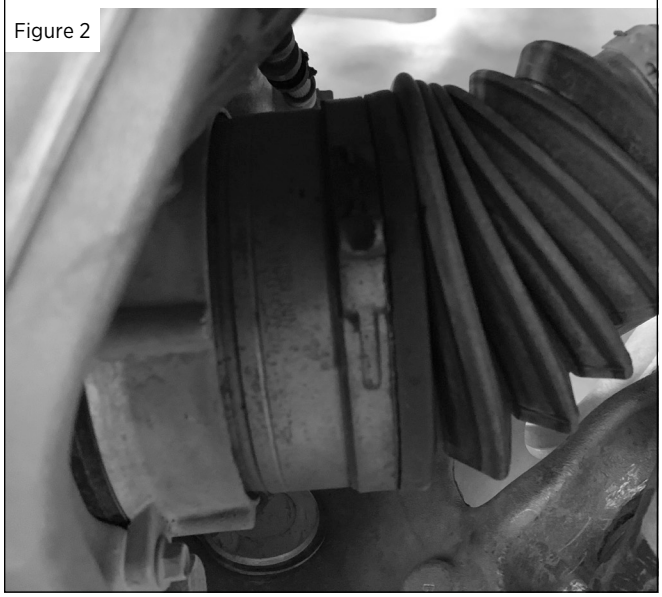
Note: Reference the OE service manual during this portion of the assembly process to ensure proper procedure is followed.

30.

Re-index the CV axle into the knuckle.

Figure 1

Figure 2



31.

Reconnect the upper control arm to the knuckle using a 18mm socket. Torque to 46 ft-lbs. (63 Nm).

32.

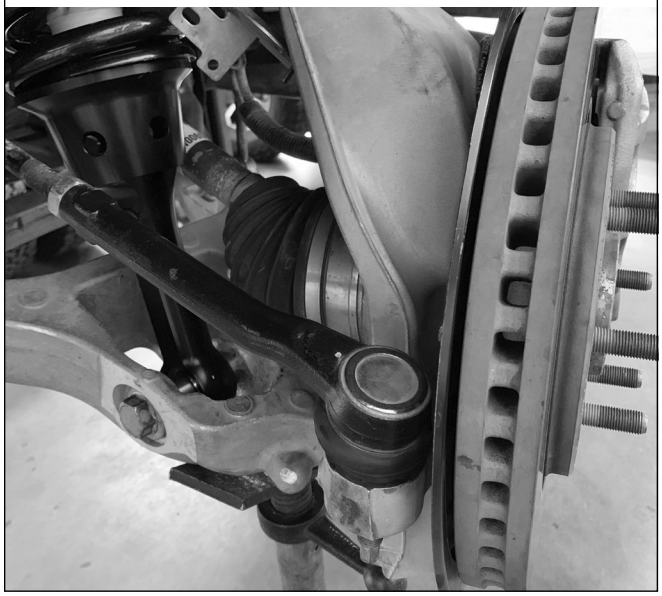
Install the CV axle nut using a 13mm socket. Torque to 30 ft-bs. (41 Nm).

33.

Reinstall the CV axle nut cover by pressing it into the vehicle's hub.

34.

Reconnect the outer tie rod end to the knuckle using a 21 mm socket. Torque to 85 ft-lbs. (116 Nm).



35.

Reconnect the sway bar to the sway bar link using an 18mm socket. Torque to 52 ft-lbs. (71 Nm).

36.

Using a 10mm socket and 8mm socket, reconnect the wires and the brake line to the knuckle.

37.

Check that the front suspension has proper clearance by steering completely in both directions.

38.

Reinstall the front wheels and torque the lug nuts to 150 ft-lbs. (204 Nm) using a 21mm socket.

39.

Set the vehicle back on the ground and drive it back and forth to allow the suspension to settle. Now measure the new ride height and make adjustments if necessary. **Note: Read installation guidelines on how to properly adjust preload.**

40.

Check hose routing to ensure there is clearance.

41.

Check all wires are properly placed.

42.

It is highly recommended that you have your wheel alignment checked.

43.

After usage check hose routing to ensure there are no signs of clear contact.

Instructions Rear Bypass

Medium-strength thread-lock (blue) is recommended on all threads.

1.

Please read the installation guidelines for instructions on how to properly lift and secure the vehicle.

2.

Using a 21mm socket remove the lug nuts and pull both rear wheels off the vehicle.

3.

Un-index the Live Valve coil wires from the back side of the shock body using a trim pry tool.

Figure 1

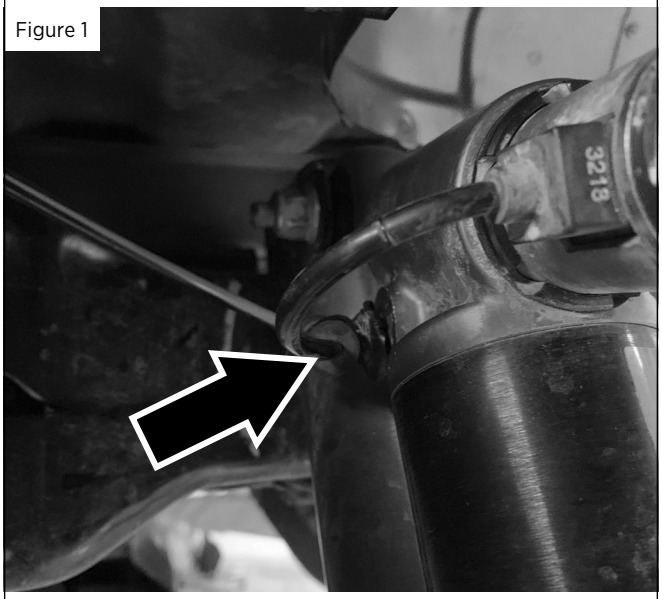
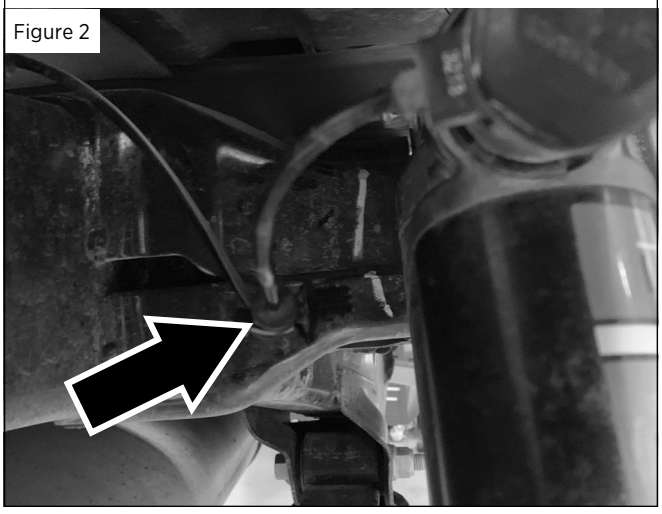
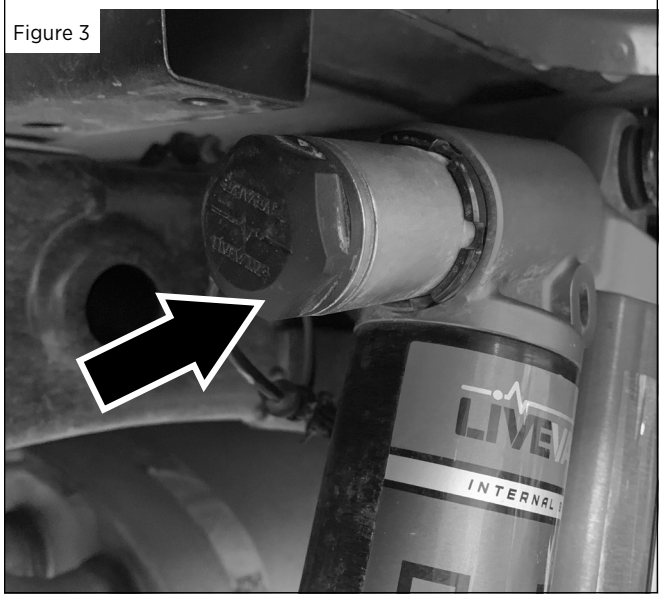


Figure 2



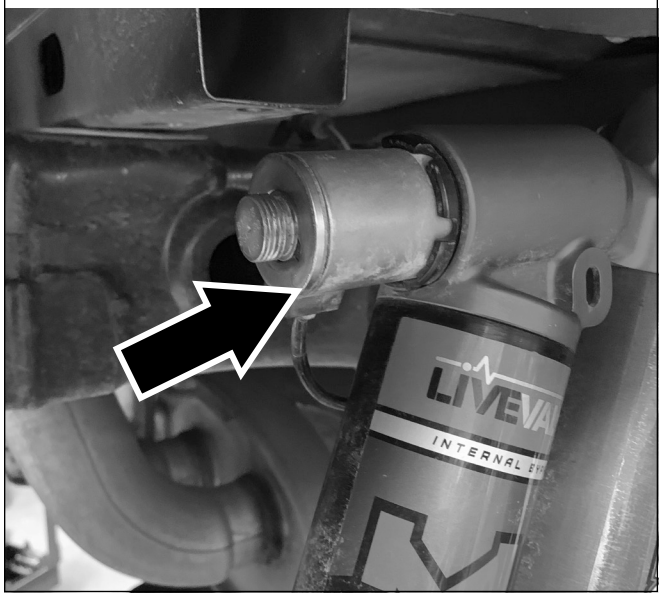
3. ...continued

Figure 3



4.

Using a 1 3/8-inch open end wrench remove the Live Valve coil cap from the backside of the coil.

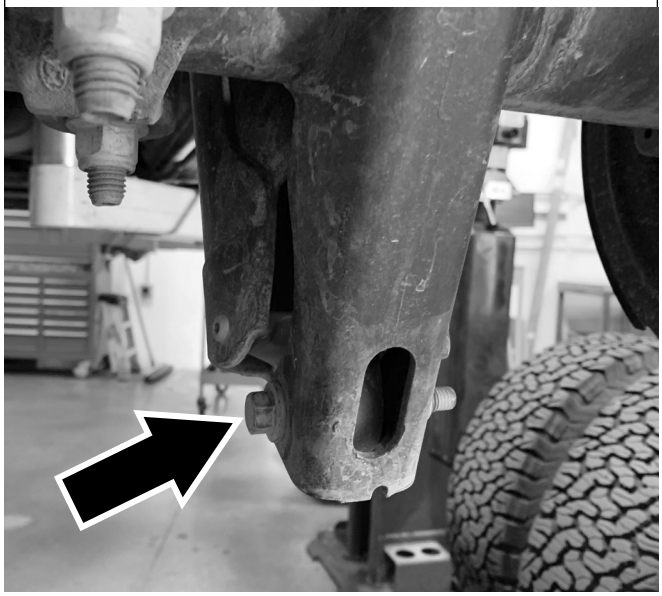


5.

Slide the live valve coil off the back side of the shock and place it securely out of the way.

6.

Using a 15mm socket and 18mm open end wrench, remove the lower bolt connecting the shock to the axle. DO NOT discard the bolt or nut as it will be used upon reinstallation of the new FOX rear shock.

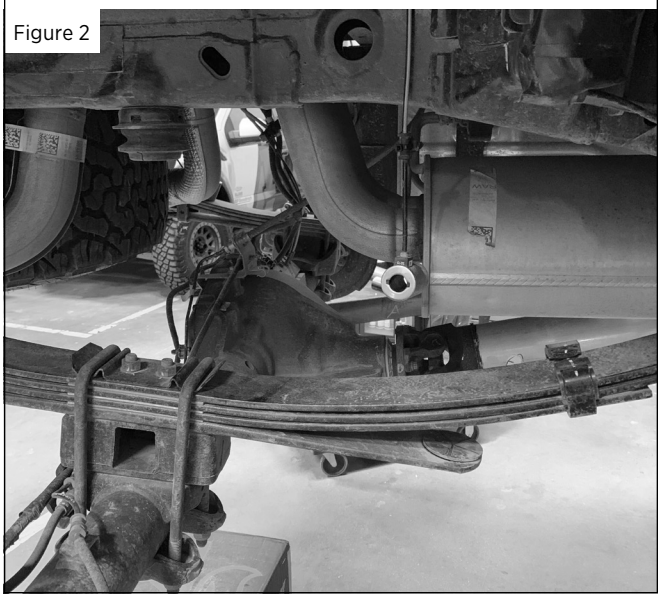


7.

Using a 15mm socket and 18mm open end wrench, remove the upper bolt connecting the shock to the frame and remove the shock from the vehicle.
DO NOT discard the bolt or nut as it will be used upon reinstallation of the new FOX rear shock.

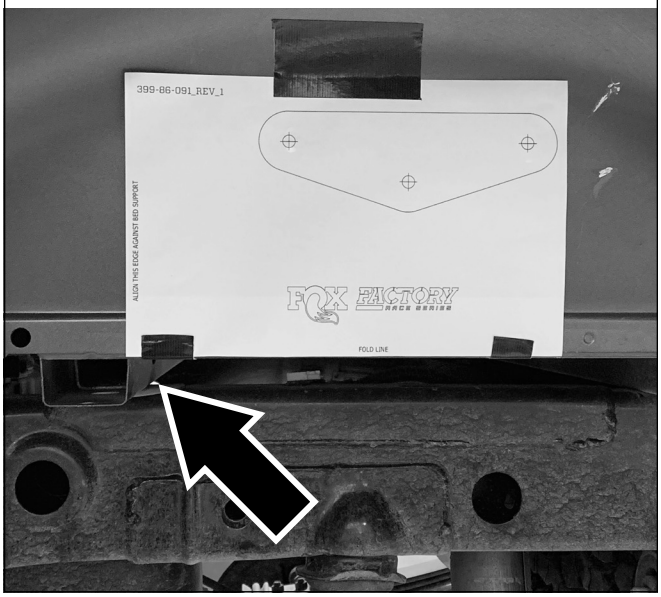
Figure 1

Figure 2



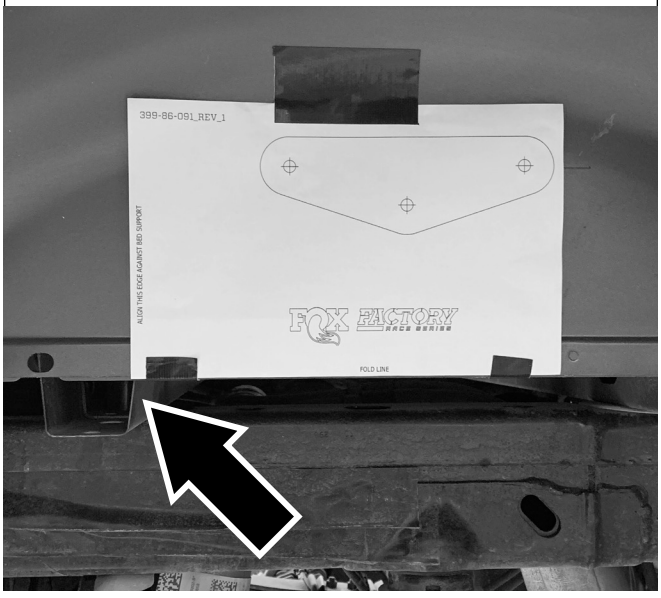
8.

Driver side: Use one of the two provided drill templates and fold it along the noted fold line. Place the template against the driver side truck bed wheel well and align the fold line against the bottom edge. Slide it forward until the edge aligns with the forward bed rail. Tape the template into place.



9.

Passenger side: Use one of the two provided drill templates and fold it along the noted fold line. Place the template against the passenger truck bed wheel well and align the fold line against the bottom edge. Slide it back until the edge aligns with the rear bed rail. Tape the template into place.



10.

Mark and drill the cooler mounting holes locations with a 3/8 drill bit.

11.

Attach the cooler mounting bed plate to the inside of the bed through the center hole using the included bolt and a 1/2-inch socket. Torque bolt to 16 ft-lbs. (22 Nm).

Figure 1

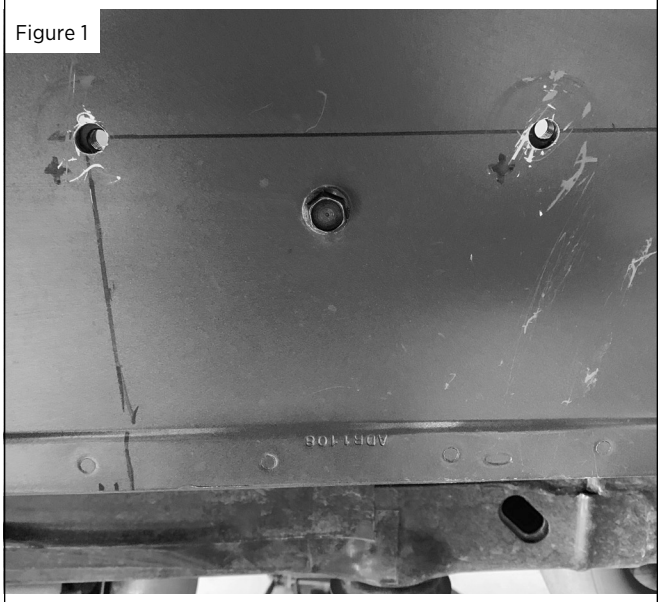
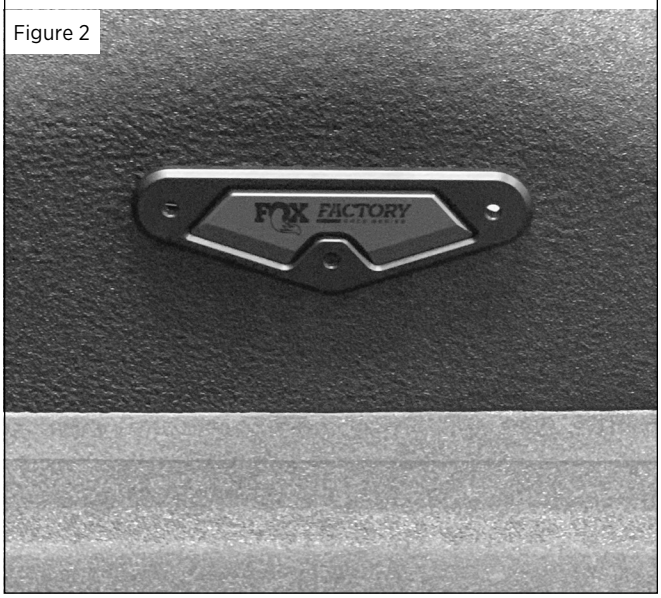


Figure 2

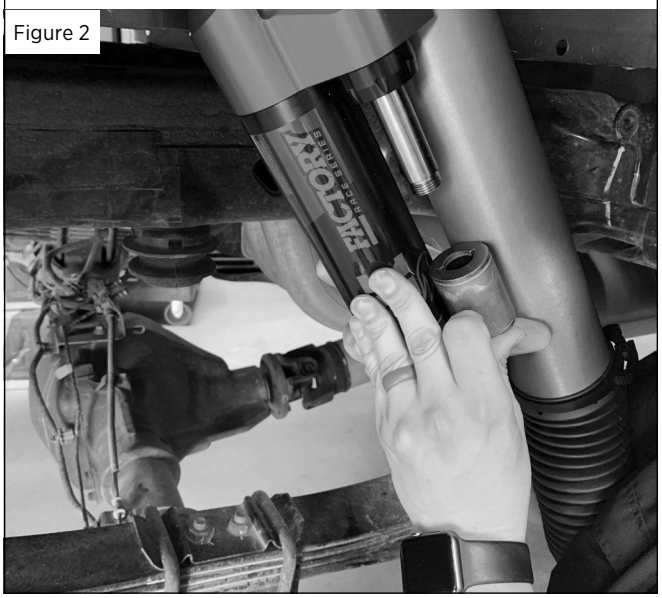


12.

Lift the rear shock up into the wheel well and lace the coil between the shock body and the piggyback reservoir indexing it on to the shock stud. Lower the shock down to the mounting point on the frame and bolt the top of the shock to the frame bracket using a 15mm socket and 18mm open end wrench.
Note: Torque passenger side to 66 ft-lbs (90 Nm). Torque driver side to 81 ft-lbs (110 Nm).

Figure 1

Figure 2



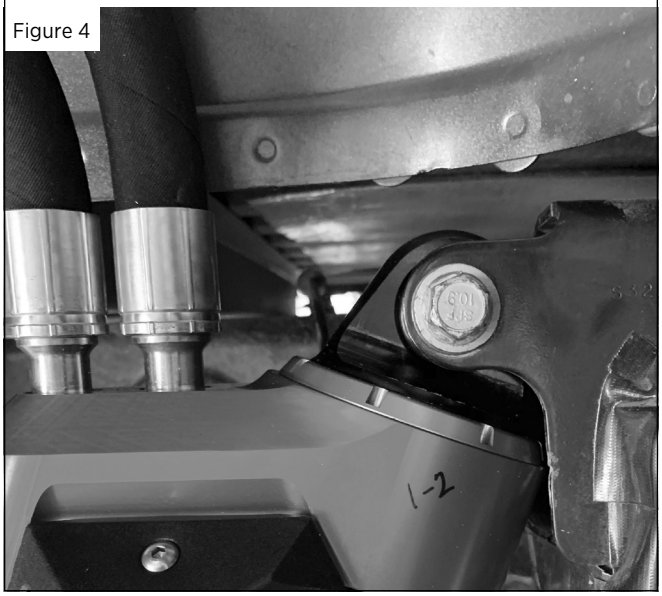
Note:

Note: Failure to follow this step to the letter could result in your product being damaged during vehicle operation.

12. ...continued

Figure 3

Figure 4



13.

Bolt the bottom of the shock to the axle bracket using a 15mm socket and 18mm open end wrench.
Note: Torque passenger side to 66 ft-lbs. (90 Nm). Torque driver side to 81 ft-lbs. (110 Nm).

Figure 1

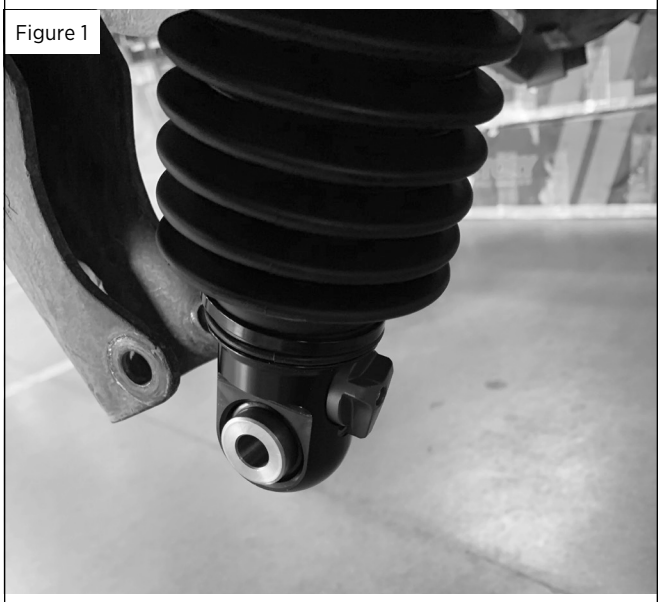


Figure 2

Note: The user can clock the eyelet away or toward the bracket. Rotate the eyelet and reset the boot to have the switch face the inside of the bracket if desired.

14.

Attach the shotgun cooler to the bed mounting plate using the included stand offs, bolts, and a 1/4-inch allen socket. Torque to 16 ft-lbs. (22 Nm).

Figure 1

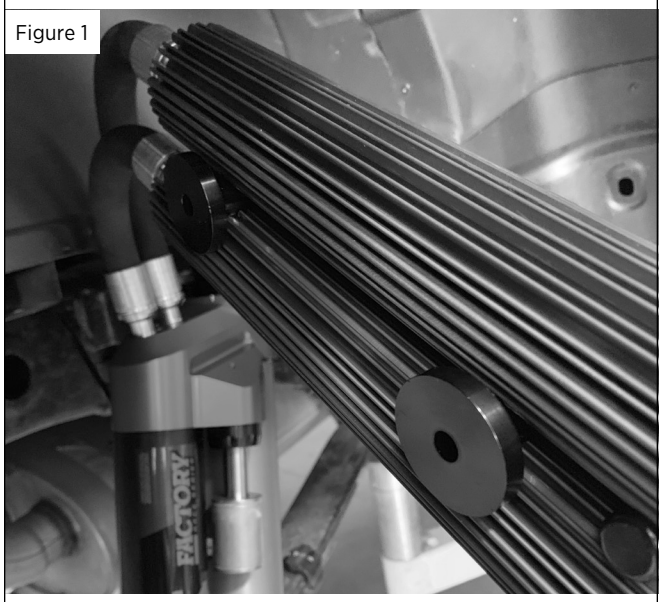


Figure 2

14. ...continued

Figure 3

15.

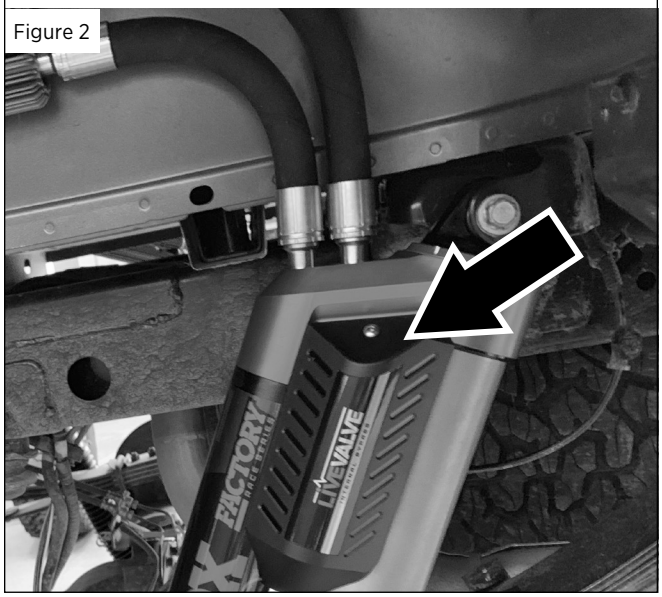
Install the new Live Valve coil cap using a set of channel lock pliers to tighten firmly on the coil.

16.

Index the Live Valve cover between the shock body and piggyback reservoir. Use a 1/8 Allen key to install one of the supplied cover bolts to secure it to the reservoir assembly. Tighten firmly.

Figure 1

Figure 2



17.

Reinstall the rear wheels and torque the lug nuts to 150 ft-lbs. (204 Nm) using a 21mm socket.

18.

Set the vehicle back on the ground and drive it back and forth to allow the suspension to settle. Now measure the new ride height and make adjustments if necessary.
Note: Read installation guidelines on how to properly adjust preload.

19.

Check hose routing to ensure there is clearance.

20.

Check all wires are properly placed.

21.

It is highly recommended that you have your wheel alignment checked.

22.

After usage check hose routing to ensure there are no signs of clear contact.

Note

Note: Your new suspension is equipped with a quick switch that allows both the front and rear shocks to be optimized for different driving environments. Simply adjust by turning the knob to the desired setting.

On-Road Performance

On-Road Comfort

Note

Off-Road Performance

FOX Limited Warranty

FOX Factory, Inc., a Georgia corporation having offices at 6634 Highway 53, Braselton, GA 30517 ("FOX"), makes the following LIMITED WARRANTY with respect to its suspension products:

LIMITED ONE (1) YEAR WARRANTY ON SUSPENSION PRODUCTS

Subject to the limitations, terms and conditions hereof, FOX warrants, to the original retail owner of each new FOX suspension product, that the FOX suspension product, when new, is free from defects in materials and workmanship. Unless otherwise required by law, this warranty expires one (1) year from the date of the original FOX suspension product retail purchase from an authorized FOX dealer or from a FOX authorized Original Equipment Manufacturer where FOX suspension is included as original equipment on a purchased vehicle. If law requires a warranty duration of greater than one (1) year, then, subject to the other provisions hereof, this warranty will expire at the end of the minimum warranty period required by such law.

Terms of Warranty
This warranty is conditioned on the FOX suspension product being operated under normal conditions and properly maintained as specified by FOX. This warranty is only applicable to FOX suspensions purchased new from an authorized FOX source and is made only to the original retail owner of the new FOX suspension product and is not transferable to subsequent owners. This warranty is void if the FOX suspension product is subjected to abuse, neglect, improper or unauthorized repair, improper or unauthorized service or maintenance, alteration, modification, accident or other abnormal, excessive, or improper use. Should it be determined by FOX in its sole and final discretion, that a FOX suspension product is covered by this warranty, it will be repaired or replaced, by a comparable model, at FOX's sole option, which will be conclusive and binding.

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This limited warranty does not apply to normal wear and tear, malfunctions or failures that result from abuse, improper assembly, neglect, alteration, improper maintenance, crash, misuse or collision. This limited warranty gives the consumer specific legal rights. The consumer may also have other legal rights which vary from state to state or country to country. Some states and countries do not allow the exclusion or limitation of incidental or consequential damages or warranties, and if dictated by law the above limitations or exclusions may not apply to you. If it is determined by a court of competent jurisdiction that a certain provision of this limited warranty does not apply, such determination shall not affect any other provision of this limited warranty and all other provisions shall remain in full effect.

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- 100% street use: every 50,000 miles
- 50% street/50% off-road use: every 10,000 miles

Service menus & pricing
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