DIRECT-REPLACEMENT
INSTALLATION GUIDE

FORD RANGER RAPTOR (2024-ON)

FACTORY RACE SERIES
LIVE VALVE, INTERNAL BYPASS

883-06-245 - Kit: 24-ON Ford Ranger Raptor, Front Coilover, Live Valve, Internal Bypass, 3.2 FRS, R/R, 0-2" Lift
883-06-246 - Kit: 24-ON Ford Ranger Raptor, Rear Coilover, Live Valve, Internal Bypass, 2.5 FRS, R/R, 0-1" Lift

605-01-417 REV B

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INTRODUCTION

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 Maintenance section for more information.

IN THE BOX

- Front or Rear Shocks
- Supplied Hardware
- Installation Guide

FRONT SHOCK SUPPLIED PARTS

FRONT SHOCK ASSEMBLY			
FOX PN	**DESCRIPTION**	**QTY**	**NOTES**
883-06-245	Front Kit	N/A	
983-06-245-L/R	Front Shocks	2	Aftermarket upper control arm required
FRONT MOUNTING HARDWARE			
FOX PN	**DESCRIPTION**	**QTY**	**NOTES**
803-02-225	Hardware Kit	1	Contains all the below components
026-01-418-1	Left Side Finned Reservoir Bracket	1	
026-01-418-2	Right Side Finned Reservoir Bracket	1	
026-01-184	Mounting Hardware: Universal Clamp, 3.0 Finned Reservoir, Steel, Black	4	Reservoir to bracket nut
018-02-044	Fastener, Standard: Screw [1/4-20 X .750 TLG] SHCS, Clear Zinc	4	Reservoir to bracket bolt
018-01-049	Fastener, Standard Screw [1/4-14 X 1.00 TLG] Steel, Zinc, Self-Drilling	2	Self-tapper, reservoir bracket to frame
026-00-012	Mounting Hardware: Tie, Cable, Black [8.00 TLG]	6	Zip ties to secure wires
241-00-060	Fastener, Custom: Aftermarket Coil Nut [M18 x 1.5 6-H] AL, Orange	2	Live Valve nut, replaces OE nut
006-00-057	Cover: Live Valve, Remote Reservoir, Parallel, FEMA Coil Pigtail, AM, Plastic	2	Live Valve cover
018-02-067	Fastener, Standard: Screw [#10-24 X 0.313 TLG] Button Head, 18-8 SS	4	Live Valve cover screws
024-04-196	Decal: FOX, LIVE Valve, Plastic Cover, Side Mount, LIVE Logo	2	Live Valve cover decal
024-04-198	Decal: Warning Label, 19-ON Ford Raptor AM, Live Valve, Remote Reservoir	2	Live Valve cover warning decal
018-00-065	Fastener, Standard: Nut, Clip [5/16-18 x .096-.141 Panel], Alloy, Clear Zinc Plated	2	Reservoir bracket to frame clip nut
018-04-043	Fastener, Standard: Bolt [5/16-18 X 1.00 TLG] Button Head, Socket Cap Screw, Zinc, Grade 8	2	Reservoir bracket to frame bolt

REAR SHOCK SUPPLIED PARTS

REAR SHOCK ASSEMBLY			
FOX PN	**DESCRIPTION**	**QTY**	**NOTES**
883-06-246	Rear Kit	N/A	
983-06-246	Left Rear Shock	1	
983-06-247	Right Rear Shock	1	
REAR MOUNTING HARDWARE			
FOX PN	**DESCRIPTION**	**QTY**	**NOTES**
241-00-060	Fastener, Custom: Aftermarket Coil Nut [M18 x 1.5 6-H] AL, Orange	2	Live Valve nut, replaces OE nut
006-02-053-1	Shock Guard: [4.00” Mounting Width X 0.25” TH] AM Ranger Raptor, Mirrored, Left	1	Left side shock skid
006-02-053-2	Shock Guard: [4.00” Mounting Width X 0.25” TH] AM Ranger Raptor, Mirrored, Right	1	Right side shock skid

⚠ WARNING

SAFETY INSTRUCTIONS

- FOX direct-replacement shocks are designed to fit and allow proper clearance with the stock suspension. If aftermarket suspension components are installed it is the customer's responsibility to ensure that interference between the FOX shocks and other vehicle components does not occur at any point in the shock stroke.
- FOX direct-replacement shocks should always be installed as a set for maximum performance.
- Proper installation and service procedures are essential for the safe and reliable operation of the suspension components, 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 protective body gear and a helmet 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.

⚠ WARNING

INSTALLATION 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 may result in SERIOUS INJURY or DEATH), ensure that the vehicle is: (1) on level ground, (2) that all tires on the ground during installation are blocked to prevent vehicle movement, (3) that at least two tires are on the ground at all times, and (4) 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 without modification except the reservoir placement on specific models and applications.

- If a preload adjustment is necessary for your application DO NOT adjust preload with the coil-over on the vehicle. Remove the coil-over from the vehicle and use a spring compressor to remove the lower spring hardware and spring. Once the spring is removed, you can adjust the preload ring. DO NOT EXCEED the existing preload, you will need to go up in spring rate or get a longer spring that fits the application.

FRONT SHOCK INSTALLATION

PREPARATION

NOTICE: Medium-strength thread-lock is recommended on all bolts.

1. Please read the INSTALLATION GUIDELINES section for instructions on how to properly lift and secure the vehicle.

2. Record the front vehicle ride height to ensure proper lift is attained after kit is installed. **READ INSTALLATION GUIDELINES ON HOW TO PROPERLY ADJUST PRELOAD.**

3. Remove both front wheels from the vehicle.

4. Remove the fender liner from the wheel well (Fig. 1).



Fig. 1: Remove the fender liner.

STOCK SHOCK REMOVAL

1. Disconnect the ABS line bracket from the upright (Fig. 2).

2. Disconnect the sway bar end link from the upright (Fig. 3).

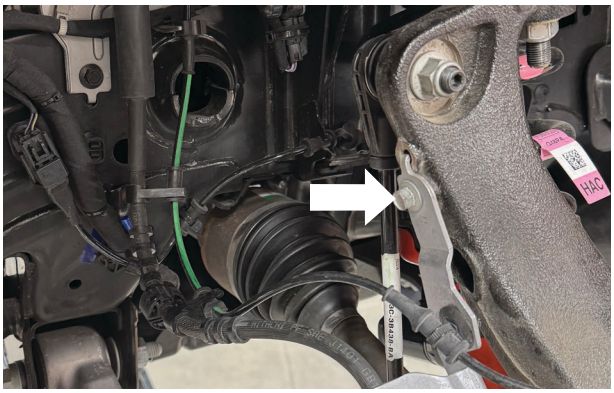


Fig. 2: Disconnect ABS line bracket.

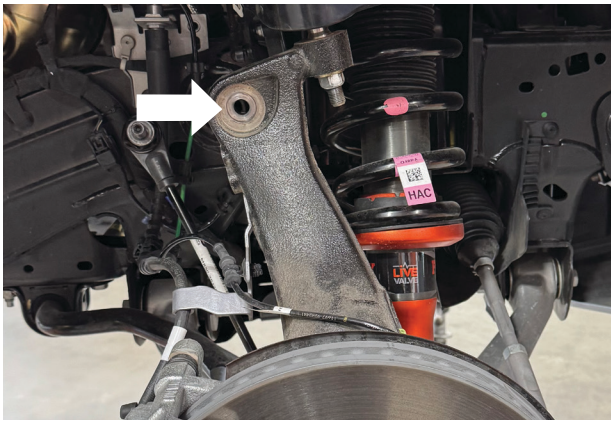


Fig. 3: Disconnect the sway bar end link.

3. Detach the tie rod end link at the spindle steering arm for removal and installation clearance (Fig. 4).

4. Remove the axle nut from the upright and turn upright to the side to prevent CV damage during shock removal (Fig. 4).

5. Remove the nut connecting the upper control arm (UCA) to the upright. Separate the UCA from the upright (Fig. 5).

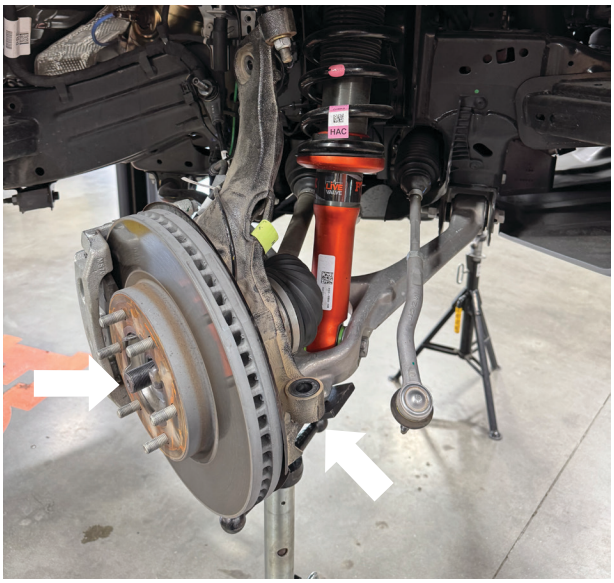


Fig. 4: Detach tie rod and remove axle nut.



Fig. 5: Separate UCA from upright.

6. Use a trim pry tool to unclip the Live Valve coil wires from the shock body (Fig. 6).

7. Use an open-end wrench to turn the Live Valve coil cap counter-clockwise and remove it from the back side of the coil (Fig. 6).

8. Remove the three top hat nuts (Fig. 7) that secure the stock coil-over assembly. **DO NOT remove the center nut. Removal of the center nut will release the spring from the shock assembly and may result in SERIOUS INJURY or DEATH!**

   ⚠WARNING: HIGH SPRING TENSION! Springs under tension can store a significant amount of energy, and if released unexpectedly, they can cause damage, SERIOUS INJURY or DEATH.

9. Remove the lower bolt connecting the coil-over to the lower control arm (Fig. 8). Do not discard the OEM hardware. They will be used with your new FOX coil-over assembly.



Fig. 6: Unclip the wires.

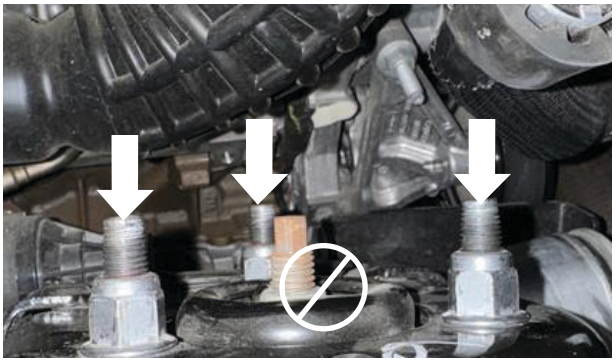


Fig. 7: Remove the three top hat nuts (three arrows). DO NOT remove the center nut.

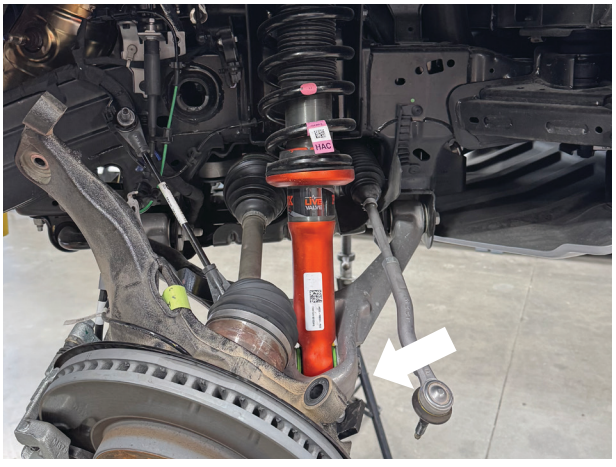


Fig. 8: Remove the lower bolt.

10. Slowly remove the shock from the lower control arm using a pry bar while supporting the coil-over to prevent it from falling. Remove the shock from the vehicle (Fig. 9).

11. Unplug the coil harness, then unclip the harness from the frame to remove from the vehicle and set aside. Also unclip the remaining harness plug from the frame for optimal routing upon final shock installation (Fig. 10).

12. If you are installing an aftermarket UCA, install it now and follow the manufacturer's required specifications. Then proceed to next section.

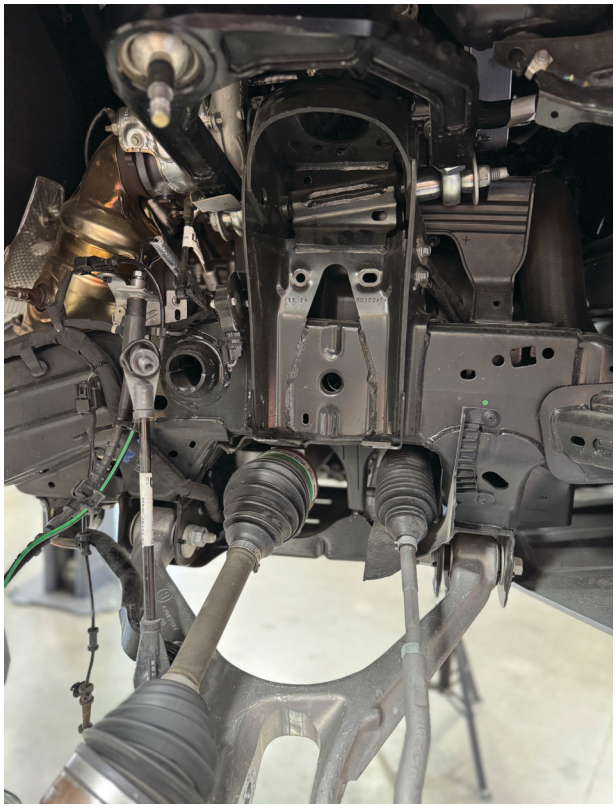


Fig. 9: Remove shock.

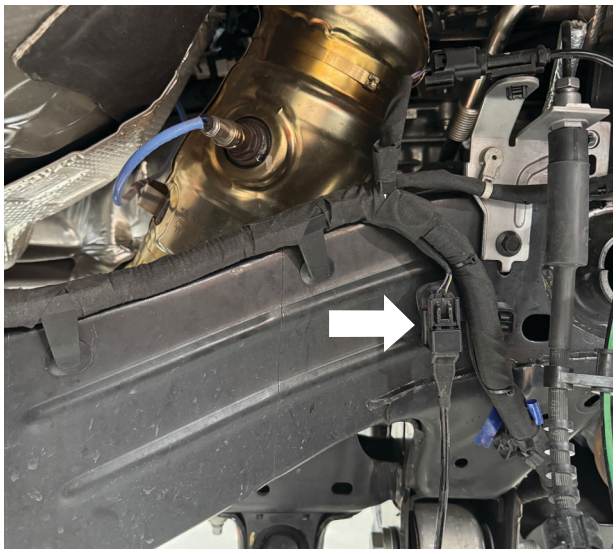


Fig. 10: Unclip the coil harness plug.

FOX COIL-OVER INSTALL

1. Install the new coil-over assembly with the hose fitting facing outboard and the reservoir pointed toward the front of the vehicle (Fig. 11).
   NOTE: The thicker eyelet reducer faces towards the front of the vehicle.

2. Mount the three supplied top hat nuts and washer, then torque to 24 ft-lbs.

3. Torque the lower bolt to OE specification.

4. Fasten the axle and UCA nuts and torque to OE specification.

5. Reinstall the tie rod end, sway bar end link, and ABS bracket bolt. Torque all hardware to OEM specification.

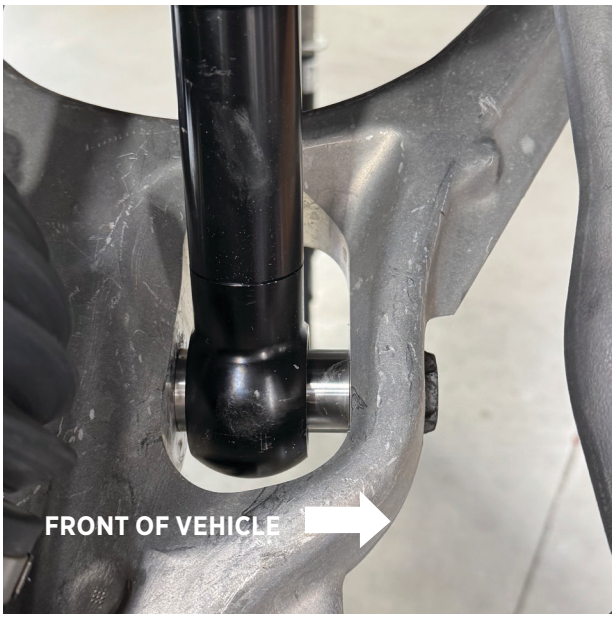


Fig. 11: Thicker eyelet reducer toward front of vehicle.

RESERVOIR INSTALLATION

NOTE: Mount the reservoir to the bracket first! Then install the bracket to the vehicle.

1. Slide the first clamp nut all the way down to the lock ring on the side closest to the Live Valve (Fig. 12).

2. Use the other side of the dovetail notch on the reservoir to marry the bracket and reservoir (Fig. 13). Bracket should touch the lock ring at the end of the reservoir

3. The clamp nut and top of the reservoir bracket must be flush. Loosely install one of the supplied screws. Next, slide the second clamp nut to the second hole of the reservoir bracket. Loosely install the second supplied screw. Tighten one of the screws such that the reservoir does not easily move. You will torque both screws in a later step (Fig. 14).

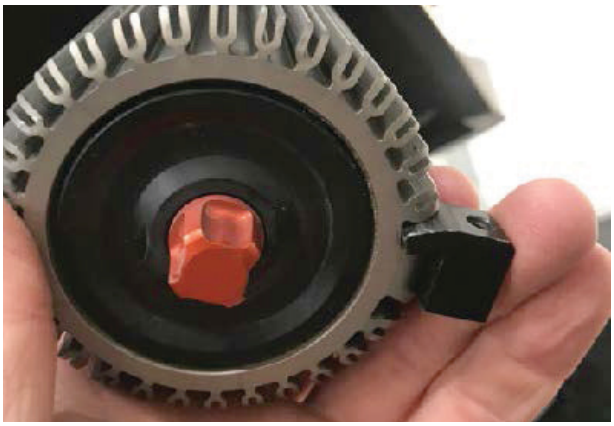


Fig. 12: Slide the clamp nuts into the dovetail.

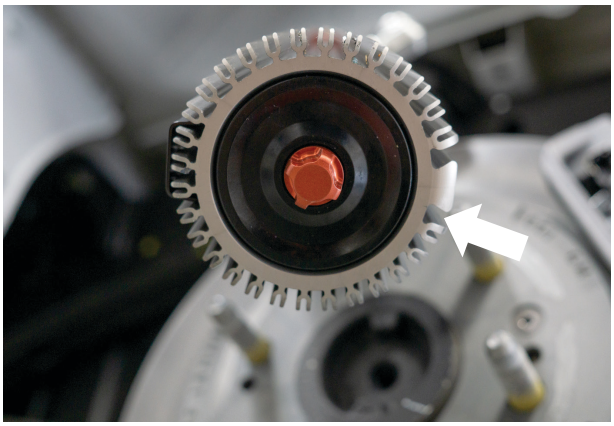


Fig. 13: Other dovetail marries to the reservoir bracket.

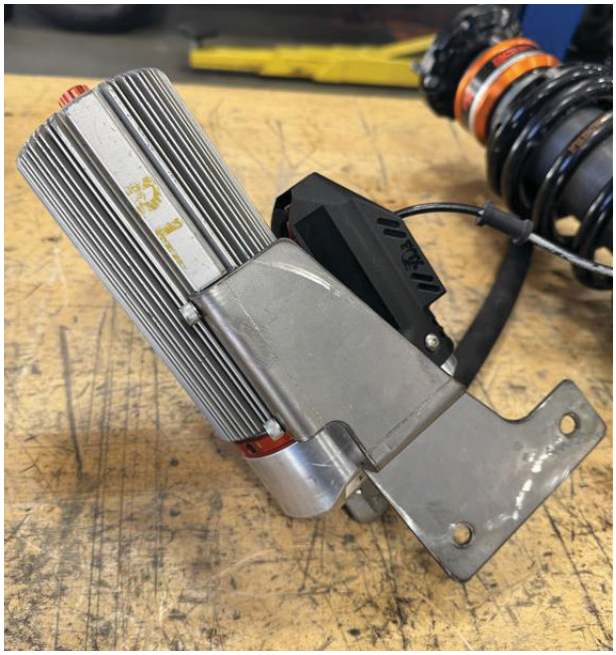


Fig. 14: Mount the reservoir to the bracket.

4. Slide the Live Valve coil over the stud and clock it so the wire is farthest from hose and faces directly away from the reservoir. Install the new Live Valve coil cap using an open-end wrench and torque to 100 in-lbs (~8 ft-lbs) with medium-strength thread locker (Fig. 15).

5. Affix the provided 'Live Valve' and 'Warning' decals to the provided Live Valve covers (Fig. 16).

6. Slide the Live Valve cover slot over the coil wire and ensure the Live Valve decal faces outward. Use two of the supplied cover bolts securing it to the reservoir assembly. Torque to 22 in-lbs (Fig. 17).



Fig. 15: Install the Live Valve coil and position it properly.



Fig. 16: Live Valve decal (passenger side shown).



Fig. 17: Install the Live Valve cover onto the reservoir assembly.

7. Install provided clip nut into the square-shaped hole in the frame facing towards the front of the vehicle in front of the shock tower (Fig. 18).

8. Install the reservoir bracket assembly to the vehicle using the provided bolt and clip nut and torque to 20 ft-lb. Drill a pilot hole using a 7/32 drill bit in the other bracket hole. Then, install the self-drilling screw to secure the reservoir bracket (Fig. 19).
   NOTE: While installing, the reservoir should be as high as possible on the bracket to allow clearance to access the fasteners.

9. Once both bracket fasteners are installed, loosen the reservoir clamp nut screws so that the reservoir can slide down far enough such that the coil harness reaches the connector on the rear side of the shock tower. Route the harness behind the shock and avoid all components/ sharp edges using the provided zip ties (Fig. 20 and Fig. 21).

10. Once the coil harness is secured and plugged into main vehicle harness, torque both reservoir clamp nut screws to 76 in-lb (Fig. 20).

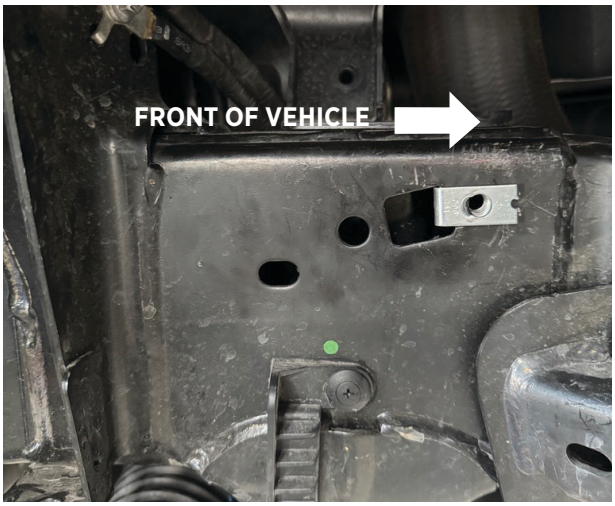


Fig. 18: Install clip nut to frame.



Fig. 19: Install reservoir bracket to frame.



Fig. 20: Position reservoir to clearance all components.

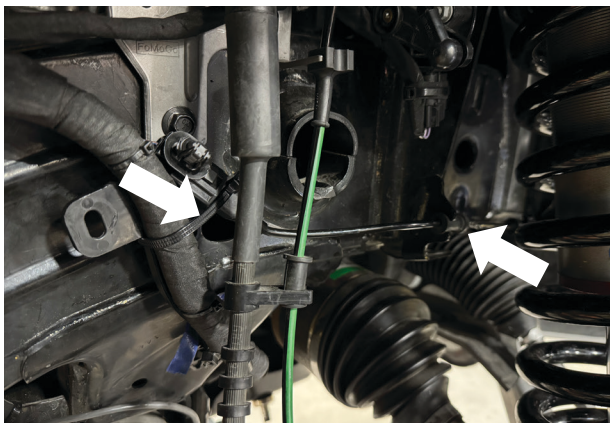


Fig. 21: Zip tie coil harness behind shock.

FENDER LINER TRIMMING

1. Test fit the fender liner and assess how much trimming is required. Draw a cut line on the fender liner.

2. Remove the fender liner and begin with a conservative cut. Repeat test fitting and cutting until you've achieved the desired appearance (Fig. 22).



Fig. 22: Trim the fender liner.

FINAL CHECKS AND DETAILS

1. Reinstall the wheels and torque to OEM specifications.
2. Set the vehicle back on the ground and drive back and forth several feet to allow the suspension to settle.
3. Measure the ride height and adjust if necessary. READ INSTALLATION GUIDELINES ON HOW TO PROPERLY ADJUST PRELOAD.
4. Check that the suspension has proper clearance by steering completely in both directions.
5. It is required to have your wheel alignment checked.

   ⚠WARNING: Failure to maintain proper wheel alignment will result in premature tire wear and changes in vehicle handling.

REAR SHOCK INSTALLATION

NOTICE: Medium-strength thread-lock is recommended on all bolts.

PREPARATION

1. Please read the INSTALLATION GUIDELINES section for instructions on how to properly lift and secure the vehicle.
2. Record the rear vehicle ride height to ensure proper lift is attained after kit is installed. READ INSTALLATION GUIDELINES ON HOW TO PROPERLY ADJUST PRELOAD.
3. Remove both rear wheels.
4. Support the center of the differential with a jack stand (Fig. 23).

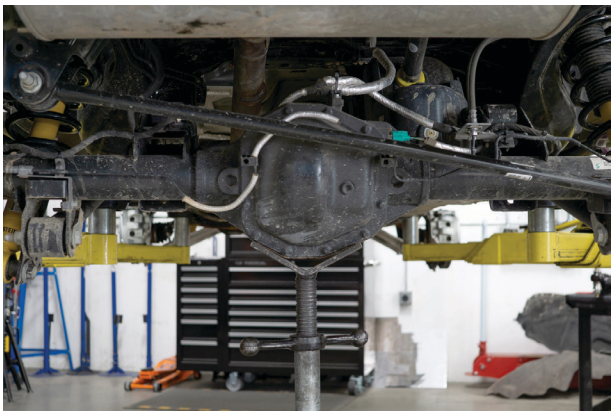


Fig. 23: Support the differential.

STOCK SHOCK REMOVAL

1. Unplug the Live Valve coil wire from the axle (Fig. 24). Then remove the stock shock from the vehicle.

2. Remove the three top hat nuts (Fig. 25). DO NOT remove the center nut.

   ⚠WARNING: SPRING TENSION! Removal of the center nut will release the spring from the stock assembly and may result in SERIOUS INJURY or DEATH!

3. Remove the lower shock skid nuts. Then remove the lower shock mount bolt and OE skid (Fig. 26).



Fig. 24: Unplug the Live Valve coil wire from the axle.

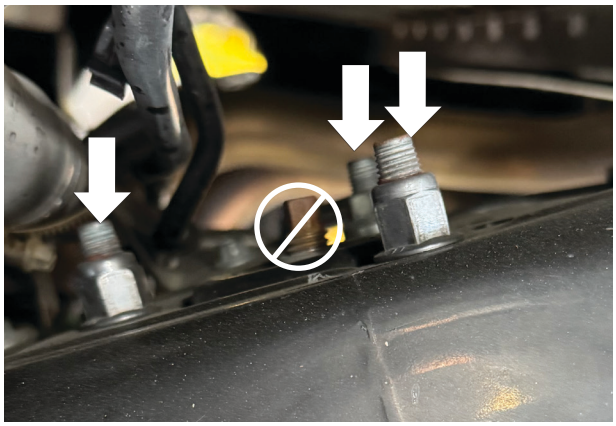


Fig. 25: Remove the three top hat nuts (arrows). Do not remove the center nut.

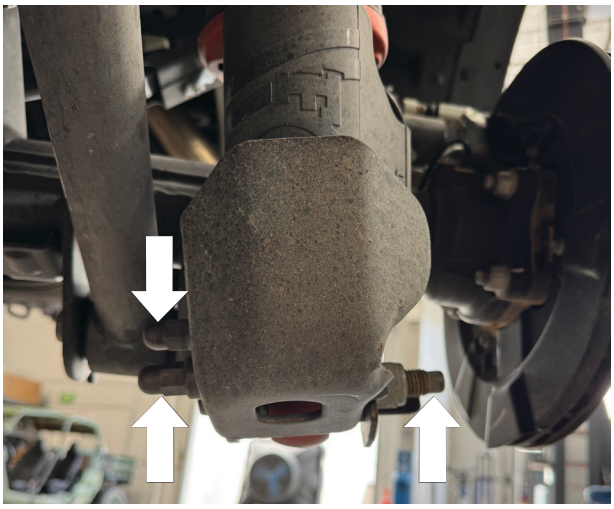


Fig. 26: Remove lower shock mount bolt and OE skid.

4. Use a hex key to remove the stock shock reservoir guard to access the coil assembly (Fig. 27).

5. Use an open-end wrench to turn the Live Valve coil cap counterclockwise and remove it from the coil (Fig. 28).

6. Use a trim pry tool to unclip the Live Valve coil wires from the shock body and set aside the harness (Fig. 28).



Fig. 27: Remove reservoir guard



Fig. 28: Remove the coil cap. Unclip coil wires.

FOX SHOCK INSTALLATION

1. Loosely install FOX coil-over with the reservoir facing the front of the vehicle and the Live Valve facing outboard (Fig. 29).

2. Attach the top hat nuts and washers first and torque to 24 ft-lbs (Fig. 30).

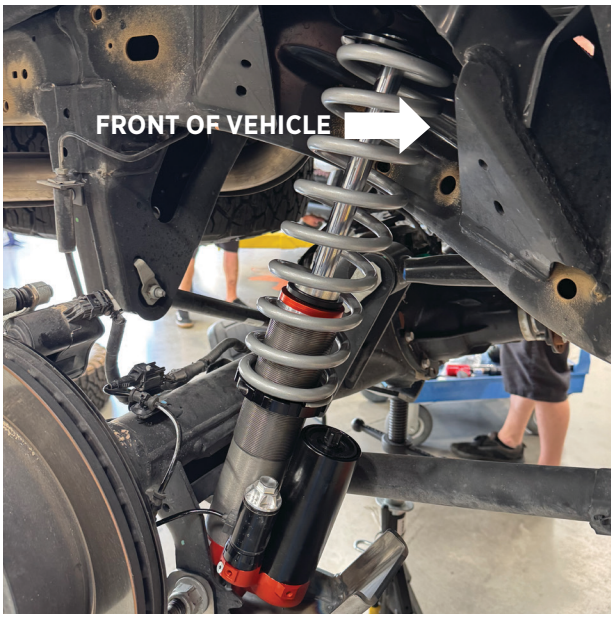
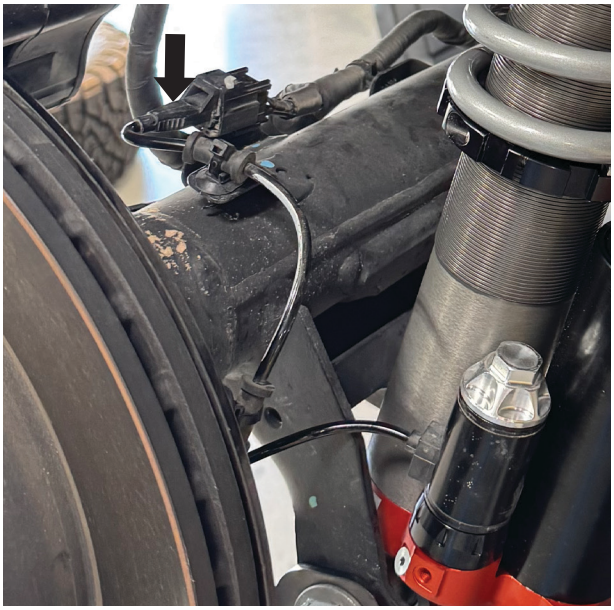


Fig. 29: Face the reservoir towards front.


Fig. 30: Attach the top hat nuts and washers.

3. Plug the coil harness back into the connector on the axle (Fig. 31).

4. Slide the Live Valve coil over the stud and clock it so the wires do not interfere with any moving components (Fig. 31). Install the new Live Valve coil cap using an open-end wrench and torque to 100 in-lbs (~8 ft-lbs) with medium-strength thread locker.


Fig. 31: Plug coil harness into connector.

5. Ensure the body cap profile is centered in the lower shock mount. During installation, if the tophat assembly is rotated incorrectly relative to the lower body cap/reservoir assembly, body cap to shock mount interference could occur in high articulation events. Double check that the angles for each side match the below figures (Fig. 32 through Fig. 34) and adjust by rotating the upper eyelet as necessary. It is recommended to pull/push on the reservoir after the shock is bolted in at the top but before shock skid plate is installed.

NOTICE: If the tophat assembly is not oriented properly to the body cap, this can cause interference during high articulation events and may result in damage to components or other parts of the vehicle.

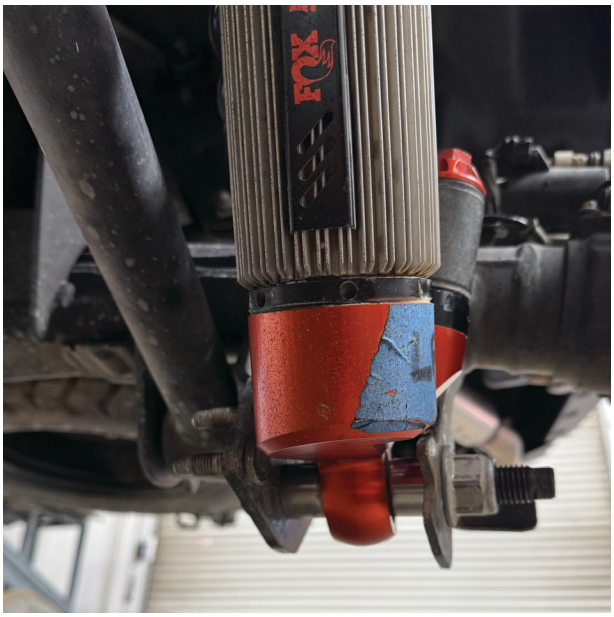


Fig. 32: Body cap profile in lower shock mount.



Fig. 33: Orientation of left tophat assembly to body cap.

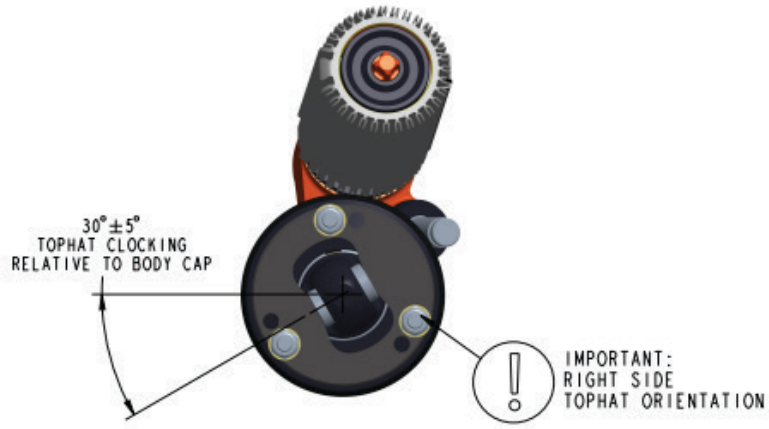


Fig. 34: Orientation of right tophat assembly to body cap.

6. Adjust the axle droop using the jack stand to loosely install the lower shock bolt and provided shock skid plate.

7. Ensure the shock skid plate is positioned against the locating tab on the vehicle. Then torque the skid plate nuts to OE specification (Fig. 35).

8. Torque lower shock bolt to OE specification.



Fig. 35: Skid plate against locating tab.

FINAL CHECKS AND DETAILS

1. Reinstall the wheels and torque to OEM specifications.

2. Set the vehicle back on the ground and drive back and forth several feet to allow the suspension to settle.

3. Measure the ride height and adjust if necessary. READ INSTALLATION GUIDELINES ON HOW TO PROPERLY ADJUST PRELOAD.

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

5. It is required to have your wheel alignment checked.

   ⚠WARNING: Failure to maintain proper wheel alignment will result in premature tire wear and changes in vehicle handling.

MAINTENANCE

PROPER INSPECTION AND MAINTENANCE IS ESSENTIAL TO MAINTAIN THE PERFORMANCE AND RELIABILITY OF YOUR SHOCK ABSORBERS.

To avoid corrosion, you should keep the shocks and springs clean, free of dirt and moisture. The wiper seal will clean deposits from the shaft, but the shock won't necessarily fully compress every time. This means you could accumulate dirt at the bottom of the shaft and underneath the jounce bumper. Make sure you clean these areas completely to prevent shaft corrosion. Avoid using a high-pressure washer near the shaft seals or adjusters, as this could drive dirt inside the shock.

Make sure the ends of the spring and shock threads are clean and free of dirt before adjusting the preload ring. This will make the adjustment easier and reduce wear.

Ideally, the shocks should be clean around the adjusters. Use a small amount of contact cleaner before making adjustments will keep these parts clean and operating smoothly for years

NOTICE: Keep the shock and spring clean and free of dirt or water to avoid corrosion. Keep the shock shaft clean and free of mud. Avoid using a high-pressure washer near the shaft seals and adjusters. Before adjusting preload or the crossover ring, clean the threads of the shock body for easier adjustment and mitigating wear.

FOX SERVICE AND UPGRADES

HAVE YOUR FOX SHOCKS SERVICED BY FOX TECHNICIANS. CALL OUR SERVICE CENTER AT 619.768.1800 TO GO OVER THE SERVICE AND UPGRADE OPTIONS AVAILABLE FOR YOUR PRODUCT. ONCE YOU'VE SETUP YOUR SERVICE AND/OR UPGRADES YOU WILL RECEIVE A RETURN AUTHORIZATION NUMBER AND SHIPPING INSTRUCTIONS.

SERVICE MENUS AND PRICING

visit ridefox.com/service



WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov

WARRANTY INFORMATION

FOX LIMITED WARRANTY

FOX Factory, Inc., a Georgia corporation having an office at 750 Vernon Way, Suite 101, El Cajon, CA 92020 ("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. THIS IS THE EXCLUSIVE REMEDY UNDER THIS WARRANTY. ANY AND ALL OTHER REMEDIES AND DAMAGES THAT MAY OTHERWISE BE APPLICABLE ARE EXCLUDED, INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR PUNITIVE DAMAGES.

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.

THIS IS THE ONLY WARRANTY MADE BY FOX ON ITS SUSPENSION PRODUCTS AND COMPONENTS, AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION HEREIN. ANY WARRANTIES THAT MAY OTHERWISE BE IMPLIED BY LAW INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED.

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