PVG Owners/Service Manual
Production Standards

Cover Stock:	22-24# Matte Cover
Text Stock:	22-24# Matte Book
Cover Ink:	Black
Text Ink:	Black
Size:	8.5"x11" (Portrait)
Bindery:	Staple, upper left corner

Note: Manuals are to be printed Black & White and double sided.

DIRECT-REPLACEMENT
INSTALLATION GUIDE

FORD F-150 (2021-ON)

FACTORY RACE SERIES
LIVE VALVE

883-06-257: Kit: 24-ON Ford F-150 Supercrew, 3.2 Truck FRS, Live Valve, Connected Suspension, 2-2.5" Lift
883-06-262: Kit: 21-23 Ford F-150 Supercrew, 3.2 Truck FRS, Live Valve, Connected Suspension, 2-2.5" Lift

605-01-453 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:

tech.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):

CONTENTS

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

SUPPLIED PARTS

FRONT SHOCK ASSEMBLY			
FOX PN	**DESCRIPTION**	**QTY**	**NOTES**
983-06-257/258	FRONT COILOVER SHOCK WITH LIVE VALVE FOR F150	1	
026-01-396	FRONT BRACKET	1	
018-04-012-A	3/8” SELF TAPPING BOLT	1	
019-01-282	10 MM BOLT	1	
019-00-027	10 MM CLIP NUT	1	
018-05-066	WASHER .406 ID	2	
018-02-044	¼-20 SOCKET HEAD SCREW	2	
026-01-184	DOVETAIL CLAMP	2	
REAR SHOCK ASSEMBLY			
FOX PN	**DESCRIPTION**	**QTY**	**NOTES**
983-26-173	REAR SHOCK WITH LIVE VALVE FOR F150	2	
019-01-302	M12 FENDER WASHER	1	
019-01-279	M12 BOLT	1	
026-01-340	RESERVOIR BRACKET	1	
018-00-070	M12 NYLOCK NUT	1	
018-02-044	¼-20 SOCKET HEAD SCREW	2	
026-01-184	DOVETAIL CLAMP	2	

⚠ 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. If you need to exceed the existing preload beyond 0.5 inches, 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.

Fig. 1: Disconnect brake line bracket.

Fig. 2: Detach tie rod end link.

STOCK FRONT SHOCK REMOVAL

1. Disconnect the brake line bracket from the upright (Fig. 1).
2. Detach the tie rod end link at the spindle steering arm for removal and installation clearance (Fig. 2).
3. Separate the sway bar end link from both steering knuckles (Fig. 3).

Fig. 3: Disconnect the sway bar end link.

4. Remove the nut connecting the upper control arm (UCA) to the upright. Tap the ball joint stem with a hammer to release it from the knuckle.
   Proceed with caution, the UCA has spring tension (Fig. 4).
   ⚠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.
5. Remove the three top hat nuts that secure the stock shock assembly to the vehicle (Fig. 5). **DO NOT remove the center nut that holds the shock assembly together. 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.

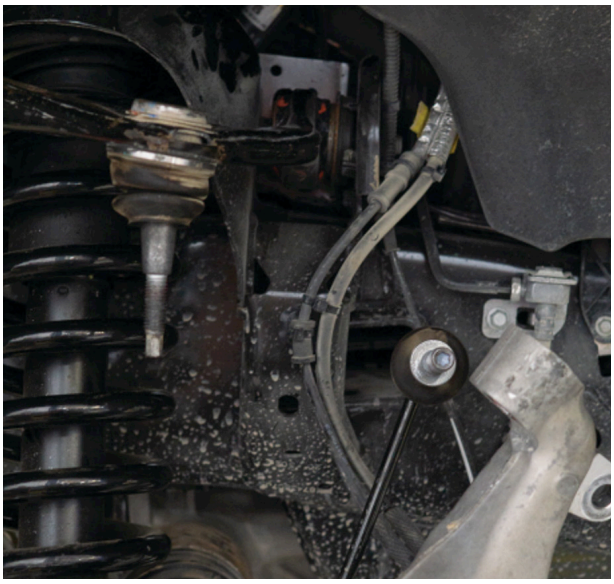

Fig. 4: Separate UCA from upright.

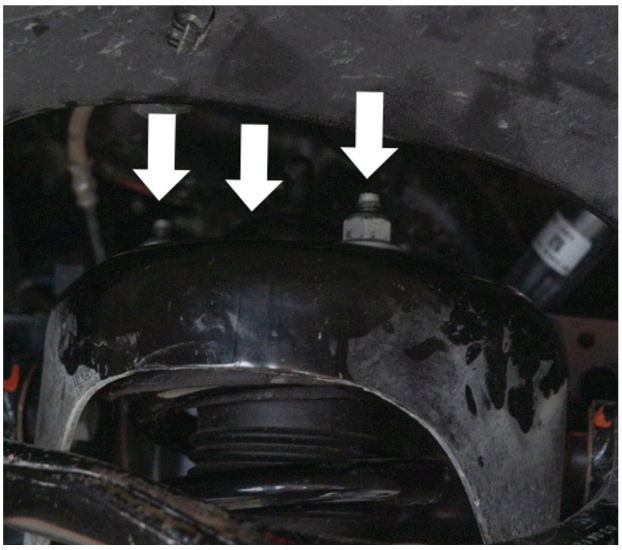

Fig. 5: Remove the three top hat nuts. DO NOT remove the center nut that holds the shock assembly together.

6. Release the top of the coil-over from the coil bucket (Fig. 6).
7. Remove the bar-pin nuts connecting the coil-over to the lower control arm (Fig. 7). Remove the stock shock assembly.

   NOTICE: Do not discard any OEM bolts, many are reused with your new FOX coil-over assembly.
8. If installing an aftermarket UCA, install it now following the manufacturer's instructions and specifications.
9. After installation, continue to the next sections, **FOX FRONT COIL-OVER INSTALL** and **SPRING PRELOAD ADJUSTMENT.**

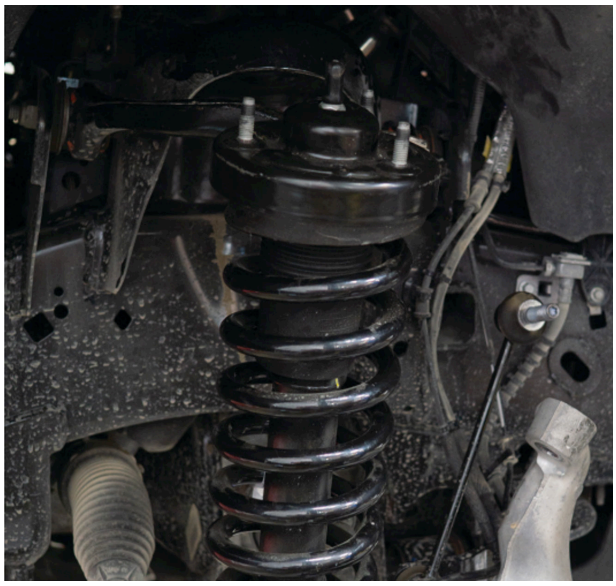

Fig. 6: Release the coil-over.

Fig. 7: Remove the bar-pin nuts.

FOX FRONT COIL-OVER INSTALL

1. Install the new coil-over assembly with the hose fittings facing forward (Fig. 8). Loosely install the provided bar-pin bolts and top cap nuts. Set the reservoir aside until a later step.
2. Once the shock is properly oriented, torque the top hat nuts to 24 ft-lbs. Torque the bar-pin bolts to 50 ft-lbs using blue threadlock. The frame of the truck will have a large amount of play available at the top mount. Be sure to center the shock assembly to provide optimal clearance between the shock and truck chassis.
   NOTE: Threadlock should be applied as recommended by Ford service procedures for all OE fasteners and components.
3. Reattach the UCA to the upright using the ball joint bolt. Use a pry bar to apply leverage to the UCA and lower into position on the upright. Reinstall the nut and torque to OEM specification (Fig. 9).

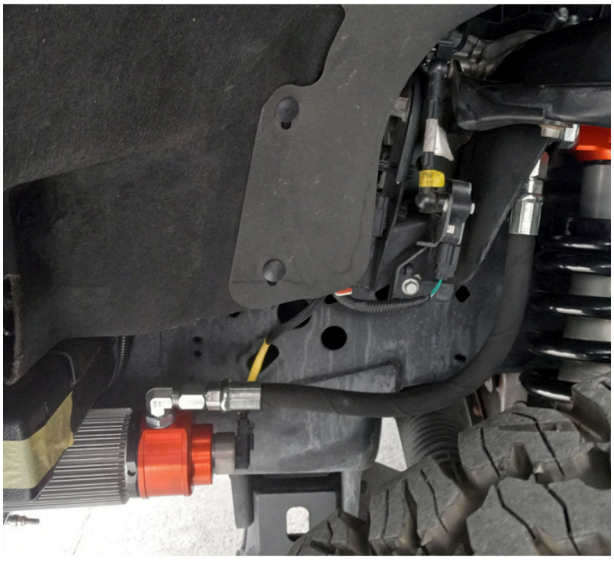

Fig. 8: The hose fittings inboard and facing forward the vehicle.

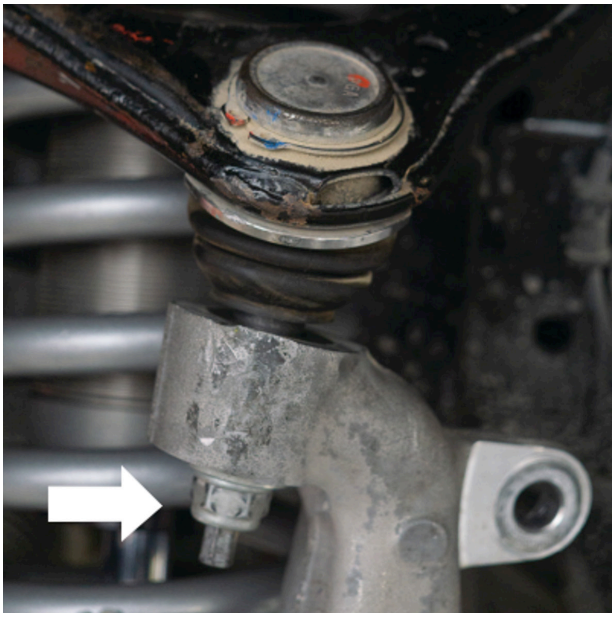

Fig. 9: Reattach UCA to upright.

4. Reinstall the tie rod end link (Fig. 10), sway bar end link (Fig. 11), and brake bracket bolt (Fig. 12). Torque all hardware to OEM specification.

Fig. 10: Install tie rod end link.

Fig. 11: Install sway bar end link.

Fig. 12: Install brake hose bracket.

RESERVOIR INSTALLATION

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

1. Install the included reservoir hardware on the reservoir dovetails, as shown (Fig. 13). Align the reservoir bracket next to the orange manifold assembly, as shown (Fig. 13). The left-side bracket is similar to the bracket shown in Fig. 13 but is longer. It installs on the reservoir in the same manner.
2. Tighten the screws hand-tight with blue threadlock. The reservoir and bracket placement may need to be adjusted later.
3. Insert the supplied clip nuts into the rearmost frame bracket bolting feature on both sides of the truck (Fig. 14).
4. Apply blue threadlock to the supplied bolt. Place the bracket and reservoir assembly against the frame. Then, loosely install the supplied 10 mm bolt through the forward slot of the bracket and into the clip nut that you installed in the previous step (Fig. 15).

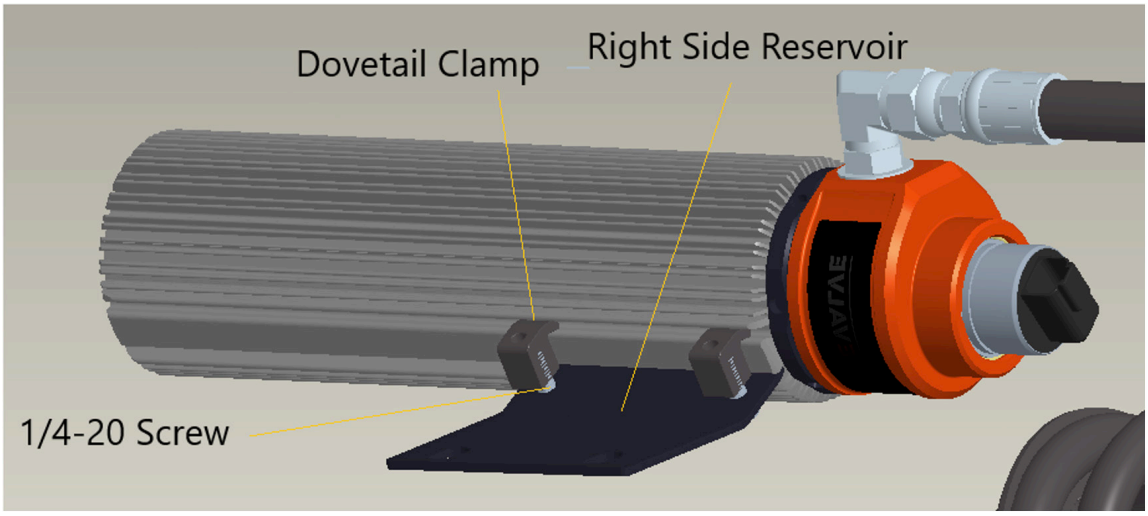

Fig. 13: Right Side Reservoir Mounting Hardware Attached To Reservoir. Left side is a mirror image and left side bracket is slightly longer.

Fig. 14: Insert clip nut into rear most frame mount provision.

5. Align the reservoir assembly parallel to the frame while maintaining greater than 1/8 in. clearance from other components. The bracket bolt holes are slotted to adjust for clearance.
6. Mark the vehicle frame where the aft reservoir bracket hole will be positioned (Fig. 16). Move or rotate the bracket assembly out of the way to drill the marked location. Drill the frame using a drill and 21/64 inch bit. Pilot drilling is recommended before drilling to the full size.
7. Rotate or reposition the bracket/reservoir assembly back to the optimal position, which is parallel with the frame and maintaining 1/8 in. clearance to other components. Install the self-tapping bolts and torque to 30 ft-lbs. Torque the standard bolt to 30 ft-lbs (Fig. 16).

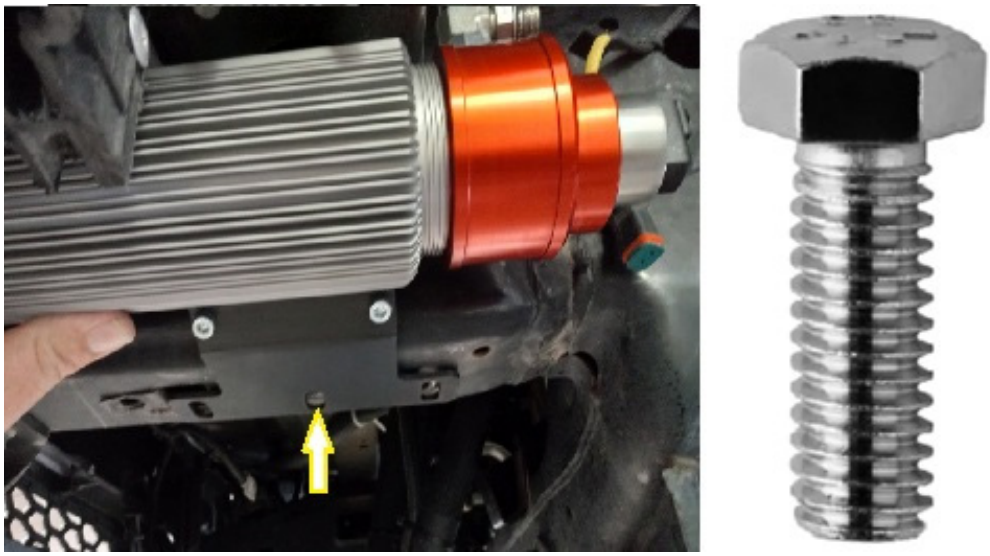

Fig. 15: Bolt installed to hold reservoir assembly for alignment and 2nd bolt hole drilling.

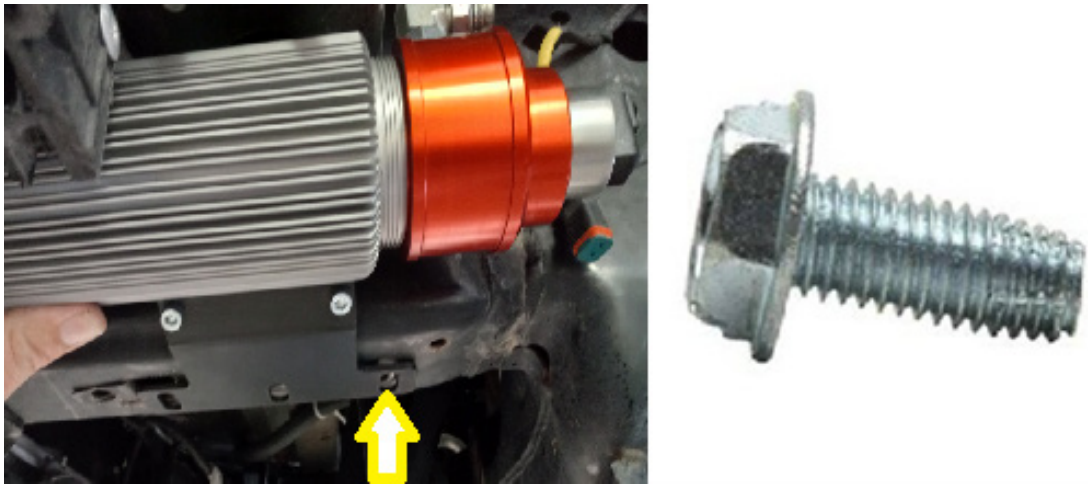

Fig. 16: Self-tapping bolt in aft bracket hole.

8. Reposition the reservoir assembly on the bracket and tighten the ¼-20 screws to 76 in-lbs. Blue threadlock was applied earlier. Push the reservoir assembly forward on the vehicle as much as possible (Fig. 17).
9. If the wire harness is installed at this point, connect the electrical connector to the solenoid valve (Fig. 18).
10. Verify the reservoir is secure and fully installed.

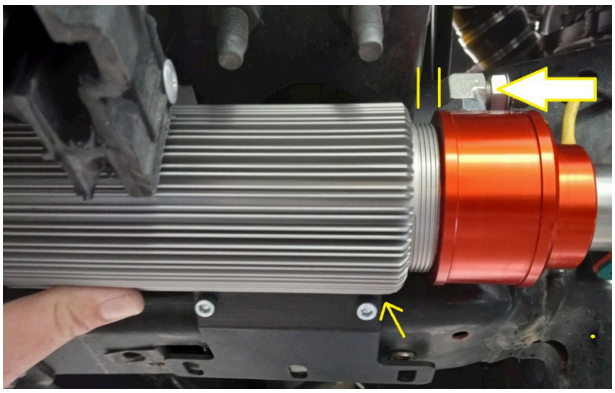

Fig. 17: Reservoir positioning.

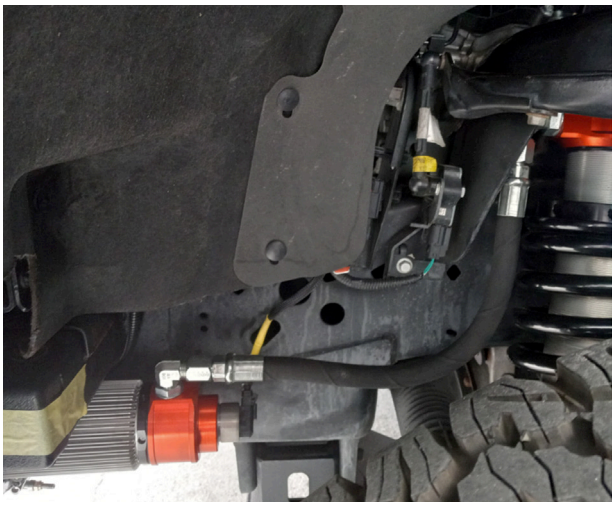

Fig. 18: Connect electrical connector.

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.

SPRING PRELOAD ADJUSTMENT

The front **spring preload** setting determines vehicle ride height and available suspension travel. On a typical F-150, a distance of 24.5 in. measured from the center of the wheel to the fender edge* corresponds to approximately 2.5 in. of front lift. Lift height beyond this range may reduce available downward suspension travel from normal ride height.

*Fender edge is defined as the center of the body bend radius at the uppermost point of the fender directly above the wheel or tire. Factory ride height may vary by ±0.25 in., which can affect the final lift measurement.

Measure Ride Height

1. Park the vehicle on a level surface.
2. Ensure tires are inflated to the specified cold pressure.
3. Measure the distance from the center of the wheel hub to the fender edge directly above the wheel/tire.
4. Record the measurement for both sides of the vehicle.
   NOTE: Factory ride height may vary by ±0.25 in., which can affect the final lift measurement.

Evaluate Current Lift Height

5. Compare the measured value to the baseline ride height for the vehicle configuration.
   - A measurement of 24.5 in. indicates approximately 2.5 in. of front lift.
   - If ride height is below 2.0 in., additional preload may be applied.

Adjust Spring Preload

6. Raise the front of the vehicle and support it securely using approved lifting equipment.

   ⚠WARNING: DO NOT complete this procedure without the necessary special tools, expertise and chassis lift or you will subject yourself to the risk of SERIOUS INJURY or DEATH. Make sure to follow the Installation Guidelines on page 4.
7. Using the appropriate spanner wrench or adjustment tool, increase or decrease spring preload as required: 0.25 in. of preload results in 0.5 in. of lift.
8. Do not exceed +0.5 in. of adjustment beyond the factory setting.
9. Recheck the preload adjustment measurement to confirm within specification.

   ⚠CAUTION: Increasing preload beyond the specified limit may cause loss of downward suspension travel and premature wear of suspension components.

Verify Ride Height

10. Lower the vehicle to the ground and roll it forward at least one full tire rotation to settle the suspension.
11. Re-measure ride height as described in steps 1-4 above.
12. Confirm that the lift height is within the target range of 2.0–2.5 in.
13. Record the final ride height values in the service record.

VEHICLE VARIATIONS

Hybrid and long-wheelbase F-150 models equipped with additional accessories may exhibit slightly reduced front lift, even with maximum allowable preload. Components such as a supercharger, moon roof, power side steps, or aftermarket bumper/hood can increase front axle load by approximately 400 lb. With a combined front wheel rate of 300 lb/in, an added 300 lb distributed across both front wheels will reduce ride height by approximately 1.0 in.

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 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 rear wheels.
4. Support the center of the differential with a jack stand.

STOCK REAR SHOCK REMOVAL

1. Remove the upper and lower shock mount bolts (Fig. 19 and Fig. 20).

Fig. 19: Remove upper shock mount bolt.

Fig. 20: Remove lower shock mount bolt.

FOX REAR SHOCK INSTALLATION

1. Install the right rear shock with the reservoir oriented toward the rear of the vehicle (Fig. 21).
2. Install the left rear shock with the reservoir oriented toward the front of the vehicle (Fig. 22).
3. For both rear shocks, install the upper shock mounting hardware and torque to OE specification.
4. For both rear shocks, install the lower shock mounting hardware with the spacer on the inboard side, as shown (Fig. 23). Torque to OE specification.

Fig. 21: Right rear shock orientation.

Fig. 22: Left rear shock orientation.

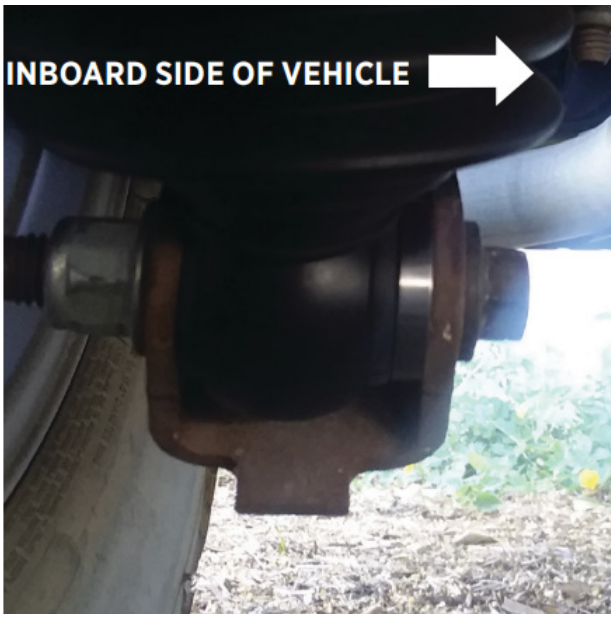

Fig. 23: Spacer side of lower shock eyelet inboard.

REAR BRACKET/ RESERVOIR INSTALLATION

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

1. Attach the mounting bracket for both rear shocks, as shown (Fig. 24). Apply blue threadlock to the ¼-20 screws and hand-tighten them until a later step.
2. Note the reservoir position in relation to the bed frame stiffening channels, as shown (Fig. 21 and Fig. 22). If a plastic fender liner covers the bed frame channel, a 1.0 x 3.75 in. section of the fender liner must be trimmed to allow clearance for the reservoir bracket. However, a 2024 MY F-150 will not have material in this area, so trimming is not needed (Fig. 26).
3. Temporarily reposition the fender liner to insert the reservoir bracket into the bed frame channel as shown (Fig. 25). Note that the bracket is positioned inside the channel.

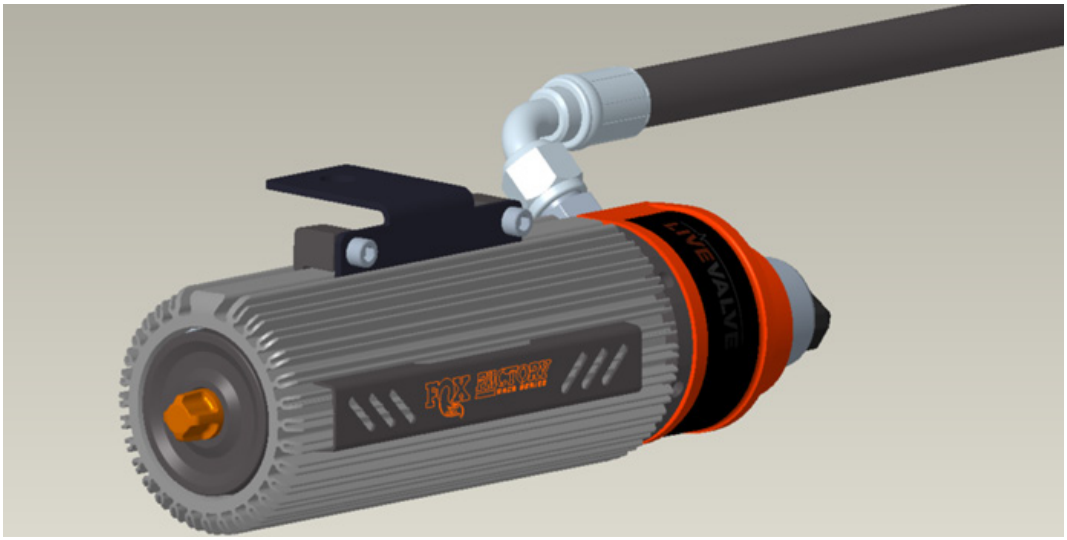

Fig. 24: Rear bracket attached to reservoir assembly (1) bracket + (2) ¼-20 screws + (2) clamps

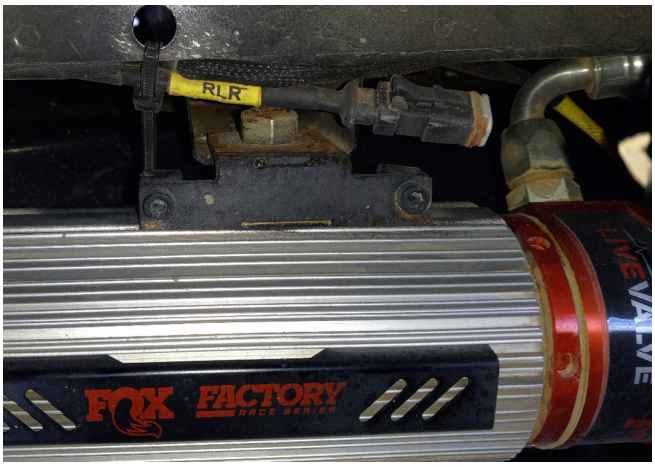

Fig. 25: Reservoir assembly attached to bed frame channel.

4. Note the existing ~13 mm hole in the bed frame channel. Install the included 12 mm bolt with the included washer through the bottom of this hole. Use box end wrench to hold the included 12 mm nylock nut inside the bed frame channel. Align the reservoir parallel with the bed frame edge. Torque the M12 bolt/nut to 45 ft-lbs (Fig. 27).
5. If the wire harness is installed, connect the electrical connector to the solenoid valve.
6. Slide the reservoir on the bracket such that the hose is well positioned. Maintain a slight curvature in the hose. On both sides of the truck, make sure the bracket is positioned close to the orange manifold end of the reservoir.
7. Torque the clamp screw/nuts to 76 in-lb.

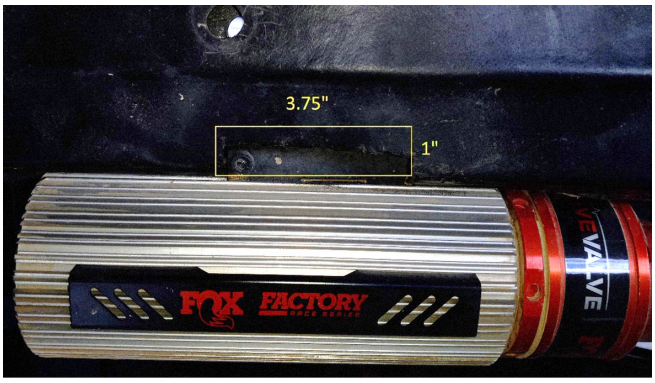

Fig. 26: Section to cut on each respective side of the truck from the fender liner.

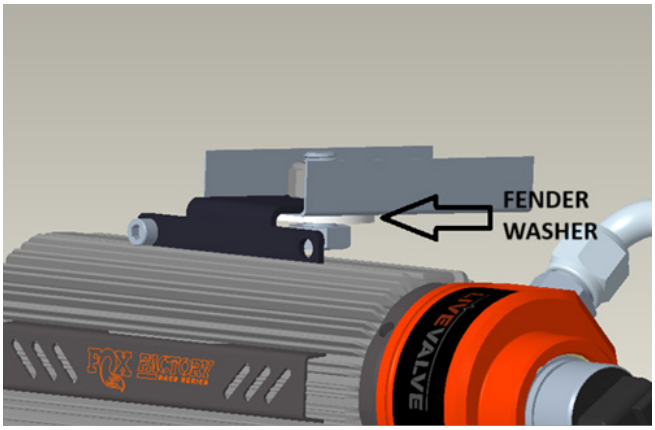

Fig. 27: CAD model showing the nut/washer/bolt assembly in bed frame channel.

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

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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