



## **INSTALLATION MANUAL**

**FOR**

**ROCK KRAWLER SUSPENSION, INC.**

**2011- Present F250/F350 Ford Super Duty**

**1.5" - 2" Adventure Leveling System**

**2022 1st EDITION**

**06/7/2022**



# ROCK KRAWLER S U S P E N S I O N

1 **Dear customer:** Thank you for purchasing the best leveling system on the market for your Ford Vehicle. We are sure you will be happy with this system after your installation is complete. Please take your time during the installation and be sure to do it correctly. Completely read the directions before starting your installation so you know what to expect. Remember, your personal safety depends on it. Should you have any questions during this installation feel free to give our tech line a call (518-270-9822) and we will be happy to help you.

## Welcome to TEAM RK

Share your before & after pictures, install photos & wheeling images.

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@rock\_krawler

**Note: BE SURE TO CHECK ALL FASTENERS FOR PROPER TORQUE BEFORE TEST DRIVE. RECHECK AFTER 500 MILES AND BE SURE TO CHECK PERIODICALLY.**

### WARNING

- Properly block and secure vehicle prior to installation.
- Always wear safety glasses when using power tools.
- Rock Krawler Suspension recommends the use of Loctite on all hardware, unless noted otherwise.
- The use of limiting straps is recommended to avoid possible damage from overextending the suspension of your vehicle.
- Read and understand all instructions, warnings and safety precautions in these instructions and your owner's manual before attempting to install these components.
- Proper installation of Rock Krawler Suspension products requires knowledge of recommended procedures for disassembly/assembly of OE vehicles and components. Access to OE shop manuals and special tools are required. Attempting to install this kit without knowledge of these procedures may affect the safety of your vehicle and the performance of these components. Rock Krawler Suspension, Inc. strongly recommends that this system be installed by a certified mechanic with off road experience.
- Rock Krawler Suspension does not recommend combined use of suspension lifts, body lifts or other lift devices. Combined use of lifts may result in unsafe and unexpected handling characteristics. Also, many states now have laws restricting Vehicle lift, bumper heights, and other alterations. Consult local laws to determine if your proposed alterations (including installation of this system) comply with your state laws.
- Rock Krawler Suspension does not condone or authorize the use of any other suspension components with its products. Should Rock Krawler Systems or components be installed in junction with other products or not per the provided instructions Rock Krawler Suspension warranty is void and is not to be held accountable for any resulting actions.



## **TORQUE VALUES FOR HARDWARE AND JAM NUTS**

- Torque for all 3/8"/10mm bolts (10.9) is 28 to 32 ft-lbs.
- Torque for all 1/2"/12mm bolts (10.9) is 65 to 75 ft-lbs.
- Torque for all 9/16"/14mm (10.9) is 90 to 100 ft-lbs.
- Torque for all 5/8"/16mm bolts (GR 8) is 130 to 150 ft-lbs.
- Torque for all 5/8" Jam Nuts is 75 to 85 ft-lbs.
- Torque for all 3/4"/20mm bolts (GR 8) is 200-220 ft-lbs
- Torque for all 7/8" bolts (GR 8) is 250-275 ft-lbs

## **FRONT SUSPENSION LEVELING INSTRUCTIONS**

1. Make sure vehicle is on a level, hard, working surface if you are using a floor jack and jack stands.
2. Block the rear wheels so the vehicle cannot move and make sure the emergency brake is applied.
3. Raise and support the front of vehicle with safety jack stands. Locate jack stands on the frame in front of the axle.
  - a. If you are using a vehicle lift, place the lift arms according to the specific vehicles lifting procedures. Ensure that the lift arms will not interfere with the components that are being replaced.
4. Remove the front wheels and tires while the axle is supported by a floor jack.
5. Unbolt the brake line brackets in two locations – at the spring pads and at the frame. Add slack to the breather hose located on top of the axle housing.
6. Disconnect sway bar links on one end (whichever is convenient for you).
7. Remove the OEM shocks. Save all mounting hardware for reuse. (We recommend either aftermarket shocks or 2" shock extension for the front end. Rock Krawler offers this leveling kit with Bilstein 5100.)
8. Remove the OEM coil springs and discard.
9. Unbolt the track bar from the frame side connection. Ensure the axle is in a neutral position before pulling the bolt.
10. Remove the OEM Track bar bracket by removing two bolts on the underside of the frame and the three attached to the cross member. Save hardware for re-use.
11. Place your new 2" lift track bar bracket on the frame. The new bracket will bolt right in place. *Note: This bracket attaches to the backside of the cross member.*

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**New Bracket Orientation in Vehicle**

12. Torque the 14mm bolts to 90-100 ft-lb. Snug the 20mm track bar bolt for now, finish tightening when the vehicle is sitting at ride height.

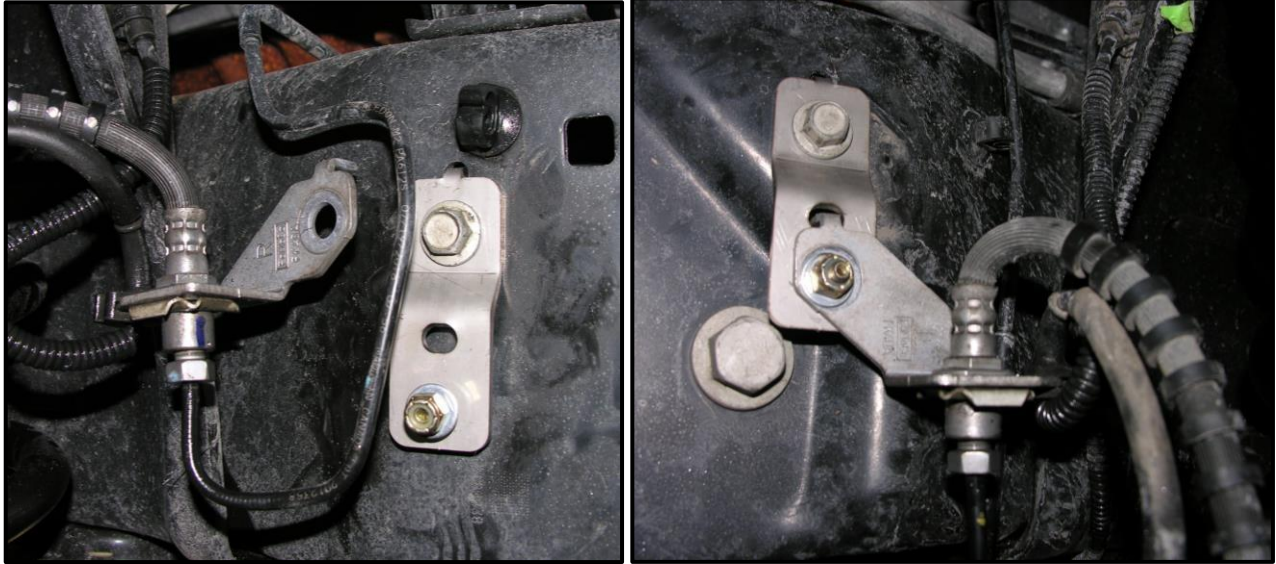


13. Raise the vehicle 4-6" more. Install your new Rock Krawler 2.0" springs the vehicle. Ensure the coil windings are seated properly. Reference the pictures below. *Note: Loosening, but not removing the OEM Radius arm bolts will allow the suspension to move easier.*
14. Once both springs are in the vehicle correctly, install your brake line drop brackets and bolt them to the frame as shown. Gently straighten out the OEM brake line until the stock bracket reached the new bracket's holes. *Note: Use the OEM bolt to attach these brackets to the frame. Then use the supplied 1/4"-20 bolt, two washers, and lock nut to secure the factory bracket to your new bracket.*



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15. Torque the supplied  $\frac{1}{4}$ "-20 bolts to 6 ft-lb. Install brackets on both sides.
16. Lower the body of the vehicle until the springs are holding the weight entirely. Your front-end assembly should look like the picture below.

## Front End Kit Installed



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17. While the vehicle is sitting at its ride height, install your front shocks. Pure Performance recommends new front shocks for 2" applications or front shock extensions. **Note: Stock front shocks can be inserted back into the vehicle if you're in a pinch, but by no means should you ignore the imminent overextension/damage from using stock shocks.**
18. After your shocks are installed, re-attach the brake line brackets located at the bottom spring pads. Also re-attach the breather hose and reconnect your sway bar links. You may need to bend the OEM brake line bracket slightly away from the new springs.
19. Before installing the tires, tighten the front track bar bolt at the frame. It should be torqued to 350-375 ft-lb.
20. Tighten the radius arms to 210-225 ft-lbs since you loosened the hardware prior. Again, this should be done with all the weight of the vehicle on the front end.
21. Install the tires and wheels.
22. Place the vehicle on the ground. Remove rear blocks and disengage the E-brake.
23. If you opted for the caster/camber shims, head to a professional alignment shop to get your caster/camber shims installed and alignment done.

## **Final Assembly Setup Instructions:**

**Note: For final assembly the weight of the vehicle must be on the tires and wheels.**

- Tighten all Suspension Connections or Pivot Bolts at this time.
- The front track bar bolt at the frame should be torqued to 350-375 ft-lbs.
- General Torque Values unless otherwise specified above in the instructions are as follows.

## **Typical alignment specs**

Caster 3.5 to 4.5 degrees with .2 degrees caster on the passenger side than the driver's side to account for road crown. *Please note: some tire treads and steering stabilizers may cause a pull or push that needs to be accounting for.*

Tow – factory specification – zero preferred

Camber – OEM



**A note about tires, wheels, tire pressure and how it effects ride quality:**

Tire and Wheel combinations at a given tire pressure have their own spring and dampening rates associated with them. This plays a major part in ride quality and off-road performance. The stock tire pressure settings on your Wrangler are based on stock C rated light duty tires on 17" wheels. Larger aftermarket tires typically have a much firmer side wall than the stock ones, thus increasing the spring rate and decreasing the dampening rate associated with the tires themselves. Going from a C to a D or E rated tire also amplifies this effect. Increasing wheel diameters cuts down on the sidewall size of the tire; for example, going from a 17" wheel to a 20" to 22" wheels will increase the spring rate and decrease the dampening rate of the tire and wheel combination. As you increase tire strength and wheel size it is common to have to reduce the tire pressures in order to make your aftermarket tire and wheel combination feel like stock wheel combination. **Choose pressures wisely and safely! This is one part of your suspension tuning you can do on your own.**

**Before hitting the pavement or the trails be sure to make sure the control arms are oriented properly, all spherical joints (heim joints and Krawler Joints) are oriented correctly to allow for maximum movement without bind, and all jam nuts have Loctite on them and are tight. Make sure the axles are properly centered, pinion angles are correct, there is proper slack in ABS lines, and all lines are properly routed. Go back over all your hardware and make sure each connection is tightened to its proper torque spec. Check your vehicles articulation and ensure that no moving parts contact or interfere with any other components throughout the travel (brake lines, shocks, coils, sway bar links). Also check to see if at full flex your coil spring losses tension, if so you may want to look into a limit straps. You may need to look at bump stops depending on what shocks you choose to run.**

**Congratulations, you have just finished installing your Rock Krawler Suspension System! Your Ford is now free to roam about the country.**