

# IRON ROCK OFF ROAD

WJ 4" Lift Kit  
Installation Instructions

1-877-919-JEEP www.ironrockoffroad.com

## Parts Checklist:

### \*BOX 1\* 24x12x12

- 4" Front springs 96006 (2)
- 4" Rear springs 96007 (2)

### \*BOX 2\* 36x8x8

- Instructions
- Invoice
- Iron Rock Off Road logo decal (1)
- WJ Adjustable Front Track Bar 92001 (1)
  - Track bar male threaded end 92004 (1)
- Rear sway bar link, 13.5" center to center 92148 (2)
- Front Sway Bar Link, 11.25" center to center 92147 (2)
- WJ 4 hole transfer case drop spacers 92026 (2)

### #1 - Front Track Bar Hardware (1)

- Track bar bushing half M20919 (4)
- 12mm track bar bushing sleeve 92035 (2)
- 7/8-14 Jam Nut (1)

### #2 - Rear Sway Bar Link Hardware (1)

- 3/4" hourglass bushing M00393 (4)
- 12mm sway bar bolt sleeve 92038 (2)
- 10mm sway bar bolt sleeve (2)
- M10 x 60 sway bar link bolt 92037 (2)
- M10 X 1.5 hex nut (2)
- 7/16 USS washer (2)

### #3 - Shocks Hardware (1)

- 12mm shock bolt sleeve 404739 (2)
- 7/16" washer (6)
- 5/16 x 1 hex bolt (4)
- 5/16-18 hex nut (4)
- 5/16 washer (8)

### #4 - Front Sway Bar Link Hardware (1)

- 3/4" hourglass bushing M00393 (4)
- 12mm sway bar bolt sleeve 92038 (4)

### #5 - T-Case Drop Hardware (1)

- M10 x 150mm class 10.9 bolt (4)
- 3/8" USS washer (4)

## Shocks

### IRO Hydro

- Front Shock SL2650F (2)
- Rear Shock LL2676F (2)

### Doetsch Upgrade (Optional)

- Front shock DT 8352 (2)
- Rear shock DT 8299 (2)

#### #9 - DT Shocks (1)

- Front Shock barpin 403827 (2)

### Bilstein Upgrade (Optional)

- Front shock 33-185606 (2)
- Rear shock 33-185552 (2)

#### #17 - Bilstein Shocks (1)

- Front barpin 403876 (2)
- 12mm Shock sleeve 404739 (4)
- SBL U-bracket 99000 (2)
- 1/2 x 1 1/2 Hex bolt, gr8 (2)
- 1/2 Hex nut, gr8 (2)
- 1/2 Flat washer (2)
- 1/2 Lock washer, gr8 (2)
- 7/16 USS Flat Washer (6)
- M12x60 Hex bolt, cl10.9 (2)
- M12 Hex nut, cl10.9 (2)



# Installation Instructions:

## **Safety Warning: \*\*\*Important! Read before installation.\*\*\***

Installing a suspension lift kit raises the center of gravity of the vehicle. This increases the possibility of a rollover accident. Avoid sudden maneuvers at high speed and avoid all situations where a side rollover may occur. In addition larger tires decrease braking performance, please drive accordingly. We recommend a tire and wheel combination that makes the vehicle's track width wider (wheels with less backspacing). This will lower the center of gravity and add stability. We also recommend that this system be installed by a qualified professional. Knowledge of suspension component function is necessary for safe installation and post installation inspections. Be sure to re-torque all suspension components after the first 100 miles of use, and frequently inspect all safety critical suspension components.

## **Before you begin:**

- Read all safety warnings.
- Read and understand installation instructions.
- Check all steering and suspension components for wear and replace as needed.
- Contact Iron Rock Off Road with any questions before, during, or after installation.
- Ensure that all parts are present and in good condition using the included shipping checklist.
- Be sure you have the following tools and supplies:
  - Floor jack and jack stands
  - Basic hand tools
  - Multi-purpose grease (all poly bushings should be greased before installation)
  - A coil spring compressor makes installation easier but is not required.



**Figure 1**

## **Prepare the parts for installation:**

1. Locate hardware kit 3 and the rear shocks.
2. Grease and install the 5/8" I.D. shock bushings included with the shocks.
3. Grease and install the four 12mm shock bolt sleeves (two from hardware kit 3, two included with the shocks). The rear shocks use 12mm sleeves at the top and bottom.
4. Grease and install barpins into the lower end of the front shocks as shown in **figure 1**.
5. Leave the rest of the hardware in the bag for future use.
6. Locate the front track bar, and hardware kit 1.
7. Install the jam nut onto the threaded end of the track bar.
8. Grease and install the track bar bushings.
9. Grease and install the track bar bolt sleeves.
10. Pre-adjust the track bar to a length of 32.75" center to center as a starting point. Do not tighten jam nut at this time.
11. Locate the rear sway bar links (13.5" center to center) and hardware kit 2.
12. Grease and install the hourglass bushings.
13. Grease and install the sway bar link bolt sleeves. Each link gets one 12mm I.D. sleeve and one 10mm I.D. sleeve.
14. Leave the rest of the hardware in the bag for future use.
15. Locate the front sway bar links (11.25" center to center) and hardware kit 4.
16. Grease and install the hourglass bushings.
17. Grease and install the sway bar link bolt sleeves. All sleeves are the same (12mm I.D.).

## **Front suspension:**

18. Lift front of vehicle and support with tall jack stands under the unibody frame.  
\*\*Tip: break lug nuts loose before lifting vehicle.
19. Ensure that vehicle is safely supported.
20. Remove front tires.
21. Place a floor jack under the center of the front axle for support (do not lift vehicle).
22. Remove front shocks.
23. Remove the track bar.
24. Remove front sway bar links.
25. Loosen all upper and lower control arm bolts (do not remove). \*Note: Bushing damage will occur if you skip this step.
26. With the axle hanging as low as possible, using a coil spring compressor, remove one coil spring and lower spring isolator. If you do not have a coil spring compressor, you may unbolt the lower control arm to allow enough droop to remove the spring.
27. Snap the spring isolator into the new spring.
28. Install new spring in vehicle being careful to align isolator pin with the hole in the spring bucket.
29. If needed, re-install lower control arm at unibody, do not tighten at this time.
30. Repeat for other front coil spring.
31. Install new front shocks using provided bolts, washers, and nuts. Tighten upper stud mount nuts just enough to slightly compress the bushings. Overcompressing these bushings will result in damage to the bushings and premature bushing failure.
32. Install new sway bar links. Re-use the existing bolts and nuts. Torque all four nuts to 78 foot pounds.
33. Install track bar. Torque both bolts to 80 foot pounds.  
\*Note: The steep bend in the track bar is for clearance of the bracket on the axle. The steeply bent end of the track bar attaches to the axle with the bend on the bottom. The slightly bent end attaches to the unibody. (It should look somewhat like a "J").
34. Tighten track bar jam nut very tight.
35. Any remaining loose bolts will be tightened after installing the rear suspension.

## **Rear Suspension:**

36. Lift rear of vehicle and support with tall jack stands under the unibody frame.  
\*\*Tip: break lug nuts loose before lifting vehicle.
37. Ensure that the vehicle is safely supported.
38. Remove rear tires.
39. Place a floor jack under the center of rear axle for support (do not lift vehicle).
40. Remove rear shocks.
41. Remove Sway bar links.
42. Loosen lower control arm bolts (do not remove). \*Note: Bushing damage will occur if you skip this step.
43. Allow suspension to droop as much as possible.

44. Remove coil springs.
45. Install new coil springs being careful to align the spring to the isolator.
46. Raise rear axle and install new shocks. Use provided 7/16" washers on the upper shock mounts, place one washer behind the shock bushing, and two washers in front of it (toward the outside of the vehicle).
47. Install sway bar links using the existing upper bolt and the new lower bolt, washer, and nut.
48. Torque upper bolts to 78 foot pounds.
49. Torque lower bolts to 50 foot pounds.
50. Install rear tires.
51. Raise vehicle and support with jack stands under the front and rear axles. Rubber bushing bolts should be torqued to spec. with weight on the suspension.
52. Torque front upper control arm nuts to 60 foot pounds.
53. Torque front and rear lower control arm nuts to 120 foot pounds.
54. Torque any remaining loose bolts to spec.
55. Install front and rear tires.
56. Lower vehicle from jack stands.
57. Torque lug nuts to spec. (usually 85-115 foot pounds, verify using factory service manual)
58. With the vehicle on the ground, torque any loose bolts to spec. including Lower control arm bolts and lug nuts.

### **Transfer case drop kit:**

59. Locate the transfer case drop spacers and hardware kit 5.
60. Place a floor jack under the center of the transmission/transfer case crossmember for support.
61. On one side remove the 4 bolts that hold the crossmember to the unibody.
62. Lower the crossmember away from the unibody enough to install the spacer.
63. Install the spacer using the 2 long existing bolts and the 2 new bolts and washers.
64. Repeat for the other side.
65. Torque bolts to 50 foot pounds.

### **Final Inspection:**

66. Check all components for clearance for suspension to fully cycle up and down and wheels to turn lock to lock. Pay special attention to brake lines axle vent hoses, and ABS wires. Reposition as needed by bending the brackets.
67. Re-center steering wheel by adjusting the drag link (longer) until the steering wheel is centered.
68. Check if front tires are centered side to side under the vehicle. Adjust the length of the front track bar as needed.

\* A professional front end alignment is recommended after installation.

We recommend the following alignment settings:

**Caster:** +3.75 to +5.75 (+4.5 is preferred if possible)

**Toe-in:** .20 degrees (1/16" to 1/8" at the tire)

- Re-torque all fasteners after 100 miles, and frequently inspect all safety critical suspension components.

## **Steering Shimmy Elimination Checklist**

**Note:** Steering Shimmy is also known as "death wobble" or speed wobble. It is a violent shaking of the vehicle caused by the front tires turning side to side repeatedly until you slow down. It usually occurs after hitting a bump or pothole a various speeds above 30MPH. If you experience this steering shimmy just **remain calm, you still have steering and braking control**. Just gently apply the brakes and slow down until the shimmy disappears.

**Safety Warning:** Some of these adjustments will reduce steering shimmy, but also reduce steering stability and steering responsiveness. Test drive carefully after every modification, if you feel any modification is unsafe do not proceed. Keeping your vehicle safe to drive is the responsibility of the person making the adjustments and the driver. The driver must notice any unsafe actions of the vehicle and correct the problem immediately (e.g. wandering or unresponsive steering). Iron Rock Off Road promotes these modifications for low speed off road use only, some of these modifications may not be safe for use on public or private roads, especially at highway speeds. We recommend working with an experienced alignment shop that has the ability, knowledge, and experience to keep your vehicle safe to drive at highway speeds.

- Check all tie rod ends for wear and replace as needed.
- Adjust toe-in to exactly zero. Note: a slight toe-in is preferred for stability, toe out will reduce steering shimmy. See safety warning at the top of this sheet.
- Adjust caster to 3.0 to 5.5 degrees (more caster will improve stability; less caster will reduce steering shimmy). See safety warning at the top of this sheet.
- Check steering stabilizer including bushings, replace if condition is less than perfect. We have researched extensively and found the best steering stabilizers available with the least amount of free play.
- Balance tires and put the best balanced tires in front. The front tires **MUST** be dynamically balanced, meaning they must have wheel weights on both the inner and outer rim flanges as directed by the balancing machine. If you don't like hammer-on weights on the outer flange either for appearance reasons or because of frequent rock damage, then use stick-on weights for the outer weights – in this case function must precede form...don't balance 'statically' with weights just on the inner rim edge. If a tire/wheel requires more than 6 ounces of total balance weights (inner and outer combined), do not use it on the front axle.
- Check all suspension bushings for wear and loose fasteners including control arms and track bar. Any rubber bushing with cracks, or where the rubber is separating from the steel should be replaced.
- Check steering gearbox for wear and adjust or replace as needed.
- Check wheel bearings for wear.
- Check ball joints for wear.
- Install dual steering stabilizer kit.
- Reduce tire air pressure (try 29psi on OEM size tires, less for larger tires). Note: Reducing air pressure too far can cause tires to overheat and blowout at highway speeds. See safety warning at the top of this page.
- Check vehicle stance. Hub to fender measurements should be minimum ¼" higher in the rear (like OEM stance) for maximum stability (this transfers weight to the front tires). Measure on a level surface with normal cargo and ½ tank of gas for maximum accuracy.