IRON ROCK OFF ROAD

WJ 3" Benchmark Lift Kit Installation Instructions

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

Parts Checklist:

BOX 1 24x12x12*

- ❑ WJ 3" Front Coil Spring 96004 (2)
- ❑ WJ 3" Rear Coil Spring 96005 (2)

BOX 2 36x8x8*

- ❑ Instructions
- ❑ Iron Rock Off Road logo decal (1)
- ❑ Ironrockoffroad.com decal (1)
- ❑ Adjustable front track bar 92001 (1)
  - ❑ Track Bar Male End 92004 (1)
- ❑ Rear sway bar link,11.25" center to center 92147 (2)
- ❑ A-arm spacer 92023 (1)
- ❑ Adjustable lower control arm bushing/bushing installed 11124 (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 92037 (2)
- ❑ M10 x 60 sway bar link bolt (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)

#19 – A-arm Spacer Hardware (1)

- ❑ M14 x 80 cl10.9 hex bolt (3)
- ❑ 1/2" USS washer (3)

#66 – LCA Spacers Hardware (3)

- ❑ Lower control arm bushing spacer 90194 (2)

~Optional~

- ❑ Adjustable lower control arm bushing installed (flex end) 13734 (2)

#127 - 2 5/8" 6 Bolt IRO Flex End Hardware (2)

- ❑ Inner race 91118 (2)
- ❑ Thrust washer 91119 (2)
- ❑ Ball 91117 (1)
- ❑ 10-32 x 1-3/4" Socket Head Cap Screw (6)
- ❑ 10-32 Nylock Nut (6)
- ❑ 90 Degree ¼"-28 Grease Zerk Fitting (1)

Shocks

- ❑ ***IRO Hydro***
  - ❑ Front Shock SL2450F (2)
  - ❑ Rear Shock LL2498F (2)
- ❑ ***Doetsch Upgrade (Optional)***
  - ❑ Front shock DT 8350 (2)
  - ❑ Rear shock DT 8299 (2)
    - ❑ ***#9 – DT Shocks (1)***
      - ❑ Front Shock barpin 403827 (2)
- ❑ ***Bilstein Upgrade (Optional)***
  - ❑ Front shock 33-185590 (2)
  - ❑ Rear shock 33-186542 (2)
    - ❑ ***#17 - Bilstein Shock Hardware (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 make 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 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)
    - ❑ Anti-seize compound

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, male end, and hardware kit 1.
7. Install the jam nut onto the threaded male end for the track bar.
8. Apply anti-seize and thread male end into track bar.
9. Grease and install the track bar bushings.
10. Grease and install the track bar bolt sleeves.
11. 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.
12. Locate the front sway bar links (11.25” center to center) and hardware kit 4.
13. Grease and install the hourglass bushings.
14. Grease and install the sway bar link bolt sleeves. All sleeves are the same (12mm I.D.).
15. Locate front lower control arms, adjust length to 15-7/8” as a starting point.

Figure 1

Front Suspension:

16. Lift front of vehicle and support with tall jack stands under the unibody frame.
    *** Tip:** break lug nuts loose before lifting vehicle.
17. Ensure that vehicle is safely supported.
18. Remove front tires.
19. Remove front shocks.
20. Remove track bar.
21. Disconnect sway bar links at the axle.
36. Remove lower control arms and loosen upper control arm bolts (do not remove). *Note: Bushing damage will occur if you skip this step.
22. Place a floor jack under the driver's side of front axle for support (do not lift vehicle).
23. Allow axle to droop completely.
24. Remove coil springs and lower spring isolators.
25. Snap the spring isolators into the new springs.
26. Install new springs in vehicle being careful to align isolator pin with the hole in the spring bucket.
27. Install lower control arms with adjusting threads at uniframe side.
    **Lower control arm length may need to be adjusted based on front driveshaft and desired caster angle. **
28. Install new lower control arms with spacers on the outboard side of the bushings, 2 at each axle bushing, 1 at each unibody bushing. Do not tighten bolts at this time.
29. Locate front shocks and hardware kit 3.
30. If equipped with Doetsch Tech 8000 shocks, locate hardware kit 9 and install barpins into lower shock bushings. Lubricate shock bushings and barpins with multi-purpose grease. Place barpin vertically in a bench vise. Push shock onto barpin rotating shock back and forth as you go.
31. Install new front shocks using provided bolts, washers, and nuts. Tighten upper stud mount nuts just enough to slightly compress the bushings. *Note: Over compressing these bushings will result in damage to the bushings and premature bushing failure.
32. If needed, reconnect sway bar links. Do not tighten at this time.
33. Lubricate track bar bushings and steel bushing sleeves with multi-purpose grease, and install into track bar.
34. Install track bar with the adjustable end at the frame. Torque both bolts to 80-foot pounds. Do not tighten jam nut at this time.
35. Any remaining loose bolts will be tightened after rear suspension.

Rear Suspension:

37. Lift rear of vehicle and support with tall jack stands under the unibody frame.
    **Tip: break lug nuts loose before lifting vehicle.
38. Ensure that the vehicle is safely supported.
39. Remove rear tires.
40. Place a floor jack under the center of rear axle for support (do not lift vehicle).
41. Remove rear shocks.
42. Remove Sway bar links.
43. Loosen lower control arm bolts, do not remove bolts.
44. Allow suspension to droop as much as possible.
45. Remove coil springs.
46. Locate a-arm spacer block and hardware kit 19.
47. Raise rear axle up to a comfortable position to access the 3 a-arm retaining bolts on top of the differential.
48. Place a jack stand under the pinion to keep the axle from rotating.
49. Remove the 3 a-arm bolts on top of the differential.
50. Install the a-arm spacer between the a-arm and the top of the differential using supplied hardware.
51. Torque a-arm spacer bolts to 100 ft. lbs.
52. Install new coil springs being careful to align the spring to the isolator.
53. Raise rear axle and install new shocks.
54. Install sway bar links using existing upper bolt and the new lower bolt, washer, and nut. Torque to 78 ft. lbs. (upper bolt) and 50 ft. lbs. (lower bolt).

Final Torque:

55. With the weight of the vehicle on the springs, torque any loose bolts to spec.
56. Torque all front lower control arm nuts to 135-foot pounds.
57. Torque upper control arm nut at axle to 60-foot pounds.
58. Tighten track bar jam nut very tight.
59. Tighten control arm jam nuts very tight.
60. Torque any remaining loose bolts to spec.
61. Install tires and place the vehicle on the ground.
62. Torque lug nuts to spec. (85-115-foot pounds depending on your wheels)

Final Inspection:

63. 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.
64. Re-center steering wheel by adjusting the drag link (longer) until the steering wheel is centered.
65. 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.

IRON ROCK OFF ROAD

2-5/8" IRO Flex End (6 bolt) Assembly Instructions

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

Fits All Iron Rock Off Road Long Arm Systems, WJ A-Arms, and Build Your Own Flex End Assemblies.

Before you begin:

- Read and understand installation instructions.
- Contact Iron Rock Off Road with any questions before, during, or after installation.
- ***Ensure that all parts are present and in good condition per attached shipping checklist!***
- Have these tools handy:
- 5/32" allen head socket
- 3/8" open end wrench
- Inch-lb. torque wrench
- Multipurpose grease/grease gun

Parts Checklist:

- ❑ Outer housing, weld on (may already be attached to your existing control arm)

#127 - 2-5/8" IRO Flex End (6 bolt)

- ❑ 2-5/8" flex end race 91118 (2)
- ❑ Thrust washer 91119 (2)
- ❑ 2-5/8" flex end ball 91117 (1)
- ❑ #10-32 nylock nut (7)
- ❑ #10-32 x 1-3/4" socket head cap screw (6)
- ❑ 90° ¼"-28 grease zerk fitting (1)

Figure 1

Assembly:

1. Insert two #10-32 socket head cap screws into one thrust washer and one plastic race. Spherical bore of race facing away from thrust washer. (Figure 1)
2. Install this small assembly into the flex end housing. The races are a light press fit, use a wide punch and hammer to assist you if needed.
3. Apply a thin coating of multi-purpose grease to the mating surfaces of the ball and both races.
4. Place the ball in the race (inside the flex end). The ball should perfectly fit the contour of the race. (Figure 2)
5. Insert the other race onto the ball so that the spherical bore is contacting the ball. Once again, the races are a light press fit, use a hammer and wide punch if needed. (The two screws should be through one washer and both races at this point)
6. Insert the second thrust washer on top of the flex end housing, sliding the bolts through the holes. (Figure 3)
7. Start nylock nuts on the two bolts that are in the flex end assembly. Hold the nut and turn the bolt.
8. Insert the remaining four cap screws through the remaining holes and install nuts. (Figure 4)
9. Snug up all of the bolts fairly tight.
10. Torque bolts evenly, starting at one bolt and continuing using a crisscross pattern. Torque all six bolts to 70 in-lbs., then to 85 in-lbs.
11. Install 90°grease zerk fitting so that it is easily accessed in the vehicle.
12. Grease flex end until grease comes out of the races around the ball.
13. Re-torque bolts to 85 in-lbs. after 5 minutes.

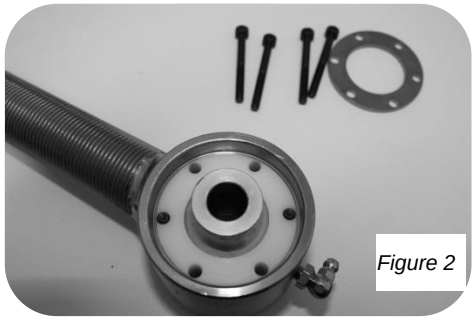

Figure 2

**Reference Only* Complete joint shown fully assembled without housing*

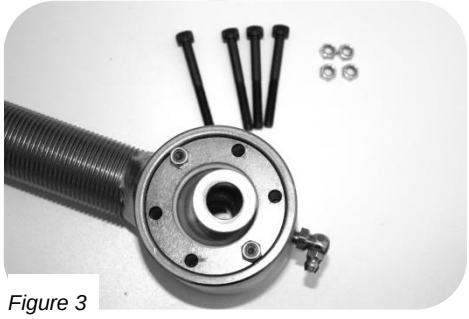

Figure 3

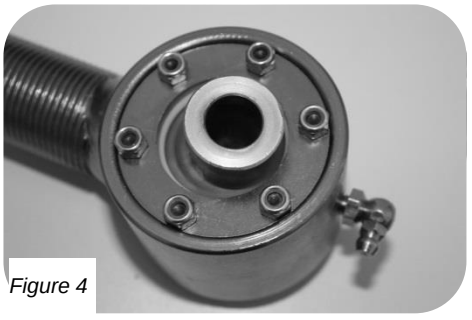

Figure 4