

# IRON ROCK OFF ROAD

WJ 3" Benchmark Lift Kit

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

Instructions

## Parts Checklist:

- ☐ WJ 3" Front Coil Spring 96004 (2)
- ☐ WJ 3" Rear Coil Spring 96005 (2)
- ☐ Iron Rock Off Road logo decal (1)
- ☐ Ironrockoffroad.com decal (1)
- ☐ Rear sway bar link, 11.25" center to center 92147 (2)
- ☐ A-arm spacer 92023 (1)

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

- ☐ 3/4" hourglass bushing 94025 (4)
- ☐ 12mm sway bar bolt sleeve 92038 (2)
- ☐ 10mm sway bar bolt sleeve 92037 (2)
- ☐ M10 x 70 sway bar link bolt (2)
- ☐ M10 X 1.5 nylock flange nut (2)
- ☐ 7/16 USS washer (4)

### #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)

### #65 - Adjustable LCA Clamping Hardware (1)

- ☐ 1/4"-28 x 1-1/8" socket head cap screw (4)
- ☐ 1/4"-28 hex nut, gr8 (4)

### #66 - LCA Spacers Hardware (3)

- ☐ Lower control arm bushing spacer 90194 (2)

### Standard: Front Rubber Bushing Lower Control Arms 13029 (1)

- ☐ Adjustable lower control arm, bushing installed 92347B (2)
- ☐ LCA male end, bushing installed, straight 99070B (2)

### #65 - Adjustable LCA Clamping Hardware (1)

- ☐ 1/4"-28 x 1-1/8" socket head cap screw (4)
- ☐ 1/4"-28 hex nut, gr8 (4)

### #66 - LCA Spacers Hardware (1)

- ☐ Lower control arm bushing spacer 90194 (2)

### #78 - LCA Spacers Hardware (1)

- ☐ Lower control arm bushing spacer 90194 (4)

### Optional: Front Flex Joint Lower Control Arms 13028 (1)

- ☐ Adjustable lower control arm, bushing installed 92347B (2)
- ☐ LCA male end, flex joint, straight 92186 (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 1/4"-28 Grease Zerk Fitting (1)

### #65 - Adjustable LCA Clamping Hardware (1)

- ☐ 1/4"-28 x 1-1/8" socket head cap screw (4)
- ☐ 1/4"-28 hex nut, gr8 (4)

### #66 - LCA Spacers Hardware (1)

- ☐ Lower control arm bushing spacer 90194 (2)

### #78 - LCA Spacers Hardware (1)

- ☐ Lower control arm bushing spacer 90194 (4)

- ☐ Double adjustable track bar 92305 (1)
- ☐ Double adjustable track bar male end 92297 (1)
- ☐ Double adjuster, track bar 91235 (1)



### -Standard Front Track Bar-

### #253 - WJ Double Adjustable Track Bar Hardware (1)

- ☐ Track bar bushing half 80014 (4)
- ☐ 12mm track bar bushing sleeve 92035 (2)
- ☐ Track bar clamp 92303 (2)
- ☐ M12-1.75 x 80 hex bolt (2)
- ☐ M12-1.75 hex nut (2)
- ☐ 7/16" USS flat washer (4)

### -Optional Front Track Bar-

### #122 - Track Bar Flex End Hardware - 12mm (2)

- ☐ Inner race (plastic) 91113 (2)
- ☐ End cap (steel) 91112 (2)
- ☐ Ball 91104 - M12 bolt (1)
- ☐ #5-40 x 1 1/4" Socket head cap screw (9)
- ☐ 3/32" Hex L key, high torque (hex plus) (1)

### #305 - WJ Premium Track Bar Hardware (1)

- ☐ Track bar clamp 92303 (2)
- ☐ M12-1.75 x 80 hex bolt (2)
- ☐ M12-1.75 hex nut (2)
- ☐ 7/16" USS flat washer (4)

## Shocks

### ☐ Trail Tamer HD Hydro (Standard)

- ☐ Front Shock 79001 (2)
- ☐ Rear Shock 79004 (2)

### ☐ Doetsch Upgrade (Optional)

- ☐ Front shock DT 8350 (2)
- ☐ Rear shock DT 8299 (2)

### #9 - Shock Hardware (1)

- ☐ Front Shock barpin 403827 (2)

### ☐ Bilstein Upgrade (Optional)

- ☐ Front shock 33-230337 (2)
- ☐ Rear shock 33-186542 (2)

### #9 - Shock Hardware (1)

- ☐ Front shock barpin 403827 (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 backsacing). 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.

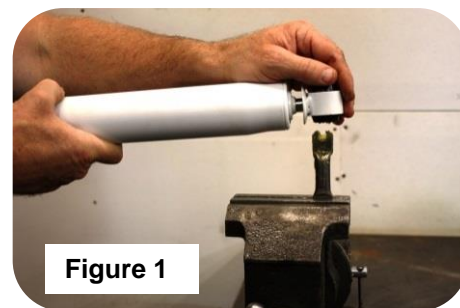
## **Before you begin:**

- ☐ 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 track bar, track bar male end, double adjuster and **HK #253**. Install clamps onto the double adjuster.  
**\*\*If you upgraded to the Premium Track Bar refer to the instructions at the end of this document.**
7. Apply anti-seize to all the threads then thread the track bar and male end into the double adjuster. Ensure the ends are equally threaded into the double adjuster then adjust the length to 32-3/4" center to center.
8. Lubricate track bar bushings and steel bushing sleeves with multi-purpose grease and install into track bar.
9. Locate the rear sway bar links (11.25" center to center) and **HK #2**.
10. Grease and install the hourglass bushings.
11. Grease and install the sway bar link bolt sleeves. All sleeves are the same (12mm I.D.).
12. Locate front lower control arms and **HK #65**, adjust length to 15-7/8" as a starting point. Install clamping bolts loosely.  
**\*\*If you upgraded to flex joints refer to the instructions at the end of this document.**



**Figure 1**

## **Front Suspension:**

13. Lift front of vehicle and support with tall jack stands under the unibody frame.  
**\* Tip:** break lug nuts loose before lifting vehicle.
14. Ensure that vehicle is safely supported.
15. Remove front tires.
16. Remove front shocks.
17. Remove track bar.
18. 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.
19. Place a floor jack under the driver's side of front axle for support (do not lift vehicle).
20. Allow axle to droop completely.
21. Remove coil springs and lower spring isolators.
22. Snap the spring isolators into the new springs.
23. Install new springs in vehicle being careful to align isolator pin with the hole in the spring bucket.
24. 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. \*\***
25. 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.
26. Ensure male ends are parallel with control arm mounts then torque lower control arm clamping bolts to **140 in-lb**. Be sure to go back and forth between both bolts several times to ensure even clamping.
27. Locate front shocks and **HK #3**.
28. 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.
29. 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.
30. If needed, reconnect sway bar links. Do not tighten at this time.
31. Install track bar. Torque both bolts to 105 ft-lbs. Do not tighten clamps at this time.  
**Note:** The short end of the track bar goes to the axle mount.
32. 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 **HK #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 control arm jam nuts very tight.
59. Torque any remaining loose bolts to spec.
60. Install tires and place the vehicle on the ground.
61. Torque lug nuts to spec. (85-115-foot pounds depending on your wheels)

### **Final Inspection:**

62. With full vehicle weight on the suspension, check if the front axle is centered. Adjust the track bar if necessary, by turning the double adjuster.
63. When the axle is centered, tighten the track bar clamps to 60 ft-lbs.  
\*\*Be sure the position of the clamps does not interfere with any of the other suspension components.
64. 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 or re-routing.
65. Re-center steering wheel by adjusting the drag link (longer) until the steering wheel is centered. You can get the wheel very close to straight without an alignment. The steps below cover how to center your steering wheel yourself:
  - ☐ Ensure all suspension joints are in good condition without excessive wear.
  - ☐ Ensure all fasteners are torqued to spec and cotter pins are installed.
  - ☐ Go for a short test drive.
  - ☐ Note steering wheel angle when driving straight and steady on a flat road.
  - ☐ Drive straight into your working area making sure steering wheel angle matches angle during test drive.
  - ☐ Adjust your drag link until the steering wheel is centered.
  - ☐ Test drive again, recheck steering wheel angle.
  - ☐ Repeat steps if necessary.

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

We recommend the following alignment settings:

**Caster:** +3.5 to +6.0

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

\* Re-torque all fasteners, including lug nuts, after 100 miles, and frequently inspect all safety critical suspension components.

### **Final Safety Warning:**

Re-torque all fasteners after 100 miles, and frequently inspect all safety critical suspension components. It is the responsibility of the installer to ensure all fasteners are properly tightened after installation and to ensure the owner knows his/her ongoing responsibility. It is the responsibility of the owner of the vehicle to be sure all safety critical components are inspected frequently, especially after off road or other demanding use



# IRON ROCK OFF ROAD

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

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

Assembly Instructions

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° 1/4"-28 grease zerk fitting (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.

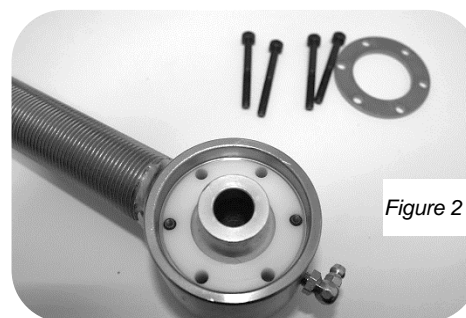


Figure 2

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



Figure 3

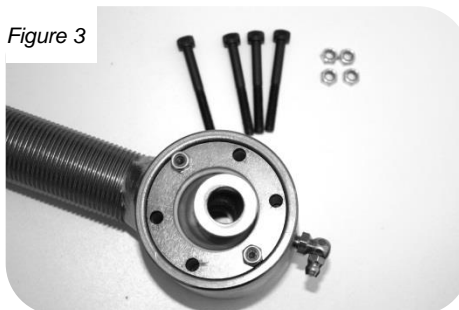


Figure 4

# IRON ROCK OFF ROAD

**Track Bar Flex End Assembly Instructions**

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## Parts Checklist:

### #122 - Track Bar Flex End - 12mm (1)

- ☐ Inner race (plastic) 91113 (2)
- ☐ End cap (steel) 91112 (2)
- ☐ Ball 91104 – M12 bolt (1)
- ☐ #5-40 x 1 1/4" Socket head cap screw (9)
- ☐ 3/32" Hex L key, hi torque (hex plus) (1)

### #254 - Track Bar Flex End - 14mm (1)

- ☐ Inner race (plastic) 91113 (2)
- ☐ End cap (steel) 91112 (2)
- ☐ Ball 91142 – M14 bolt (1)
- ☐ #5-40 x 1 1/4" Socket head cap screw (9)
- ☐ 3/32" Hex L key, hi torque (hex plus) (1)



## Safety Warning:

Installation and assembly of this part requires knowledge of steering and suspension systems. Failure to precisely adhere to installation procedure may cause a part failure resulting in vehicle damage and serious injury or death. This part only fits Iron Rock Off Road track bars in good condition. Iron Rock Off Road makes no claims that this part will fit track bars from other manufacturers. Improper fitment may cause a part failure resulting in vehicle damage, serious injury, or death.

## 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!
- ☐ Ensure that you have high strength threadlocker (such as red Loctite) and multi-purpose grease.

## Fitment:

This kit replaces the poly bushings and inner sleeve in your Iron Rock Off Road track bar. This part only fits track bars manufactured by Iron Rock Off Road after 2009 with an inside diameter of 1.510", a width of 1.250", and a radiused inside corner.

**\*\*\*To verify fitment: Remove the track bar from your vehicle, remove the poly bushings, clean the parts, and verify the following is true: \*\*\***

- ☐ The plastic races fit tight inside the inside bore.
- ☐ Both end caps fit the inside bore with just a bit of "wiggle room".
- ☐ Both end caps slide in freely until the flat shoulder rests firmly against the end of the outer tube.
- ☐ The overall width of the outer tube is 1.250". This can be measured with a caliper or verified after flex end is fully assembled. Once fully assembled (bolts torqued to spec.) the shoulders of the end caps should rest firmly against the ends of the outer tube. At the same time, the ball should fit tight inside the assembly. It should require a tool (such as a screwdriver) to pivot or rotate the ball. The ball should pivot smoothly with even resistance in any position.

If any of those steps cannot be verified, please contact us to order a new track bar.

**Bolt size:** This bushing replacement assembly is only available to fit a 12mm & 14mm bolt at this time. Those with a 10mm fastener may wish to upgrade to 12mm hardware for more strength (drill your bracket and install a 12mm bolt).

## Assembly:

1. Verify fitment per the "Fitment" section above.
2. Insert four socket head cap screws into one end cap and one race. (Race should have spherical bore facing away from end cap.)
3. Install this small assembly into the track bar outer bushing tube. The races are a light press fit, use a wide punch and hammer to assist you if needed.
4. Apply a thin coat of multi-purpose grease to the ball and the spherical mating surface of the races. Coat both mating surfaces but leave no excess grease that would interfere with the threadlocker adhesive on the bolts.
5. Place the ball into the race inside the housing. The ball should fit the contour of the race perfectly.
6. Insert the other race on top of 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 four screws should be through one end cap and both races at this point.)
7. Apply a generous coating of high strength threadlocker (such as red Loctite) to all 8 screws (including the ones already installed).
8. Install the second end cap, aligning the screws with the tapped holes. When completed 4 screws will be inserted from each side.
9. Insert the last four screws and tighten them all snug.
10. Torque screws in sequence using a crisscross pattern, like torquing lug nuts. Tighten all 8 screws evenly in small steps. Take your time and do not rush. Tighten all 8 screws to 20 in/lbs.

