

# IRON ROCK OFF ROAD

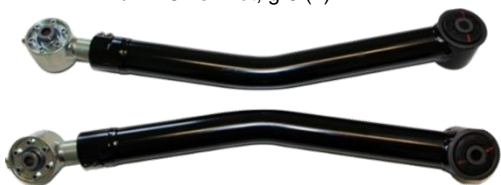
1-877-919-JEEP www.ironrockoffroad.com

**JL 3" Benchmark Series  
Lift Kit Instructions**

## Parts Checklist:

- ☐ Iron Rock Off Road Logo Decal 10001 (1)
- ☐ Ironrockoffroad.com decal (1)
- ☐ 3" Front coil spring 96025 (2)
- ☐ 3" Rear coil spring 96005 (96038: **4XE**) (2)
- ☐ Rear sway bar link 11.25" center to center 92147 (2)
- ☐ JL Rear Bump Stop Spacer 2" 80050 (2)
- ☐ Stackable Bump Stop Set
  - ☐ 1 Inch Top Bump Stop 88271 (2)
  - ☐ ½ Inch Bump Stop Spacer 88272 (2)
  - ☐ 1 Inch Bump Stop Spacer 88273 (2)
  - ☐ 1½ Inch Bump Stop Spacer 88274 (2)
- ☐ **#192 – Bump Stop Hardware (1)**
  - ☐ 7/16 x 1 ½" hex bolt, gr5 (2)
  - ☐ 7/16 x 2 ½" hex bolt, gr5 (2)
  - ☐ 7/16 x 3 ½" hex bolt, gr5 (2)
  - ☐ 7/16 x 4 ½" hex bolt, gr5 (2)
  - ☐ 7/16 flag nut 80063 (2)
- ☐ **#199 JL Rear Bump Stop Spacer Hardware (1)**
  - ☐ 5/16-18 x 3/4 Serrated flange bolt, gr8 (4)
  - ☐ 5/16-18 Serrated flange nut (4)
- ☐ **#201 - Sway Bar Link Hardware (1)**
  - ☐ 3/4" hourglass bushing 94025 (4)
  - ☐ 12mm sway bar bolt sleeve 92038 (4)
  - ☐ M12 x 65 Hex bolt cl 10.9 (2)
  - ☐ M12 Nylock nut (2)
  - ☐ 7/16 USS washer (4)

- ☐ JL LCA Front 77064B (2) **16mm Bushing Installed**
- ☐ **#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)



- ☐ Standard - LCA Rubber Bushing Male End, Straight 99070B (2)
- ☐ Optional - LCA Flex Joint Male End, Straight 92186 (2)
  - ☐ **#233 - 2 5/8" 6 Bolt 16mm Flex End Hardware (2)**
    - ☐ Inner race 91118 (2)
    - ☐ Thrust washer 91119 (2)
    - ☐ 2-5/8" Flex End Ball 16mm 91242 (1)
    - ☐ 10-32 x 1-3/4" Socket Head Cap Screw (6)
    - ☐ 10-32 Nylock Nut (6)
    - ☐ 1/4"-28 90° Grease zerk Fitting (1)

- ☐ JL 0-8" front track bar 77016 (1)
- ☐ Track bar threaded male end, Flex Joint 77128 (1)



- ☐ **#306 – JL/JT Track Bar Flex Joint – Male End (1)**
  - ☐ Inner race (plastic) 91113 (2)
  - ☐ Washer (steel) 77127 (2)
  - ☐ Ball 91142 – M14 bolt (1)
  - ☐ #5-40 x 1-1/8" Socket head cap screw (9)
  - ☐ 3/32" Hex L key, high torque (hex plus) (1)

## Standard Track Bar

- ☐ **#235 - Front Track Bar Hardware (1)**
  - ☐ Track bar bushing half 80014 (2)
  - ☐ Track bar bushing sleeve 80003 (1)
  - ☐ Track Bar clamp 95044 (1)
  - ☐ 5/16-18 x 2 carriage bolt gr5 (1)
  - ☐ 5/16-18 hex flange nut (1)

## ~Optional Premium Track Bar Upgrade~

- ☐ **#254 - Track Bar Flex End Hardware - 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, high torque (hex plus) (1)
- ☐ **#281 - Track Bar Clamp Hardware (1)**
  - ☐ Track Bar clamp 95044 (1)
  - ☐ 5/16-18 x 2 carriage bolt gr5 (1)
  - ☐ 5/16-18 hex flange nut (1)

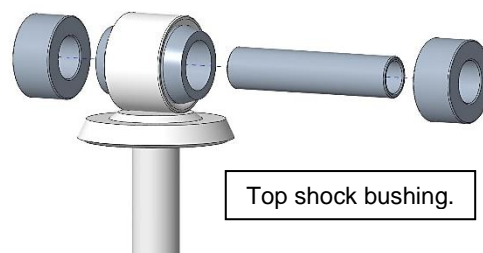
## Shocks

- ☐ **Trail Tamer HD Hydro**
  - ☐ Front shock 79004 (2)
  - ☐ Rear shock 79005 (2)
- ☐ **#232 – JL Shock Hardware (1)**
  - ☐ Upper shock sleeve 79012 (4)
  - ☐ Upper shock mount spacer 79013 (8)
  - ☐ M12 x 70 Hex bolt cl 10.9 (2)
  - ☐ M12 Nylock nut (2)
  - ☐ 7/16 USS washer (4)
- ☐ **Doetsch Upgrade (Optional)**
  - ☐ Front shock DT 8299 (2)
  - ☐ Rear shock DT 8371 (2)
- ☐ **#232 – JL Shock Hardware (1)**
  - ☐ Upper shock sleeve 79012 (4)
  - ☐ Upper shock mount spacer 79013 (8)
  - ☐ M12 x 70 Hex bolt cl 10.9 (2)
  - ☐ M12 Nylock nut (2)
  - ☐ 7/16 USS washer (4)
- ☐ **Bilstein Upgrade (Optional)**
  - ☐ Front shock 33-185552 (2)
  - ☐ Rear shock 33-104652 (2)
- ☐ **#231 – JL Bilstein Shock Hardware (1)**
  - ☐ 12mm X 1.49" Shock Sleeve 79008 (4)
- ☐ **#232 – JL Shock Hardware (1)**
  - ☐ Upper shock sleeve 79012 (4)
  - ☐ Upper shock mount spacer 79013 (8)
  - ☐ M12 x 70 Hex bolt cl 10.9 (2)
  - ☐ M12 Nylock nut (2)
  - ☐ 7/16 USS washer (4)



## **Before you begin:**

- ☐ \*\*\*Ensure that all parts are present and in good condition using above shipping checklist. \*\*\*
- ☐ Read and understand all installation instructions.
- ☐ Tools required:
  - ☐ Floor jack and jack stands.
  - ☐ Basic hand tools
  - ☐ Torque wrenches capable of 70-85 in-lb. and 75-130 ft-lb
  - ☐ Medium thread locker
  - ☐ Anti-seize compound.
  - ☐ Multipurpose grease
  - ☐ 7/16" drill bit and drill



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

1. **Shocks:** Locate the front and rear shocks and **HK #232**.
2. Grease and install the long sleeve into the top bushing of the front and rear shocks. The long sleeve should be approximately in the center of the bushing.
3. Grease and install the short shock sleeves (included with shocks) into the bottom bushing.
4. **Track Bar:** Locate front track bar, track bar **HK #235, HK #306**, and track bar threaded male end. \*\*If you upgraded to the Premium Track Bar refer to the instructions at the end of this document. Install flex joint into frame end of front track bar.
5. Lubricate track bar bushings and bushing sleeves with multi-purpose grease and install into track bar.
6. Slip clamping bracket onto adjusting end of track bar with the opening up and insert the 5/16 carriage bolt from rear and nut facing forward.
7. Thread the track bar male end into the track bar and adjust to 33-7/8" as a starting point.
8. Tighten the clamping bracket. Make sure the bracket opens downward, and nut faces forward.
9. **Front Lower Control Arms:** Use a light coat of anti-seize and thread the male ends into the control arms and adjust to 24" as a starting point.
10. If you upgraded to flex joints refer to the instructions at the end of this document to assemble the flex ends into the threaded male ends.
11. Install the 1/4-28 clamping bolts into the control arms, do not fully tighten at this time.
12. **Sway Bar Links:** Grease and install the hourglass bushings into the links.
13. Grease and install the sway bar link bolt sleeves into the bushings. All sleeves are the same (12mm I.D.).

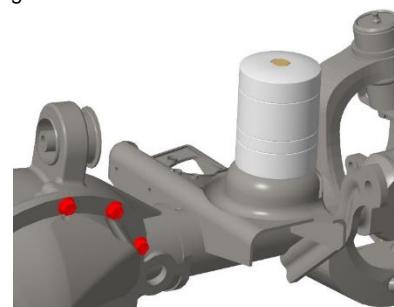


## **Front installation:**

14. Lift front of vehicle and support with jack stands under frame rails.  
\*\*Tip: break lug nuts loose before lifting vehicle.
15. Remove front wheels.
16. Disconnect front sway bar links.
17. Support front axle with jack stands and remove shocks.
18. Remove front track bar.
19. Loosen the upper control arm bolts at the frame and the axle (do not remove).
20. Remove factory lower control arms.
21. Remove coil springs.
22. Determine your desired bump stop height. IRO recommends 3" as a starting point.  
\*Bump stop height is determined by many variables: tire size, wheel offset, fender clearance, fender trimming.
23. Stack bump stop top and spacers to achieve desired height and align them with the correct bolt length.
24. Drill out the existing hole in the center of your lower spring mount with a 7/16 drill bit.
25. Position the flag nut under the spring mount, aligning the nut with the drilled hole. You may have to bend the flag nut slightly.
26. Apply a small amount of medium strength thread locker to bump stop bolt and install into flag nut.
27. Ensure the bolt hex engages the hex in the top bump stop.
28. Spin the bump stop stack until tight. An oil filter wrench works well for this. Do not over-tighten, let the threadlocker do most of the work.

Bump Stop Height	Bolt Length
4.0 Inch	4.5"
3.5 Inch	
3.0 Inch	
2.5 Inch	3.5"
2.0 Inch	
1.5 Inch	
1.0 Inch	2.5"

- \*\*To maximize your suspension flex:** Reconnect the shocks to the axle and temporarily install tires. With the shocks connected and springs out use a jack to check suspension articulation left and right, as well as both sides fully compressed. Turn the wheels left and right while suspension is articulated.
- \*\*If interference between the tires and body is found adjust bump stop height or trim body work accordingly.**
29. Install new lower control arms using the factory hardware. Do not tighten bolts at this time.  
The bend goes up for ground clearance and in for tire clearance. The rubber bushing goes to the axle and the flex end at the frame.
  30. Install new coil springs.
  31. Install new shocks with a new M12 x 70 bolt at the bottom. **HK #232**
  32. Reinstall front sway bar links.
  33. Install new front track bar, threaded end to axle side. The clamp faces up, nut facing front.
  34. Reinstall front wheels.
  35. Lower vehicle onto ground.



## **Rear installation:**

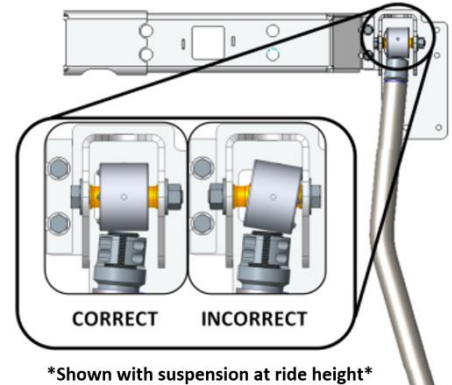
36. Lift rear of vehicle and support with jack stands under frame rails.  
\*\*Tip: break lug nuts loose before lifting vehicle.
37. Remove rear wheels.
38. Remove sway bar links.



39. Support the rear axle with jack stands and remove shocks.
40. Remove coil springs.
41. Disconnect track bar from the axle.
42. Loosen the upper and lower control arm bolts at the frame and the axle (do not remove).
43. Install rear bump stop spacers using **HK #199**. The slant should point forward.
44. Install new springs.
45. Install new sway bar links.
46. Install new shocks.
47. Reinstall rear wheels.
48. Lower vehicle onto ground.

### **Final Torque and Adjustments:**

49. The draglink **must** be adjusted to center the steering wheel before driving the vehicle. Failure to do so will cause an error with the factory traction control system and will result in odd handling and decreased performance. This can be done at home, but a professional alignment is recommended.
50. Torque lug nuts to factory spec. (Typical specification is 85-115 ft-lbs., depending on your wheels)
51. With the vehicle weight on the suspension, tighten all lower control arm bolts to 130 lb-ft. Tighten front upper control arm bolts to 75 lb-ft.
52. Tighten rear upper control arm bolts to 130 lb-ft.
53. Ensure flex 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.
54. 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, relocating, or extending hoses and wiring.



### **Final Safety Warning:**

55. \* Re-torque all fasteners after 100 miles, and frequently inspect all safety critical suspension components. It is the responsibility of the installer to be sure 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 16mm Bolt

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

Assembly Instructions

**\*\*\*NOTE: This flex end is ONLY for the front lower control arm of the Jeep Wrangler JL and Jeep Gladiator JT. This flex end uses a larger 16mm through bolt. Do not confuse it with HK #127**

## **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)

### **#233 - 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 16mm 91242 (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.

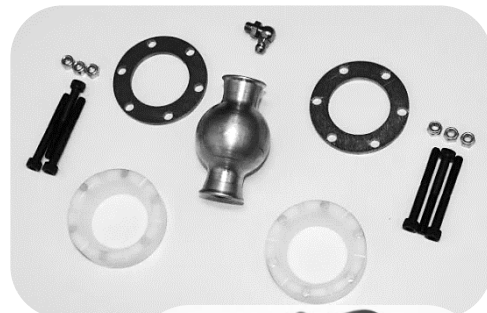


Figure 1



Figure 2

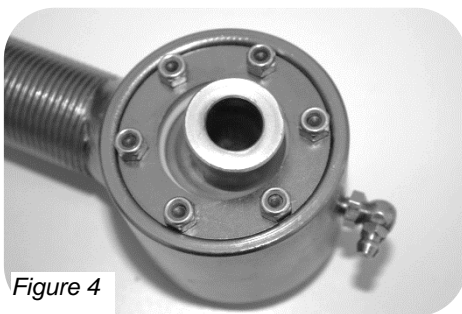
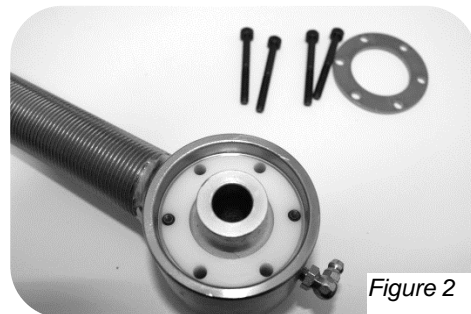


Figure 4



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

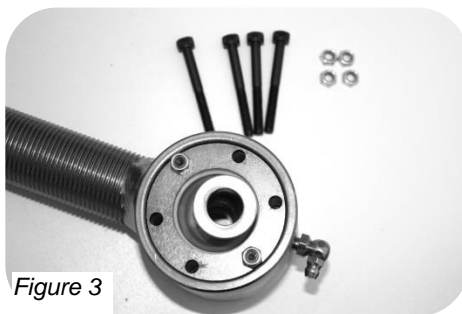


Figure 3

# 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, high 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, high 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:

- o Read and understand installation instructions.
- o Contact Iron Rock Off Road with any questions before, during, or after installation.
- o **Ensure that all parts are present and in good condition per attached shipping checklist!**
- o 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.

