

# IRON ROCK OFF ROAD

JK Long Arm Upgrade

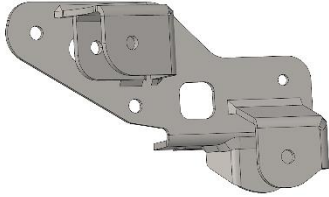
1-877-919-JEEP www.ironrockoffroad.com

Rock-Link FRONT

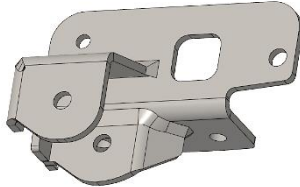
See our website product listing for full color instructions

## Parts Checklist:

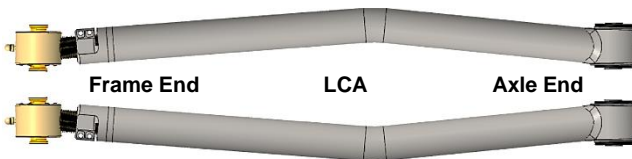
- Rock-Link decal 13287 (2)
- Iron Rock Off Road Logo Decal 10001 (1)
- Ironrockoffroad.com decal (1)
- Long arm mount, passenger side 80205 (1)



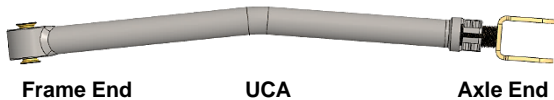
- Long arm mount, driver side 80204 (1)



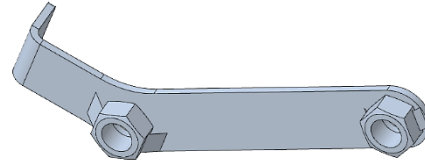
- LCA, bushing installed 77049 (2)
  - LCA, Angled Threaded male end 91109 (2)



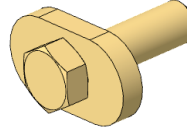
- UCA Passenger Side 80213 (1)
  - UCA Front threaded male end 77054 (1)



- 2 Hole Nut Plate 80219 (1)



- Bolt Plate 80244 (2)



- #65 - Adjustable LCA Clamping Hardware – 10058 (2)**

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

- #168 - 2 3/8" 8 Bolt IRO Flex End Hardware – 13261 (1)**

- Inner race 91139 (2)
- Thrust washer 91138 (2)
- 2-3/8" Flex End Ball 91140 (1)
- 8-32 x 1-1/2" Socket Head Cap Screw (8)
- 90 Degree 1/4"-28 Grease Zerk Fitting (1)
- 1/4"-28 Straight Grease Zerk (1)

- #127 - 2 5/8" 6 Bolt IRO Flex End Hardware – 10670 (2)**

- Inner race 91118 (2)
- Thrust washer 91119 (2)
- 2-5/8" Flex End Ball 91117 (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)

- #279 - Long Arm Bracket Hardware – 15438 (1)**

- One-Bolt Nut Plate 77052 (2)
- M14 x 35 hex bolt, class 10.9 (5)
- M14 x 90 hex bolt, class 10.9 (1)
- M14 x 100 hex bolt, class 10.9 (2)
- M14 nylock flange nut class 10.9 (3)
- 9/16 F436 hardened washer (8)
- 7/16 Serrated flange nut (2)



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

We recommend 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:**

- \*\*\*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 wrench
  - Angle grinder, Sawzall
  - Anti-seize compound
  - Multipurpose grease
  - Tape measure

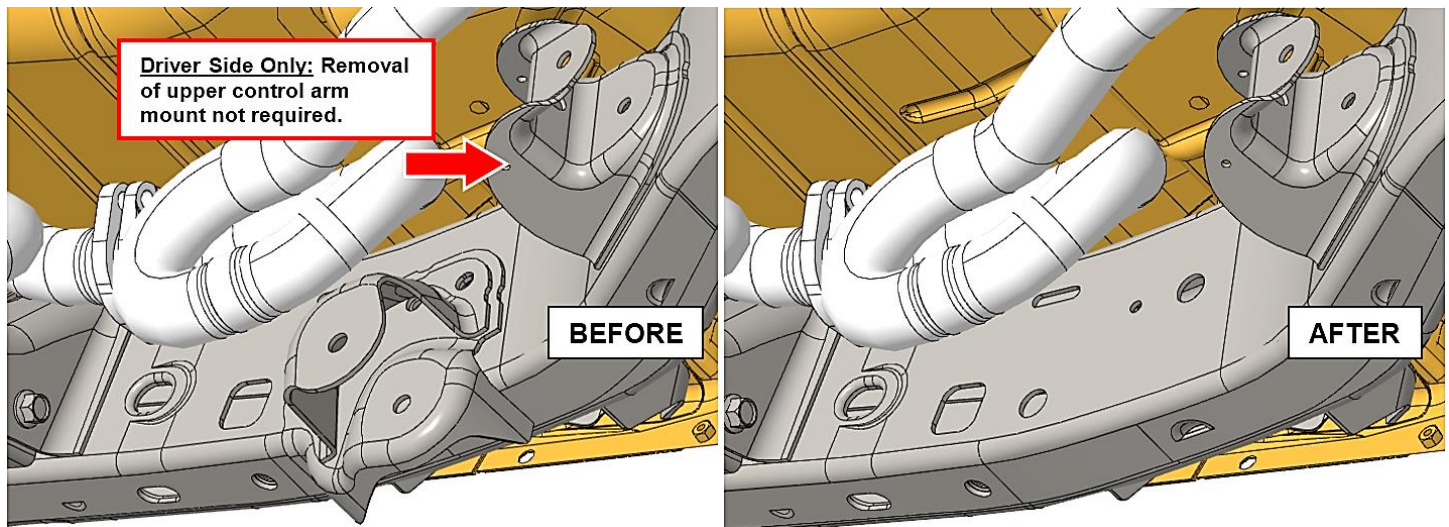
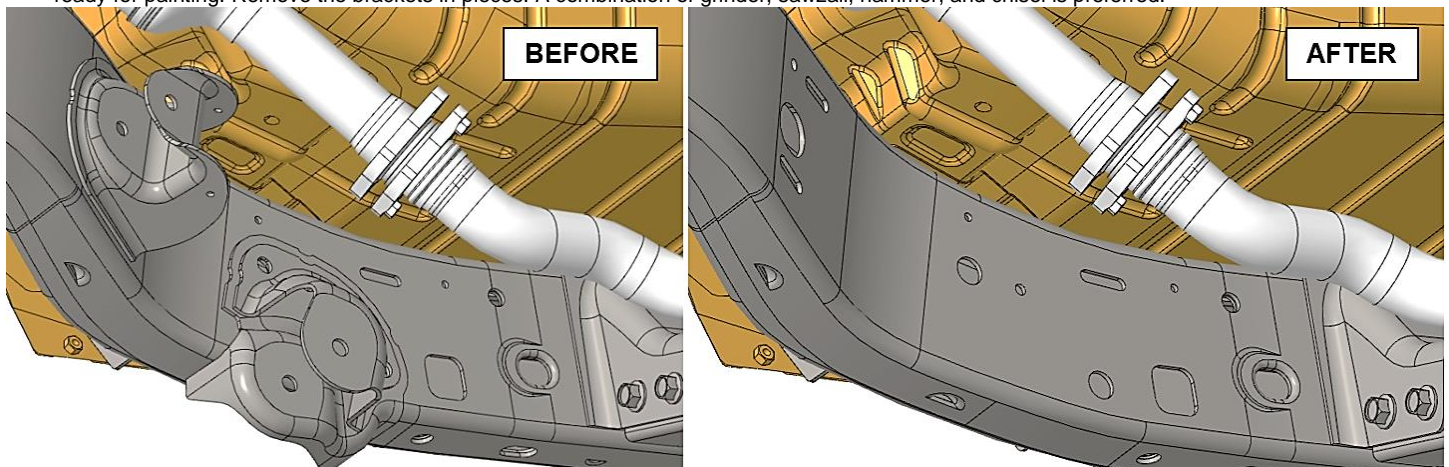
**Prepare the parts for installation:**

1. **Adjustable Control Arms:** Using the instructions on the last page assemble the flex ends into the threaded male ends for LCAs and into the arm for the UCA. LCAs use **HK #127**, UCAs use **HK #168**.
2. Use a light coat of anti-seize then thread the male ends into the control arms and adjust to the lengths in the chart as a starting point.
3. Install the clamping bolts **HK #65** into the arms, do not fully tighten at this time.

Control Arm Length (Center to Center)	
UCA (Upper Control Arm)	29-1/2"
LCA (Lower Control Arm)	32-1/2"

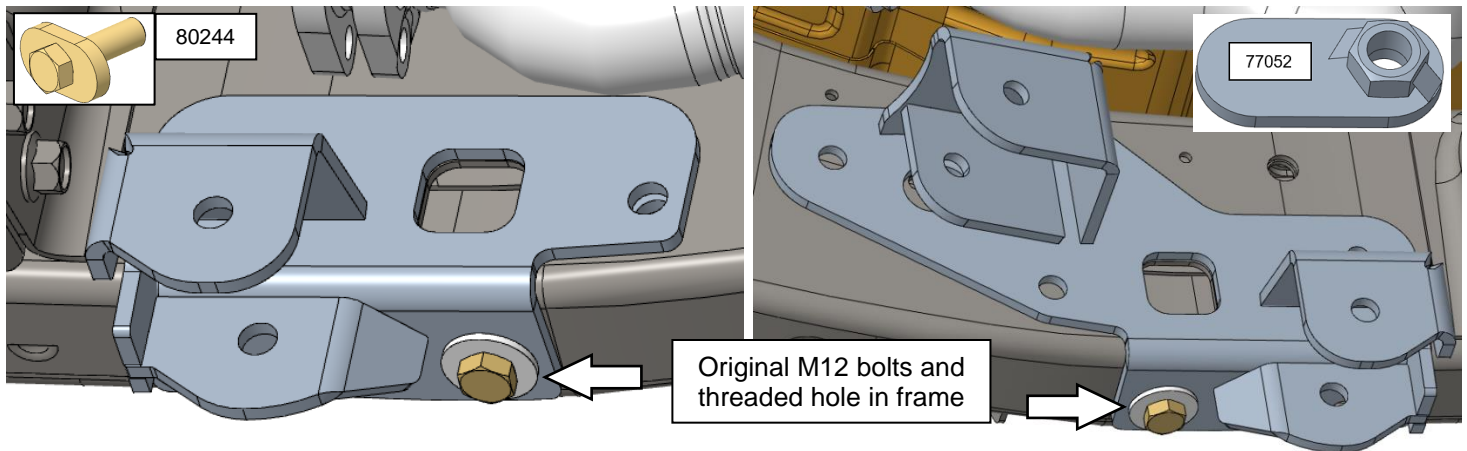
**Front installation:**

4. Lift front of vehicle and support with jack stands under frame rails.
5. Support the axle with jack stands.
6. Remove the factory T-Brace from the frame. Save the M12 bolts for future use.
7. Remove the factory upper and lower control arms.
8. Cut off the front upper and lower control arm mounts from the frame. Do not cut into the frame. Ensure the frame is completely smooth, clean, and ready for painting. Remove the brackets in pieces. A combination of grinder, sawzall, hammer, and chisel is preferred.



9. **Long Arm Mounting Brackets:** Locate long arm brackets and HK #279.

10. Align the long arm mounting brackets on the frame by installing the OEM M12 bolts through the bracket and into the threaded hole in the frame.

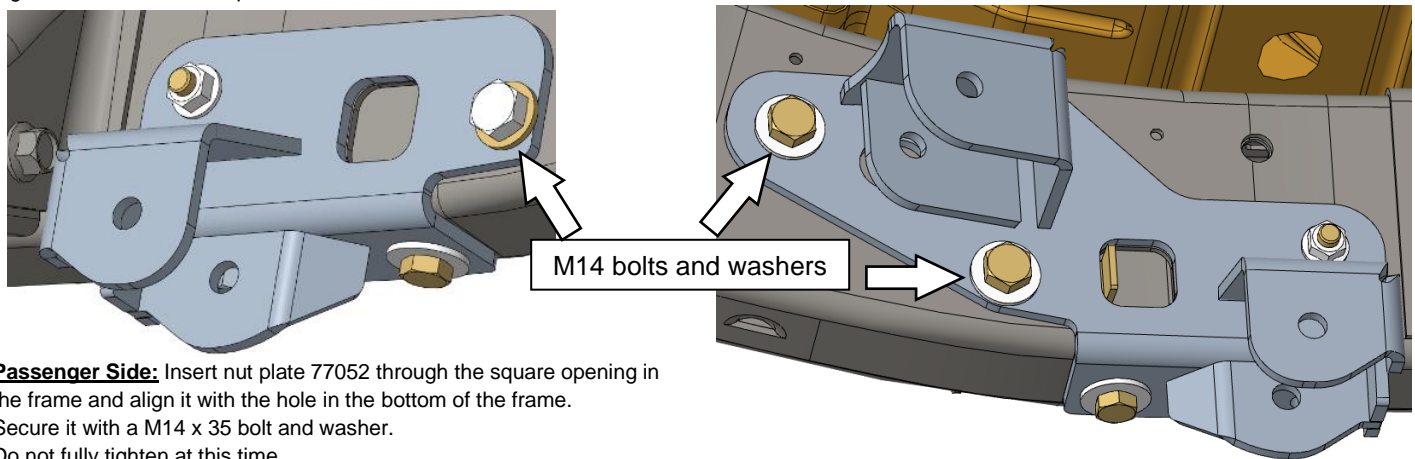


11. **Driver Side:** Insert nut plate 77052 through the square opening in the frame and align it with the hole in the side of the frame.

Secure it with a M14 x 35 bolt and washer. Repeat for the hole in the bottom of the frame. Do not fully tighten at this time.

12. Insert bolt plate 80244 through the outside of the frame using needle nose pliers or a socket on an extension. Place it the hole in the upper part of the bracket. Secure the bolt plate with a 7/16 serrated nut. Do not fully tighten at this time.

13. Tighten all hardware. Torque the M14 and M12 hardware to 100 ft-lbs. 7/16" hardware to 60 ft-lbs.



14. **Passenger Side:** Insert nut plate 77052 through the square opening in the frame and align it with the hole in the bottom of the frame.

Secure it with a M14 x 35 bolt and washer.

Do not fully tighten at this time.

15. Insert the two-hole nut plate 80219 through the square opening in the frame and align it with the holes in the side of the frame. Secure it with two M14 x 35 bolts and washers. Do not fully tighten at this time.

16. Insert bolt plate 80244 through the outside of the frame using needle nose pliers or a socket on an extension. Place it the hole in the upper part of the bracket. Secure the bolt plate with a 7/16 serrated nut. Do not fully tighten at this time.

17. Tighten all hardware. Torque the M14 and M12 hardware to 100 ft-lbs. 7/16" hardware to 60 ft-lbs.

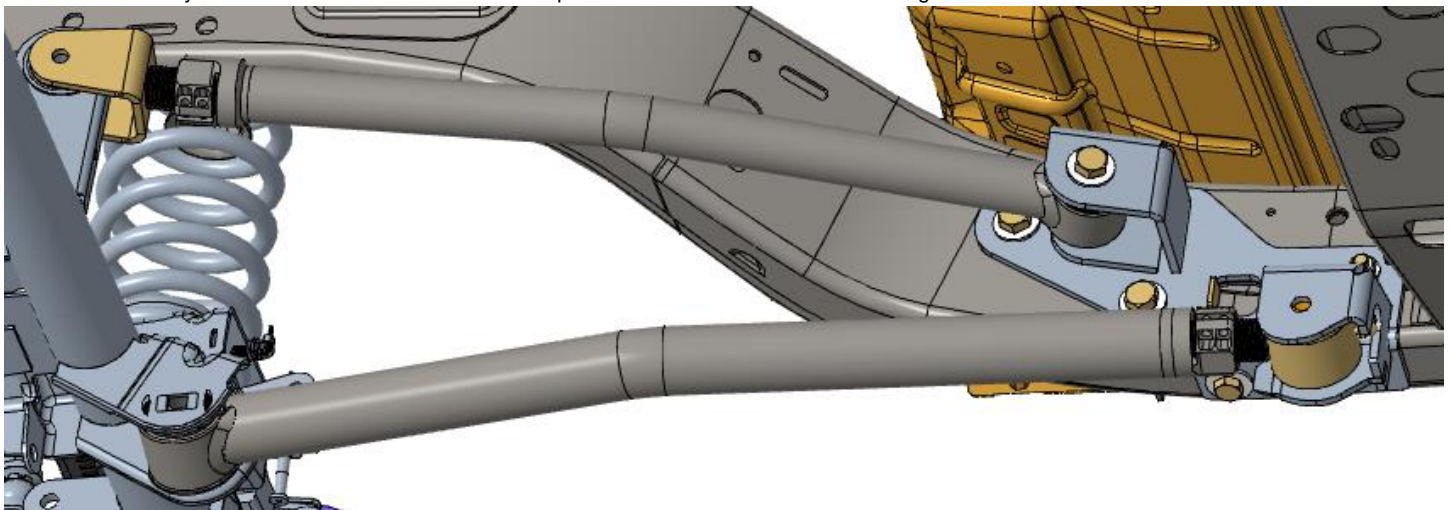
18. **Upper Control Arm:** Locate the upper control arm and M14 x 90 bolt, washer, and flange lock nut.

19. Install the flex end of the upper control arm into the long arm mounting bracket then install the fork end onto the axle.

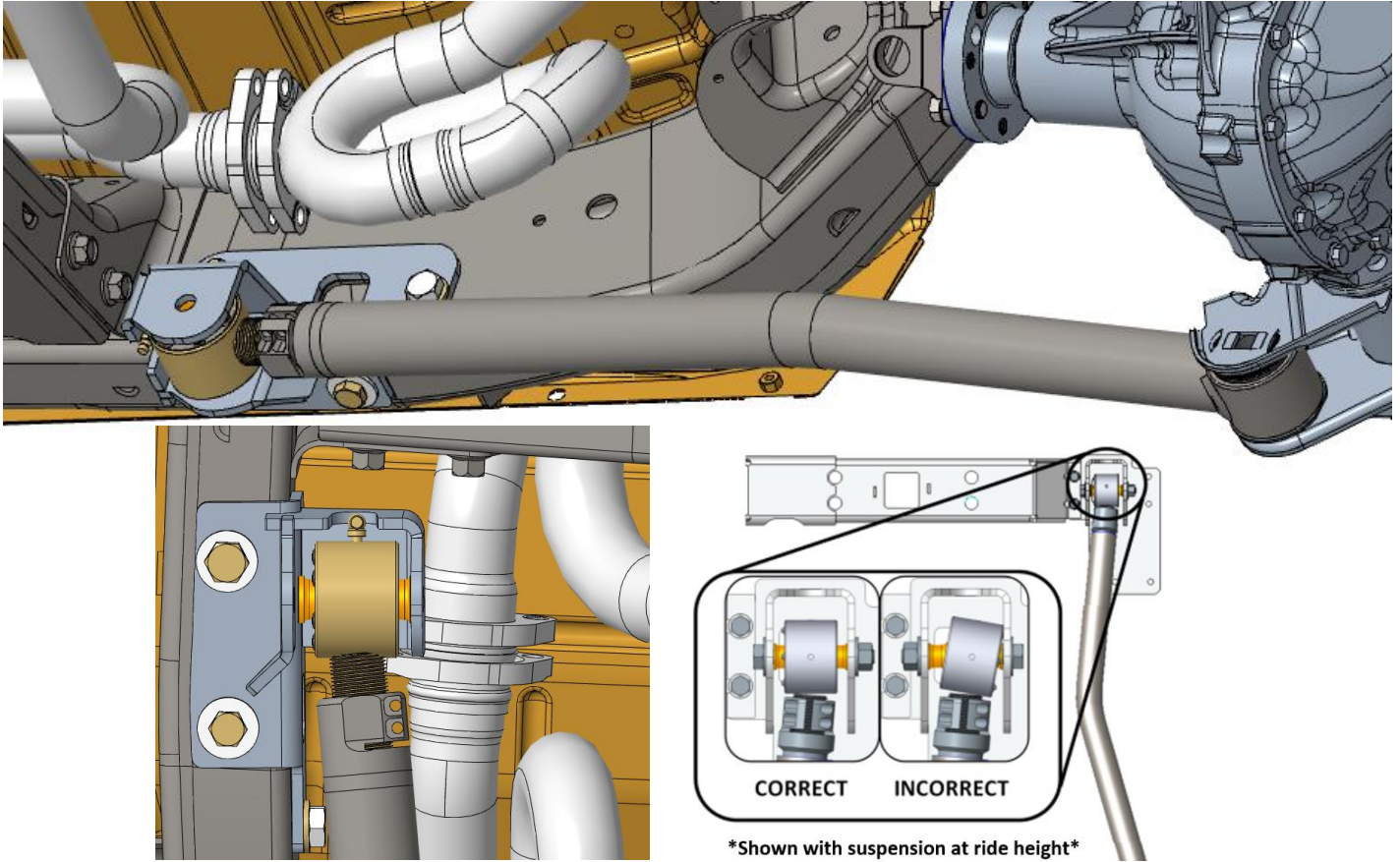
20. The arm is bent for frame and exhaust clearance; the clamping bolt points down.

21. Secure the upper control arm with the M14 x 90 bolt, washer, and flange lock nuts at the long arm bracket.

22. Use the factory M12 bolt and nut at the axle end. Torque the M14 bolts to 120 lb-ft. Do not tighten the M12 bolts at this time.



23. **Lower Control Arms:** Locate the lower control arms and the factory lower control arm bolts.
24. Install the rubber bushing at the axle then install the flex end at the frame. The LCAs are bent inward for tire clearance.
25. Torque bolts at the frame to 130 lb-ft. Do not tighten bolts at the axle at this time.
26. Ensure that the lower control arm flex ends are oriented properly in the mounts. The male ends are angled to match the angle of the axle mounts.



**Final Torque and Adjustments:**

27. Raise vehicle and reposition jack stands under the front and rear axles.
28. Temporarily install a tire on one side.
29. Verify that the axle is centered as desired front to rear. Check caster before adjusting.
30. Check caster angle. Using a laser level or string level, set the front axle level to the rear axle (left side and right). Bounce the Jeep up and down to ensure the suspension is in resting position (at exact ride height). Place the angle finder under the axle "C" (or on top of the upper ball joint). Ensure the angle finder is parallel to the Jeep front to rear. This is your caster angle. See chart for desired setting.
31. Adjust control arms to the desired position.
32. To adjust axle front to rear, adjust upper and lower control arms by the same amount. 12 turns equal one inch.
33. To adjust only caster, adjust only the upper control arm (3 turns equals roughly 2 degrees).
34. To adjust both, adjust both at the same time.

Caster Angle (Starting point)	
Lift Height	Caster
2.5"	7°
3.5"	6.5°
4" or more	5°



35. **Caster angle may need to be adjusted after a test drive to eliminate driveline vibrations.**
36. With the vehicle weight on the suspension, tighten the upper control arm bolt to 90 lb-ft. and lower control arm bolts at the frame to 130 lb-ft.
37. Torque the upper and lower control arm clamping bolts to **140 in-lb.** Be sure to go back and forth between both bolts to ensure even clamping.
38. Install tires and wheels. Torque lug nuts to spec. (Typical specification is 85-115 ft-lbs., depending on your wheels)
39. Recheck all fasteners and torque any remaining loose nuts or bolts to spec.

40. 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:**

41. \* 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 Bolt Assembly Instructions

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

### 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 1

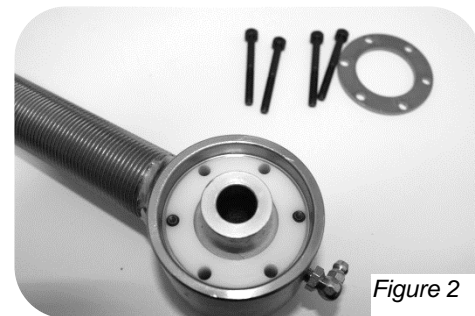


Figure 2



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

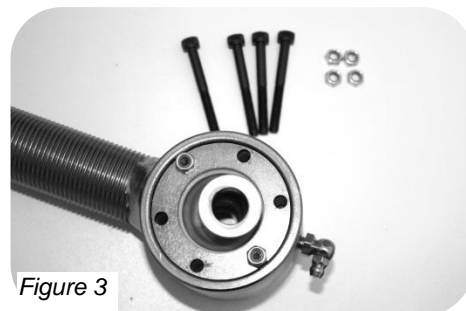


Figure 3

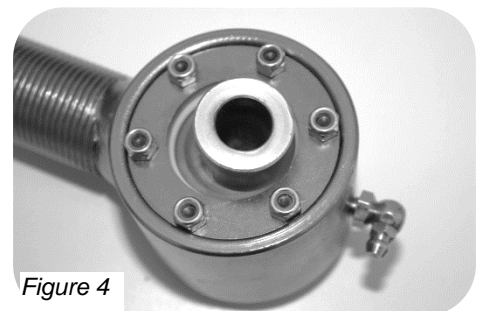


Figure 4

# IRON ROCK OFF ROAD

2-3/8" IRO Flex End (8 bolt)  
Assembly Instructions

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

## 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:
  - 9/64" 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)

### #168 - 2-3/8" IRO Flex End (8 bolt)

- Inner race 91139 (2)
- Thrust washer 91138 (2)
- Ball 91140 (1)
- #8-32 x 1-1/2" socket head cap screw (8)
- 1/4"-28 90° grease zerk fitting (1)
- 1/4"-28 straight grease zerk fitting (1)

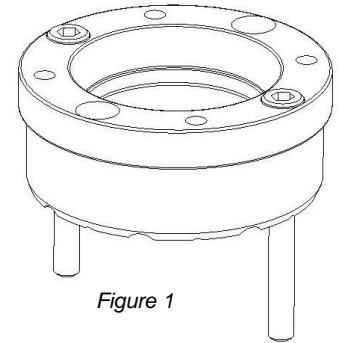
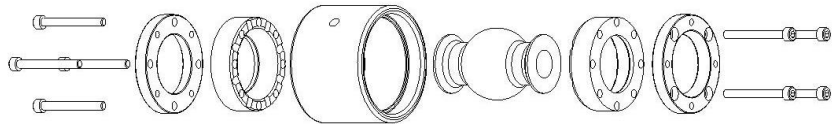
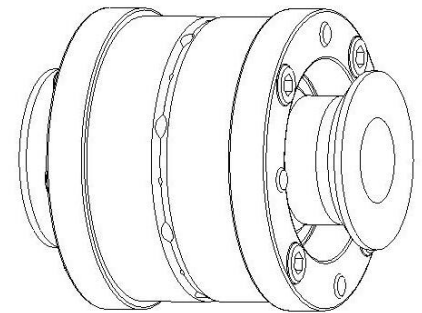


Figure 1

## Assembly:

1. Insert two #8-32 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.
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, aligning the bolts with the threaded holes.
7. Start threading the two bolts into the threaded holes of the thrust washer. Do not fully tighten at this time.
8. Insert the remaining cap screws through the remaining holes and get them started in the threaded washer.
9. Snug up all of the bolts fairly tight. Go back and forth, rechecking each bolt several times to ensure even clamping
10. Torque bolts evenly starting at one bolt using a crisscross pattern, like torquing lug nuts. Torque all eight bolts to 50 in-lbs., then to 65 in-lbs.
11. Install 90° grease zerk fitting so that it is easily accessed in the vehicle.
12. Use a grease gun to grease the flex end through the zerk fitting. This will be difficult due to the tight tolerances in the flex joint assembly.
13. Re-torque bolts to 65 in-lbs.



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

