

# IRON ROCK OFF ROAD

JK Long Arm Upgrade

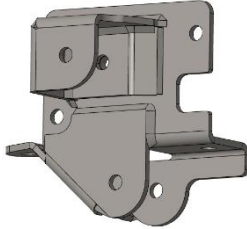
Rock-Link REAR

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

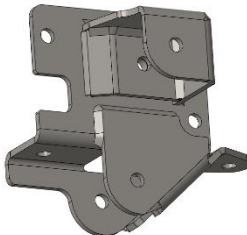
See our website product listing for full color instructions

## Parts Checklist:

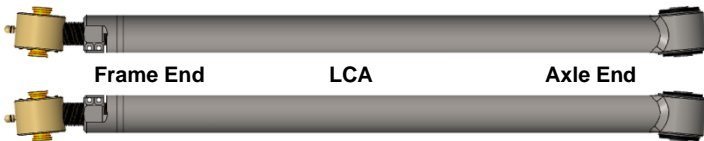
- Iron Rock Off Road Logo Decal 10001 (1)
- Rock-Link decal 13287 (2)
- Ironrockoffroad.com decal (1)
- Long arm mount, driver side 80224 (1)



- Long arm mount, passenger side 80229 (1)



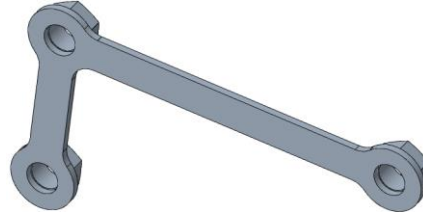
- LCA, bushing installed 80238 (2)
- LCA, Angled Threaded male end 91109 (2)



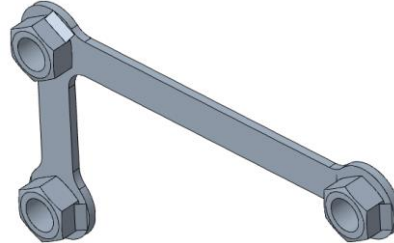
- UCA Driver Side 80234 (1)
- UCA Passenger Side 80235 (1)
- UCA threaded male end, flex joint, 91191 (2)



- Long nut plate, Driver side 80241 (1)



- Long nut plate, Passenger side 80242 (1)



- #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)

- #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)

- #168 - 2 3/8" 8 Bolt IRO Flex End Hardware - 13261 (4)**

- 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)

- #280 - Long Arm Bracket Hardware - 15439 (1)**

- Short M14 Nut Plate 77052 (3)
- M14 x 35 hex bolt, class 10.9 (9)
- M14 x 90 hex bolt, class 10.9 (2) UCA bolts
- M14 x 100 hex bolts, class 10.9 (2)
- M14 hex nut, class 8 (2)
- 9/16" F436 hardened washer (10)



## **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
  - 9/16" drill bit and drill

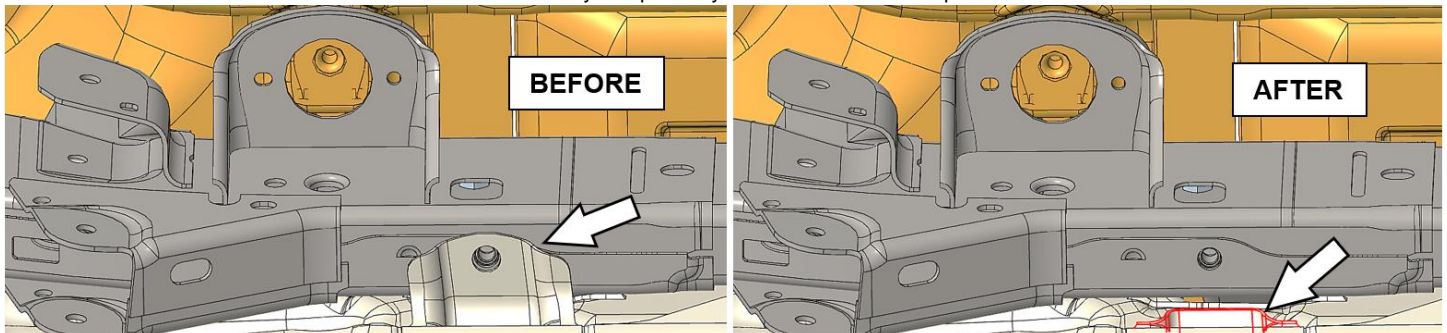
### **Prepare the parts for installation:**

1. **Adjustable Control Arms:** Using the instructions on the last pages, assemble the flex ends into the threaded male ends or arms. LCAs use 2-5/8" HK #127, UCAs use 2-3/8" 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 LCAs and UCAs, do not fully tighten at this time.

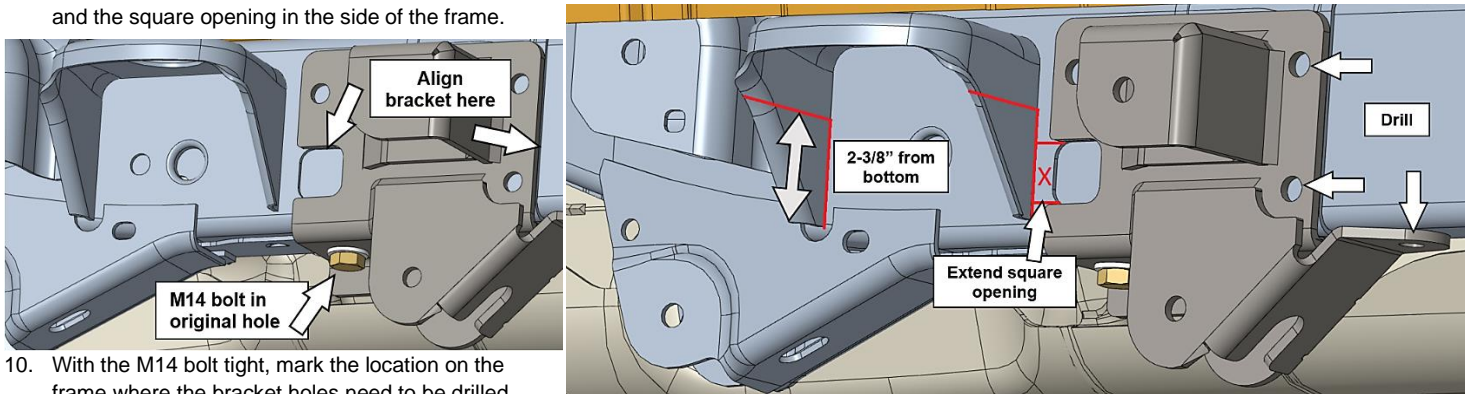
Control Arm Length (Center to Center)	
UCA (Upper Control Arm)	32-3/8"
LCA (Lower Control Arm)	34-3/8"

### **Installation:**

4. Lift rear of vehicle and support with jack stands under frame rails.
5. Support the axle with jack stands.
6. Remove the factory upper and lower control arms.
7. **Passenger Side:** Remove the factory M12 bolt from the gas tank skid plate, in front of the body mount. Cut off the gas tank skid mount as shown. Cut or grind clearance into skid plate to clear the new LCA bolt and nut. **\*\*\*Some vehicles may notice contact with the gas tank itself. These vehicles should source a shorter nut/bolt combination.\*\*\***
8. Remove the nut from inside the frame. Thread the factory bolt part-way into the nut then hit it upward with a hammer until it breaks free & remove.

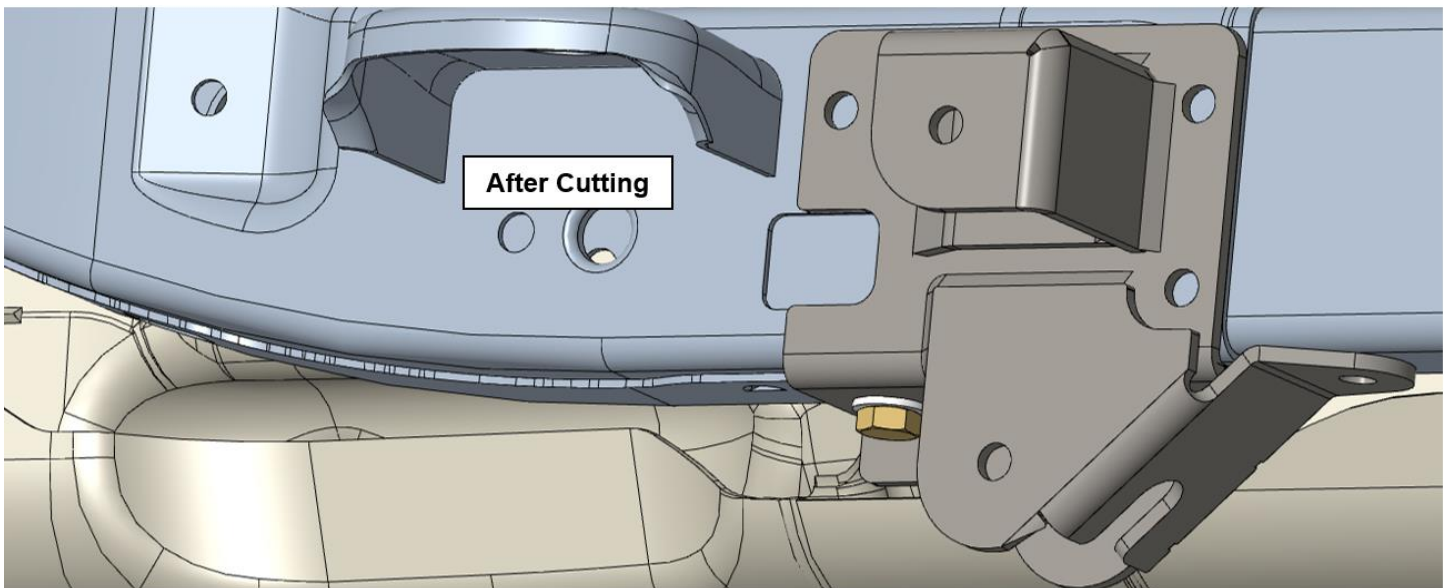


9. Install the long arm bracket on the frame using nut plate 77052 and a M14 x 35 bolt from HK #280. Align the bracket with the seam on the frame and the square opening in the side of the frame.

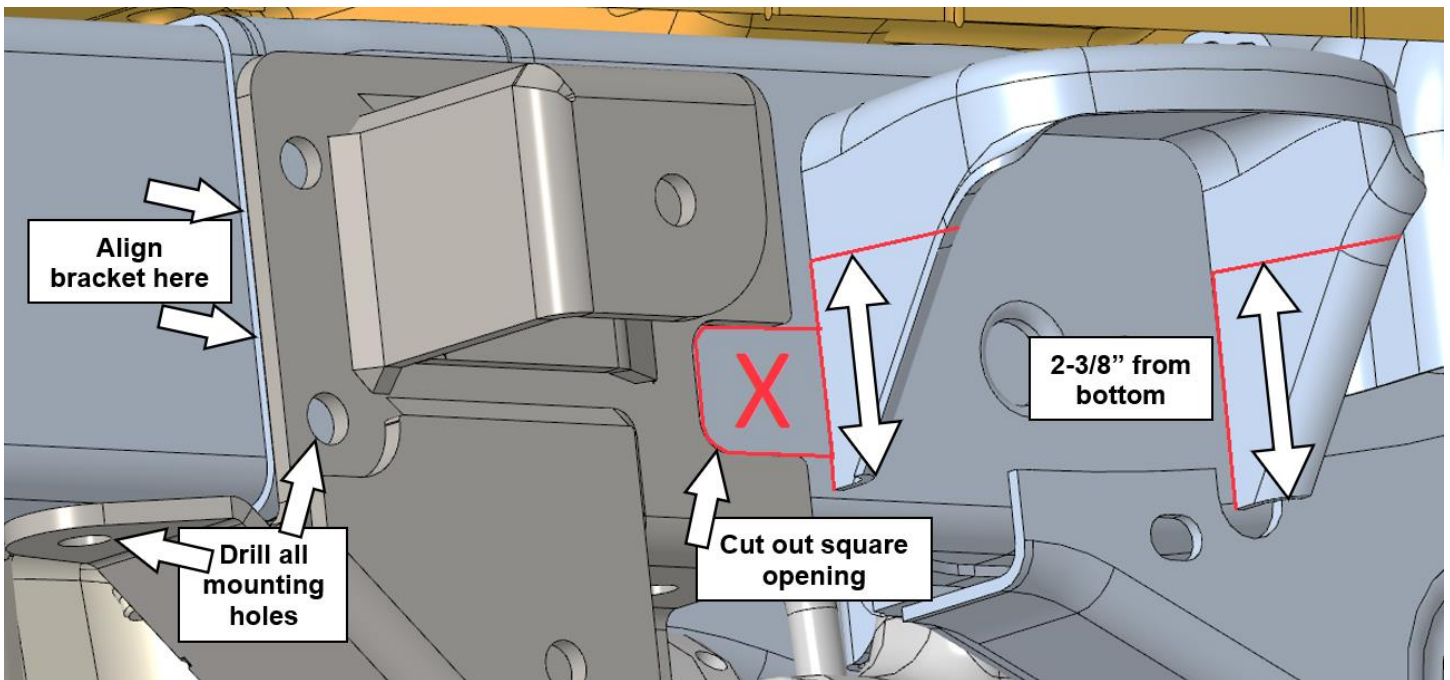


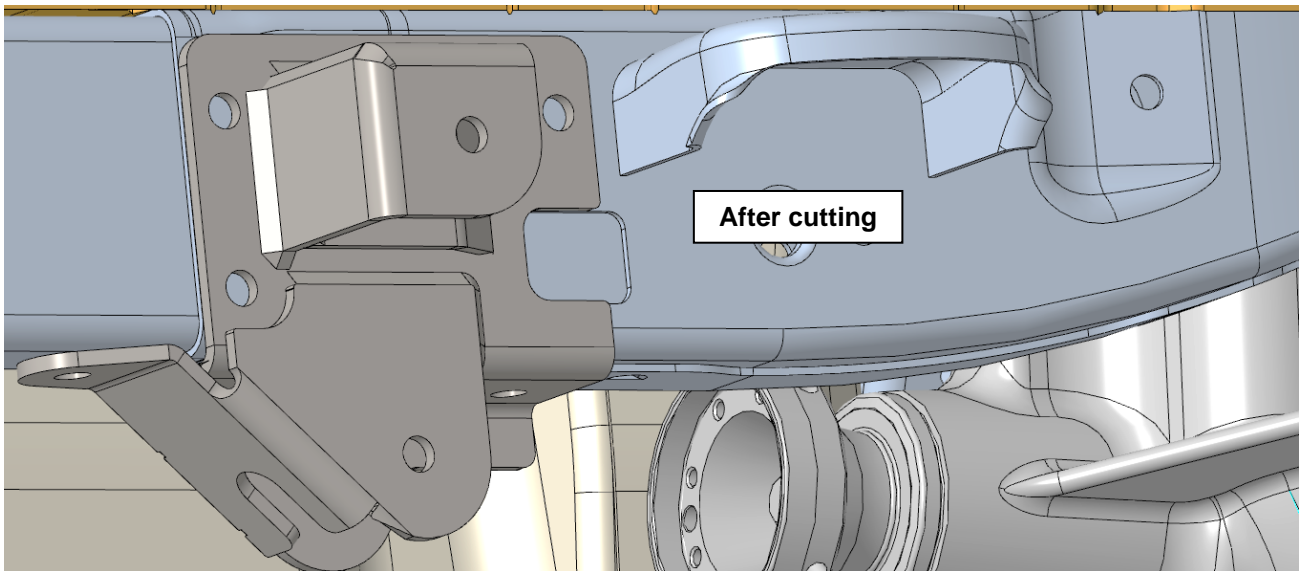
10. With the M14 bolt tight, mark the location on the frame where the bracket holes need to be drilled.
11. Measure up 2-3/8" from the bottom of the body mount and mark a horizontal line to trim the body mount. The square opening also needs to be extended to the location of where the body mount is on the frame. Drill out the new corners of the square, cut out the shape with a grinder, finish the shape with a carbide burr on a die grinder.
12. Remove the bracket and drill the holes through only the outside surface of the frame. Be sure to remove any sharp edges from the drilled holes.
13. Cut off the upper and lower control arm mounts from the frame. Remove brackets in pieces. Do not cut into the frame. A combination of grinder, sawzall, hammer and chisel is preferred. Use caution near the fuel tank!
14. Ensure the frame is completely smooth and clean, then paint the frame.



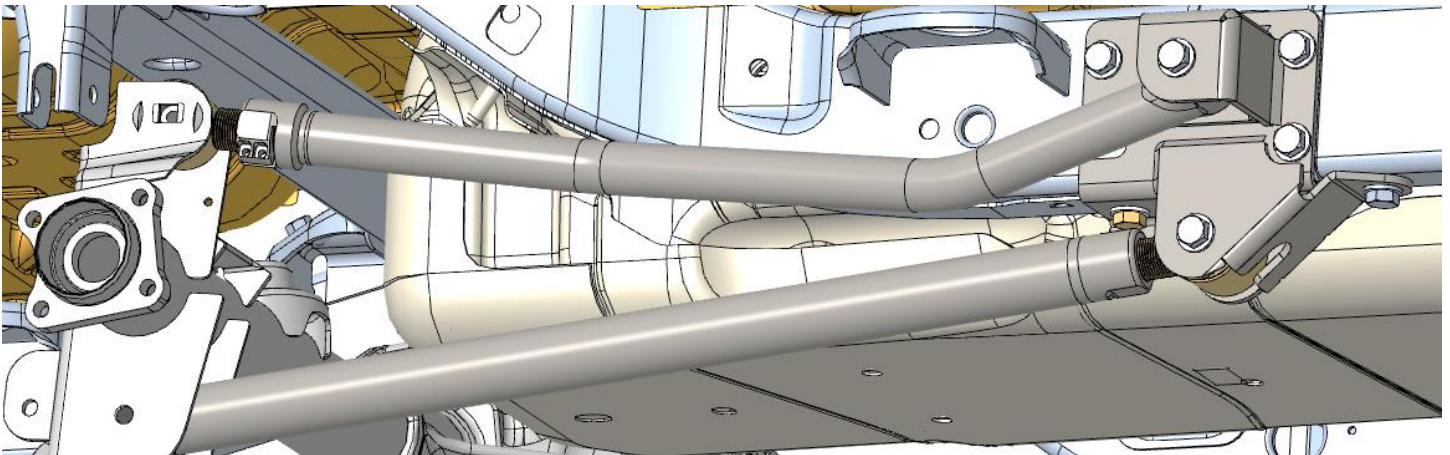


15. **Driver side:** Align the long arm bracket with the seam on the frame just like on the passenger side.
16. Mark the location on the frame where all the bracket mounting holes need to be drilled.
17. Using the bracket as a template, mark the location on the frame where the square hole needs to be cut. The square hole should extend to the location of the body mount. Drill out the corners of the square, cut out the shape with a grinder, finish the shape with a carbide burr on a die grinder.
18. Measure up 2-3/8" from the bottom of the body mount and mark a horizontal line to trim the body mount.
19. Remove the bracket and drill the holes through only the outside surface of the frame. Be sure to remove any sharp edges from the drilled holes.
20. Cut off the upper and lower control arm mounts from the frame. Remove brackets in pieces. Do not cut into the frame. A combination of grinder, sawzall, hammer and chisel is preferred.
21. Ensure the frame is completely smooth and clean, then paint the frame.

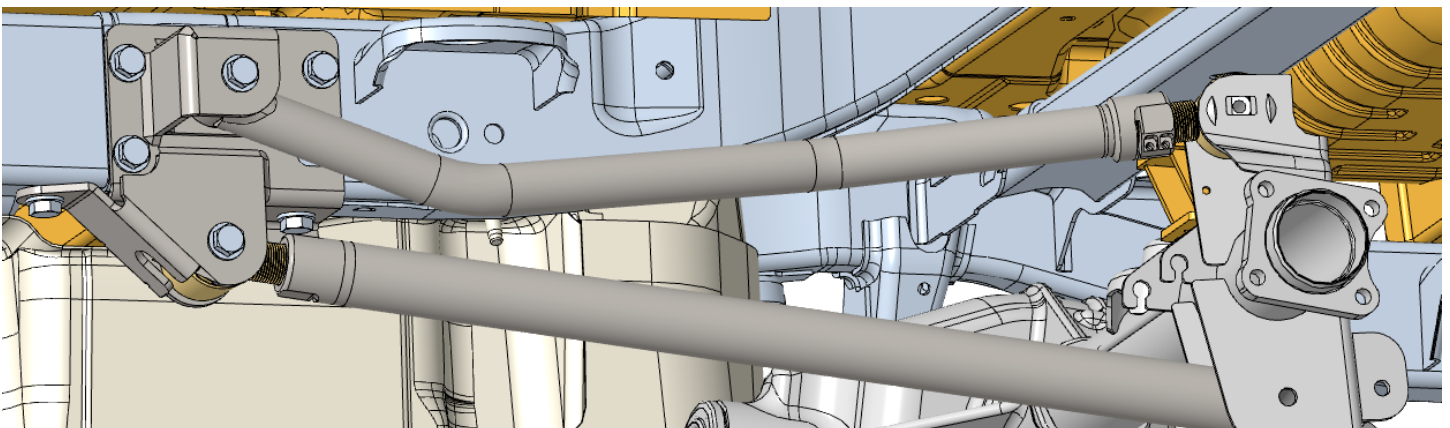




22. **Long Arm Mounting Brackets:** Install the long arm brackets on the frame using 77052 nut plates, M14 x 35 bolts, and washers from **HK #280**. Align the short 77052 nut plates with the holes on the bottom of the frame. Do not tighten at this time.
23. Place a long M14 nut plate through the square hole in the frame. The plate should sit flat against the inside of the frame. Align the long M14 nut plate with the holes in the bracket. Thread M14 x 35 bolts with F436 washers into each nut in the nut plate before fully tightening.
24. Torque all M14 hardware to 100 ft-lbs.
25. **Upper Control Arms:** Locate the upper control arms, M14 x 90 bolts, and F436 washers.
26. Install the flex end of the UCA into the long arm basket using the M14 bolt, then install the rubber bushing end onto the axle with the original bolt. The arm is bent down and outward for frame clearance, the clamping bolts point down.
27. Torque the UCA bolts at the frame to 120 lb-ft. Do not tighten the axle side rubber bushing bolts at this time.

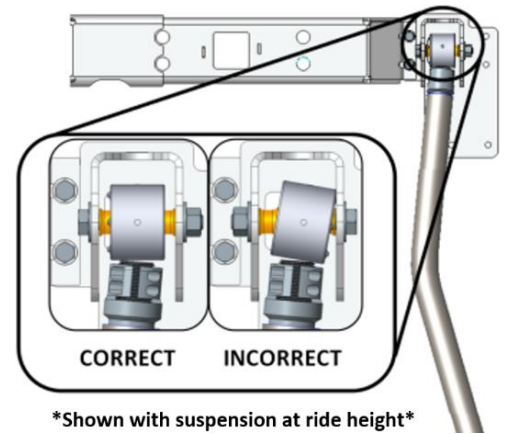


28. **Lower Control Arms:** Locate the lower control arms, new M14 x 100 bolts, F436 washers, and nuts
29. Install the flex end at the frame then install the rubber bushing at the axle. Use the new M14 bolt, F436 washer and nut at the frame. The LCA clamping bolts face inward. The flex joint male end is angled to match the angle of the LCA mount on the frame.
30. Torque LCA bolts at the frame to 130 lb-ft. Do not tighten rubber bushing bolts at the axle at this time.



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

31. Raise vehicle and reposition jack stands under the front and rear axles so that the weight of the vehicle is on the suspension.
32. Temporarily install a tire on one side.
33. Verify that the axle is centered as desired front to rear.
34. Check pinion angle. Bounce the Jeep up and down to ensure the suspension is in resting position (at exact ride height). If your Jeep is equipped with the original driveshaft, (with the rezeppa joints at both ends) matching the pinion angle to the transfer case output isn't critical. Within 2-3° is ok.
35. Adjust control arms to the desired position.
36. To adjust axle front to rear, adjust lower control arms by the same amount.  
12 turns equals one inch of length.
37. To adjust pinion angle, adjust only the upper control arms  
3 turns equals roughly 2 degrees
38. To adjust both, adjust both at the same time.
39. With the vehicle weight on the suspension, tighten the upper and lower control arm bolts at the axle to 130 lb-ft.
40. Ensure the LCA threaded male end matches the angle of the control arm mount then torque the 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.
41. Torque the upper control arm clamping bolts to
42. Install tires and wheels. Torque lug nuts to spec. (Typical specification is 85-115 ft-lbs., depending on your wheels)
43. Recheck all fasteners and torque any remaining loose nuts or bolts to spec.
44. 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:**

45. \* 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 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)



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.

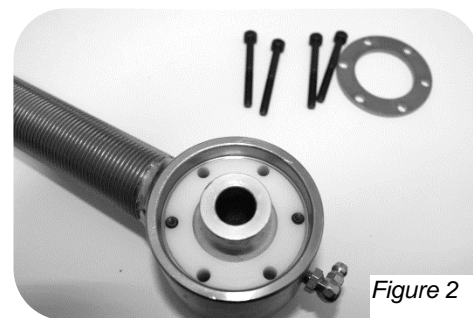


Figure 2



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

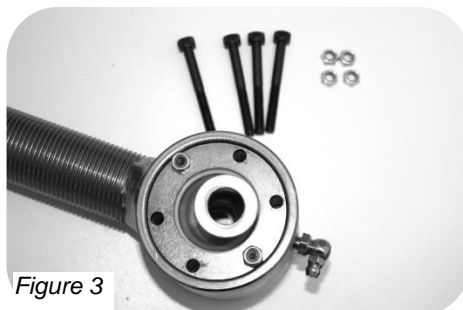


Figure 3

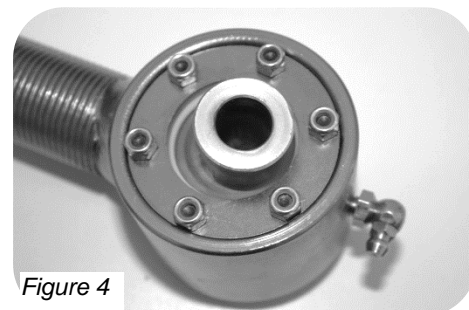


Figure 4

# 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)

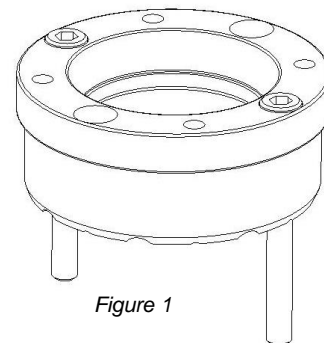
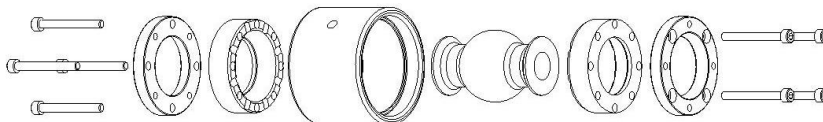
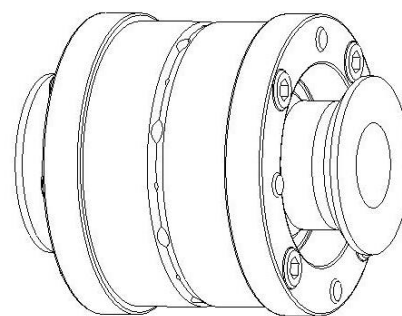


Figure 1

## 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*

