

IRON ROCK OFF ROAD

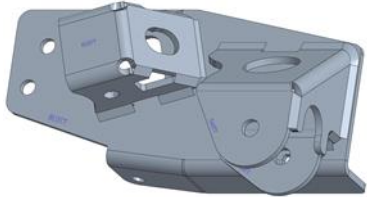
JL/JT Long Arm Upgrade
Rock-Link FRONT

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

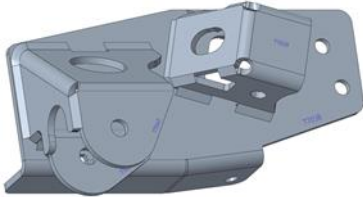
See our website product listing for full color instructions

Parts Checklist:

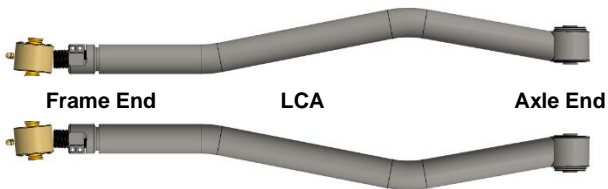
- Iron Rock Off Road Logo Decal 10001 (1)
- Ironrockoffroad.com decal (1)
- Long arm mount, passenger side 77053 (1)



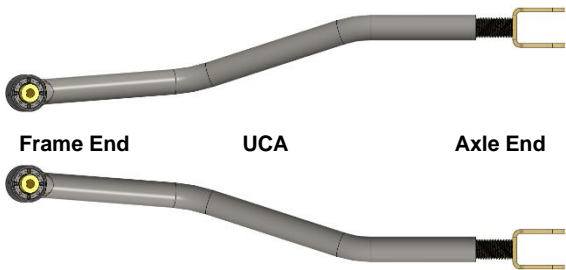
- Long arm mount, driver side 77036 (1)



- LCA, **16mm** bushing installed 77049 (2)
 - LCA, Angled Threaded male end 91109 (2)



- UCA Passenger Side 77047 (1)
- UCA Driver Side 77046 (1)
 - UCA Front threaded male end 77054 (2)



- #65 - Adjustable LCA Clamping Hardware – 10058 (1)**
 - 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 (2)**
 - 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)
- #186 - UCA Clamping Hardware – 13312 (1)**
 - 3/8-16 X 1-1/4 Hex bolt gr8 (2)
 - 3/8-16 Nylock flange nut gr8 (2)
 - 3/8 Mil spec washer (2)
- #233 - 2 5/8" 6 Bolt IRO Flex End Hardware – 14139 (2)**
 - Inner race 91118 (2)
 - Thrust washer 91119 (2)
 - 2-5/8" Flex End Ball **16mm** bolt 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)
- #247 – Long Arm Bracket Hardware – 14410 (1)**
 - Two-Bolt Nut Plate 77042 (2)
 - One-Bolt Nut Plate 77052 (2)
 - 1/2 x 1-1/2" hex bolt, gr8 (2)
 - 1/2 F436 washer (2)
 - 1/2 nylock flange nut (2)
 - M14 x 35 hex bolt, class 10.9 (6)
 - 9/16" F436 hardened washer (8)
 - M14 nylock flange nut class 10.9 (2)
 - M14 x 100 hex bolt class 10.9 (2) UCA bolts



M14 class 10.9	1/2" Grade 8
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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
 - 3/4" crow's foot or 3/4" flex head wrench
 - Torque wrench
 - Angle grinder, Sawzall
 - Anti-seize compound
 - Multipurpose grease
 - Tape measure
 - 1/2" drill bit and drill



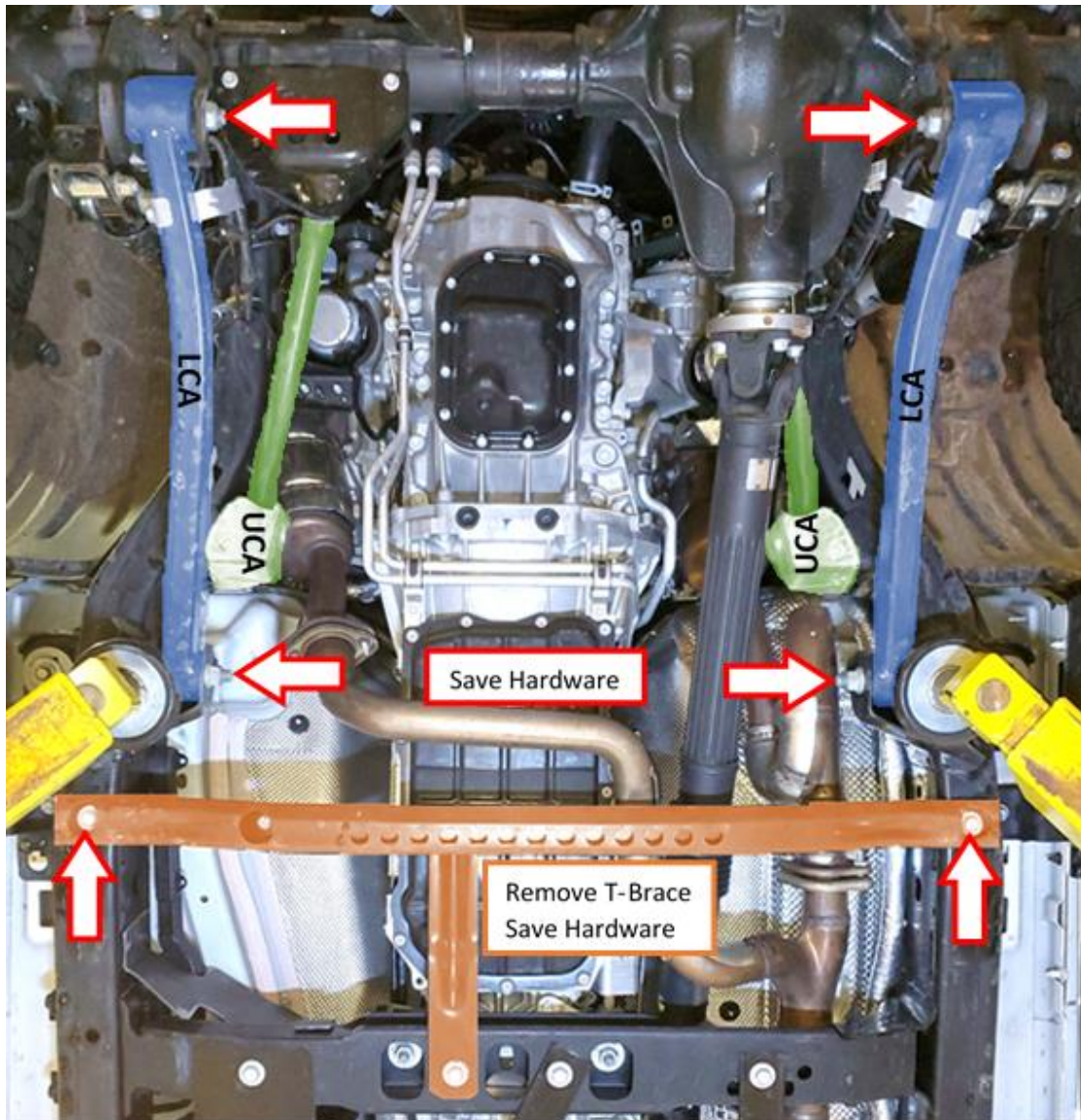
Prepare the parts for installation:

1. **Adjustable Control Arms:** Using the instructions on the last page assemble the flex ends into the threaded male ends for LCAs and UCAs. LCAs use **HK #233**, UCAs use **HK #186**.
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 **HK #186** into the UCAs, do not fully tighten at this time.

Control Arm Length (Center to Center)	3" Lift	5" Lift
UCA (Upper Control Arm)	34"	34-3/4"
LCA (Lower Control Arm)	37-1/4"	38"

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. Save the LCA M16 bolts and UCA M12 bolts for future use.



8. **Diesel Only:** The sensor on the side of the frame needs to be relocated to the top of the frame.



9. Remove the heat shield from the sensor, then remove the nuts securing it to the frame. Pop the sensor off the mounting plate.



10. Disconnect the plastic harness track from the frame by popping the plastic tree plug out of the frame. Place the sensor on top of the frame and zip tie it to the plastic harness track.

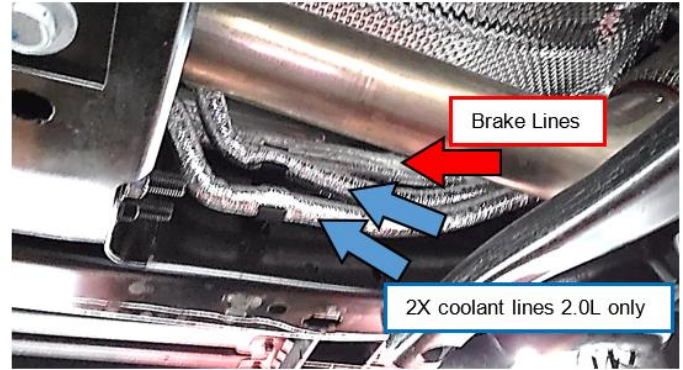


11. Tuck the plastic harness track above the frame.



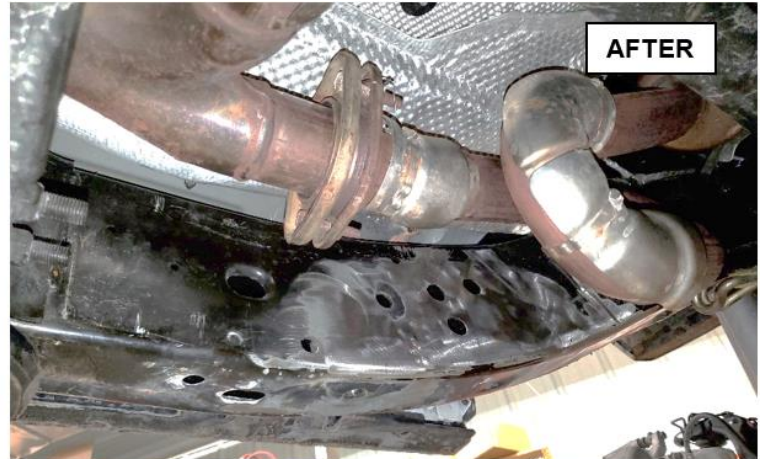
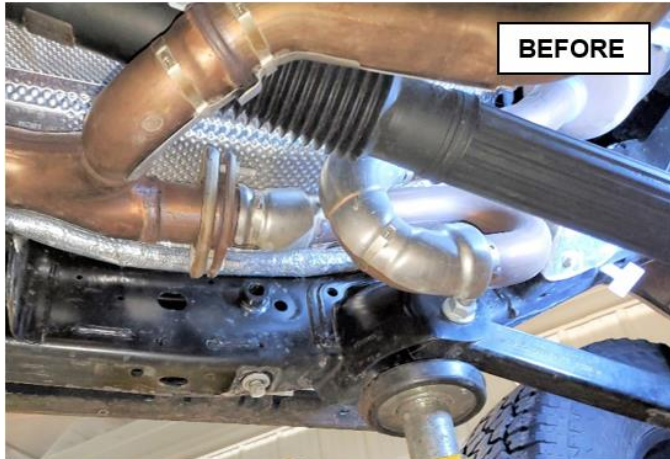
12. Grind the mounting studs off the frame and continue with the installation.

13. Remove the panel from in front of the gas tank and grind the stud flush with the frame.



14. Temporarily disconnect the brake lines (and coolant lines on 2.0L) from the Driver's side frame and tie them out of the way for cutting/grinding.

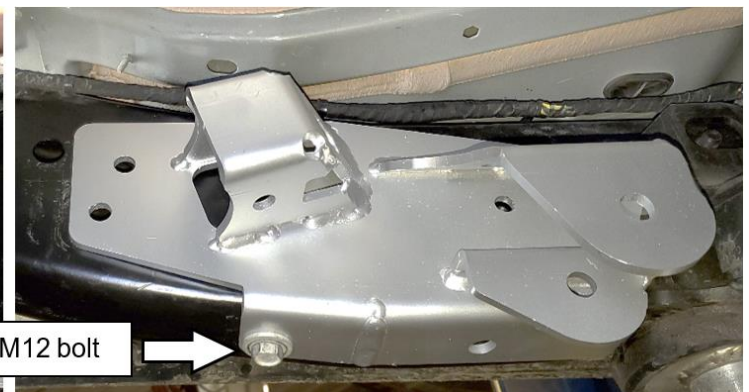
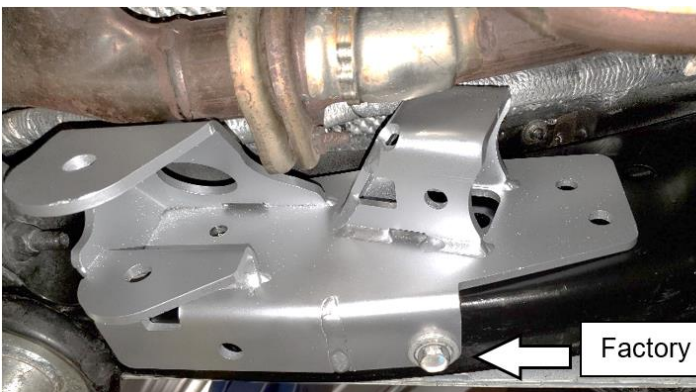
15. Cut off the front upper and lower control arm mounts from the frame. Do not cut into the frame. Ensure the frame is completely smooth, clean, and ready for painting.



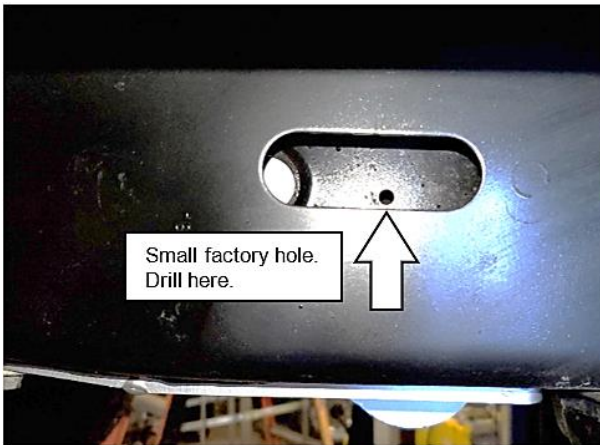
16. **2.0L Turbo Only:** The 2 coolant lines need to be repositioned to the top of the frame. IRO recommends cutting the hard lines and using rubber heater hose to make repositioning easiest. It may be possible to bend the hard lines upward for clearance but there is risk of damage to the lines.

17. **Long Arm Mounting Brackets:** Locate long arm brackets and HK #247.

18. Align the long arm mounting brackets on the frame by installing the factory M12 bolts through the bottom of the bracket and the matching threaded hole in the frame.



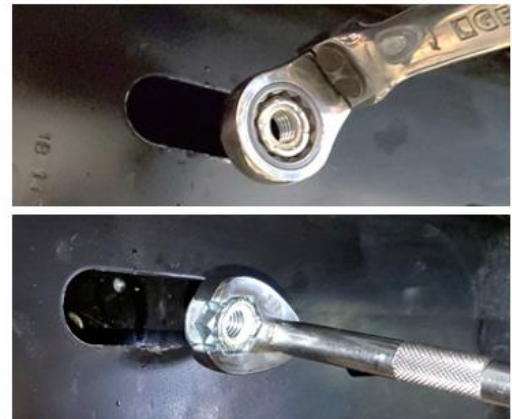
19. **Driver Side:** Using a 1/2" drill bit, drill the rear upper mounting hole from the outside of the frame. *Note* If your Jeep is equipped with factory rock sliders, the driver's side rock slider needs to be removed temporarily for adequate drill clearance or use a right angle drill.
20. Drill the small factory hole inside the oval slot to 1/2" with the long arm bracket in place.



21. **Passenger Side:** Drill the rear upper mounting hole from the inside of the frame using the long arm bracket as a guide. Use a 1/2" drill bit.



22. Install the 1/2" grade 8 bolt with a washer through the bracket and install the matching flange lock nut inside the frame.
23. Use a crow's foot on an extension or a flex head wrench to install the nut onto the bolt. Torque to 100 lb-ft.

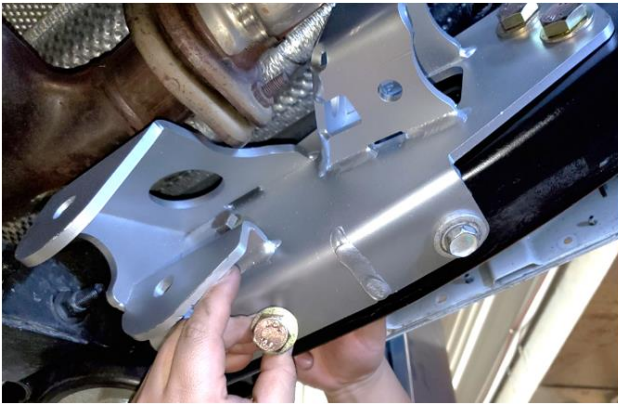


24. Install the two-bolt nut plate through the large hole in the frame inside the body mount bracket. Use a supplied M14 x 100 bolt and standard M14 nut to hold the nut plate while threading the M14 x 40 bolts into the nut plate. Remove the M14 x 100 bolt after the first short M14 bolt is started.



25. Thread the M14 x 40 bolts with washers into the two-bolt nut plate. Torque to 100 lb-ft.

26. Align a single-bolt nut plate above the bottom hole in the long arm bracket and install a M14 x 40 bolt and washer. Torque to 100 lb-ft.
27. Torque the factory M12 bolt to 100 lb-ft.



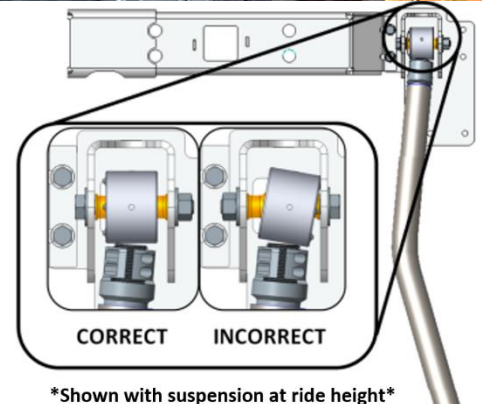
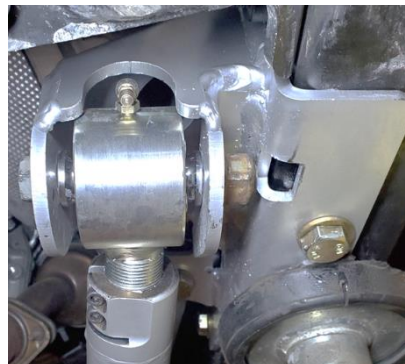
28. **Upper Control Arms:** Locate the upper control arms and M14 x 100 bolts, washers, and flange lock nuts.
29. Install the flex end of the upper control arm into the long arm mounting bracket then install the fork end onto the axle.
30. The arm is bent for frame and exhaust clearance; the clamping bolt points down.
31. Secure the upper control arms with the M14 x 100 bolts, washers, and flange lock nuts at the long arm bracket.
32. Use the factory M12 bolts and nuts at the axle end. Torque the M14 bolts to 120 lb-ft. Do not tighten the M12 bolts at this time.



33. **Lower Control Arms:** Locate the lower control arms and the factory M16 bolts.
34. Install the rubber bushing at the axle then install the flex end at the frame. The LCAs are bent inward for tire clearance.
35. Torque bolts at the frame to 130 lb-ft. Do not tighten bolts at the axle at this time.



36. 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.



Shown with suspension at ride height

Final Torque and Adjustments:

37. Raise vehicle and reposition jack stands under the front and rear axles.
38. Temporarily install a tire on one side.
39. Verify that the axle is centered as desired front to rear. Check caster before adjusting.
40. 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.
41. Adjust control arms to the desired position.
42. To adjust axle front to rear, adjust upper and lower control arms by the same amount. 12 turns equal one inch.
43. To adjust only caster, adjust only the upper control arms (3 turns equals roughly 2 degrees).
44. 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°



45. **Caster angle may need to be adjusted after a test drive to eliminate driveline vibrations.**
46. With the vehicle weight on the suspension, tighten the upper control arm bolts to 90 lb-ft. and lower control arm bolts to 130 lb-ft.
47. Torque the upper and 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.
48. Install tires and wheels. Torque lug nuts to spec. (Typical specification is 85-115 ft-lbs., depending on your wheels)
49. Recheck all fasteners and torque any remaining loose nuts or bolts to spec.
50. 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:

51. * 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 Assembly Instructions

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

This flex end is ONLY for the front LCAs of the Wrangler JL & Gladiator JT and rear LCAs & UCAs on the 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

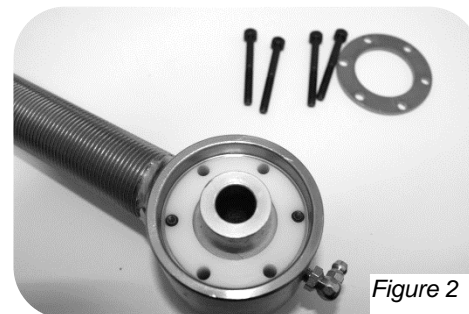
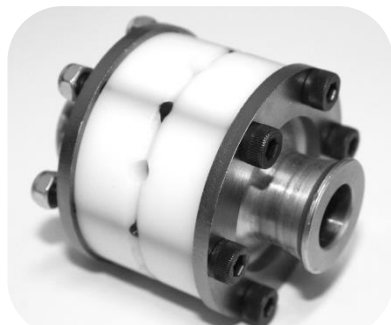


Figure 2



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

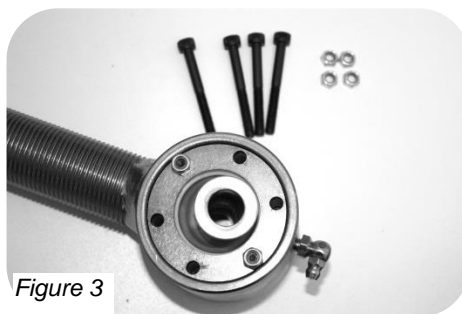


Figure 3

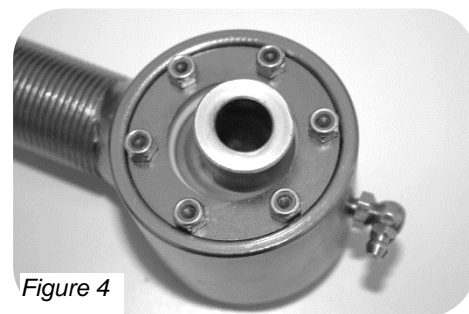


Figure 4

IRON ROCK OFF ROAD

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

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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)

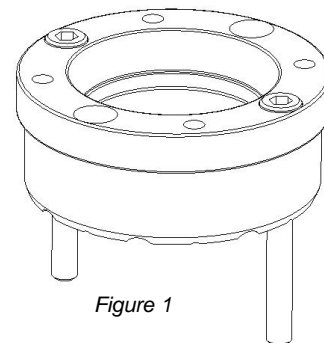
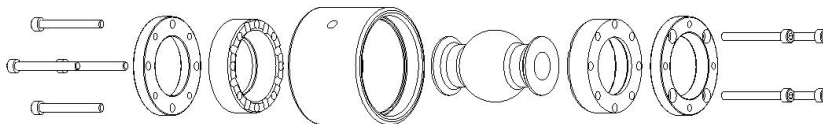
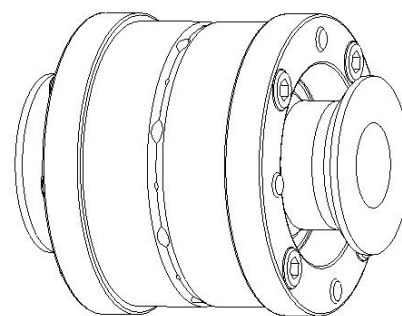


Figure 1

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*

