Parts Checklist:

- ❑ Iron Rock Off Road Logo Decal 10001 (1)
- ❑ Ironrockoffroad.com decal (1)
- ❑ 5" Front coil spring 96040 (2)
- ❑ 5" Rear coil spring 96042 (2)
- ❑ JT 0-8" front track bar 77016 (1)

- ❑ Front Track bar threaded male end, joint installed 77013 (1)
- ❑ JT 0-8" rear track bar 77031 (1)
- ❑ Track bar threaded male end 92004 (1)
- ❑ Front sway bar link 8.75" center to center 92145 (2)
- ❑ Rear sway bar link 11.25" center to center 92147 (2)
- ❑ JT LCA Front 77064B (2)
  - ❑ 16mm Bushing Installed
- ❑ LCA Front Male End, Straight 92186 (2)
- ❑ JT UCA Front 77067 (2)
- ❑ UCA Front Male End 80025 (2)
- ❑ JT LCA Rear 77064B (2)
  - ❑ 16mm Bushing Installed
- ❑ LCA Rear Male End, Straight 92186 (2)
- ❑ JT UCA Rear 92347B (2)
  - ❑ 16mm Bushing Installed
- ❑ UCA Rear Male End 92186 (2)
- ❑ JT Rear Bump Stop Spacer 2" 77026 (2)
- ❑ Stackable Bump Stop Set
  - ❑ 1 Inch Top Bump Stop 88271 (2)
  - ❑ 1/2 Inch Bump Stop Spacer 88272 (2)
  - ❑ 1 Inch Bump Stop Spacer 88273 (2)
  - ❑ 1-1/2 Inch Bump Stop Spacer 88274 (2)
- ❑ **#65 – Adjustable LCA Clamping Hardware (3)**
  - ❑ 1/4"-28 x 1-1/8" socket head cap screw (4)
  - ❑ 1/4"-28 hex nut, gr8 (4)
- ❑ ***#185 - UCA Front 2" Flex End Hardware 13311 (2)***
  - ❑ End Cap 91124 (2)
  - ❑ Race 91123 (2)
  - ❑ 12mm Ball 91122 (1)
  - ❑ 5-40 X 1-1/4 SHCS (9)
  - ❑ 3/32 Hex L-key (hex plus) (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)
- ❑ ***#192 – Stackable 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 - JT 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 (2)***
  - ❑ 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)
- ❑ ***#233 - 2 5/8" 6 Bolt 16mm Flex End Hardware (6)***
  - ❑ 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)
- ❑ ***#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)
- ❑ ***#236 - Rear Track Bar Hardware (1)***
  - ❑ Track bar bushing half 80014 (4)
  - ❑ Track bar bushing sleeve 80003 (2)
  - ❑ 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)

  #255 – JT Shock Hardware (1)
  - ❑ Front Upper Shock Sleeve 79012 (2)
  - ❑ Front Upper Shock Mount Spacer 79013 (4)
  - ❑ Rear Shock Sleeve, M14 79014 (4)
  - ❑ Rear Shock Bushing, 94025-BK-01 (4)
  - ❑ 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)

  #255 – JT Shock Hardware (1)
  - ❑ Front Upper Shock Sleeve 79012 (2)
  - ❑ Front Upper Shock Mount Spacer 79013 (4)
  - ❑ Rear Shock Sleeve, M14 79014 (4)
  - ❑ Rear Shock Bushing, 94025-BK-01 (4)
  - ❑ 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)

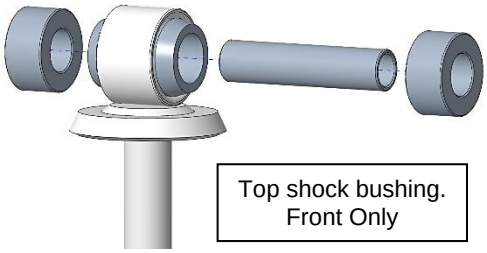
  #231 – JL Bilstein Shock Hardware (1)
  - ❑ 12mm X 1.49" Shock Sleeve 79008 (4)

  #255 – JT Shock Hardware (1)
  - ❑ Front Upper Shock Sleeve 79012 (2)
  - ❑ Front Upper Shock Mount Spacer 79013 (4)
  - ❑ Rear Shock Sleeve, M14 79014 (4)
  - ❑ Rear Shock Bushing, 94025-BK-01 (4)
  - ❑ M12 x 70 Hex bolt cl 10.9 (2)
  - ❑ M12 Nylock nut (2)
  - ❑ 7/16 USS washer (4)

IRON ROCK OFF ROAD

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



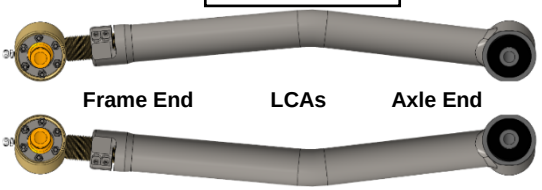
Top shock bushing.
Front Only

Prepare the parts for installation:

1. **Front Shocks:** Locate the front shocks (shorter) and **HK #255**.
2. Grease and install the long sleeve into the top bushing of the front shocks. The long sleeve should be approximatly in the center of the bushing.
3. Grease and install the short shock sleeves (included with shocks) into the bottom bushing.
4. **Rear Shocks:** Locate the rear shocks (longer) and **HK #255**.
5. Remove the bushings from the included shocks.
6. Grease and install the new shock bushings.
7. Grease and install the new M14 shock sleeves.
8. **Track Bars:** Locate front track bar, **HK #235** and track bar threaded male end with joint installed.
9. Locate rear track bar, **HK #236** and track bar threaded male end.
10. Lubricate track bar bushings and bushing sleeves with multi-purpose grease and install into track bars.
11. 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.
12. Apply anti-seize and thread the track bar male end into the track bar and adjust to length listed in the chart as a starting point.
13. Tighten the clamping bracket.

Rear Track Bar

LCAs: **HK #233**



14. **Control Arms:** Use a light coat of anti-seize and thread the male ends into the control arms and adjust to the lengths listed in the chart as a starting point.
15. Using the instructions on the last page assemble the flex ends into the threaded male ends.
16. Install 1/4"clamping bolts in the LCAs and rear UCAs, do not tighten at this time. **HK #65**
17. Install 3/8” bolts in the front upper control arms, do not tighten at this time. **HK #186**
18. **Sway Bar Links:** Grease and install the hourglass bushings into the links. **HK #201**
19. Grease and install the sway bar link bolt sleeves into the bushings. All sleeves are the same (12mm I.D.).

Track Bar & Control Arm Length (Center to Center)	
Front UCA (Upper Control Arm)	20-1/4”
Front LCA (Lower Control Arm)	24-1/4”
Rear UCA	16-3/8”
Rear LCA	23-1/2”
Front Track Bar	33-7/8“
Rear Track Bar	33-3/4“

Front installation:

20. Lift front of vehicle and support with jack stands under frame rails.
    **Tip: break lug nuts loose before lifting vehicle.
21. Remove front wheels
22. Remove front sway bar links.
23. Support front axle with jack stands and remove shocks.
24. Remove front track bar.
25. Remove factory lower control arms.
26. Remove coil springs.
27. 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.
28. Stack bump stop top and spacers to achieve desired height and align them with the correct bolt length. **HK #192**
29. Drill out the existing hole in the center of your lower spring mount with a 7/16 drill bit.
30. Position the flag nut under the mount, aligning the nut with the drilled hole. You may have to bend the flag nut slightly.
31. Apply a small amount of medium strength thread locker to bump stop bolt and install into flag nut.
32. Ensure the bolt hex engages the hex in the top bump stop.
33. 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.
    **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.
34. Install new lower contol arms using the factory hardware. Do not tighten bolts at this time.
    The bend goes up for ground clearance. The rubber bushing goes to the axle and the flex end at the frame.
35. Remove factory upper control arms and install new upper contol arms using the factory hardware.
    Clamping bolt facing down. Do not tighten bolts at this time.
36. Install new coil springs.

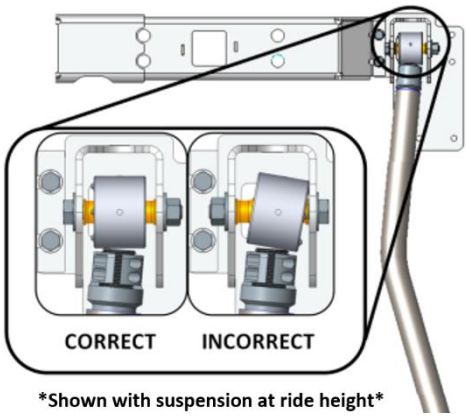
Bump Stop Height	Bolt Length
4.0 Inch	4.5”
3.5 Inch	
3.0 Inch	3.5”
2.5 Inch	
2.0 Inch	2.5”
1.5 Inch	
1.0 Inch	1.5”

IRON ROCK OFF ROAD
952-210-7185
877-919-JEEP

37. Install new shocks with a new M12 x 70 bolt at the bottom. **HK #255**
38. Install new front sway bar links.
39. Install new front track bar, threaded end to axle side. The clamp faces up, nut facing front.
40. Reinstall front wheels.

Rear installation:

41. Lift rear of vehicle and support with jack stands under frame rails.
    **Tip: break lug nuts loose before lifting vehicle.
42. Remove rear wheels.
43. Remove sway bar links.
44. Support the rear axle with jack stands and remove shocks.
45. Remove track bar.
46. Remove coil springs.
47. Remove factory lower control arms and install new lower contol arms using the factory hardware. Clamping bolts facing up, flex end at the frame, grease zerk pointed down.
48. Remove factory upper control arms and install new upper contol arms using the factory hardware. Clamping bolts facing down, flex end at the frame.
    *For ease of installation: it is recommended that the rear axle be set at ride height and the upper control arm bolts be torqued before install of the rear bump stop spacers.
49. Install rear bump stop spacers using **HK #199**.
50. Install new springs.
51. Install new shocks.
52. Install new track bar, adjustable end at the frame.
53. Install new sway bar links.
54. Reinstall rear wheels.
55. Lower vehicle onto ground.

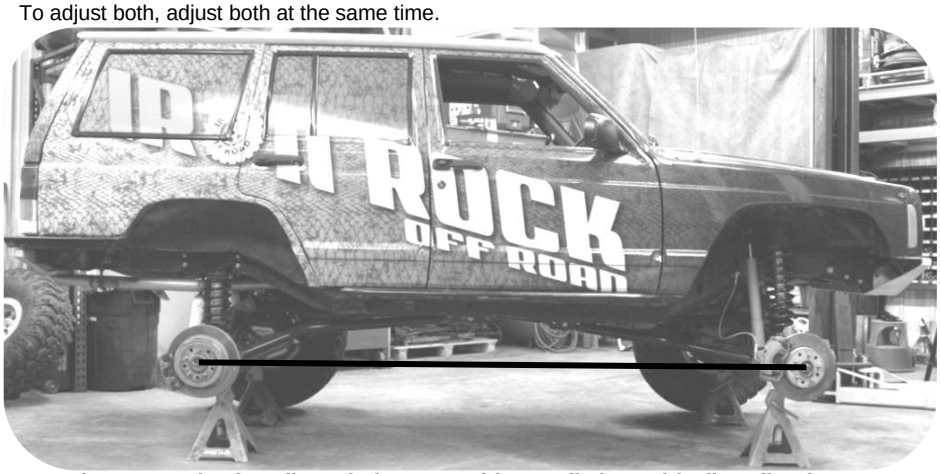


Shown with suspension at ride height

Final Torque and Adjustments:

56. 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.
57. Check that axles are centered side to side and adjust track bars as needed.
58. Raise vehicle and reposition jack stands under the front and rear axles.
59. Temporarily install a tire on one side.
60. Verify that the axle is centered as desired front to rear. Check caster before adjusting.
61. 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.
62. Adjust control arms to the desired position.
63. To adjust axle front to rear, adjust upper and lower control arms by the same amount. 12 turns equal one inch.
64. To adjust only caster, adjust only the upper control arms (3 turns equals roughly 2 degrees).
65. To adjust both, adjust both at the same time.

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



Caster angle may need to be adjusted after a test drive to eliminate driveline vibrations.

66. With the vehicle weight on the suspension, tighten front lower control arm bolts to 130 lb-ft. Tighten front upper control arm bolts to 75 lb-ft.
67. Tighten rear upper and lower control arm bolts to 130 lb-ft.
68. Torque lug nuts to factory spec. (85 to 115 ft-lbs)
69. 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.
70. 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:

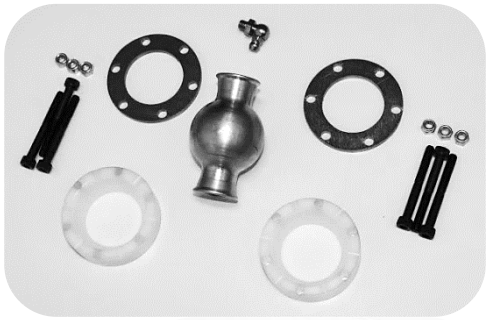
* Re-torque all fasteners after 100 miles, and frequently inspect all safety critical suspension components. It is the responsibility of the installer to be sure all fasteners are properly tightened after installation and to ensure the owner knows his/her ongoing responsibility. It is the responsibility 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° ¼"-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.

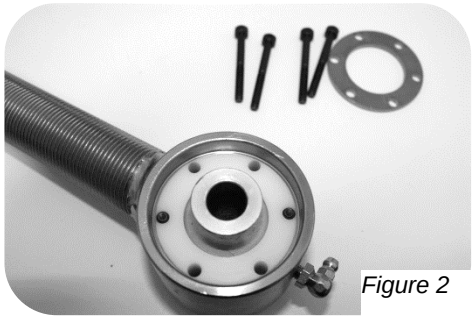


Figure 2

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

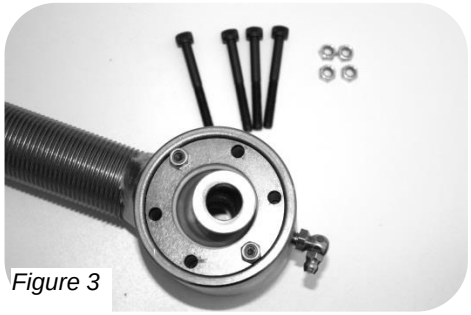


Figure 3

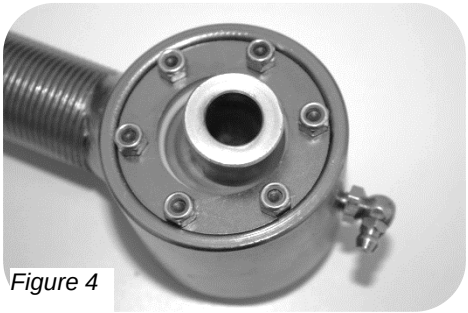


Figure 4

IRON ROCK OFF ROAD

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

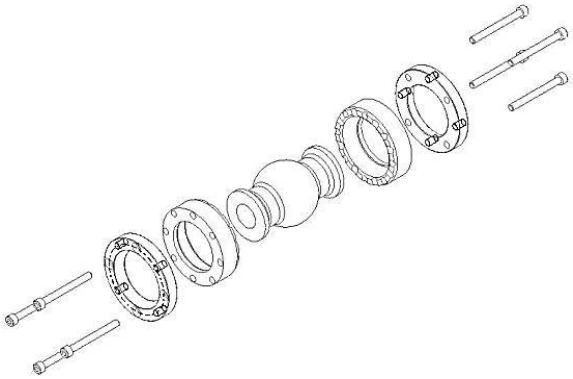
2" IRO Flex End (8 bolt) Assembly Instructions

Fits All Iron Rock Off Road Long Arm Systems and Build Your Own Flex End Assemblies.

Parts Checklist:

- ❑ **Optional**: 10676 **#140 – 2" Flex Joint 8-Bolt 10mm Weld-on (1)**
  - ❑ End cap 91124 (2)
  - ❑ Race 91123 (2)
  - ❑ 5-40 x 1-1/4" socket head cap screw (9)
  - ❑ 3/32" Hex L key, high torque (hex plus) (1)
  - ❑ 2" flex end ball 10mm, 8 bolt, 91121 (1)
  - ❑ Outer housing, weld on (may already be attached to your existing control arm)

- ❑ **Optional**: 10677 **#141 – 2" Flex Joint 8-Bolt 10mm Press In (1)**
  - ❑ End cap 91124 (2)
  - ❑ Race 91123 (2)
  - ❑ 5-40 x 1-1/4" socket head cap screw (9)
  - ❑ 3/32" Hex L key, high torque (hex plus) (1)
  - ❑ 2" flex end ball 10mm, 8 bolt, 91121(1)
  - ❑ Outer housing, press in 91078 (1)



- ❑ **Optional**: 10678 **#142 – 2" Flex Joint 8-Bolt 12mm Weld-on (1)**
  - ❑ End cap 91124 (2)
  - ❑ Race 91123 (2)
  - ❑ 5-40 x 1-1/4" socket head cap screw (9)
  - ❑ 3/32" Hex L key, high torque (hex plus) (1)
  - ❑ 2" flex end ball 12mm, 8 bolt, 91122 (1)
  - ❑ Outer housing, weld on (may already be attached to your existing control arm)

- ❑ **Optional**: 10679 **#143 – 2" Flex Joint 8-Bolt 12mm Press In (1)**
  - ❑ End cap 91124 (2)
  - ❑ Race 91123 (2)
  - ❑ 5-40 x 1-1/4" socket head cap screw (9)
  - ❑ 3/32" Hex L key, high torque (hex plus) (1)
  - ❑ 2" flex end ball 12mm, 8 bolt, 91122 (1)
  - ❑ Outer housing, press in 91078 (1)

- ❑ **Optional**: 10680 **#144 – 2" Flex Joint 8-Bolt 1/2" Weld-on (1)**
  - ❑ End cap 91124 (2)
  - ❑ Race 91123 (2)
  - ❑ 5-40 x 1-1/4" socket head cap screw (9)
  - ❑ 3/32" Hex L key, high torque (hex plus) (1)
  - ❑ 2" flex end ball 1/2", 8 bolt, 91126 (1)
  - ❑ Outer housing, weld on (may already be attached to your existing control arm

- ❑ **Optional**: 10681 **#145 – 2" Flex Joint 8-Bolt 1/2" Press In (1)**
  - ❑ End cap 91124 (2)
  - ❑ Race 91123 (2)
  - ❑ 5-40 x 1-1/4" socket head cap screw (9)
  - ❑ 3/32" Hex L key, high torque (hex plus) (1)
  - ❑ 2" flex end ball 1/2", 8 bolt, 91126 (1)
  - ❑ Outer housing, press in 91078 (1)

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!***

Assembly:

1. Install outer tube (weld on or press in).
2. If using the press-in replacement for OEM rubber bushings:
   a. Remove the existing bushing using a hammer and punch. If necessary, punch the inner sleeve out first, then the rubber, then cut through the metal outer sleeve with a metal cutting blade on a Sawzall, then remove the metal outer shell.
   b. To install the new press-in outer tube, our installation tool (sold separately) is highly recommended. See installation tool instructions for proper tool use.
   c. If not using the Iron Rock installation tool, precaution must be taken to avoid damaging the precision machined inner surfaces. Using a bearing race and seal driver press the outer tube into the axle housing or control arm. In order to avoid damage to the precision parts, use the minimum amount of force needed to complete the job. Ensure the tube is fully seated in place. Using a hammer and punch (3/8" diameter punch works well), bend the thin edge on the flex end tube outward to lock it in place. (Use roughly 3/8" wide bends in two places.)
3. Insert two 5-40 socket head cap screws into one end cap and one race. Spherical bore of race facing away from end cap.
4. Install this small assembly into the flex end housing. The races are a tight fit, use a hammer and a wide punch to assist you if needed.
5. Apply a thin coating of multi-purpose grease to the mating surfaces of the ball and both races.
6. Place the ball in the race (inside the flex end). The ball should perfectly fit the contour of the race.
7. Insert the other race onto the ball so that the spherical bore is contacting the ball. Once again, the races are a tight fit, use a hammer and wide punch if needed. (The two screws should be through one washer and both races at this point).
8. Insert the second end cap in the flex end housing, sliding the bolts through the holes.
9. Start threading the two bolts that are in the flex end assembly.
10. Insert the remaining six cap screws through the remaining holes.
11. Snug up all of the bolts fairly tight.
12. Torque bolts evenly starting at one bolt using a crisscross pattern, like torqueing lug nuts. Torque all eight bolts to 20 in/lbs.