

IRON ROCK OFF ROAD

XJ 4" ROCK-LINK PRO

Long Arm Lift Kit Instructions

I-877-919-JEEP www.ironrockoffroad.com XJ 84-01 Jeep Cherokee

Parts Checklist:

- Front 4" coil spring 96012 (2)
- Rear 4" coil spring 13015 (2)
- Rear LCA/UCA Mounting Subframe 91162 (1)
- Rear shock crossmember 91173 (1)
- Rear shock crossmember spacer 91178 (2)
- Rear coil retainer upper spacer 91193 (2)
- Rear coil retainer middle spacer 91194 (6)
- Rear coil retainer lower 91192 (2)
- XJ Bumpstop 52004295 (2)
- Rear long UCA 91184 (2)
- 2-3/8" flex end male end 91191 (2)
- Rear left long LCA 91185 (1)
- Rear right long LCA 91186 (1)
- Long arm male end; angled 91109 (2)
- Rear shock mount 99060 (2)
- Rear lower coil spring retainer spacer plate 99054 (4)
- Rear upper coil spring retainer clamping plate 99059 (2)
- XJ coil spring isolator 52000229 (2)
- XJ Brake line set 10207 (1)
- 3/16" steel brake line tubing (5 ft.) (1)
- JKS front sway bar quick disconnects #2001 (1)
- XJ/ZJ double shear track bar bracket 91015 (1)
- Double adjustable track bar 92305 (1)
- Double adjustable track bar male end 92297 (1)
- Double adjuster, track bar 91235 (1)

#277 - XJ Double Adjustable Track Bar Hardware (1)

- Track bar bushing half 80014 (4)
- 12mm track bar bushing sleeve 92035 (1)
- 7/16" I.D. track bar bushing sleeve 92036 (1)
- Track bar clamp 92303 (2)
- M12-1.75 x 80 hex bolt (2)
- M12-1.75 hex nut (2)
- 7/16" x 2-1/2" hex bolt, gr8 (1)
- 7/16" Track Bar Flag Nut 91230 (1)
- 7/16" USS flat washer (5)

BOX 1 Front 3-Link 13320 (1)

- Front Subframe center 91154 (1)
- Front Subframe left outer 91147 (1)
- Front Subframe right outer 91151 (1)
- T-Case drop spacer 99003 (2)

#182 - XJ 3-Link Long Arm Subframe Hardware (1)

- M14 x 2.0 x 90 hex bolt cl10.9 (1)
- M14 x 2.0 x 100 hex bolt cl10.9 (2)
- M14 x 2.0 x 110 hex bolt cl10.9 (2)
- M10 x 1.5 x 30 flange bolt class 10.9 (4)
- M10 x 80 cl10.9 hex bolt (1)
- M10 x 25 carriage bolt (4)
- M10 X 50 carriage bolt (4)
- M10-1.5 cl10.9 hex nut (4)
- M10-1.5 cl10.9 nylock flange nut (1)
- 7/16-14 X 1-1/4 gr8 hex bolt (2)
- M14 Nylock flange nut cl10.9 (4)
- 3/8 USS flat washer (12)
- 9/16 F436 hardened washer (5)

BOX 2 Front 3-Link 13488 (1)

- XJ Front Long LCA Left 85107B (1)
- XJ Front Long LCA Right 85108B (1)
- XJ 3-Link Front UCA 91205 (1)
- Angled Long Arm Male End 91109 (2)
- 2 3/8 UCA Male End 91191 (1)

#127 - 2 5/8" 6 Bolt IRO Flex End Hardware (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)
- 90 Degree 1/4"-28 Grease zerk Fitting (1)

#168 - 2-3/8" Flex End Hardware (1)

- End cap 91138 (2)
- Inner race 91139 (2)
- Flex end ball 91140 (1)
- 8-32 x 1-1/2" socket head cap screw (8)
- 90° 1/4"-28 grease zerk fitting (1)
- Straight 1/4-28 grease zerk fitting (1)

#181 - 3-Link Control Arm Clamping Hardware (1)

- 1/4"-28 x 1-1/8" socket head cap screw (4)
- 3/8-16 x 1 1/4" hex bolt grade 8 (1)
- 1/4"-28 hex nut, grade 8 (4)
- 3/8-16 nylock flange nut (1)
- 3/8 Mil Spec Hardened washer (1)

#274 - XJ Rear Shock Spacer Hardware (1)

- Spacer 99170 (2)

Shocks

Trail Tamer HD Hydro

- Front shock 79001 (2)
- Rear shock 79003 (2)

Doetsch Upgrade (Optional)

- Front shock DT 8350 (2)
- Rear shock DT 8265 (2)

#15 - Shock Hardware (1)

- 2.5" long front barpin (2)
- 2.75" long rear barpin (2)

Bilstein Upgrade (Optional)

- Front shock 33-230351 (2)
- Rear shock 33-185606 (2)

#15 - Shock Hardware (1)

- 2.5" long front barpin (2)
- 2.75" long rear barpin (2)

#174 - XJ Rear 4-Link Crossmember Hardware (1)

- 2-hole nut plate 92097 (4)
- 7/16"-14 x 1-1/4" hex bolt, gr8 (8)
- 7/16" F436 washer (8)

#65 - Adjustable LCA Clamping Hardware (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 (2)

- Inner race 91118 (2)
- Thrust washer 91119 (2)
- Ball 91117 (1)
- 10-32 x 1-3/4" Socket Head Cap Screw (6)
- 10-32 Nylock Nut (6)
- 90 Degree 1/4"-28 Grease Zerk Fitting (1)

#147 - XJ/TJ Rear Brake Line Hardware (1)

- 3/16" brake line flare nut (4)
- 7/16"-14 x 1.25 hex bolt, gr8 (1)

- 7/16"-14 hex nut, gr8 (1)

#167 – XJ 4-Link Spring/Shock Crossmember Hardware (1)

- 3/8"-16 x 1-1/4" hex bolt, gr8 (8)
- 3/8" USS washer (8)
- 3/8"-16 rivet nut, steel (8)
- M8-1.25 x 30 hex bolt (4)
- 1/4" USS washer (4)

#168 - 2-3/8" Flex End Hardware (4)

- End cap 91138 (2)
- Inner race 91139 (2)
- Flex end ball 91140 (1)
- 8-32 x 1-1/2" socket head cap screw (8)
- 90° 1/4"-28 grease zerker fitting (1)
- Straight 1/4"-28 grease zerker fitting (1)

#169 – XJ Upper Rear Coil Retainer Hardware (1)

- 1/2"-13 x 3" gr5 hex bolt, fully threaded (2)
- 1/2"-13 x 5" gr5 hex bolt, fully threaded (2)

#170 – XJ Lower Rear Coil Retainer Hardware (1)

- 1/2"-13 x 1-1/2" carriage bolt (2)
- 1/2"-13 hex nut (2)

#171 – XJ 4-Link Rear Control Arm Hardware (1)

- M14 x 95 hex bolt cl10.9 (4)
- M14 x 100 hex bolt cl10.9 (4)
- M14 nylock nut cl10.9 (8)
- 9/16 F436 hardened washer (8)

#172 – XJ Rear 4-Link Shock Hardware (1)

- M12 x 1.49" shock sleeve 404379 (4)
- M12-1.75 x 60 hex bolt cl10.9 (4)
- 7/16" USS washer (6)
- M12-1.75 nylock nut (4)

#173 – 3/8" Rivet Nut Install Tool (1)

- 7/16" serrated flange hex nut (1)
- 3/8" MIL spec flat washer (2)
- 3/8"-16 x 1-1/4" hex bolt, gr8 (1)

Rear axle truss customer specific:

Optional: D35 4 link Truss 91222 (1)

- Axle UCA mount base 91169 (1)
- Axle mount UCA plate inner 91170 (2)
- Axle mount UCA plate outer 91171 (2)
- D35 Truss Gusset 91223 (1)
- Coil spring pad 91219 (2)
- Left LCA bracket 91221 (1)
- Right LCA bracket 91220 (1)
- #184 – T-Block Eliminator (1)

Optional: Chrysler 8.25" 4 link Truss 88208 (1)

- Axle UCA mount base 91169 (1)
- Axle mount UCA plate inner 91170 (2)
- Axle mount UCA plate outer 91171 (2)
- Chrysler 8.25" Truss Gusset 88262 (1)
- Coil spring pad 99061 (2)
- Left LCA bracket 85006 (1)
- Right LCA bracket 85005 (1)
- #184 – T-Block Eliminator (1)

Optional: Ford 8.8" Truss 85060 (1)

- Gusset Bracket 91224 (1)
- Axle UCA mount base 91169 (1)
- Axle mount UCA plate inner 91170 (2)
- Axle mount UCA plate outer 91171 (2)
- Coil spring pad 99061 (2)
- Left LCA bracket 85006 (1)
- Right LCA bracket 85005 (1)

Optional: Dana 60 Over Diff Cradle 88217 (1)

- Front Truss Plate 88218 (1)
- Rear Truss Plate 88219 (1)
- UCA Inner Plate 91200 (2)
- UCA Outer Plate 91201 (2)
- Coil spring pad 99061 (2)
- Left LCA bracket 85006 (1)
- Right LCA bracket 85005 (1)

Optional: GM Corp. 14 Bolt Over Diff Cradle 91196 (1)

- Front Truss Plate 91197 (1)
- Rear Plate Left 91198 (1)
- Rear Plate Right 91199 (1)
- UCA Inner Plate 91200 (2)
- UCA Outer Plate 91201 (2)
- Coil spring pad 99061 (2)
- Left LCA bracket 85006 (1)
- Right LCA bracket 85005 (1)

Optional: JK Dana 44 Over Diff Cradle 88217 (1)

- Front Truss Plate 88257 (1)
- Rear Truss Plate 88256 (1)
- UCA Inner Plate 91200 (2)
- UCA Outer Plate 91201 (2)
- Coil spring pad 99061 (2)
- Left LCA bracket 85006 (1)
- Right LCA bracket 85005 (1)

Optional: Ford 9" Semi-Universal Truss 88266 (1)

- Front Truss Plate 88269 (1)
- Rear Truss Plate 88270 (1)
- UCA Inner Plate 88267 (2)
- UCA Outer Plate 91201 (2)
- Coil spring pad 99061 (2)
- Left LCA bracket 85006 (1)
- Right LCA bracket 85005 (1)

Optional: Universal Truss 88266 (1)

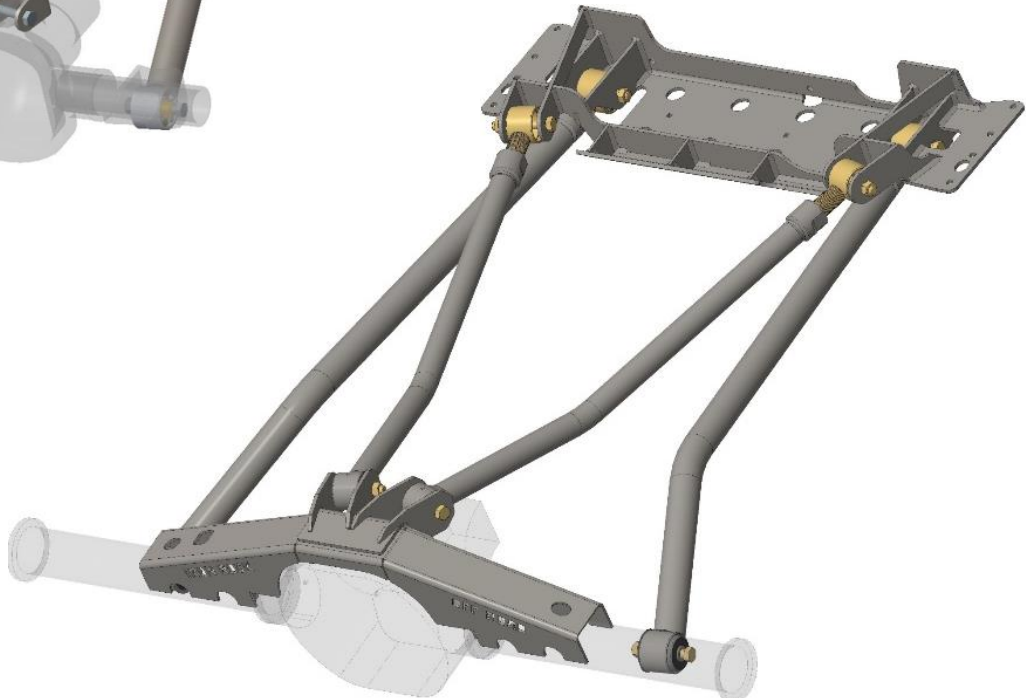
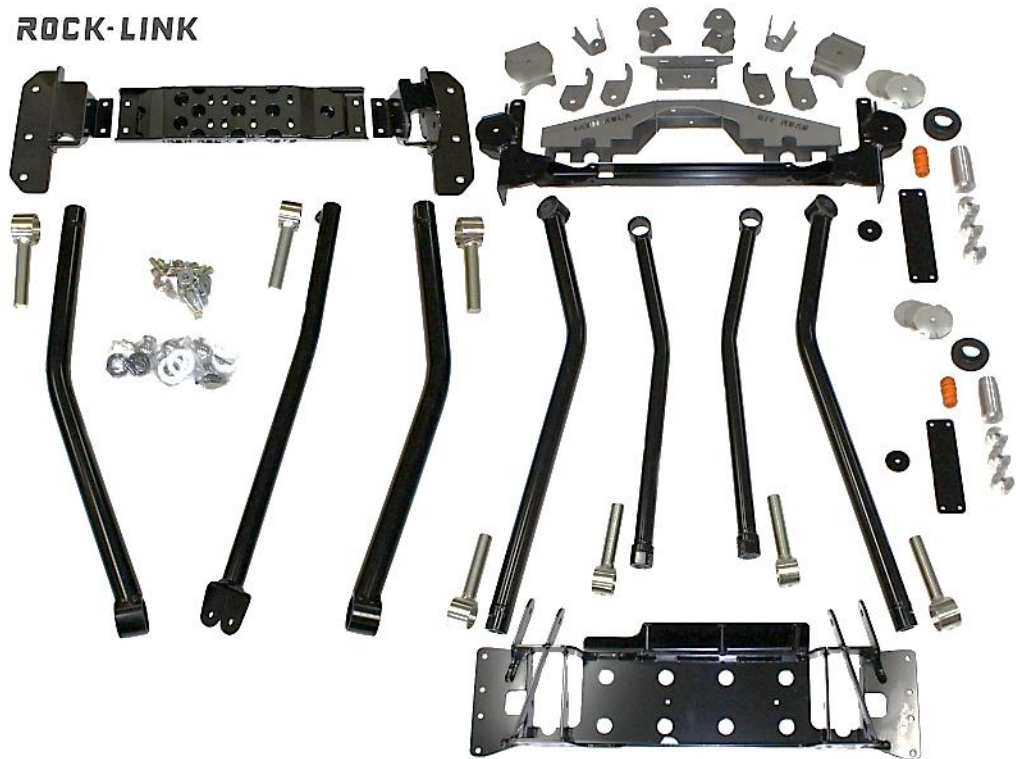
- Front/Rear Truss Plate 88268 (2)
- UCA Inner Plate 88267 (2)
- UCA Outer Plate 91201 (2)
- Coil spring pad 99061 (2)
- Left LCA bracket 85006 (1)
- Right LCA bracket 85005 (1)

Optional: Sterling 10.5 Truss 88298 (1)

- Front Truss Plate 88310 (1)
- Rear Truss Plate 88311 (1)
- UCA Inner Plate 91200 (2)
- UCA Outer Plate 91201 (2)
- Coil spring pad 99061 (2)
- Left LCA bracket 85006 (1)
- Right LCA bracket 85005 (1)



ROCK-LINK



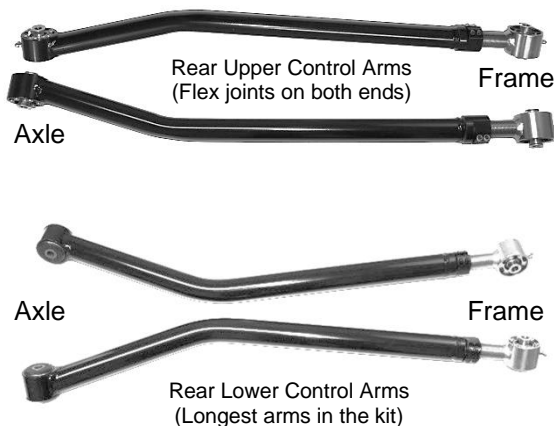
Installation Instructions:

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

Installing a suspension lift kit raises the center of gravity of the vehicle. This increases the possibility of a rollover accident. Avoid sudden maneuvers at high speed and avoid all situations where a side rollover may occur. In addition, larger tires decrease braking performance, please drive accordingly. We recommend a tire and wheel combination that make the vehicle's track width wider (wheels with less backspacing than OEM). This will lower the center of gravity and add stability. We also recommend that 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:

- Read all safety warnings.
- Read and understand installation instructions.
- *2000 and 2001 models with automatic transmissions will require old style transmission mount such as Anchor 2625 on ironrockoffroad.com
- A custom exhaust will be required. *IRO XJ Rear 4-Link Exhaust* **Product Code: 13888**
- Modifications to your emergency brake system will be required. You will need to source your own parts for this.
- Check all steering and suspension components for wear and replace as needed.
- Contact Iron Rock Off Road with any questions before, during, or after installation.
- Ensure that all parts are present and in good condition using the included shipping checklist.**
- Be sure you have the following tools and supplies:
 - Floor jack and jack stands
 - Basic hand tools
 - Multi-purpose grease (all poly bushings should be greased before installation)
 - Metal cutting tools such as a 4 1/2" angle grinder with thin metal cutting wheel, and a sandpaper flap wheel for an attractive finish. Possibly a sawzall with metal cutting blades.
 - Paint and primer (for uniframe - black or your choice of color).
 - Anti-seize compound
 - Hand drill with good quality 7/16" & 17/32" drill bits
 - 23/64" drill bit (.359" diameter)
 - 7/16-14 Hand Tap
 - Angle finder
 - String level or laser level
 - Welder (for welding brackets to axle)
 - Brake line bender
 - Double flaring tool (for brake lines)
 - If equipped with rear uniframe stiffeners: 5/16" drill bit, 3/8"-16 hand tap, tap holder and cutting oil. You will not need the 17/32" drill bit.



Prepare the parts for installation:

1. **Shocks:** Locate **HK #15** and the front shocks.
2. Grease and install the barpins into the bottom bushing of the front shocks. Clamp the barpin vertically in a bench vise and lower the shock onto the barpin while rotating the shock back and forth. Be sure to thoroughly grease the barpin and the shock bushing. If needed, you can grind or file the corners of the barpin to provide a lead in surface. Remove any sharp edges to prevent damage to the shock bushing.
3. Locate the rear shocks and **HK #172**. Grease and install the shock sleeves in the top and bottom bushings of the rear shocks. Keep the rest of the hardware in the bag for future use.
4. **Track Bar:** Locate track bar, track bar male threaded end, double adjuster, and **HK #277**. Install clamps onto the double adjuster.
5. Apply anti-seize to all the threads then thread the track bar and male end into the double adjuster. Ensure the ends are equally threaded into the double adjuster then adjust the length to 33-3/8" center to center as a starting point.
6. Apply multi-purpose grease to both poly bushings and both inner bushing sleeves. Install bushings then sleeves into the track bar. The sleeve with the larger hole goes into frame side. (Longer end)



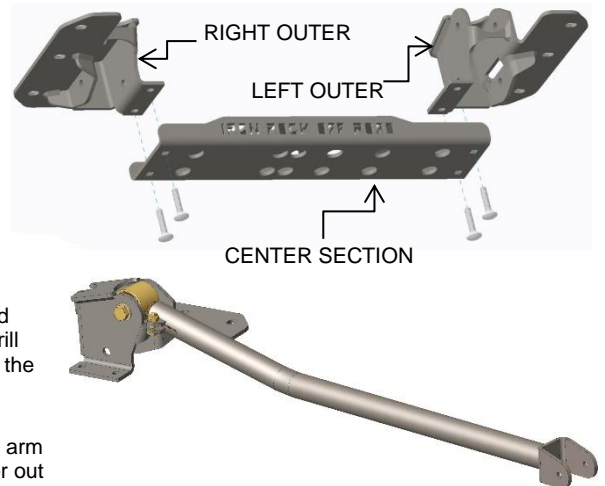
7. **Sway Bar Links:** Locate the JKS front sway bar links. Refer to JKS instructions. Set them to maximum length for 8" lift kits.
8. **Control Arms:** Locate the lower control arms (larger), threaded male ends (larger, angled), **HK #65, #127** and **#181**.
9. Assemble flex ends into angled threaded male ends. Use **HK #127** and attached instructions (2-5/8").
10. Locate the upper control arms (smaller), male end (smaller, straight), and **HK #168**. See above pictures for reference.
11. Assemble flex ends into upper control arms and male ends. Use **HK #168** and attached instructions (2-3/8").
12. Apply a light coat of anti-seize compound to the threads, thread male ends into control arms.

Control Arm Length (Starting Lengths - Center to Center)	
Front Lower Control Arms	36-3/8"
Front Upper Control Arm	37-1/8"
Rear Lower Control Arms	43"
Rear Upper Control Arms	35-1/2"

13. Adjust control arm lengths per the chart.
14. Install 1/4" socket head cap screws and 1/4" nuts from kit #65 and #181 into LCAs. Do not tighten at this time.
15. Install 3/8" hex bolt, washer, and flange nut from kit #181 into front UCA. Do not tighten at this time.

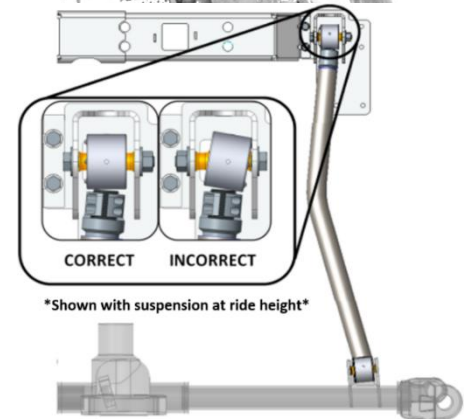
Control arm mounting subframe:

16. Lift front and rear of vehicle and support with jack stands under the uniframe. Leave room to cut off the stock lower control arm mounts.
17. Remove the four transmission mount nuts from the transmission.
18. Raise transfer case slightly and support with a jack stand.
19. Remove the factory transmission mounting crossmember.
20. Using a stud puller, remove the two crossmember mounting studs. If you do not have a stud puller, you can install 2 nuts and tighten one against the other then remove using a box end wrench on the inner nut. Also, if you have access to a welder, weld a nut to the stud then remove with a wrench.
21. Drill and tap the third mounting hole on each side (the next hole directly forward from the two crossmember mounting holes) using the 23/64 (.359" diameter) drill bit and 7/16-14 hand tap. Use plenty of oil during drilling and tapping and keep the drill bit and tap as straight as possible.
22. **Install upper control arm into left subframe outer bracket.** Make sure the threaded male end is installed in the subframe using the M14 x 90 bolt and the arm is oriented with the bend hanging down to clear the floor. Bolt faces from center out so it can be removed later if needed.
23. Install subframe outer bracket in vehicle using M10 flange and 7/16 bolts, and washers from **HK #182**.
24. Install right subframe outer bracket using the same hardware.
25. *2000 and 2001 w/auto trans only* Remove trans isolator mount. Grind off locating pin from mounting plate. Install older style trans mount. Torque to 78 ft-lbs.
26. Using M10 x 25 carriage bolts, 3/8" washers, and M10 nuts, loosely assemble the subframe center section to the outers (center section underneath the outers). *****The text side of the center section faces forward when installed in the vehicle.*****
27. Torque 7/16 bolts to 65 ft-lbs. Torque M10 bolts to 50 ft-lbs.
28. Torque subframe center section bolts to 45 ft-lbs.
29. Torque upper control arm bolt at uniframe to 135 ft-lbs.
30. Lower the transfer case on to the subframe.
31. Install the four transmission mount nuts and torque to 15 ft-lbs.



Front Suspension:

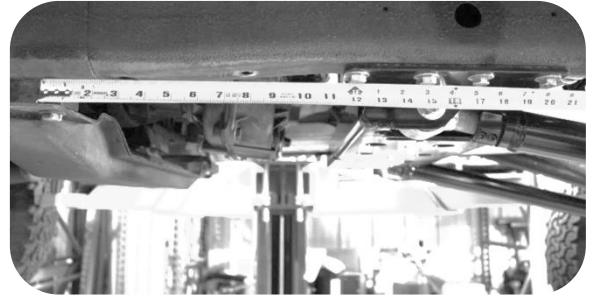
32. Lift front of vehicle and support with tall jack stands under the unibody frame or long arm subframe.
33. Ensure the vehicle is safely supported.
34. Place a floor jack under the front axle for support, do not lift vehicle.
35. Remove the front shocks.
36. Remove the track bar and mounting bracket at unibody. No need to separate track bar from bracket.
37. Remove front sway bar links.
38. Remove front brake hoses and install supplied extended length, braided stainless steel brake hoses. Be sure to route brake hoses away from any moving parts or pinch points. Route hoses so they will not rub against any other parts which could wear a hole in the brake line. Be sure brake lines are securely fastened to the unibody at the top side. *Tip: To clear larger tires, move the uniframe mount forward about 2 inches as shown in the picture.
39. Remove upper and lower factory control arms.
40. Disconnect the driveshaft on the axle side and tape the u-joint so the caps do not fall off. Tie the driveshaft out of the way (use tape, zip tie, mechanic's wire, etc...) for easier access to the lower control arm mount.
41. Tie the upper control arm out of the way.
42. Cut off factory lower control arm mounts from the uniframe on the driver's and passenger's side.
43. *****Tip: Our favorite tool for this is a 4-1/2" angle grinder with a thin cutting wheel. Remove in pieces for ease of access.*****
44. Remove any portion of the control arm bracket on the driver's side that extends inward (toward the transmission) beyond the uniframe. Do not remove any of the uniframe; just make one continuous edge from front to rear.
45. Clean up any burrs or sharp edges and grind smooth for an attractive appearance.
46. Clean, prime, and paint any exposed metal.
47. Connect the upper control arm to the axle using M10 x 80 bolt with washer and nylock flange nut from **HK #182**. Do not tighten at this time.
48. Install lower control arms (axle end first) with threaded adjusting end at the uniframe, and bends facing inward to clear the tires, thread clamping bolts facing down. Use provided M14 x 110 bolts (at axle), M14 x 100 bolts (at subframe), 9/16" washers, and nylock nuts form **HK #182**. Do not tighten at this time.
49. Install new springs in vehicle being careful to align the springs to the spring buckets on the axle.



50. Using a floor jack lift the front axle just enough to apply some load to the coil springs, do not lift vehicle.
51. Locate front track bar, track bar mounting bracket, and **HK #277**.
52. Install the track bar bracket onto the unibody with the factory bolts. Loosely attach the bracket with the upper two bolts, then align the lower bolt mounting holes. Install the lower mounting bolts and torque all track bar bracket hardware to 92 ft-lbs.
*****NOTE:** If the unibody is rusty, the seam behind the factory bracket may have swelled making installation of the lower mounting bolts difficult. Using a ratchet strap to pull the bracket to align the holes or smoothing the seam with a hammer is recommended.
53. Install the track bar and torque bolt at axle to 74 ft-lbs., and bolt at bracket to 80 ft-lbs. If necessary, use a floor jack, ratchet strap, and/or the steering wheel to help align the track bar.
54. Raise vehicle slightly and reposition jack stands under the front axle.
55. Re-install coil spring retainer clamps.
56. Install new front shocks using original barpin bolts. Tighten upper stud mount nuts just enough to slightly compress the bushings. Over compressing these bushings will result in damage to the bushings and premature bushing failure.
57. Locate the JKS front sway bar links and install according to the JKS instructions. For 8" lift height adjust to the longest length.
58. Ensure that vehicle is safely supported.
59. Any remaining loose bolts will be torqued after rear suspension installation and with full vehicle weight on the suspension.

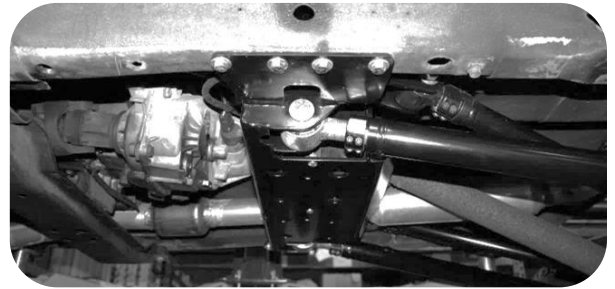
Rear Suspension Disassembly:

60. Lift rear of vehicle and support with tall jack stands under the unibody frame.
****TIP:** break lug nuts loose before lifting vehicle.
61. Ensure that the vehicle is safely supported.
62. Remove the rear tires.
63. Cut exhaust pipe beside the transfer case then remove catalytic converter, muffler, and tailpipe.
64. Remove rear shocks.
65. Remove rear axle.
66. Remove rear leaf springs and shackles.
67. Remove rear bump stops.
68. Remove rear sway bar if equipped.
69. Remove emergency brake cables and junction box.



Rear 4-Link Crossmember:

70. Locate crossmember and **HK #174**.
71. With the control arm mounts facing the rear, position the crossmember so that the front bolt hole is 12" back from the rear bolt for the factory front crossmember measured center-to-center.
72. Center crossmember side to side.
73. Using the crossmember as a template, drill all (8) 7/16" holes.
74. Drill a 1" hole in the side of the uniframe centered between the 7/16" holes. Insert nut plates into frame and secure with 7/16" bolts (4 holes per side)
75. Torque all bolts to 65 ft-lbs.



Rear Spring/Shock Crossmember:

76. Place a floor jack underneath the fuel tank for support (do not lift).
77. Remove hanger bolt from passenger side fuel tank strap.
78. Locate spring/shock crossmember and **HK #167**.
79. Position crossmember as shown, aligning bottom holes in crossmember with bump stop holes in uniframe.
80. Center crossmember side to side.
81. Using the crossmember as a template drill the following in the side of the uniframe:
 *If **not** equipped with rear uniframe stiffeners, drill (8) 17/32" holes for rivet nuts (see rivet nut installation instructions)
 If equipped with rear uniframe stiffeners, drill (8) 5/16" holes and tap with 3/8"-16 hand tap

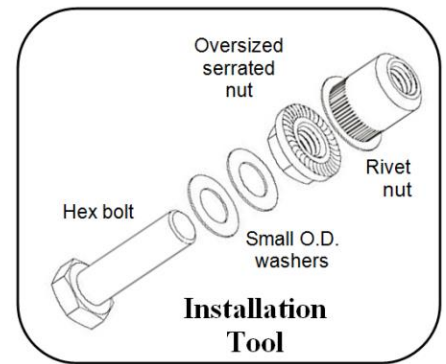


Rivet Nut Installation:

82. Slide the two small O.D. washers and oversized nut onto the bolt. As shown in diagram.
83. Thread bolt with nut and two washers into the rivet nut.
84. Insert assembly into drilled hole.
85. Using a wrench to hold the nut, push inward to prevent the rivet nut from spinning.
86. Tighten the bolt until the rivet nut fully collapses and locks into the hole.
87. Be careful not to strip the threads.
88. Remove bolt and check to make sure insert does not spin when bolt is tightened.

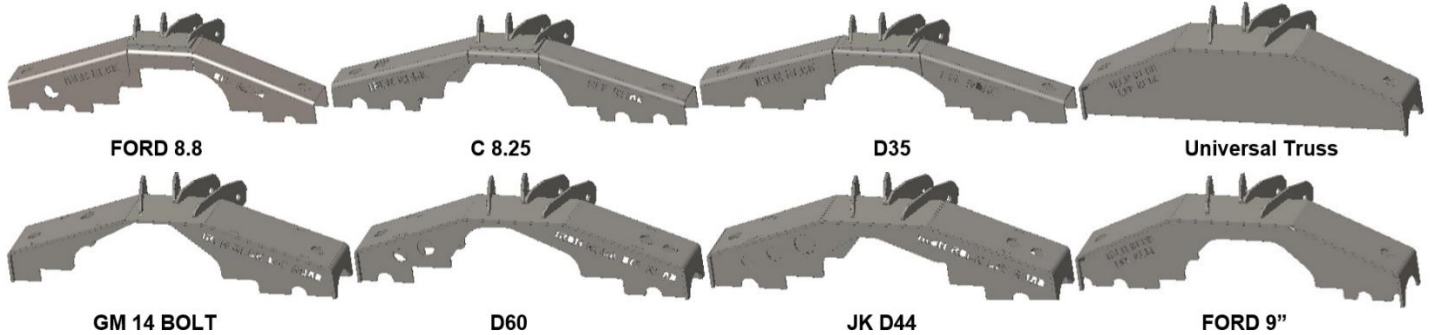
Prepare the Axle Assembly:

89. Cut off any brackets attached to the axle tubes. A plasma cutter, oxy/acetylene torch, or angle grinder with a cut off wheel can be used. Be careful not to cut into the axle tubes.
90. Using an angle grinder, remove any remaining bracketry. Be careful not to grind away any axle tube material.



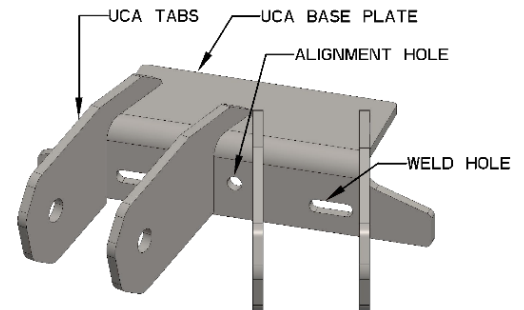
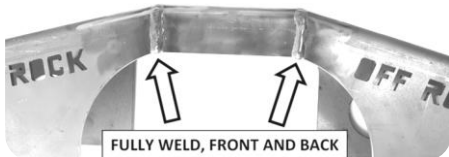
Measure:

91. Measure the width of the axle and place a mark on the top of the differential at the center of the **axle assembly** – (not differential)



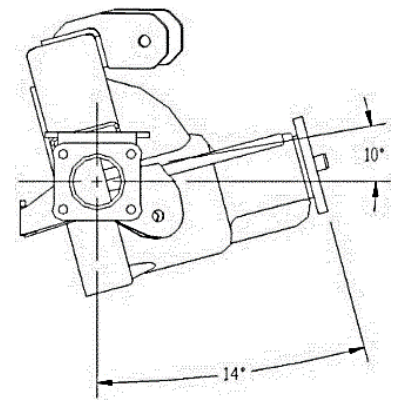
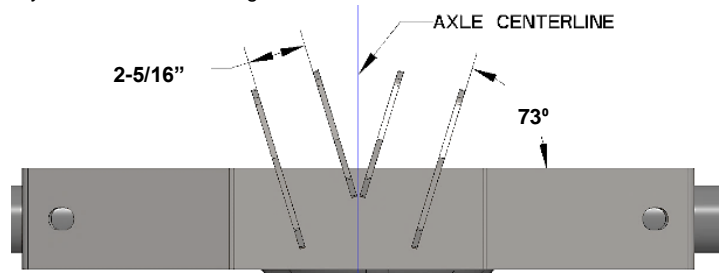
D35, C 8.25 and Ford 8.8 Trusses:

92. (D35 & C 8.25 Only) Apply medium strength thread locker to original brake line T-Block bolt and install T-Block Eliminator (#184) where the original brake line T-block was located on the axle tube.
93. Slide the internal gusset into the truss and test fit truss assembly to axle. The alignment hole should match the axle centerline and the internal gusset should rest on the axle tubes outside of the cast center section. Stich weld the gusset into the truss.
94. Fully weld the vertical slots in the truss (near the center). Tack weld the ends of the slots first to avoid warpage. Grind the front sides flush as needed to clear the Upper Control Arm (UCA) base plate.
95. With the truss cool, paint the inside of the truss including above and below the gusset to prevent rust.
96. Tack weld truss to the axle with the face of the truss parallel to rear diff cover mounting surface and the gusset resting on the axle tubes.
- ***When tack welding, ensure your tack welds are strong enough for a test fit, but easy to cut apart if necessary.**
97. Tack weld upper control arm mount to truss with front hole aligned with hole in truss.
98. Tack weld upper control arm mount tabs to base plate with shorter tabs in the center.
99. Weld truss to axle and weld upper control arm mounts to truss.
- ***To avoid warping, avoid excessive heat buildup. Weld in short time increments in one area then move to another part of the axle. Allow time to cool between welds in the same spot.**
100. Weld all the way around UCA mounting tabs and UCA base plate.



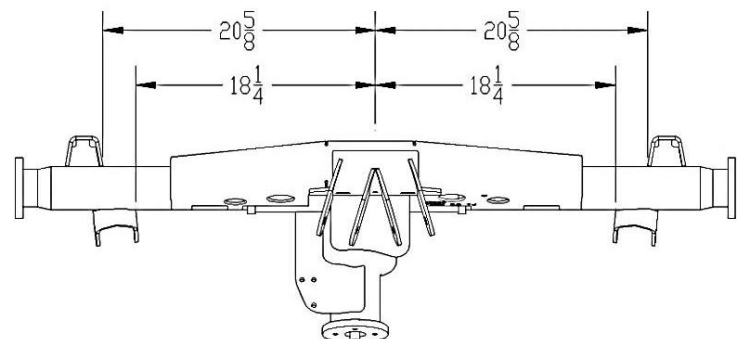
GM 14 Bolt, D60, JK D44, Sterling 10.5, Ford 9" and Universal Blank Trusses:

101. Tack weld vertical truss plates to truss top plate. Vertical plates are inset 3/8" from outer edge of top plate. Test fit truss assembly to the axle. Ensure vertical plates contact axle tubes. *IRO recommends painting the inside of the truss before welding to the axle. *
102. Tack weld truss to the axle with the face of the truss parallel to rear diff cover mounting surface and the top plate resting on the axle tubes.
- ***When tack welding, ensure your tack welds are strong enough for a test fit, but easy to cut apart if necessary.**
103. Tack weld upper control arm mount tabs to truss with shorter tabs in the center. See diagram.
104. Fully weld truss assembly, weld truss to axle and weld upper control arm mounts to truss.
- ***To avoid warping, avoid excessive heat buildup. Weld in short time increments in an area then move to another part of the axle. Allow time to cool between welds in the same spot.**
105. Weld all the way around UCA mounting tabs.



Install Axle Brackets:

106. Mark the location of each bracket on the axle. See drawings.
107. Support the axle assembly on jack stands. Set the pinion angle to 14°. This setting works well for lifts ranging from 4-8", with typical driveshaft combinations.
108. Tack weld lower control arm mounts to the axle with the top surface at a 10° upward angle. Note left and right bracket.
109. Tack weld shock mounts in place with mounting surface exactly vertical.
110. Tack weld spring pads to axle with top surface exactly horizontal at 0°.

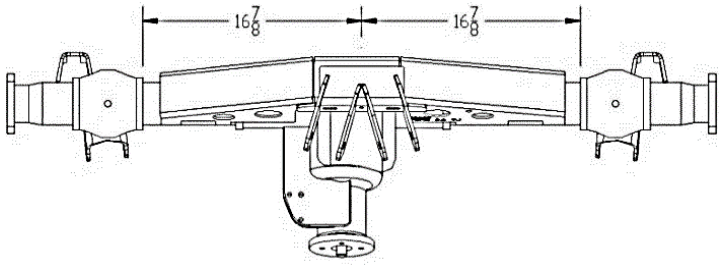


111. Test in vehicle at ride height to verify pinion angle is ideal and make any necessary changes.
 112. Fully weld each bracket to the axle tubes.

***Tip: If desired, the spring pads need not be fully welded to the axle tubes. About 1" of weld on each corner is sufficient. This allows you to easily change the spring pad angle if needed for suspension upgrades or installation of a transfer case slip yoke eliminator.

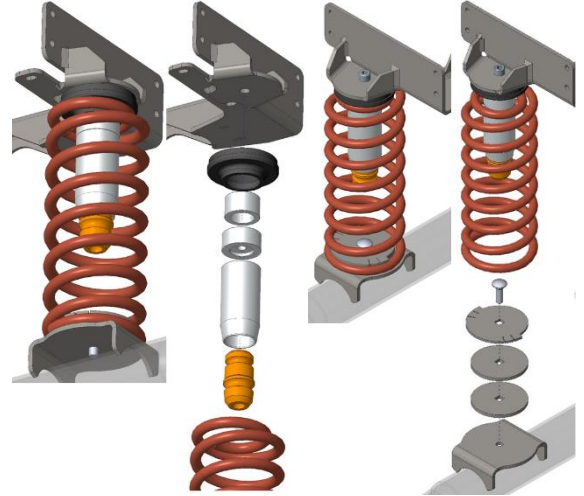
***Tip: to avoid warping, avoid excessive heat buildup. Weld in short time increments in one area then move to another part of the axle. Allow time to cool between welds in the same spot.

113. Prep and paint
 114. Mount rear brake hose T-fitting to the front side of the truss.
 115. Double flare and run new hard lines from brake T-fitting to wheel cylinders.



Rear Suspension:

116. Install upper control arms with bend hanging down to clear the floor pan (adjustable threaded end at frame). Use M14 x 95 bolts, nuts, and washers (from **HK #171**).
 117. Install lower control arms. Adjustable threaded end at frame.
 *Angled male ends to be angled towards outside of the vehicle when installed.
 *The LCA bends are to be angled upward for ground clearance, and inward to clear the frame. * Use M14 x 100 bolts, nuts, and washers (**HK #171**).
 118. Install new coil springs, rotate them until they sit as straight as possible (low spot of spring aligned to high side of spring pad). See diagram to the right.
 119. OEM lower shock mounts: Grease lower shock studs, install spacer from **HK #274** on lower rear shock stud then install rear shocks.
 120. Raise the vehicle and support with jack stands under the rear axle.
 121. Bleed brakes at all 4 corners.
 122. With full vehicle weight on the suspension, check if the rear axle is centered as desired in the wheel opening. Adjust lower control arms to set desired axle position front to rear.
 123. Check if the rear axle is centered left to right. Example: Shorten the left upper to pull the axle to the left. Lengthen the left upper to push the axle to the right.
 124. Check the pinion angle. Adjust upper control arms equally to set desired pinion angle.



Final Torque:

125. With the weight of the vehicle on the springs, torque any loose bolts to spec.
 126. Torque all front lower control arm nuts and rear upper and lower control arm nuts to 125 ft-lbs.
 127. Torque the front upper control arm nut at axle to 60 ft-lbs.
 128. Ensure the front axle is centered. Orient track bar clamps to not interfere with any other components. Tighten track bar clamps to 60 ft-lbs.
 129. 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.
 130. Torque any remaining loose bolts to spec.
 131. Install tires and place the vehicle on the ground.
 132. Torque lug nuts to spec. (85-115 ft-lbs. depending on your wheels)

Adjustments and Final Inspection:

133. 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.
 ** A professional front end alignment is required after installation. We recommend the following alignment settings:

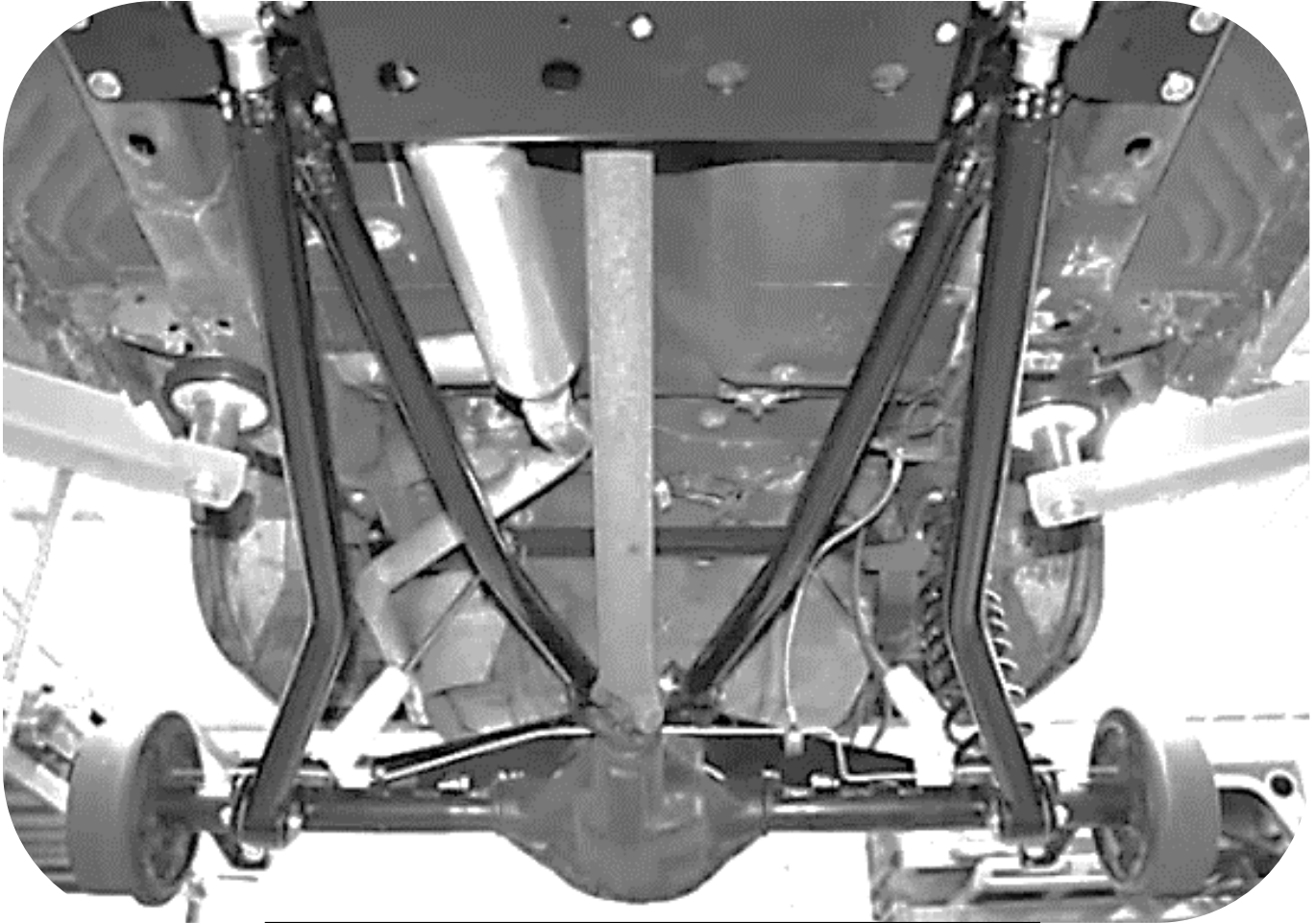
Caster: +3.75 to +5.75 (+4.5 is preferred if possible)
Toe-in: +1/16" to +1/8"



89. 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.
 90. Recheck all fasteners and torque any remaining loose nuts or bolts to spec.

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 ensure 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.



Recommended custom exhaust routing or Purchase
IRO XJ Rear 4-Link Exhaust **Product Code: 13888**



IRON ROCK OFF ROAD

2-5/8" IRO Flex End (6 bolt)
Assembly Instructions

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

Fits All Iron Rock Off Road Long Arm Systems, WJ A-Arms, and Build Your Own Flex End Assemblies.

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 zerck 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 zerck 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

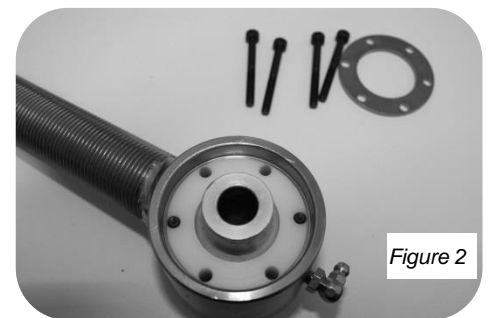


Figure 2

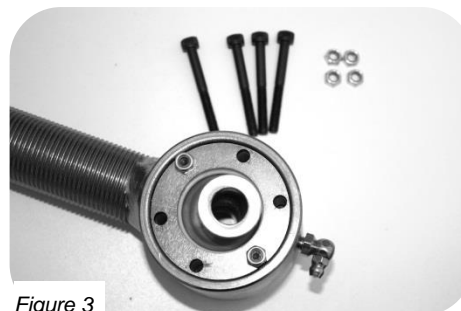


Figure 3

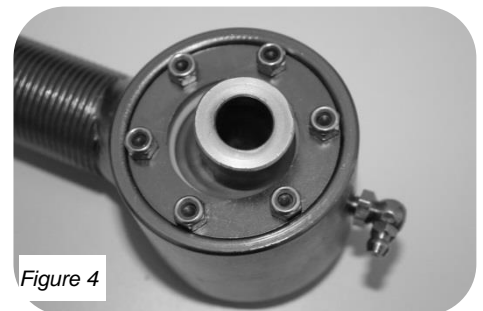


Figure 4

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

IRON ROCK OFF ROAD

2-3/8" IRO Flex End (8 bolt)
Assembly Instructions
 I-877-919-JEEP www.ironrockoffroad.com

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 Have these tools handy:
 - o 9/64" Allen head socket
 - o 3/8" open end wrench
 - o Inch-lb. torque wrench
 - o 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)

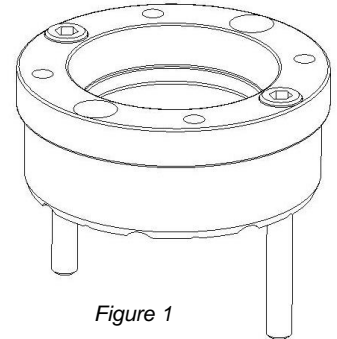
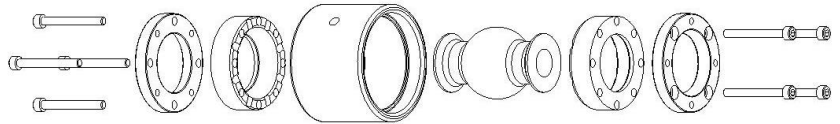
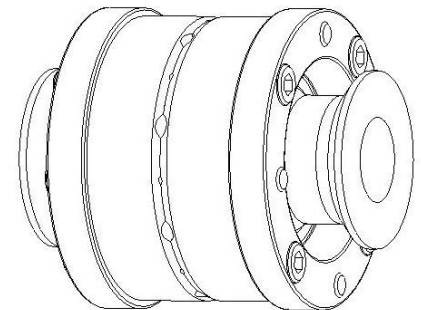


Figure 1

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 55 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 55 in-lbs.



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

