

IRON ROCK OFF ROAD

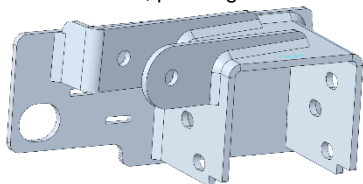
1-877-919-JEEP www.ironrockoffroad.com

**JK 3.5" Rock-Link X
Lift Kit Instructions**

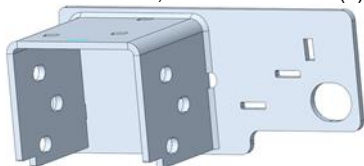
See our website product listing for full color instructions

Parts Checklist:

- ☐ Iron Rock Off Road Logo Decal 10001 (1)
- ☐ 3.5" Front coil spring 96027 (2)
- ☐ 3.5" Rear coil spring 96028 (2)
- ☐ JK 0-8" front track bar 80000 (1)
- ☐ Track bar threaded male end 92004 (1)
- ☐ Front sway bar link 10.75" center to center 92146 (2)
- ☐ JK Front Bump Stop Spacer 2.75" 80049 (2)
- ☐ JK Rear Bump Stop Spacer 2.5" 80058 (2)
- ☐ Rear Track Bar Bracket 80064 (1)
- ☐ 3-Link Front Crossmember 80090 (1)
- ☐ Crossmember mount, passenger side 80099 (1)

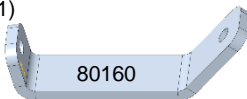


- ☐ Crossmember mount, driver side 80104 (1)



80149

- ☐ Crossmember mount alignment block 80149 (1)
- ☐ Gas tank skid plate 80153 (1)
- ☐ Gas tank skid plate support bracket 80160 (1)
- ☐ Gas tank ramp 80168 (1)
- ☐ UCA Front axle mount bracket 80145 (1)
- ☐ Transmission mount, drivetrain specific



80160

- ☐ Automatic trans mount, bolt plate 80177 (1)
- ☐ Manual trans mount, bolt plate 80107 (1)
 - ☐ Manual trans bracket, left 80172 (1)
 - ☐ Manual trans bracket, right 80173 (1)
- ☐ #241 - Manual Trans Mount Hardware - 14176 (1)
 - ☐ 3/8-16 x 1" serrated flange hex bolt, gr8 (4)
 - ☐ 3/8-16 nylock flange nut (6)
 - ☐ M10 x 80 hex bolt class 10.9 (2)
 - ☐ M10 nylock flange nuts (2)
 - ☐ 7/16 USS washer (2)

- ☐ LCA, bushing installed 80113 (2)
- ☐ LCA, Angled Threaded male end 91109 (2)



Frame End

LCA

Axle End



- ☐ UCA Front 80111 (1)
- ☐ UCA Front threaded male end 91191 (1)



Frame End

UCA

Axle End

- ☐ #21 - JK Front Coil Retainer Hardware -10036 (1)
 - ☐ Top plate, thin, no notch 80162 (2)
 - ☐ 1/4" thick spacer, one notch 80163 (2)
 - ☐ Thin spacer, two notches 80164 (2)
 - ☐ 1/4" USS washer (2)

- ☐ 5/16 x 1" Hex head bolt, gr8 (2)
- ☐ 5/16-18 Serrated flange nut (2)
- ☐ #65 - Adjustable LCA Clamping Hardware - 10058 (2)
 - ☐ 1/4"-28 x 1-1/8" socket head cap screw (4)
 - ☐ 1/4"-28 hex nut, gr8 (4)

- ☐ #127 - 2 5/8" 6 Bolt IRO Flex End Hardware - 10670 (3)
 - ☐ 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)

- ☐ #166 - Front Track Bar Hardware - 12539 (1)
 - ☐ Track bar bushing half M20919 (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)

- ☐ #196 - Rear Track Bar Bracket Hardware - 13446 (1)
 - ☐ M14 x 80 hex bolt, cl10.9 (1)
 - ☐ M14 nylock flange nut (1)
 - ☐ Spacer sleeve 80003 (1)
 - ☐ 3" U-bolt 80071 (2)
 - ☐ 3/8" serrated flange nut (4)

- ☐ #199 - JK Rear Bump Stop Spacer Hardware - 13449 (1)
 - ☐ 5/16-18 x 3/4 Serrated flange bolt, gr8 (4)
 - ☐ 5/16-18 Serrated flange nut (4)

- ☐ #201 - Sway Bar Link Hardware - 13811 (1)
 - ☐ 3/4" hourglass bushing M00393 (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)

- ☐ #198 - JK 0-3.5" SS Front Brake Line Set - 13839 (1)
 - ☐ Front brake hose LEFT 88158 (1)
 - ☐ Front brake hose RIGHT 88159 (1)
 - ☐ Brake hose mounting brkt 88275 (2)
 - ☐ #10 x 1 self-drilling screw (4)
 - ☐ Brake Hose clip BQ3052 (2)
 - ☐ Copper washer BQ1016 (4)

- ☐ #200 - JK Front Bump Stop Spacer Hardware - 13837 (1)
 - ☐ 1/2-13 x 2-1/2 Hex head bolt, gr8 (2)
 - ☐ 1/2 USS flat washer (2)

- ☐ #242 - Front 3-Link Crossmember Hardware - 14411 (1)
 - ☐ 1/2"-13 x 6-1/2" hex bolt, gr8 (6)
 - ☐ 1/2" USS washer (6)
 - ☐ 1/2"-13 nylock flange nuts (6)
 - ☐ M14 x 110 hex bolt cl 10.9 (2) LCA bolts
 - ☐ 9/16" F436 hardened washer (4)
 - ☐ M14 nylock flange nut class 10.9 (4)
 - ☐ M14 x 100 hex bolt class 10.9 (2) UCA bolts

- ☐ #243 - Fuel Line Hardware - 14412 (1)
 - ☐ DEI heat wrap 010457 (6 in. qty 2)
 - ☐ Ladder clip 78049 (1)
 - ☐ Zip tie, 6 in. (1)
 - ☐ M6 hex nut, cl 10.9 (1)
 - ☐ 1/4" USS washer (1)

- ☐ **#244 - Skid Plate Hardware - 14413 (1)**
 - ☐ 3/8"-16 x 1" serrated flange hex bolt, gr8 (8)
 - ☐ 3/8"-16 x 3/4" button head, S/S (4)
 - ☐ 3/8"-16 rivet nut, steel (4)
 - ☐ 5/16 x 3/4" Button head bolts (2)
 - ☐ 5/16 x 1" Taptite flange bolt (2)
 - ☐ 1/2"-13 x 1-1/2" Hex bolt, gr8 (1)
 - ☐ 1/2" F436 washer (1)
 - ☐ 1/2"-13 Nylock flange nut (1)

☐ **#173 - 3/8" Rivet Nut Install Tool - 13283 (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)

☐ **Optional: 3.6L Exhaust - 14420**

- ☐ Passenger Side Pipe 98025 (1)
- ☐ Driver Side Pipe 98026 (1)
- ☐ Y-Pipe SU4-3 (1)

☐ **Optional: 3.8L Exhaust - 15166**

- ☐ Passenger Side Pipe 98028 (1)
- ☐ Driver Side Pipe 98029 (1)
- ☐ Y-Pipe SU4-3 (1)

Shocks

☐ **Trail Tamer HD Hydro**

- ☐ Front shock 79002 (2)
- ☐ Rear shock 79004 (2)

☐ **Doetsch Upgrade (Optional)**

- ☐ Front shock DT 8386 (2)
- ☐ Rear shock DT 8299 (2)

#165 - JK Shock Hardware - 12536 (1)

- ☐ Rear barpin GS-403261 (2)

☐ **Bilstein Upgrade (Optional)**

- ☐ Front shock 33-230375 (2)
- ☐ Rear shock 33-185552 (2)

#164 - JK Bilstein Shock Hardware - 12535 (1)

- ☐ Rear barpin GS-403261 (2)
- ☐ 12mm shock sleeve 404739 (4)

Upgrade to PLUS (Optional)

- ☐ Rear sway bar link 10" center to center 80138 (2)
- ☐ JK Rear Sway Bar Spacer 99077 (2)
- ☐ JK Rear Sway Bar Relocation Plate 80137 (2)
- ☐ JK Rear Coil Spring Retainer 80061 (2)
- ☐ JK 0-8" rear track bar 80005 (1)
- ☐ Track bar threaded male end 92004 (1)
- ☐ LCA Rear, bushing installed 80010B (2)
- ☐ LCA Rear, Straight Threaded male end 92186 (2)



- ☐ UCA Rear 80022 (2)
- ☐ UCA Rear threaded male end, bushing installed 80023B (2)



☐ **#12 - Rear Sway Bar Spacer Hardware - 10027 (1)**

- ☐ 3/8 USS Flat Washer (4)
- ☐ M10 x 60 hex bolt cl10.9 (4)

☐ **#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)

☐ **#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)

☐ **#107 - Rear Track Bar Hardware - 10732 (1)**

- ☐ Track bar bushing sleeve 80003 (2)
- ☐ Track bar bushing 80014 (4)
- ☐ 7/8-14 Hex jam nut (1)

☐ **#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)

☐ **#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)

☐ **#195 - JK Rear Coil Retainer Hardware - 13445 (1)**

- ☐ Coil Spring Retainer Plate 85029 (2)
- ☐ Upper Retainer Nut Plate 80146 (2)
- ☐ 7/16 Flag nut with bend 80063 (2)
- ☐ 7/16-14 x 2" Hex head bolt, gr8 (2)
- ☐ 7/16-14 x 1" Hex head bolt, gr8 (2)
- ☐ 7/16 SAE washer (2)

☐ **#197 - JK 0-3.5" SS Rear Brake Line Set - 13838 (1)**

- ☐ Rear brake hose LEFT 88160 (1)
- ☐ Rear brake hose RIGHT 88161 (1)
- ☐ Brake hose mounting brkt 88275 (2)
- ☐ #10 x 1 self-drilling screw (2)
- ☐ Brake Hose clip BQ3052 (2)
- ☐ Copper washer BQ1016 (4)

☐ **#220 - Rear Sway Bar Link/Relocation Hardware - 13812 (1)**

- ☐ 3/4" hourglass bushing M00393 (4)
- ☐ 12mm sway bar bolt sleeve 92038 (2)
- ☐ 1/2" short sway bar bolt sleeve 80140 (2)
- ☐ 7/16 USS flat washer (12)
- ☐ 1/2-13 x 1-1/2 hex bolt, gr8 (2)
- ☐ 1/2-13 x 2-1/2 button head bolt (2)
- ☐ M12 x 60 hex head bolt cl10.9 (2)
- ☐ M12 nylock nut (2)
- ☐ 1/2-13 Nylock flange nut, gr8 (4)

Upgrade to PLUS Rear Shocks:

☐ **Trail Tamer HD Hydro (Optional)**

- ☐ Rear shock 79005 (2)

☐ **Doetsch Upgrade (Optional)**

- ☐ Rear shock DT 8371 (2)

☐ **Bilstein Upgrade (Optional)**

- ☐ Rear shock 33-104652 (2)





Optional PLUS Upgrade

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
 - ☐ Welder
 - ☐ Angle finder (digital is preferred)
 - ☐ Tape measure
 - ☐ 17/32" drill bit and drill

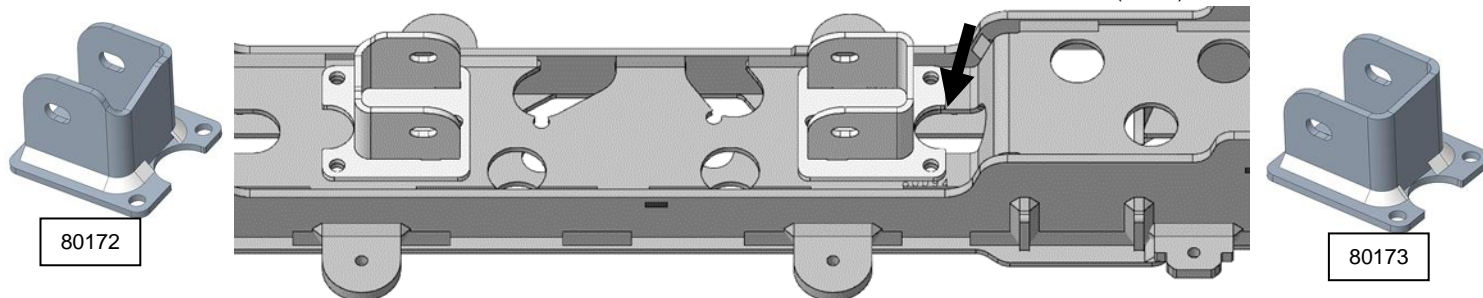
Track Bar & Control Arm Length (Center to Center)	
Front UCA (Upper Control Arm)	39-1/2"
Front LCA (Lower Control Arm)	41-1/4"
Front Track Bar	32-3/4"

Notes:

- ☐ This kit requires cutting and removing of brackets off the frame, as well as welding in new frame brackets. It is highly recommended that this kit be installed by a professional shop with experience in frame modifications and structural welding.

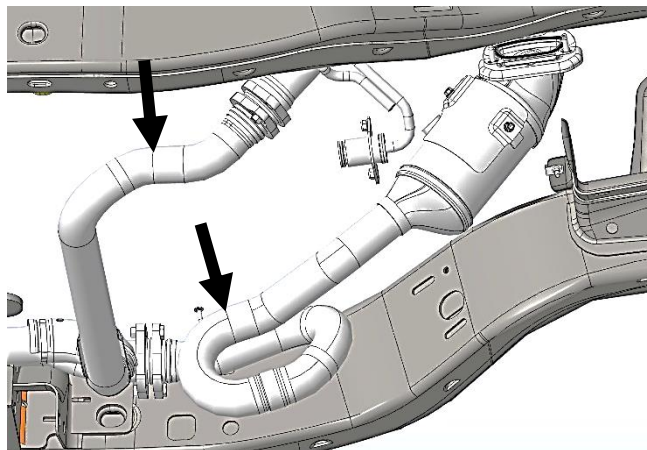
Prepare the parts for installation:

1. **Shocks:** Locate rear shocks and hardware kits.
2. Grind the outer corners on one end of the barpins to ease installation.
3. Grease and install the barpins into the top side of the rear 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 grease the barpin and the shock bushing.
4. **Front Track Bar:** Locate front track bar, hardware kit #166 and track bar threaded male end.
5. Lubricate track bar bushings and bushing sleeves with multi-purpose grease and install into track bar and track bar threaded male end.
6. Slip clamping bracket onto adjusting end of track bar with the opening down and insert the 5/16 carriage bolt from rear and nut facing forward.
7. Use a light coat of anti-seize then thread the track bar male end into the track bar. Adjust to the length in the chart as a starting point.
8. Tighten the clamping bracket. Make sure the bracket opens rearward, and nut faces down.
9. **Adjustable Control Arms:** Using the instructions on the last page assemble the flex ends into the threaded male ends for LCAs and UCAs.
10. 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.
11. Install the clamping hardware into the control arms, do not fully tighten at this time.
12. **Manual Transmission:** Locate the transmission mounting brackets 80172 and 80173. Bolt the brackets to the crossmember as shown using the 3/8 x 1" bolts in **HK #241**. Note: Match the cut-out section of bracket 80173 to the notch in the crossmember. (Arrow)

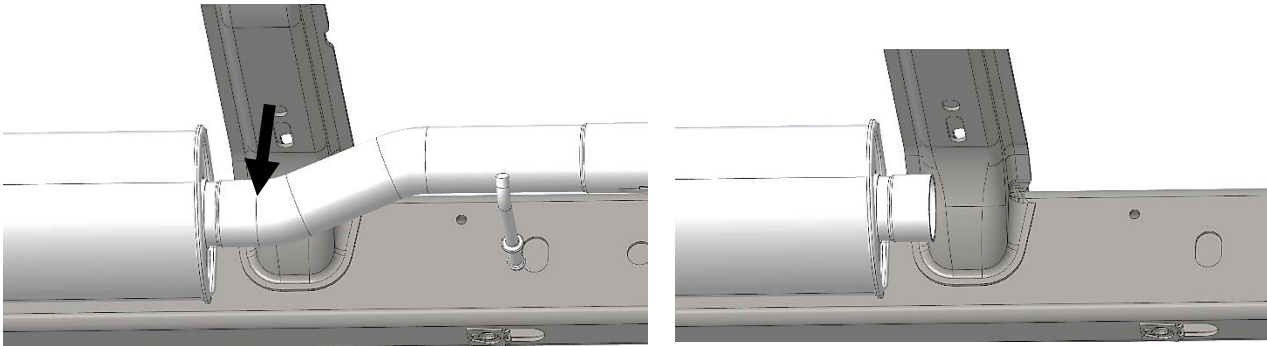


Front installation:

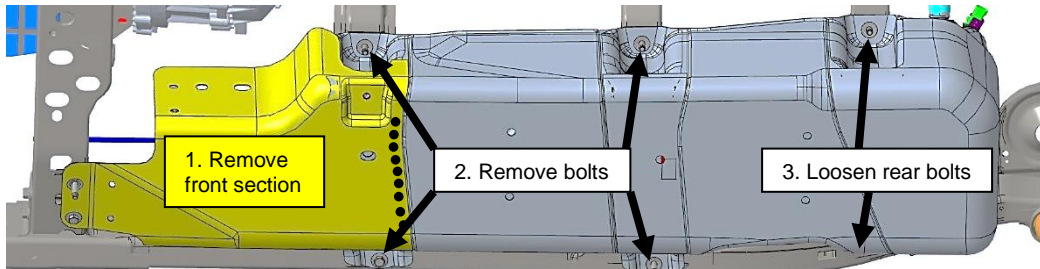
13. Lift front of vehicle and support with jack stands under frame rails.
**Tip: break lug nuts loose before lifting vehicle.
14. Remove front wheels
15. Remove front sway bar links.
16. Support the axle with jack stands and remove shocks.
17. Disconnect brake line from bracket on frame rail and cap the line.
18. Remove the front brake lines and brake hose brackets.
19. Remove coil springs.
20. Remove front track bar.
21. Disconnect drag link.
22. Remove the factory upper and lower control arms.
23. Remove front axle.
24. Cut the factory exhaust as shown in the pictures then remove the cut pipe.



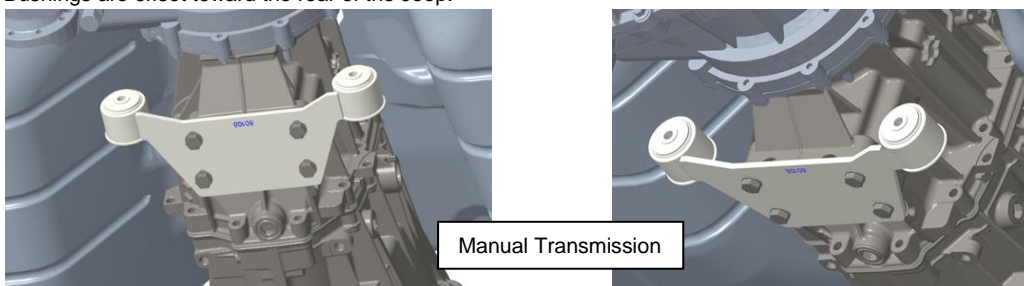
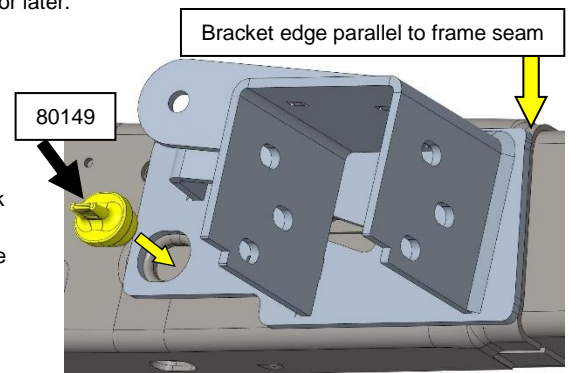
Look for the short straight section in the factory exhaust. When cutting, leave as much of the straight section as possible for the new pipes to slip onto.



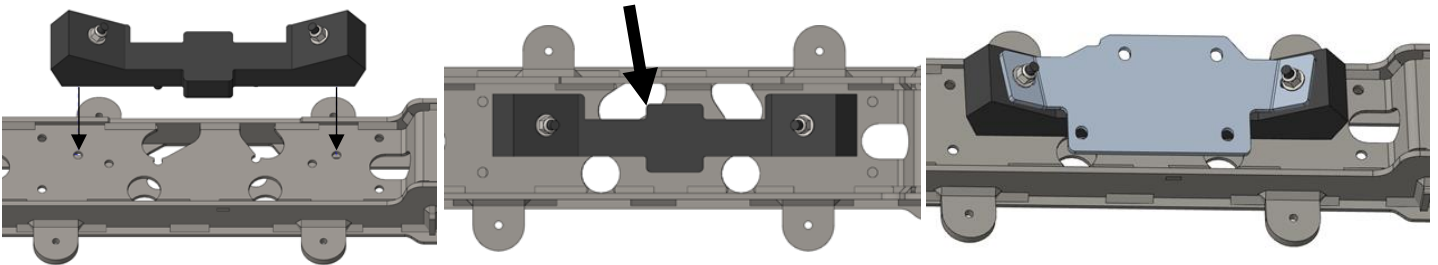
25. Remove the front section of the OEM gas tank skid plate by drilling the spot welds with a 1/2" drill bit. Do not drill all the way through the skid plate.
 - a. Mark the center of the spot weld with a center punch then drill partially through to weaken the spot weld. While drilling, check progress frequently, looking for the different layers of sheet metal (Arrow).
 - b. With all spot welds drilled, use a pry bar to break each spot weld and separate the front section of the skid plate.



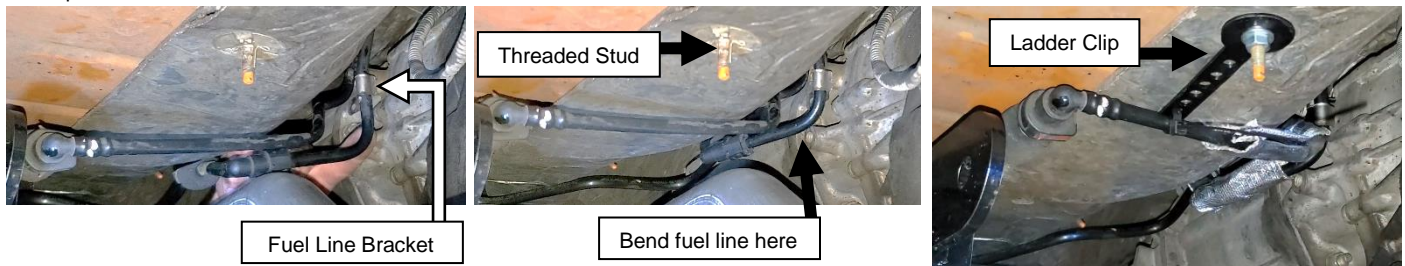
26. With the front section of the skid plate removed, remove the remaining front 4 mounting bolts from the gas tank then loosen the rear 2 bolts. Support the tank with a jack and lower the gas tank by hinging it downward on the rear 2 mounting bolts. This will give you enough room to safely remove the factory transmission crossmember and install the new transmission crossmember brackets.
27. Support the transfer case with a jack stand and remove transmission crossmember.
- Automatic transmissions: Remove the rubber transmission mount and hardware, save for later.
28. 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 welding.
29. Cut the factory transmission crossmember mounts off of the frame. Do not cut into the frame. Ensure the frame is completely smooth, clean, and ready for welding.
30. **Crossmember Mounting Brackets:** Locate transmission crossmember mounts and the alignment block 80149.
31. Align the crossmember mounting brackets on the frame by inserting the alignment block into the oval shaped hole in the bracket and the matching hole on the frame. The rear edge of the bracket should be parallel to the seam on the frame and to the bottom of the frame.
32. Tack weld the brackets in place. Make the tack welds large enough to support the transmission crossmember but small enough to cut off if needed.
33. Manual Transmission Only: Locate the transmission bracket and install with the factory hardware. Bushings are offset toward the rear of the Jeep.



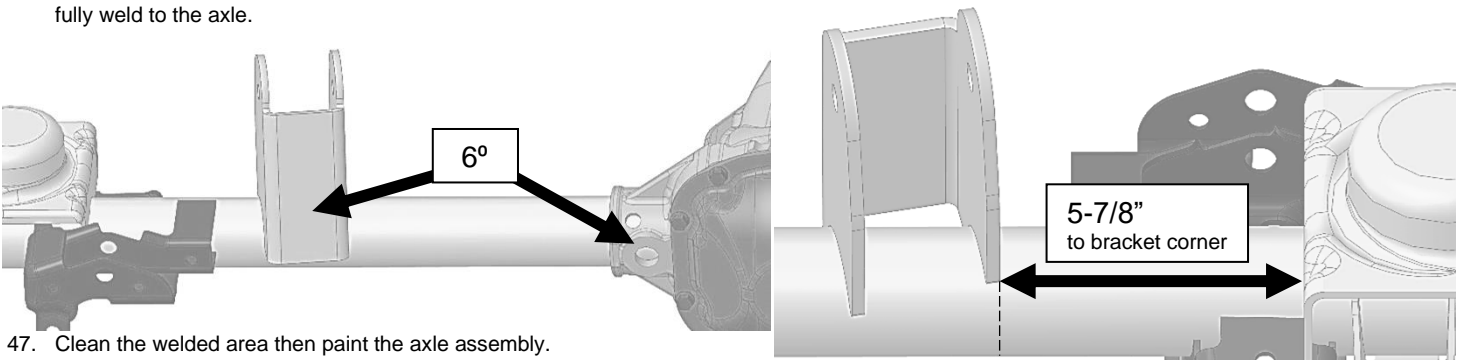
34. Automatic Transmission Only: Locate the OEM rubber transmission mount and install it onto the new transmission crossmember with the original hardware. Note the orientation of the offset center section (Arrow). Install the transmission bolt plate onto the rubber mount with OEM hardware.



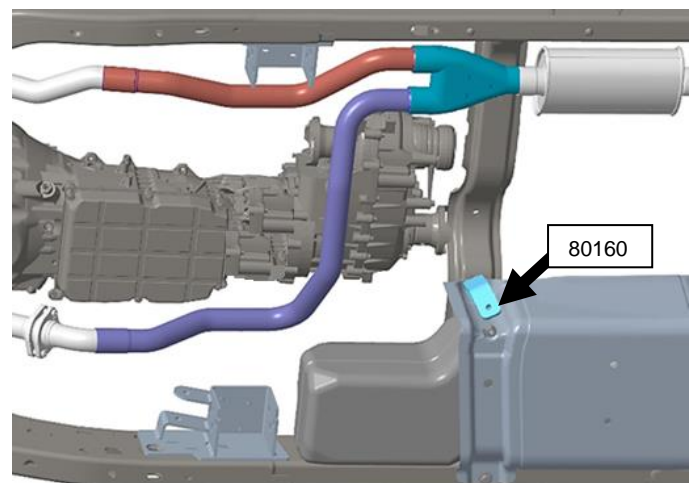
35. Temporarily install the transmission crossmember into the frame mounts with two 1/2 x 6-1/2" bolts. **HK #242** Check that the transmission aligns with the transmission mounts on the crossmember.
36. Fully weld the outside edge of the crossmember brackets as well as the two horizontal plug weld holes. Weld 1 to 2 inch stitches on each bracket to minimize heat build up and avoid warping.
37. With the welds cool, remove the transmission crossmember and paint the crossmember mounting brackets and any bare sections of the frame.
38. Raise the gas tank up and secure it with the original bolts except for the two forward most bolts. They will be installed later with the new skid plate.
39. **Fuel Lines:** Unclip the fuel line from the bracket on the passenger side of the transmission and bend it rearward approximately 45°
40. Clip the fuel line back into the bracket then locate **HK #243**.



41. Attach the fabric heat shield to the fuel lines as shown in the picture.
42. Remove the clip from the threaded stud on the floor and install the ladder clip with hardware in **HK #243**. Secure the fuel line with a zip tie.
- *For ease of assembly: Insert the zip tie into the last hole of the ladder clip before tightening the nut.
43. **Upper Control Arm Bracket:** Cut the upper control arm mount off of the passenger side of the front axle. Be sure not to cut into the axle tube.
44. Measure 5-7/8" from the flat surface of the spring mount and make a mark on the axle tube. (dotted line in picture)
45. Measure 6° difference from the differential cover mounting surface (circle area) to the front of the UCA bracket. Use the witness marks on the UCA bracket to make sure that the angle finder is parallel to the bracket.
46. Align the corner of the UCA bracket to the mark then tack weld the new upper control arm mount to the axle. Double check measurements then fully weld to the axle.

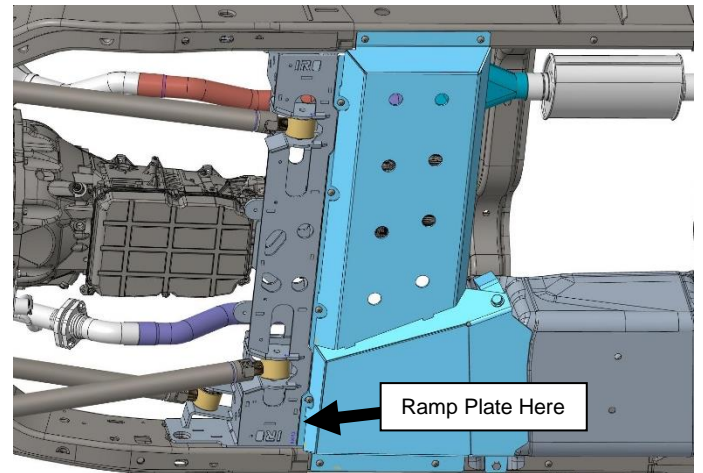
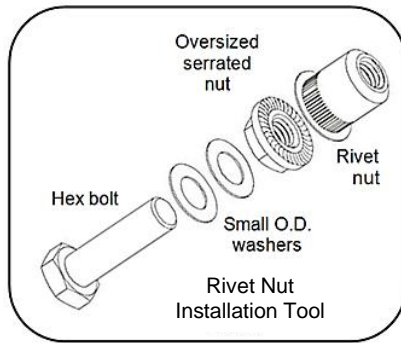


47. Clean the welded area then paint the axle assembly.
48. **Exhaust System and Transmission Crossmember:** Locate the two exhaust pipes and y-pipe.
49. Insert the y-pipe onto the factory muffler and slide the two pipes over the factory exhaust pipes as shown. Leave the pipes loose for now.
50. Install the new transmission crossmember and secure it with 1/2 x 6-1/2" bolts, 1/2 washers, and 1/2 nylock flange nuts. **HK #242**
51. Secure the transmission to the crossmember with M10 x 80 bolts from **HK #241** (Manual trans) or OEM bolts (Auto trans).
52. Lower the transmission down onto the crossmember.
53. Rotate and adjust the exhaust pipes and Y-pipe for maximum clearance around the drivetrain, crossmember, and frame.
54. Tack weld the exhaust in place, double check clearances then fully weld the exhaust in place.
55. **Gas Tank Skid Plate:** Locate the skid plate support 80160.
56. Install the skid plate support loosely with factory gas tank skid plate bolt on the frame. The sharp, short bend of 80160 goes on the frame side.
57. Raise the gas tank skid into position and install 3/8 x 1" bolts from **HK #244** into the crossmember and the last remaining mounting bolt from the factory gas tank skid plate.
58. Using the new skid plate as a template, mark the frame where the 4 mounting holes need to be drilled to mount the skid plate to the frame.



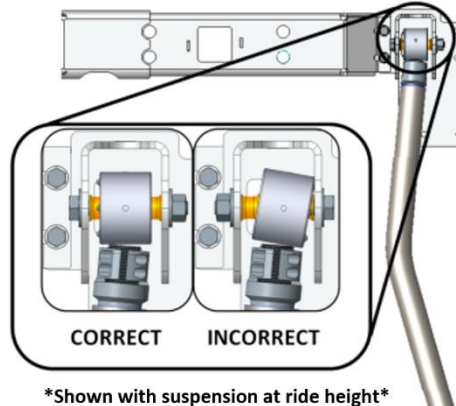
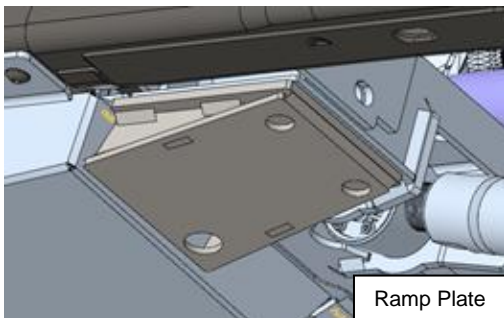
Make sure the skid plate is centered left-to-right; adjust the crossmember left-to-right if necessary.

59. Lower the skid plate and drill the mounting holes with a 17/32" drill bit and install the 4 rivet nuts, **HK #244** using the rivet nut install tool, **HK #173**.
60. Torque the 6 crossmember mounting bolts to 90 lb-ft.
61. Torque the 4 transmission adapter bracket bolts to 40 lb-ft.

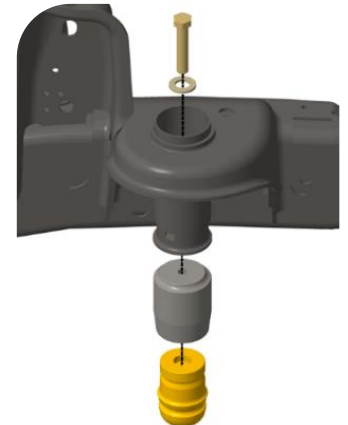


62. Install the new gas tank skid plate using 3/8 x 1" serrated bolts and one 1/2" x 1-1/2" bolt in the skid plate support from **HK #244**. 3/8" bolts torque to 30 lb-ft., 1/2" torque to 90 lb-ft.
*Extra 3/8" stainless steel button head bolts are provided if you prefer a lower-profile fastener along the frame.

63. Using the provided 5/16" Taptite flange bolts, thread the two forward holes on the passenger side of the crossmember. Install the gas tank ramp plate onto the crossmember with the 5/16" button head bolts and one 3/8 x 1" serrated bolt **HK #244**.



5/16 Bolts
Thread-Forming & Button Head



64. Install the new upper control arm using M14 x 100 bolts **HK #242**. The threaded male end installs on the axle. Do not tighten bolts at this time.
65. Install the new lower control arms using the factory hardware at the axle, M14 x 110 bolts at the crossmember **HK #242**. Do not tighten bolts at this time. The rubber bushing goes to the axle and the flex end at the frame.
66. Install front upper bump stop extension using hardware kit #200. See picture.
67. Install new coil springs.
68. **Front lower coil retainers:** place the 1/4" thick spacer (one notch) against the spring on the lower spring mount near the end of the coil spring.

The driver's side retainer mounts behind the spring, the passenger's side retainer mounts in front of the spring.

69. Using the spacer as a guide, mark the location of the bolt hole with a permanent marker.

70. Remove the spacer and drill an 11/32" hole.

71. Install the spacer and top plate with the provided 5/16 x 1" bolt, washer and nut.

The top plate should not sit flat on the spacer.

72. Repeat steps for the opposite side spring mount.

The driver's side retainer mounts behind the spring, the passenger's side retainer mounts in front of the spring.

73. Install new brake hose bracket on frame in factory location using factory bolt and a self drilling screw.

74. Install new brake hose on new bracket using hardware kit #198.

Before tightening flare nut, be sure to twist brake hose into the best orientation to keep the hose away from the tire, spring, and shock.

75. **Re-route ABS wires as needed to allow full suspension droop.**

76. Install new shocks.

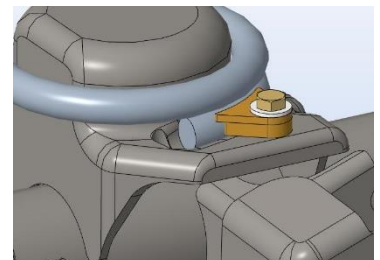
77. Assemble and install new front sway bar links using hardware kit #201. Grease and install the hourglass bushings into the links then grease and install the sway bar link bolt sleeves into the bushings.

78. All front sway bar sleeves are the same (12mm I.D.). Use bolts from hardware kit #201 for the top bolt and reuse the original bolt for the lower.

79. Install new front track bar with threaded end to axle side. The clamp hangs down, bolt facing front.

80. Reinstall front wheels.

81. Lower vehicle onto ground.



Rear installation: (Optional PLUS see separate instructions)

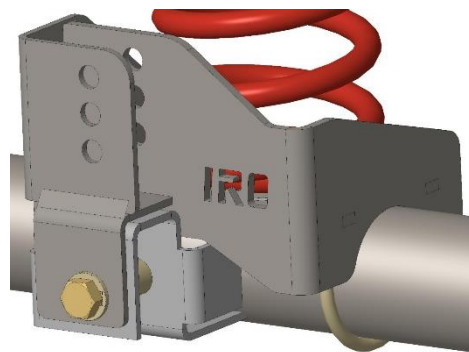
82. Lift rear of vehicle and support with jack stands under frame rails.
**Tip: break lug nuts loose before lifting vehicle.
83. Remove rear wheels.
84. Remove sway bar link bolts at axle.
85. Support the rear axle with jack stands and remove shocks.
86. Remove brake line bracket from frame rail.
87. Remove coil springs.
88. Loosen the upper and lower control arm bolts at the frame and the axle (do not remove).
89. Disconnect track bar from the axle.
90. Install new rear track bar bracket over factory track bar bracket. Secure with U-bolts, 3/8" serrated flange nuts, M14 x 80 bolt, nylock nut and spacer sleeve from hardware kit #199.
91. Reinstall track bar into rear track bar bracket (middle hole) using the factory track bar bolt and flag nut.
*Be careful of track bar to exhaust clearance. The two may contact if bumpstops are too short.
92. Install new coil springs.
93. Install brake hose extension bracket on frame in factory location using factory bolt.
94. Reinstall brake hose on new bracket using provided bolt and nut in hardware kit #162.
95. **Re-route ABS wires as needed to allow full suspension droop.**
96. Reinstall sway bar links.
97. Install new shocks.
98. Reinstall rear wheels.
99. Lower vehicle onto ground.
100. Torque lug nuts to factory spec.

Typical specification is 85-115 ft-lbs., depending on your wheels

101. With the vehicle weight on the suspension, tighten all upper and lower control arm bolts to 130 lb-ft

Final Torque and Adjustments:

102. Raise vehicle and reposition jack stands under the front and rear axles.
103. Temporarily install a tire on one side.
104. Verify that the axle is centered as desired front to rear. Check caster before adjusting.
105. 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.
106. Adjust control arms to the desired position.
107. To adjust axle front to rear, adjust upper and lower control arms by the same amount. 12 turns equal one inch.
108. To adjust only caster, adjust only the upper control arm (3 turns equals roughly 2 degrees).
109. To adjust both, adjust both at the same time.
110. *****Caster angle may need to be adjusted after a test drive to eliminate driveline vibrations. *****
111. Check axle position left to right. Adjust track bar length as needed.
112. With the vehicle weight on the suspension, tighten the upper and lower control arm bolts to 130 lb-ft.
113. 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.
114. Install tires and wheels. Torque lug nuts to spec. (Typical specification is 85-115 ft-lbs., depending on your wheels)
115. Recheck all fasteners and torque any remaining loose nuts or bolts to spec.



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



116. 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.



JK Rock-Link PLUS Upgrade (Optional)

Rear Suspension Installation Instructions



Installation Instructions:

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

We 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.
- ☐ 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
 - ☐ Multi-purpose grease (all poly bushings should be greased before installation)
 - ☐ Anti-seize compound
 - ☐ Angle finder
 - ☐ Cable ties/zip ties
 - ☐ With the Jeep on the ground and weight on the suspension, measure and record the rear pinion angle using an angle finder.

Pinion angle: _____

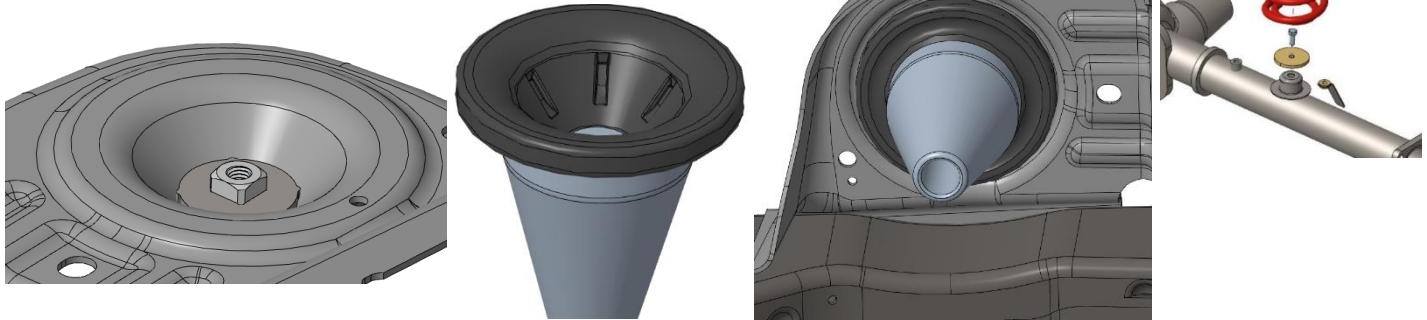
Prepare the parts for installation:

1. **Track Bar:** Locate track bar, hardware kit #107 and track bar threaded male end.
2. Lubricate track bar bushings and bushing sleeves with multi-purpose grease and install into track bar and track bar threaded male end.
3. Thread the jam nut onto the track bar threaded male end.
4. Use a light coat of anti-seize then thread the track bar male end into the track bar. Adjust to the length in the chart as a starting point.
5. Leave the jam nut loose, do not tighten at this time.
6. **Adjustable Control Arms:** Using the instructions on the last page assemble the flex ends into the threaded male ends for LCAs and into the arms for UCAs.
7. 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.
8. Install the clamping hardware into the control arms, do not fully tighten at this time.

Track Bar & Control Arm Length (Center to Center)	
Rear UCA	18"
Rear LCA	20"
Rear Track Bar	40-1/4"

Rear installation:

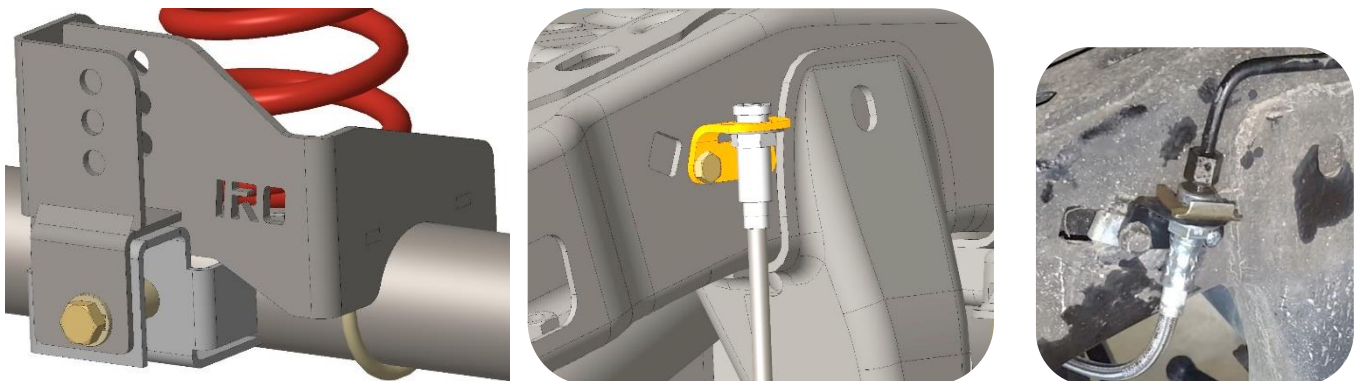
9. Lift rear of vehicle and support with jack stands under frame rails.
**Tip: break lug nuts loose before lifting vehicle.
10. Remove rear wheels.
11. Remove sway bar links.
12. Support the axle with jack stands and remove shocks.
13. Remove coil springs.
14. Remove the rear track bar.
15. **Retainer Cone:** Position the nut plate on top of the coil spring mount with the nut facing up.
16. Place the upper isolator on top of the retainer cone then place it up onto the coil spring mount. Secure with 7/16 x 2" bolt and washer.
17. Tighten until the isolator starts to deform and tightening effort increases sharply.



18. Install the springs into the Jeep by positioning them over the retainer cones and lower spring mounts on the axle.
19. Insert the 7/16 flag nut into the lower spring mount from the bottom side and align it with the hole in the lower spring mount.
20. Insert the retainer plate into the spring. Add a small amount of anti-seize to the 7/16 x 1" bolt and torque to 54 lb-ft.



21. Install new rear track bar bracket over factory track bar bracket. Secure with U-bolts, 3/8" serrated flange nuts, M14 x 80 bolt, nylock nut and spacer sleeve from hardware kit #199.
22. Install new track bar into rear track bar bracket (middle hole) using the factory track bar bolt and flag nut. Tighten jam nut very tight.



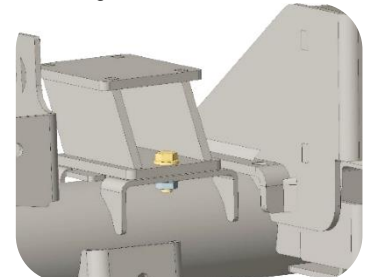
23. Install new brake hose bracket on frame in the original hole using factory bolt as shown.
24. Remove rear brake hose from the frame and caliper then remove the brake hose bracket.
25. Install new brake hose bracket on the frame in the original hole using the factory hardware. Angle the bracket to line up with the brake line and use the self tapping screw to secure it.
26. Attach the new braided brake hose to the caliper with the factory bolt and new copper washers.
27. Tighten the brake line into the braided hose. Orient the new braided brake hose inward to avoid moving suspension parts and the tire, secure it to the bracket with the clip provided.

Re-route ABS wires as needed to allow full suspension droop.

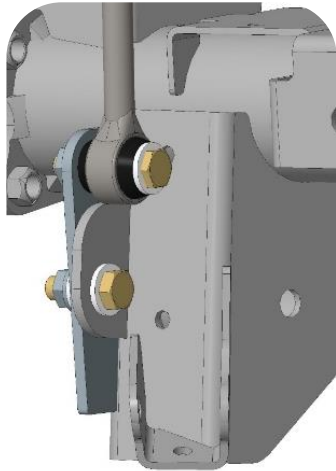
28. Remove factory lower control arms and install new lower control arms using the factory hardware. Clamping bolts facing down, flex end at the frame, grease zerks pointed down.
29. Remove factory upper control arms and install new upper control arms using the factory hardware. Clamping bolt facing in, 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.

30. Install rear bump stop spacers using hardware kit #199. The slant should point forward.
31. Install rear sway bar drop spacers on the frame: Loosen one side of the sway bar, do not remove the bolts, then remove bolts from the opposite side and install the spacer using hardware kit #12.



32. Install rear sway bar relocation brackets on the outside of the original sway bar mount using 1/2 x 1-1/2 bolts from hardware kit #220.
33. Assemble new rear sway bar links using hardware kit #220. Grease and install the hourglass bushings into the links then grease and install one 1/2" short bolt sleeve and one M12 long bolt sleeve into each rear sway bar link. The short bolt sleeve is for the top of the sway bar link.
34. Use the M12 x 60 hex head bolts for the bottom of the sway bar links. Use the 1/2 x 2-1/2 button head bolts for the top of the sway bar link. See photos.

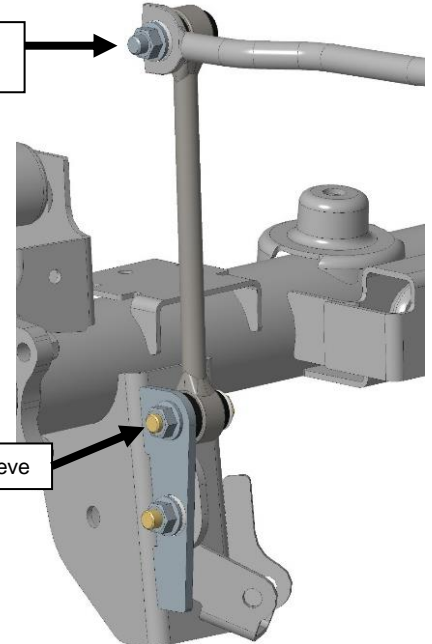


Head of bolt
Toward Frame



1/2" Short
bolt sleeve

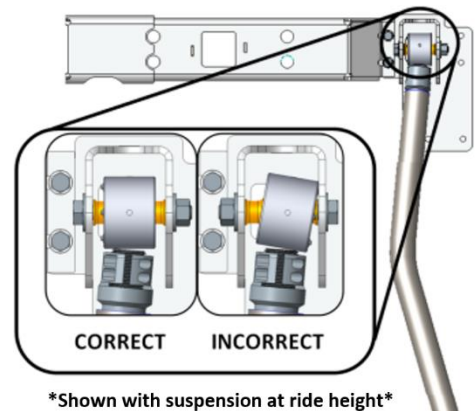
M12 Bolt Sleeve



35. Install new shocks.
36. Reinstall rear wheels.
37. Lower vehicle onto ground.

Final Torque and Adjustments:

38. 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.
39. Check that axles are centered side to side and adjust track bars as needed.
40. 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.
41. Tighten rear upper and lower control arm bolts to 130 lb-ft.
42. Torque lug nuts to factory spec. (85 to 115 ft-lbs)
43. 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.
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:

* 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 (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 zerker 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 zerker fitting so that it is easily accessed in the vehicle.
12. Grease flex end until grease comes out of the races around the ball.
13. Re-torque bolts to 85 in-lbs. after 5 minutes.



Figure 1

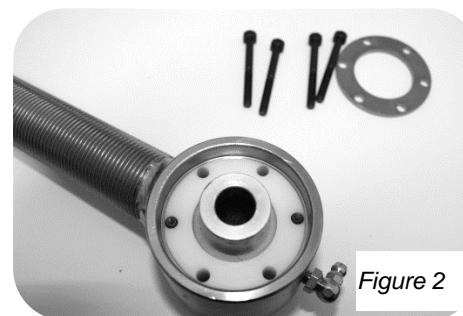


Figure 2



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

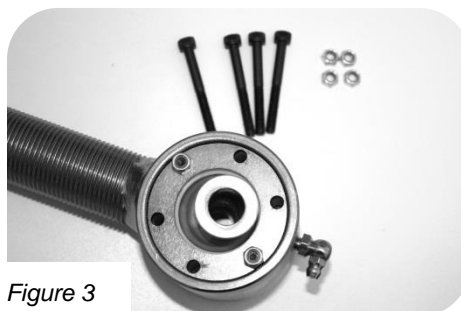


Figure 3

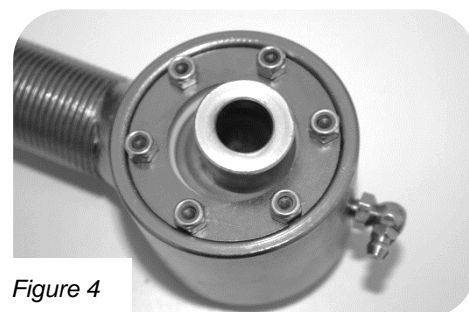


Figure 4

IRON ROCK OFF ROAD

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

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

Before you begin:

- Read and understand installation instructions.
- Contact Iron Rock Off Road with any questions before, during, or after installation.
- **Ensure that all parts are present and in good condition per attached shipping checklist!**
- Have these tools handy:
 - 9/64" Allen head socket
 - 3/8" open end wrench
 - Inch-lb. torque wrench
 - Multipurpose grease/grease gun

Parts Checklist:

- ☐ Outer housing, weld on (may already be attached to your existing control arm)

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

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

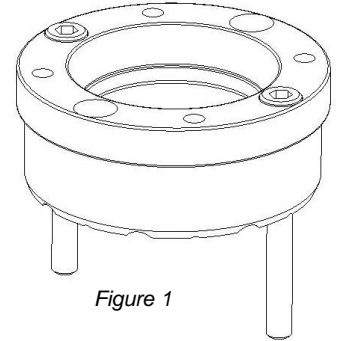
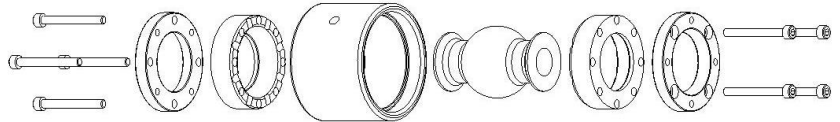
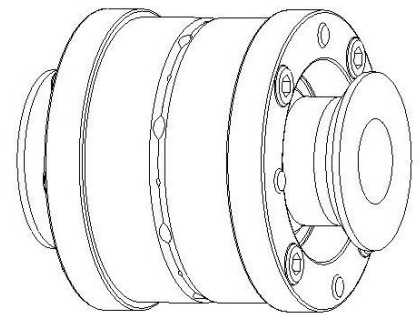


Figure 1

Assembly:

1. Insert two #8-32 socket head cap screws into one thrust washer and one plastic race. Spherical bore of race facing away from thrust washer. (Figure 1)
2. Install this small assembly into the flex end housing. The races are a light press fit, use a wide punch and hammer to assist you if needed.
3. Apply a thin coating of multi-purpose grease to the mating surfaces of the ball and both races.
4. Place the ball in the race (inside the flex end). The ball should perfectly fit the contour of the race.
5. Insert the other race onto the ball so that the spherical bore is contacting the ball. Once again, the races are a light press fit, use a hammer and wide punch if needed. (The two screws should be through one washer and both races at this point)
6. Insert the second thrust washer on top of the flex end housing, aligning the bolts with the threaded holes.
7. Start threading the two bolts into the threaded holes of the thrust washer. Do not fully tighten at this time.
8. Insert the remaining cap screws through the remaining holes and get them started in the threaded washer.
9. Snug up all of the bolts fairly tight. Go back and forth, rechecking each bolt several times to ensure even clamping
10. Torque bolts evenly starting at one bolt using a crisscross pattern, like torqueing 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*

