

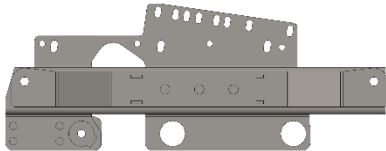
# IRON ROCK OFF ROAD

97-02 TJ 3" - 6" Long  
Arm Lift Kit Instructions

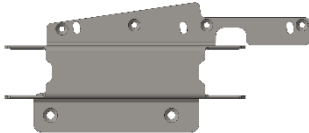
1-877-919-JEEP www.ironrockoffroad.com

## Parts List:

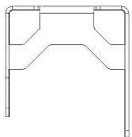
- Iron Rock Off Road logo decal (2)
- Ironrockoffroad.com decal (1)
- Rock-Link decal 13287 (2)
- Belly skid plate 85046 (1)
- Left long arm frame mount 85104 (1)
- Right long arm frame mount 85105 (1)



- Left LCA mount gusset plate 85148 (1)
- Right LCA mount gusset plate 85149 (1)



- Transmission crossmember 85059 (1)
- Left skid plate drop bracket 85072 (1)
- Right skid plate drop bracket 85071 (1)
- Belly skid drop plate 85073 (8)
- Crossmember drop plate 85093 (8)
- Front driver UCA 85106 (1)
- Front driver LCA 85107 (1)
- Front passenger LCA 85108 (1)
- Rear UCA 85079 (2)
- Rear driver LCA 85109 (1)
- Rear passenger LCA 85110 (1)
- Straight male end (UCAs) 92186 (3)
- Angled male end (LCAs) 91109 (4)
- 3/16" steel brake line tubing (5 feet)
- T-case linkage relocation plate 88134 (1)
- T-case linkage U-bracket 88135 (1)



## #268 - Sway Bar Disconnect Bushings (1)

- Poly Bushing 94025 (4)

## #286 - TJ Sway Bar Disconnect Hardware (1)

- Disconnect Pin 94028 (2)
- 1/2-20 x 1" Hex Bolt, gr8 (2)
- 1/2 F436 Hard Washer (2)
- 1/4" x 1-1/4" Spring Lynch Pin (2)
- 12mm bolt sleeve 92038 (2)
- M12 x 60 hex bolt, cl10.9 (2)
- M12 hex nut, cl10.9 (2)
- M10 x 30 hex bolt, cl10.9 (2)
- 3/8" USS washer (2)
- M10 hex nut, cl10.9 (2)
- U-Bracket 99000 (2)

## #130 - TJ 0-8" Track Bar Bracket (1)

- 1/2-20 x 2 hex bolt, gr8 (1)
- 1/2 SAE hardened washer (2)
- 1/2-20 nylock nut, gr8 (1)
- 3/8-16 x 2 hex bolt, gr8 (1)

- 3/8-16 nylock nut, gr8 (1)
- 3/8 USS washer (2)
- 1/2" Tapered sleeve 95043 (1)

## #155 - Subframe Hardware (1)

- 1/2-13x1-1/2" Flat head cap screw (6)
- 3/8-16 x 1 Flat head cap screw (18)
- 3/8-16 Serrated flange nut (18)
- M14 X 95 hex bolt cl10.9 (3)
- M14 hex nut cl10.9 (3)
- 1/2 USS washer (6)
- M10 X 80 hex bolt cl10.9 (1)
- M10 Nylock nut (1)
- 3/8" USS washer (2)

## #119 - Transfer Case Linkage Relocation (1)

- 1/4-20 x 3/4 splined carriage bolt (3)
- 1/4 USS washer (3)
- 1/4-20 hex nut (3)
- 1/4-20 x 3/4 thread cutting screw (2)
- Linkage bushing 53004810 (1)

## #120 - Belly Skid Drop Hardware (1)

- 3/8-16 x 1-1/4 Carriage bolt (8)
- 3/8-16 x 2 Flat head cap screw (10)

## #124 - Fuel Line Clamps / Cable Ties (1)

- 8" cable tie (8)
- 1/4 x 1 hex head self-drilling screw (5)
- 3/4" rubber cushioned loop clamp, stainless steel CLAMP 25612 (3)

## #125 - TJ Bolt-On Rear Shock Relocation (1)

- Shock relocation bracket 85088 (2)
- M12 X 100 cl10.9 hex bolt (2)
- M12-1.75 cl10.9 nylock nut (2)
- 7/16 USS washer (2)
- 3/8-16 X 1 hex bolt (2)
- 3/8-16 hex nut (2)

## #127 - 2-5/8" Flex Joint Hardware (9)

- 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 hd cap screw (6)
- 90 Degree 1/4"-28 grease zerk (1)

## #128 - Rear bump stop spacer (1)

- 3" bump stop spacer MB03 (2)
- M10 x 100 hex bolt (2)
- 3/8 USS washer (2)

## #147 - TJ Rear Brake Line hardware (1)

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

## #148 - TJ Control Arm Clamp Bolts (1)

- 1/4-28 x 1 1/8 Socket hd cap screw (14)
- 1/4-28 hex nut gr8 (14)

## #150 - Rear Truss Hardware (1)

- M14 x 100 Hex bolt CL10.9 (2)
- 1/2 USS washer (2)
- M14 plain hex nut, CL10.9 (2)

## TJ Rear Caliper Brake Hose Kit - 10143 (1)

- Rear caliper brake hose 88143 (2)

## #94 - Rear Caliper Brake Hose Hardware (1)

- Brake Hose clip BQ3052 (2)
- Copper washer BQ3858 (4)

- Brake hose mounting brkt 91114 (2)
- #10 x 1 self-drilling screw (4)

- TJ 0-8" Adjustable front track bar 85096 (1)
- Track bar male threaded end 92004 (1)
- TJ 0-8" double shear TB bracket 85124 (1)



## ~Standard Front Track Bar~

### #129 - Front Track Bar Hardware (1)

- Track bar bushing half M20919 (4)
- 7/16" TB bushing sleeve 92036 (1)
- 12mm TB bushing sleeve 92035 (1)
- 7/16 x 2 1/2" lg gr8 hex bolt (1)
- 7/16 gr8 hex nut (1)
- M12 x 65 hex bolt cl10.9 (1)
- M12 nylock nut cl10.9 (1)
- 5/16 x 2 carriage bolt gr5 (1)
- 5/16-18 serrated flange nut (1)
- Clamping bracket 95044 (1)

## ~Optional Premium Front Track Bar~

### #122 - Track Bar Flex Joint - 12mm (2)

- Inner race (plastic) 91113 (2)
- End cap (steel) 91112 (2)
- Ball 91104 - M12 bolt (1)
- #5-40 x 1 1/4" Socket head screw (9)
- 3/32" Hex L key (hex plus) (1)

### #129 - Front Track Bar Hardware (1)

- Track bar bushing half M20919 (4)
- 7/16" TB bushing sleeve 92036 (1)
- 12mm TB bushing sleeve 92035 (1)
- 7/16 x 2 1/2" lg gr8 hex bolt (1)
- 7/16 gr8 hex nut (1)
- M12 x 65 hex bolt cl10.9 (1)
- M12 nylock nut cl10.9 (1)
- 5/16 x 2 carriage bolt gr5 (1)
- 5/16-18 serrated flange nut (1)
- Clamping bracket 95044 (1)

## Rear axle truss customer specific:

- Optional:** Dana 35 Truss 88123 (1)
- Dana 35 Truss Gusset 91223 (1)
- UCA 4-link Bracket 88131 (1)
- #184 - T-Block Eliminator 88263 (1)

- Optional:** TJ Dana 44 Truss 88125 (1)
- Dana 44 Truss Gusset 88357 (1)
- UCA 4-link Bracket 88131 (1)
- #184 - T-Block Eliminator 88263 (1)

- Optional:** Ford 8.8" Truss 85060 (1)
- 8.8" Truss Gusset 91224 (1)
- UCA 4-link Bracket 88131 (1)

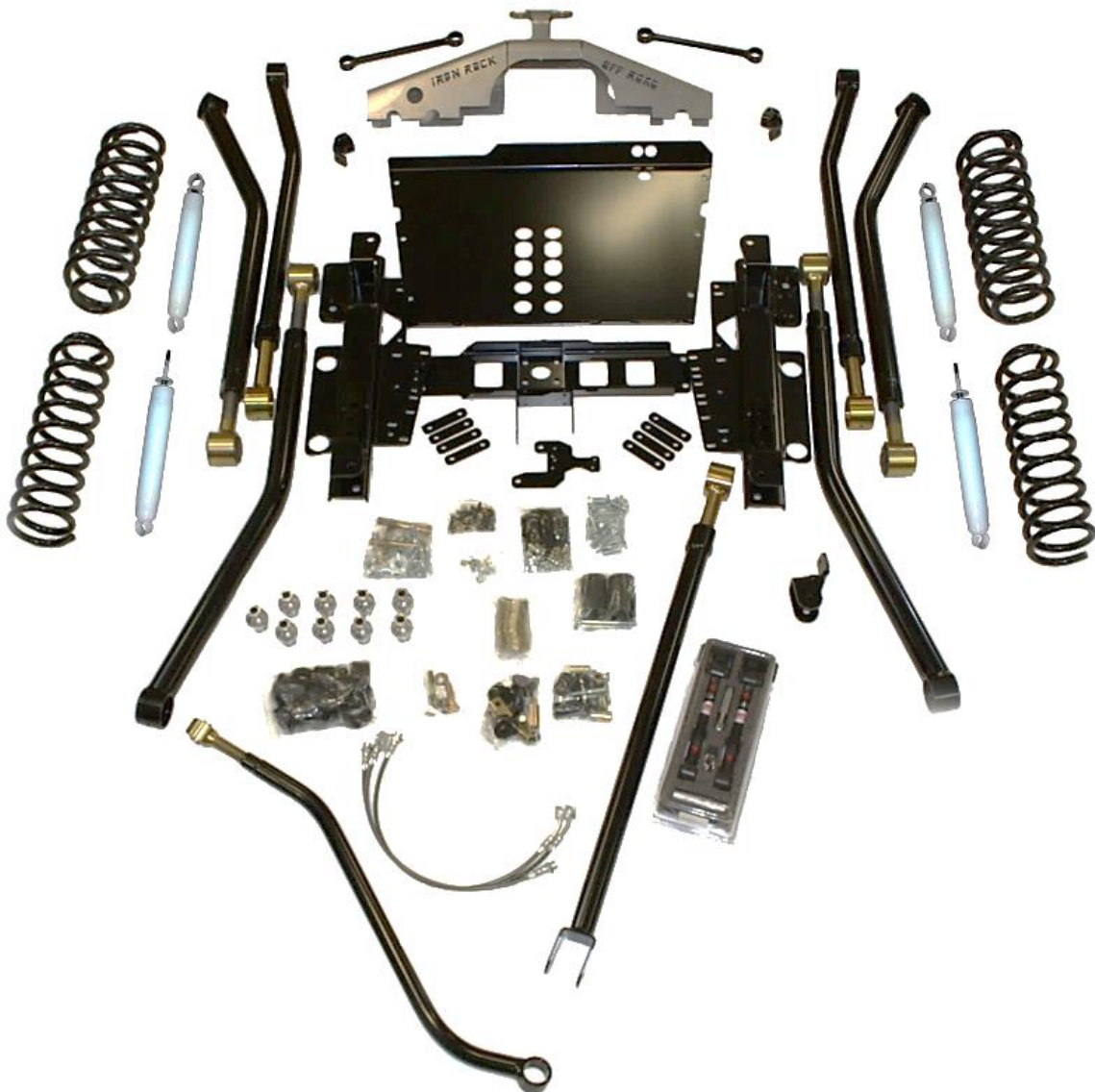
- Optional:** Dana 60 Diff Cradle 88217 (1)
- Front Truss Plate 88218 (1)
- Rear Truss Plate 88219 (1)
- UCA 4-link Bracket 88282 (1)

- Optional:** GM 14B Diff Cradle 91196 (1)
- Front Truss Plate 91197 (1)
- Rear Plate Left 91198 (1)
- Rear Plate Right 91199 (1)
- UCA 4-link Bracket 88282 (1)
- Optional:** JK D44 Diff Cradle 88217 (1)
- Front Truss Plate 88257 (1)
- Rear Truss Plate 88256 (1)
- UCA 4-link Bracket 88282 (1)

- Optional:** Sterling 10.5 Truss 88298 (1)
- Front Truss Plate 88310 (1)
- Rear Truss Plate 88311 (1)
- UCA 4-link Bracket 88282 (1)

- Optional:** Ford 9" Semi-Universal 88266(1)
- Front Truss Plate 88269 (1)
- Rear Truss Plate 88270 (1)
- UCA 4-link Bracket 88282 (1)
- Optional:** Universal Truss 88266 (1)
- Front/Rear Truss Plate 88268 (2)
- UCA 4-link Bracket 88282 (1)

	Front Spring	Rear Spring	Front Shock	Rear Shock	Front Sway Bar Link	Brake Line Set
<b>3"</b>	96017	96019	IRO 79001	IRO 79004	10.75" (92146)	11344 TJ 0-4" SS Brake Lines
			DT 8350	DT 8299		
			Bilstein 33-185606	Bilstein 33-230337		
<b>4"</b>	96016	96005	IRO 79001	IRO 79004	10.75" (92146)	11344 TJ 0-4" SS Brake Lines
			DT 8350	DT 8299		
			Bilstein 33-230351	Bilstein 33-185552		
<b>5"</b>	96012	96007	IRO 79002	IRO 79005	11.25" (92147)	10207 - #158 TJ 4-8" SS Brake Lines
			DT 8386	DT 8371		
			Bilstein 33-230337	Bilstein 33-104652		
<b>6"</b>	RC9277	RC9278	IRO 79002	IRO 79011	11.25" (92147)	10207 - #158 TJ 4-8" SS Brake Lines
			DT 8386	DT 8403		
			Bilstein 33-230399	Bilstein 33-185569		



**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 makes the vehicle's track width wider (wheels with less backsacing 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.
- 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.

**Installation of this suspension system:**

- Requires cutting, grinding, welding, and fabricating.
- Requires removal of most suspension mounts from the frame. Returning the vehicle to stock will not be possible after installation.
- Requires an Iron Rock or custom exhaust system.
- Requires a 4-wheel alignment.
- Requires a transfer case slip yoke eliminator and custom CV driveshaft after installation. "Super short" slip yoke eliminator is highly recommended.
- Iron Rock OTK steering highly recommended.
- 1" motor mount lift highly recommended.
- Trimming of cooling fan shroud may be required.
- Extended axle breather tubes may be required.

**Be sure you have the following tools and supplies:**

- Floor jack and a minimum of 7 jack stands (or an automotive lift)
- Basic hand tools
- Multi-purpose grease (all poly bushings should be greased before installation)
- Anti-seize compound.
- Hand drill & 3/8" drill bit
- Angle grinder with grinding, sanding, and cut off wheels.
- Sawzall
- Welder
- Brake line bender
- Double flaring tool (for brake lines)

**Prepare the parts for installation:**

1. Locate **HK #15** and the rear shocks.
2. Grease and install the barpins into the top side of the rear shocks (figure 1). 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.
3. Locate the front shocks and install the barpins (included in shock box) using the same procedure from step 2.
4. Locate the front sway bar links and **HK #268 & 286**. Assemble the sway bar links according to the IRO Sway Bar Disconnect instruction at the end of this document.
5. Locate the front track bar and **HK #129**. \*If you upgraded to the Premium Track Bar option refer to the track bar flex joint assembly instructions at the end of this document.
6. Install the clamp onto the threaded end of the track bar (figure 2). Apply anti-seize compound to male threads. Thread male end into track bar. Install carriage bolt and nut into clamp finger tight. Nut must face forward when installed.
7. Adjust the length per the chart below as a starting point. This may need to be adjusted after a short test drive.
8. Lubricate track bar bushings and bushing sleeves with multi-purpose grease and install into track bar. The smaller I.D. bushing sleeve is installed at axle end (with adjusting threads), and the larger I.D. sleeve at frame end (without adjusting thread).
9. Leave the rest of the hardware in the bag for future use.



Figure 1



Figure 2  
Track Bar



Figure 3  
Front Upper Control Arm



Figure 4  
Front Lower Control Arms



Figure 5  
Rear Upper Control Arms



Figure 6  
Rear Lower Control Arms

Track Bar Starting Length (Center to Center)				
	3" Lift	4" Lift	5" Lift	6" Lift
<b>Front Track Bar</b>	31-1/2"	31-3/4"	32"	32-1/4"

Control Arm Length (Center to Center)	
Front UCA (Upper Control Arm)	37-7/8" (Short Side)
Front LCA (Lower Control Arm)	38" (Short Side)
Rear UCA	37-3/8" (Short Side)
Rear LCA	37-5/8" (Short Side)

10. Locate all seven control arms and **HK #127 & 148**. Build control arms: Assemble flex ends per attached instructions (last page). Adjust lengths per the chart as a starting point. Install and tighten clamping bolts. Lower arms use angled threaded male ends; all others use straight threaded male ends. (Figures 3-6)



### Disassembly:

11. Lift front and rear of vehicle and support with jack stands under the frame near the lower control arm mounts.  
\*\*Tip: break lug nuts loose before lifting vehicle.
12. Ensure that vehicle is safely supported.
13. Remove front and rear tires.
14. Place two jack stands under the front axle tubes and one under the pinion.
15. Remove front sway bar links and rotate sway bar up out of the way.
16. Remove the front track bar.
17. Remove the front shocks.
18. Remove front coil springs. Save spring clamps for later use.
19. Disconnect front driveshaft. Wrap tape around u-joint caps so they don't fall off.
20. Remove front brake hoses and temporarily cap hard lines at the frame. 3/16" vacuum caps work well for this.
21. Remove front control arms. Save hardware for re-use.
22. Disconnect axle breather tube.
23. Set front axle assembly aside.
24. Place a floor jack under the rear axle for support, do not lift vehicle.
25. Remove rear shocks.
26. Disconnect rear track bar at axle.
27. Remove rear driveshaft.
28. Remove rear brake hose and temporarily cap hard line at frame.
29. Disconnect emergency brake cables.
30. Disconnect axle breather tube.
31. Remove rear coil springs.
32. Remove rear control arms. Save hardware for re-use.
33. Set rear axle assembly aside.
34. Remove the four transfer case/ transmission mount nuts in the center of the belly skid.
35. Raise transfer case slightly and support with jack stand.
36. Rubicon models: unbolt differential locking air compressor bracket from the skid plate.
37. Unbolt and remove factory belly skid plate.

### Frame Prep:

38. Cut exhaust 1" behind the 90-degree bend, after the exhaust crosses under the oil pan (Figure 6). Leave approx. 1" of straight pipe. An Iron Rock or custom exhaust system is required to clear the control arms and skid plate. The factory exhaust will no longer fit.
39. Remove disconnected exhaust system from the vehicle.
40. These brackets must be cut off of the frame:
  - Front driver side LCA (lower control arm)
  - Front pass. side LCA
  - Front driver side UCA mount; 6-cylinder models remove entire bracket, 4 cylinder models remove lower portion of bracket using attached template (figure 20).
  - Rear driver side UCA (upper control arm)
  - Rear driver side LCA
  - Rear pass. side UCA
  - Rear pass. side LCA
41. Optionally, you may choose to remove the rear track bar mount as well.
42. Remove brackets and grind any remaining material until flush and smooth. Be very careful not to cut into the frame.
43. Prime and paint the bare metal to prevent rust and leave an attractive finish.
44. Cut off the front heat shield mounting bolt (above catalytic converter location) flush to the bottom of the nut for frame bracket clearance.
45. On LJ Unlimited models: Cut off the bolt that hangs down above the rear axle, directly above the rear upper control arms (axle end). Cut the bolt flush to the bottom of the nut.

### Long Arm Mounting Subframe:

46. Remove any rust or other debris from bottom of frame (above the belly skid) to provide a solid, flat mounting surface for the long arm brackets. Prime and paint any bare metal.
47. Remove most fuel line retaining clips from the driver's side frame. All clips between the front upper control arm mount and the rear coil spring mount should be removed and discarded.
48. Using the insulated clamps and self-drilling screws in **HK #126**, reposition fuel and brake lines above the frame (figure 7). Leave wiring out of the clamps and fasten to the steel lines using cable ties.
49. Locate transfer case linkage u-bracket, mounting plate, and **HK #119** (figure 8)
50. Install splined carriage bolts into flat plate from the backside into the lower set of holes. Use a press, bench vice, or hammer to press them in.



Figure 6  
Exhaust after cutting.



Figure 7  
Fuel line routing

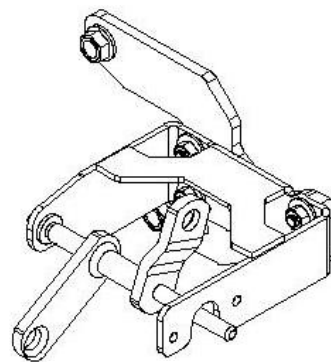


Figure 8  
Transfer Case Linkage



Figure 9  
Transfer Case Linkage Installed

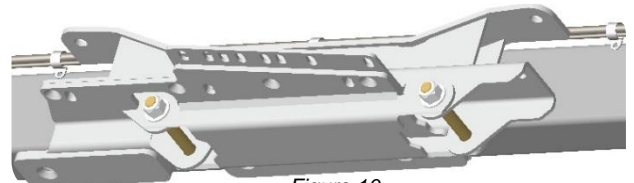
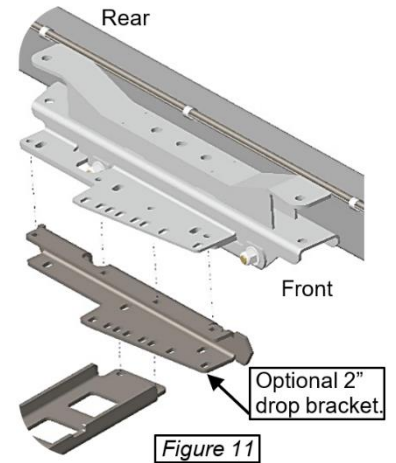
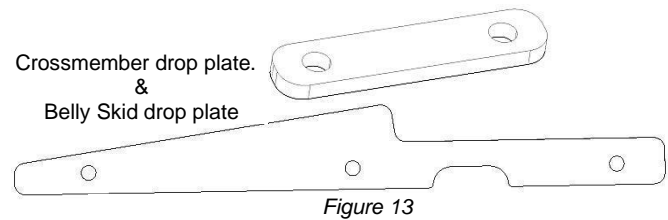
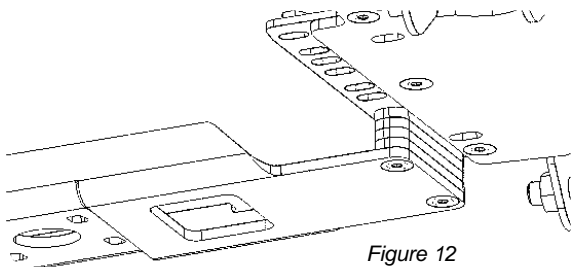


Figure 10  
Control Arm Mount

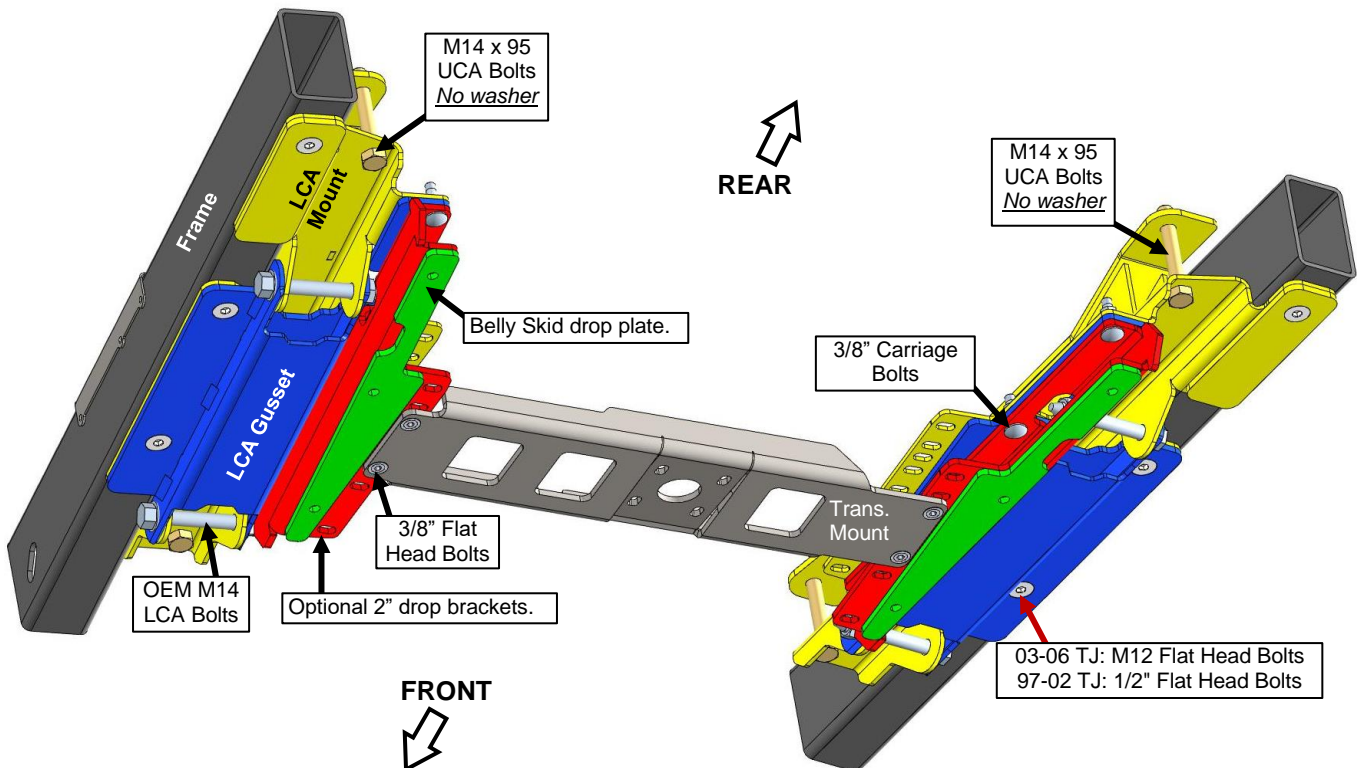
51. Disconnect both transfer case linkage rods from the pivot arm. Use a pry bar to pop the linkage out of its bushings. Disconnect all linkage from the pivot arm and remove pivot arm from its mounting brackets.
52. Install the pivot arm into the provided u-shaped bracket using the new bushing and thread cutting screws. Tighten screws.
53. Remove the 2 nuts that hold the linkage bracket to the transfer case and remove bracket. Install the new flat plate in its place and tighten nuts.
54. Remove factory linkage bracket from body tub. Cut above the lower bolts (using a Sawzall or abrasive wheel) and the bracket will slide out without removing the bolts. Leave the rubber mounts in place.
55. Bolt the u-bracket to the flat plate using a washer under each nut. Tighten nuts.
56. Connect all linkage rods at this time. Adjust primary linkage rod so that transfer case will reach all positions without binding. Be sure there is a little bit of extra travel, or wiggle room, beyond the front and rearmost positions (2 high and 4 low).
57. Rubicon models: install the differential locking compressors on the top of the provided compressor bracket. Slide bracket over the frame rail and install using self-drilling screws from **HK #126** (figure 7). The compressors mount on top of the bracket using the factory isolators and hardware. The bracket straddles the body mount under the driver's feet.
58. Locate the lower control arm mounting bracket, gusset plates, and **HK #155** (see figure 10). Align the LCA mounting holes with M14 bolts then secure the control arm gusset plates onto the control arm mounts using four 3/8 x 1 flat head screws and flange nuts per side. There is a left and right for each part, ensure the countersinks match up to the bolts for a flush finished product. Tighten 3/8 bolts then remove M14 bolts from LCA mounts.
59. Install control arm mounting brackets to the frame (see figure 11 for front to rear orientation). Make sure mounting surface is flat and free of debris. Use the 1/2 x 1-1/2" flat head bolts from **HK #155**. Use high strength threadlocker and tighten the bolts very tight.
60. Attach the transmission crossmember to the transmission mount using the factory nuts. Do not tighten at this time.



**Adjust belly height:**



61. The belly height in this kit is extremely adjustable. Anything from a flat belly up to a 3" drop can be achieved using a combination of spacer plates and spacer brackets (see figure 11, 12 and 13). Flat belly configuration will require a body lift or floor pan modification. Many late model transmissions will require a 2" drop bracket (see figure 11). *2" drop is still 1.5" higher than the stock belly height.* **HK #120** contains the longer bolts needed for the drop spacers.
62. Bolt the transmission crossmember to the frame mounts using the 3/8" flat head bolts and flange nuts from **HK #155 or 120**. Use a combination of drop spacers or brackets and floor pan massaging to achieve your desired belly height.
63. Be sure to check the electrical wiring located above the transmission and transfer case and relocate as needed to avoid pinching the wires.
64. Tighten all crossmember and transmission mount bolts at this time.





**Front Suspension:**

65. Install new control arms. Re-use hardware for LCA's. The UCA gets new bolt, nut, and washers at the frame (**HK #155**). \*\*\*Front upper control arm bolt (at frame) may require minor clearance of the floor pan with a pry bar. You need at least a 3/8" gap above the bolt. \*\*\*
66. Install new coil springs, making sure to align them with the spring buckets on the axle.
67. If possible, reinstall coil spring retainer clamps (this may need to be done later with the Jeep on the ground).
68. 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.
69. 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 at the top side. \*Tip: To clear larger tires, move the frame mount forward about 2 inches.
70. Fasten brake line bracket to the frame using provided self-drilling sheet metal screws.
71. Repeat brake line relocation for other side.
72. Locate **HK #130**. Install track bar bracket onto factory mount using tapered sleeve. Install 1/2" bolt facing up (nut on top) with an SAE washer under the bolt and nut. Ensure the bracket sits flush, grind down any high spots as needed. Tighten 1/2" bolt before drilling the 3/8" hole (figure 14). Drill the upper hole through the bracket using a 3/8" drill bit. Peck drill and use plenty of oil. Install 3/8 bolt with nut on the inside (toward engine). Torque 1/2" bolt to 85 ft-lbs.
73. Install new track bar. If necessary, use the steering wheel and/or a floor jack to align the track bar to the bolt holes. Do not use washers on the bolts. For clearance purposes, frame side nut must face rearward and bolt head forward. Use M12 x 65mm bolt and nylock nut at frame, and 7/16 x 2 1/2 bolt and nut at axle.
74. Torque track bar to 74 ft-lbs. at axle end and 80 ft-lbs. at bracket.
75. Install IRO Sway Bar Disconnects set per the instructions at the end of this document.
76. Iron Rock OTK steering highly recommended. If not, remove drag link. Bend drag link down and forward to clear sway bar mount on axle. Do not allow bending to occur at tie rod mounting hole. Do not bend more than needed. Install drag link and torque to spec. Use new cotter pins.
77. Raise vehicle and reposition jack stands under the front axle.
78. Ensure the vehicle is safely supported.
79. Any remaining loose bolts will be torqued after rear suspension installation.

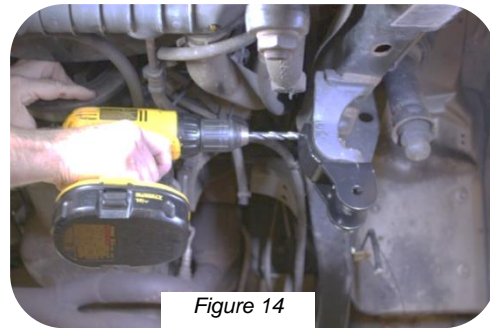
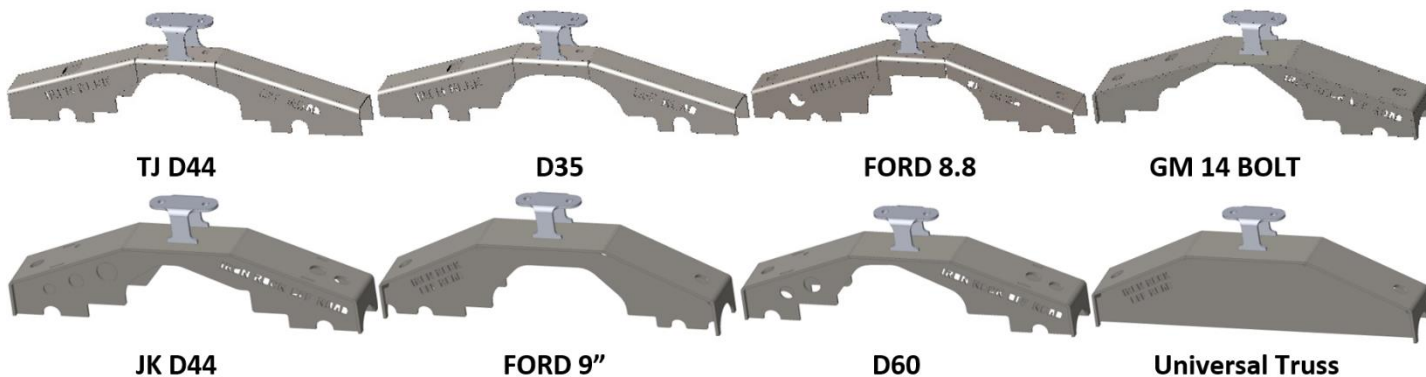
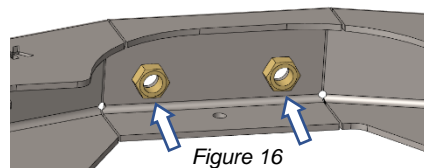
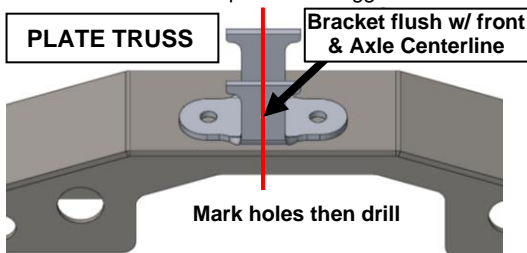
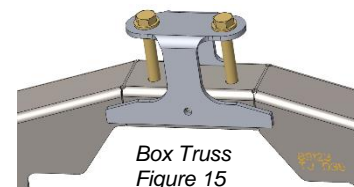


Figure 14



**Rear Axle:**

80. Remove hard brake lines from axle and cover brake caliper hoses to keep dirt out.
81. Cut UCA mounts and track bar mount off of axle. Grind flush. Be careful not to cut into the axle tubes.
82. Locate the axle centerline by measuring the same distance from each (left and right) wheel mounting surface or axle tube end flange. The upper control arm bracket will be centered over the axle centerline.
83. Weld upper control arm (UCA) bracket to truss (see figure 15).
84. **Box Truss:** Be sure holes are aligned in the bracket/truss and leave 2-5/8" plus some wiggle room for mounting control arms.
85. **Plate Truss:** Using the UCA bracket as a template: place the bracket flush to front edge of truss and directly over the axle centerline, then mark the location of holes to be drilled. Drill the two holes starting with a small drill size and ending with 9/16" Use plenty of oil. Be sure bolt holes are aligned in the bracket/truss and leave 2-5/8" plus some wiggle room for mounting control arms before welding.



86. Assemble UCA mounting bolts and nuts from **HK #150** onto truss (see figure 15 & 16). Snug bolts and weld nuts to bottom of truss. **Box Truss:** Stitch weld the truss gusset into the inside of the truss. Ensure holes in gusset are aligned to truss and nuts are accessible.
87. Set truss on axle and align back of the truss parallel to the differential cover mounting surface. **D35, D44 box truss:** Rotate truss assembly forward 5-6°
88. Tack weld truss to axle with bottom edge of truss sitting approx. 1/8" above the centerline of axle tubes.
89. Fully weld truss to axle. Weld one section in each corner of the truss and continue.



working around the truss to avoid excess heat buildup. **Be sure to weld the vertical bend reliefs on the front and back side of the box truss.**

90. Clean, prep, and paint truss. Allow to dry.

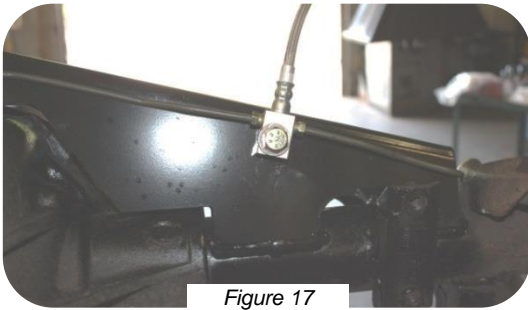


Figure 17

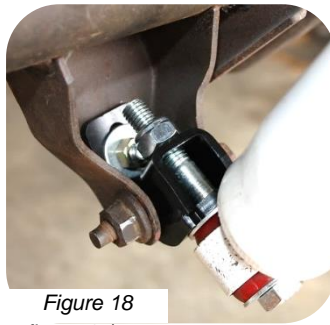
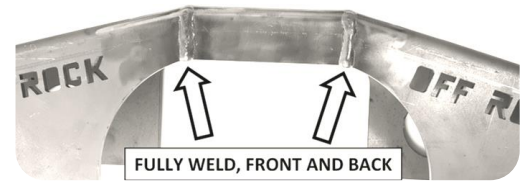


Figure 18



91. Mount rear brake hose to the front side of the truss (see figure 17).
92. Run new hard lines from brake T-fitting to wheel cylinders (see figure 17).
93. Place axle under the Jeep.

#### **Rear Suspension**

94. Install upper control arms with bend hanging down to clear the floor (adjustable threaded end at frame). Use M14 x 95 bolts, nuts, and washers (from **HK #155**) at frame. Use M14 x 100 bolts and washers at axle (from **HK #150**).
95. Install lower control arms with OEM hardware. Adjustable threaded end at frame. **\*\*Angled male ends to be angled towards the outside of the vehicle when installed. \*\***  
Bends are angled upward for ground clearance and inward to clear the frame. Re-use factory hardware.
96. Install 3" bump stop spacers (**HK #128**) between bump stop cup and frame mount.
97. Install new coil springs, rotate them until they sit as straight as possible (low spot of spring aligned to high side of spring pad).
98. Install shock relocation brackets (**HK #125**). Use existing bolts through the bracket and new bolts through the shock (see figure 18).
99. Install new shocks.
100. Reconnect emergency brake cables.
101. Install slip yoke eliminator kit (except Rubicon models) and custom rear driveshaft (sold separately).
102. Raise vehicle and reposition jack stands under the rear axle. Ensure the vehicle is safely supported.
103. Bleed brakes at all 4 corners.
104. Adjust suspension alignment, axle position front to rear, pinion angle, caster angle and axle centering by adjusting control arm lengths as needed.
105. Torque all M14 control arm nuts to 120 ft-lb. Torque front UCA nut at axle to 70 ft-lb. (new bolt/nut, factory spec. is lower).
106. Torque any remaining loose bolts to spec.
107. If not already done, install front coil spring retainers.
108. Install belly skid plate. Use 3/8 flat head cap screws and flange nuts from **HK #155** and/or **120**, and spacer plates as needed (see figure 19).
109. Tighten belly skid bolts.
110. Install tires.
111. Lower vehicle.
112. Torque lug nuts to spec. (85-115 ft-lb. depending on your wheels)

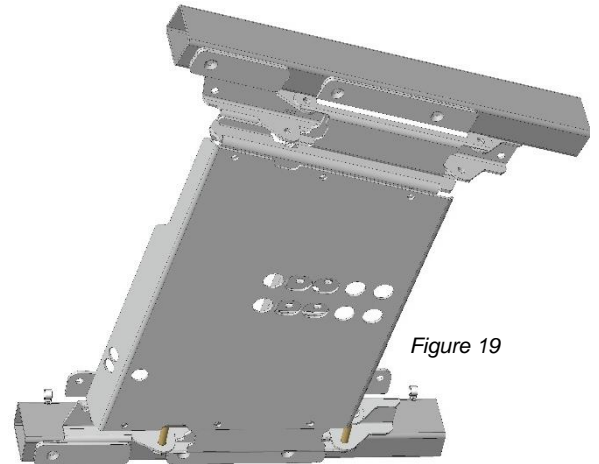


Figure 19

#### **Adjustments and Final Inspection:**

94. 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 four-wheel alignment is required after installation. We recommend the following alignment settings:

**Caster angle:** +3.75 to +5.75 degrees (+4.5 is preferred if possible)

**Toe-in (front):** +1/16" to +1/8"

95. Install custom exhaust system or Iron Rock exhaust system (sold separately) or bring to an exhaust shop of your choice.
96. Trim cooling fan shroud as needed to clear the fan. If you are installing motor mount spacers, do so before trimming shroud.

#### **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.



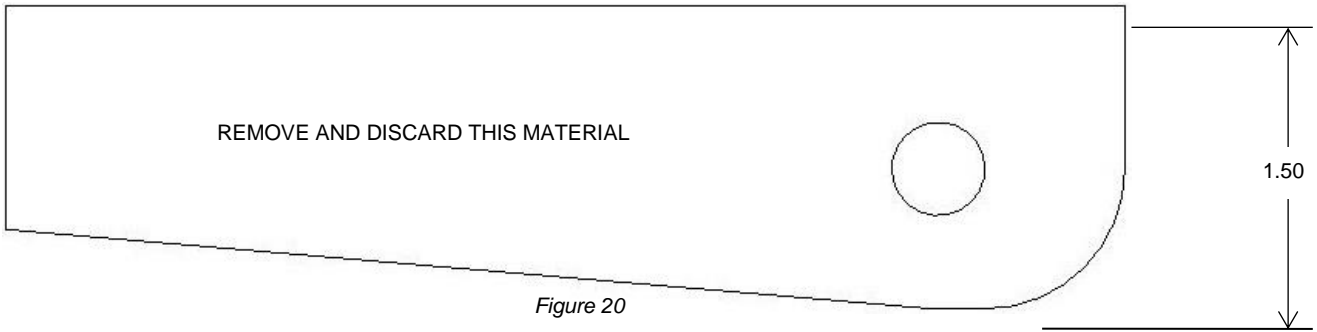
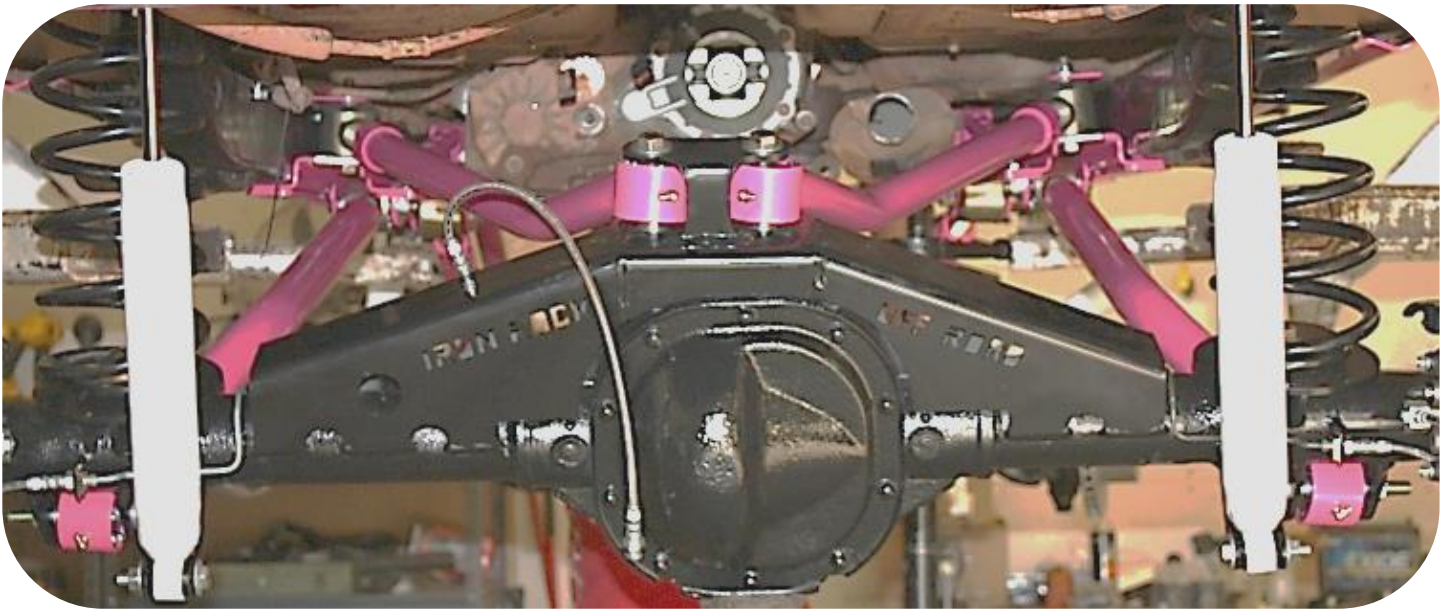
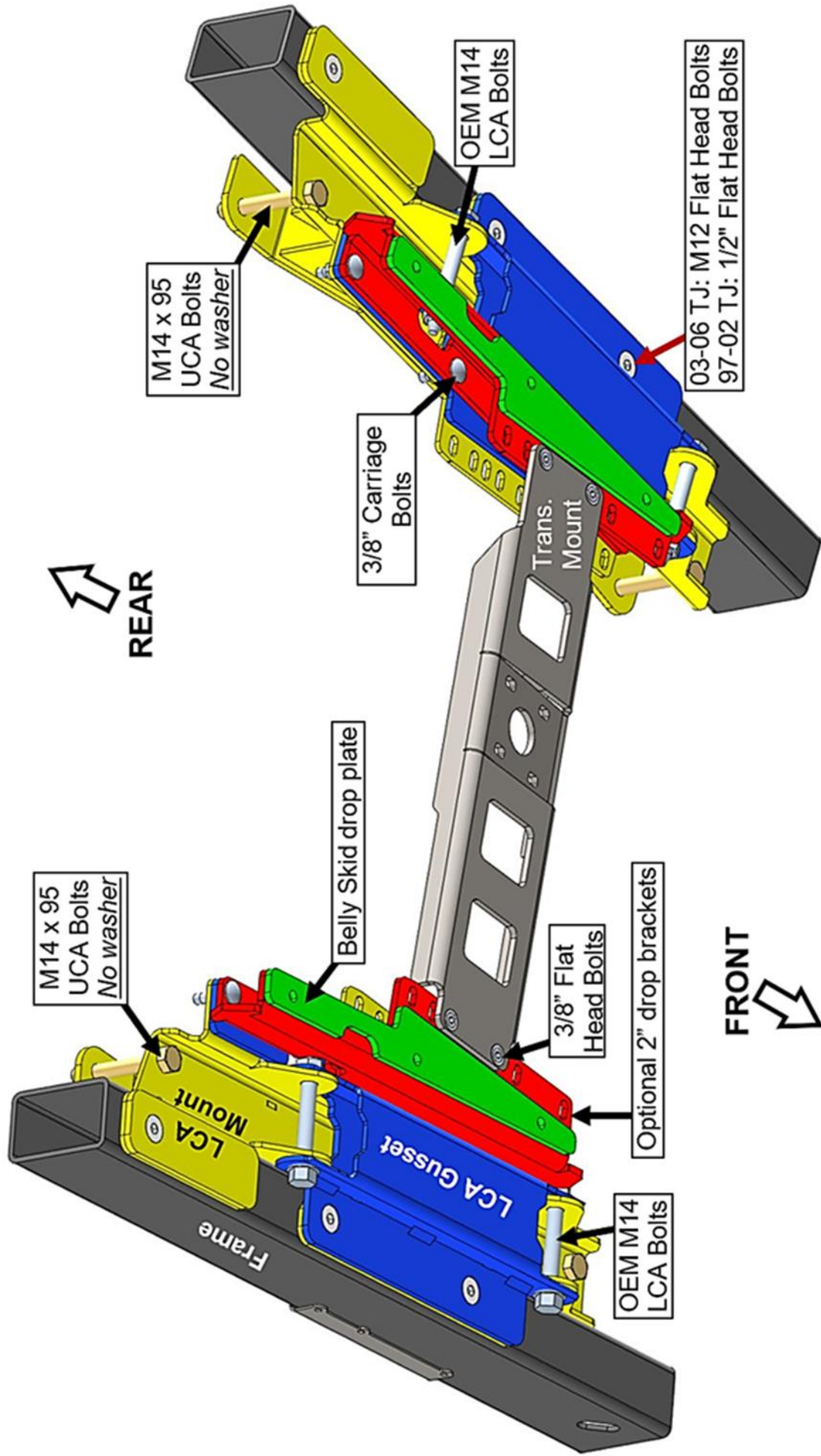


Figure 20

Upper control arm mount cutting template.  
(Driver's side at frame, 4 CYLINDER MODELS ONLY)







# 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:

- 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 5/32" 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)

### #127 - 2-5/8" IRO Flex End (6 bolt)

- 2-5/8" flex end race 91118 (2)
- Thrust washer 91119 (2)
- 2-5/8" flex end ball 91117 (1)
- #10-32 nylock nut (7)
- #10-32 x 1-3/4" socket head cap screw (6)
- 90° 1/4"-28 grease zerk fitting (1)

## Assembly:

1. Insert two #10-32 socket head cap screws into one thrust washer and one plastic race. Spherical bore of race facing away from thrust washer. (Figure 1)
2. Install this small assembly into the flex end housing. The races are a light press fit, use a wide punch and hammer to assist you if needed.
3. Apply a thin coating of multi-purpose grease to the mating surfaces of the ball and both races.
4. Place the ball in the race (inside the flex end). The ball should perfectly fit the contour of the race. (Figure 2)
5. Insert the other race onto the ball so that the spherical bore is contacting the ball. Once again, the races are a light press fit, use a hammer and wide punch if needed. (The two screws should be through one washer and both races at this point)
6. Insert the second thrust washer on top of the flex end housing, sliding the bolts through the holes. (Figure 3)
7. Start nylock nuts on the two bolts that are in the flex end assembly. Hold the nut and turn the bolt.
8. Insert the remaining four cap screws through the remaining holes and install nuts. (Figure 4)
9. Snug up all of the bolts fairly tight.
10. Torque bolts evenly, starting at one bolt and continuing using a crisscross pattern. Torque all six bolts to 70 in-lbs., then to 85 in-lbs.
11. Install 90° grease zerk fitting so that it is easily accessed in the vehicle.
12. Grease flex end until grease comes out of the races around the ball.
13. Re-torque bolts to 85 in-lbs. after 5 minutes.



Figure 1



Figure 2



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

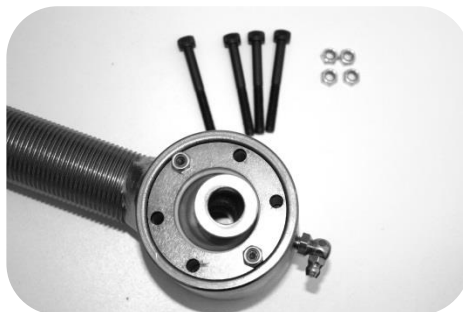


Figure 3



Figure 4



# IRON ROCK OFF ROAD

## Sway Bar Disconnect Link Instructions

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

### Parts List:

#### #268 – Sway Bar Disconnect Bushings (1)

- Poly Bushing 94025 (4)

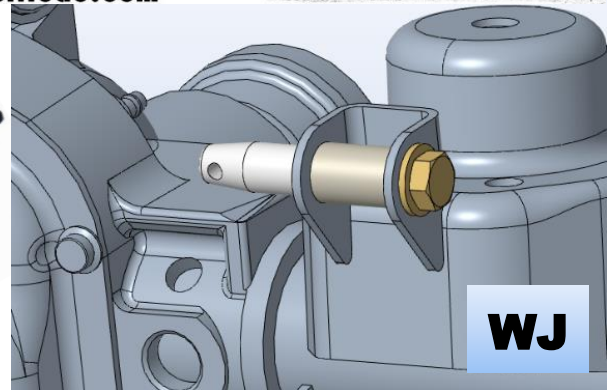
### WJ ~Optional~

#### #267 – WJ Sway Bar Disconnect Hardware (1)

- Disconnect Pin 94028 (2)
- Spacer Sleeve 94032 (2)
- 1/2-20 x 2-1/2" Hex Bolt, gr8 (2)
- 1/2 F436 Hard Washer (2)
- 1/4" x 1-1/4" Spring Lynch Pin (2)

#### #288 – WJ Sway Bar Disconnect Sleeves (1)

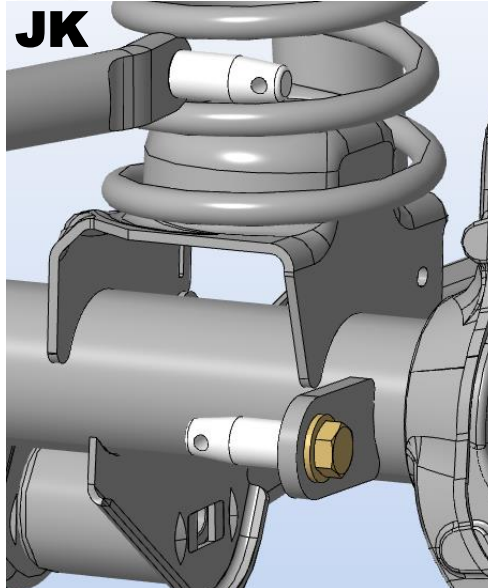
- 12mm bushing sleeve 92038 (2)



### JK ~Optional~

#### #266 – JK Sway Bar Disconnect Hardware (2)

- Disconnect Pin 94028 (2)
- 1/2-20 x 1" Hex Bolt, gr8 (2)
- 1/2 F436 Hard Washer (2)
- 1/4" x 1-1/4" Spring Lynch Pin (2)



### XJ ~Optional~

#### #287 – XJ Sway Bar Disconnect Hardware (1)

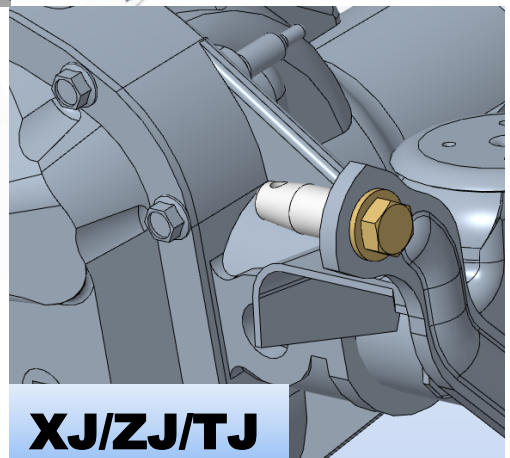
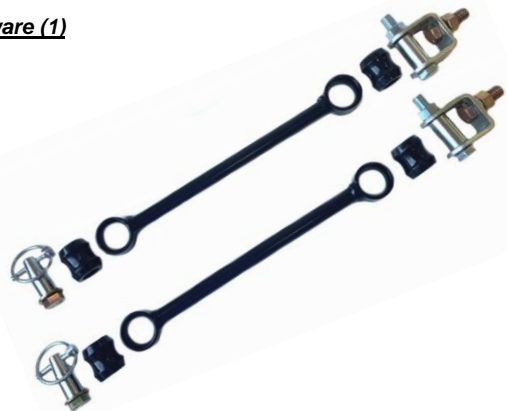
- Disconnect Pin 94028 (2)
- 1/2-20 x 1" Hex Bolt, gr8 (2)
- 1/2 F436 Hard Washer (2)
- 1/4" x 1-1/4" Spring Lynch Pin (2)
- 12mm bolt sleeve 92038 (2)
- M12 x 70 cl10.9 hex bolt (2)
- M12 cl10.9 hex nut (2)
- 1/2 x 1 1/2" gr8 hex bolt (2)
- 1/2 gr8 lock washer (2)
- 1/2 gr8 hex nut (2)
- U-Bracket 99000 (2)



### TJ & ZJ ~Optional~

#### #286 – TJ & ZJ Sway Bar Disconnect Hardware (1)

- Disconnect Pin 94028 (2)
- 1/2-20 x 1" Hex Bolt, gr8 (2)
- 1/2 F436 Hard Washer (2)
- 1/4" x 1-1/4" Spring Lynch Pin (2)
- 12mm bolt sleeve 92038 (2)
- M12 x 60 hex bolt, cl10.9 (2)
- M12 hex nut, cl10.9 (2)
- M10 x 30 hex bolt, cl10.9 (2)
- 3/8" USS washer (2)
- M10 hex nut, cl10.9 (2)
- U-Bracket 99000 (2)



## Installation Instructions:

*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 frequently.

### Notes:

- Do not operate vehicle with only one side of the sway bar connected. Both sides of the sway bar must either be disconnected or both sides must be connected.

## **Before you begin:**

- Read all safety warnings.
- Read and understand installation instructions.
- Contact Iron Rock Off Road with any questions before, during, or after installation. 952-210-7185
- 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 (wrenches, sockets, etc.).
  - Multi-purpose grease

## **Prepare for installation:**

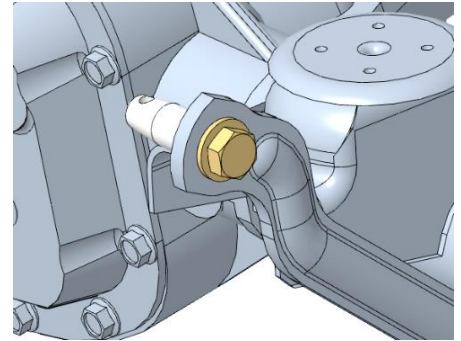
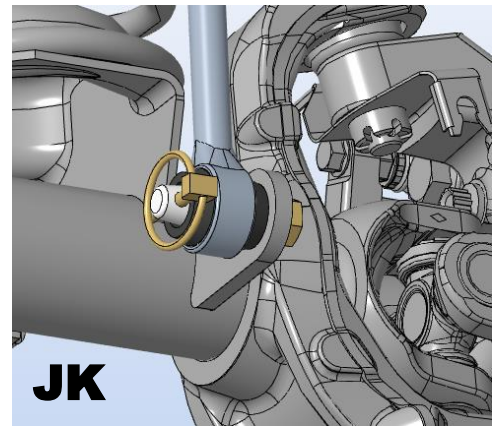
1. Locate the front sway bar links, bushings, and bolt sleeves.
2. Grease and install the hourglass bushings.
3. Grease and install the sway bar link inner sleeves in only one end of each link.
4. Raise the vehicle and secure on jack stands under the frame.
5. Remove the front tires.
6. Disconnect the original front sway bar links from the axle and sway bar.

## **XJ Installation:**

7. Locate front sway bar links, two u-brackets, and **HK #287**.
8. Install sway bar link u-brackets to the sway bar using 1/2 x 1-1/2" grade 8 hex bolts, lock washers, and nuts. Brackets mount to the bottom of the sway bar with the bolt facing up and the lock washer and nut on top of the sway bar. Rotate the bracket so it is offset away from the center of the vehicle. Align brackets, torque bolts to 80 ft-lbs.
9. Install sway bar links driver's side first using provided M12 x 60mm class 10.9 hex bolt and nut through the u-bracket with the nuts toward the outside of the vehicle. Tighten all bolts to 78 ft-lbs.
10. Install the disconnect pin on the axle, pin pointing in-board. Use the 1/2" x 1" bolt with a washer.  
Tip: Before tightening determine your desired orientation for the retaining pin.
11. Hold the disconnect pin in your desired orientation and torque the bolt to 70lb-ft.
12. Apply grease to the disconnect pin and slide the sway bar link onto the disconnect pin.
13. Secure the sway bar link in place using the spring lynch pin.  
**\*NOTE:** The spring lynch pin should take some effort to install. This is done on purpose to keep the link secure and noise free.
14. Reinstall tires and torque lug nuts to spec.
15. Lower vehicle to the ground.
16. With the vehicle back on the ground, pull the spring pins and slip the sway bar links off the disconnect pins.
17. Swing the sway bar links up to the sway bar then swing the sway bar up to its highest position.
18. Flex the suspension and steer fully left and right. Check for possible interference between the tires and sway bar.
19. Reconnect the sway bar links to the axle.
20. For ease of installation and best performance, re-grease the sway bar bushings periodically.

## **ZJ and TJ Installation:**

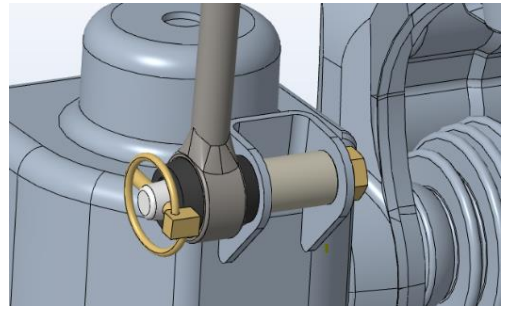
21. Locate front sway bar links, two u-brackets, and **HK #286**.
22. Install sway bar link u-brackets to the sway bar using M10 x 30 hex bolts nuts and washers. Brackets mount to the bottom of the sway bar with the bolt facing up and the washer and nut on top of the sway bar. Align brackets with offset holes pushing the brackets toward the outside of the vehicle. Torque to 60 ft-lb.
23. Install sway bar links driver's side first using provided M12 x 60mm class 10.9 hex bolt and nut through the u-bracket with the nuts toward the outside of the vehicle. Tighten all bolts to 78 ft-lb.
24. Install the disconnect pin on the axle, pin pointing in-board. Use the 1/2" x 1" bolt with a washer.  
Tip: Before tightening determine your desired orientation for the retaining pin.
25. Hold the disconnect pin in your desired orientation and torque the bolt to 70lb-ft.
26. Apply grease to the disconnect pin and slide the sway bar link onto the disconnect pin.
27. Secure the sway bar link in place using the spring lynch pin.  
**\*NOTE:** The spring lynch pin should take some effort to install. This is done on purpose to keep the link secure and noise free.
28. Reinstall tires and torque lug nuts to spec.
29. Lower vehicle to the ground.
30. With the vehicle back on the ground, pull the spring pins and slip the sway bar links off the disconnect pins.
31. Swing the sway bar links up to the sway bar then swing the sway bar up to its highest position.
32. Flex the suspension and steer fully left and right. Check for possible interference between the tires and sway bar.
33. Reconnect the sway bar links to the axle.
34. For ease of installation and best performance, re-grease the sway bar bushings periodically.





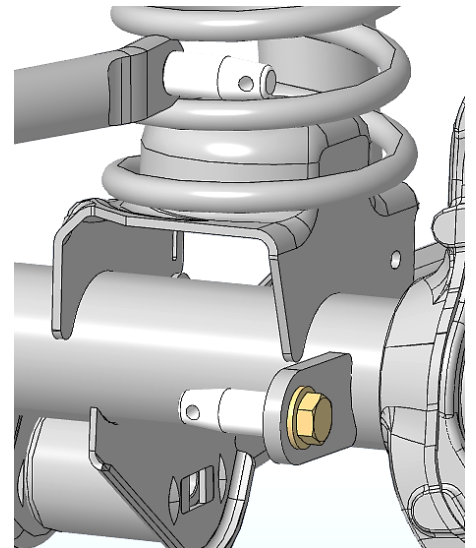
## **WJ Installation:**

35. Install the sway bar links onto the sway bar using the original hardware.
36. Install the disconnect pin on the axle, pin pointing in-board, spacer sleeve inside the mount. Use the 1/2" x 2-1/2" bolt with a washer.  
*Tip:* Before tightening determine your desired orientation for the retaining pin.
37. Hold the disconnect pin in your desired orientation and torque the bolt to 70lb-ft.
38. Install the new bushings into your sway bar links using plenty of multi-purpose grease.
39. Reinstall your sleeves into the top of the sway bar link bushing using multi-purpose grease.
40. Reinstall your sway bar link onto the sway bar and torque the bolts to 70lb-ft.
41. Apply grease to the disconnect pin and slide the sway bar link onto the disconnect pin.
42. Secure the sway bar link in place using the spring pin.  
*\*NOTE:* The spring pin should take some effort to install. This is done on purpose to keep the link secure and noise free.
43. Reinstall tires and torque lug nuts to spec.
44. Lower vehicle to the ground.
45. With the vehicle back on the ground, pull the spring pins and slip the sway bar links off the disconnect pins.
46. Swing the sway bar links up to the sway bar then swing the sway bar up to its highest position.
47. Flex the suspension and steer fully left and right. Check for possible interference between the tires and sway bar.
48. Reconnect the sway bar links to the axle.
49. For ease of installation and best performance, re-grease the sway bar bushings periodically.



## **JK Installation:**

50. Use a 1/2" drill bit to slightly enlarge the bolt hole in the sway bar. Only a very minor amount of material will be removed.
51. Install the disconnect pin on the axle, pin pointing in-board. Use the 1/2" x 1" bolt with a washer.
52. Install the disconnect pin on the sway bar, pin pointing out-board. Use the 1/2" x 1" bolt with a washer.  
*Tip:* Before tightening determine your desired orientation for the retaining pin.
53. Hold the disconnect pin in your desired orientation and torque the bolts to 70lb-ft.
54. Install the bushings into the sway bar links using plenty of multi-purpose grease.
55. Apply grease to the disconnect pins and slide the sway bar link onto the disconnect pins.  
*\*NOTE:* Twist the passenger side link onto the lower pin first, then slide it onto the upper pin. It is a snug fit with the factory track bar bracket, but it is achievable.
56. Secure the sway bar link in place using the spring pins.  
*\*NOTE:* The spring pin should take some effort to install. This is done on purpose to keep the link secure and noise free.
57. Reinstall tires and torque lug nuts to spec.
58. Lower vehicle to the ground.
59. With the vehicle back on the ground, pull the spring pins and slip the sway bar links off the disconnect pins.
60. Swing the sway bar up to its highest position.
61. Flex the suspension and steer fully left and right. Check for possible interference between the tires and sway bar.
62. Reconnect the sway bar links to the axle.
63. For ease of installation and best performance, re-grease the sway bar bushings periodically.



## **Final Safety Warning:**

**\*Both sides of the sway bar must be disconnected. Do not operate vehicle with only one side of the sway bar connected.**

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.



# IRON ROCK OFF ROAD

## Track Bar Flex End Assembly Instructions

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

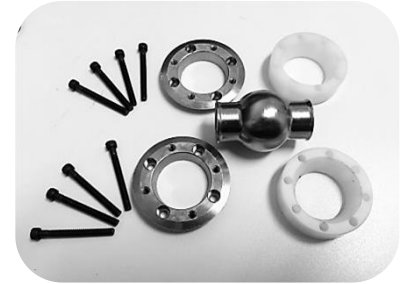
### Parts Checklist:

#### #122 - Track Bar Flex End Hardware - 12mm (1)

- Inner race (plastic) 91113 (2)
- End cap (steel) 91112 (2)
- Ball 91104 – M12 bolt (1)
- #5-40 x 1 1/4" Socket head cap screw (9)
- 3/32" Hex L key, high torque (hex plus) (1)

#### #254 - Track Bar Flex End Hardware - 14mm (1)

- Inner race (plastic) 91113 (2)
- End cap (steel) 91112 (2)
- Ball 91142 – M14 bolt (1)
- #5-40 x 1 1/4" Socket head cap screw (9)
- 3/32" Hex L key, high torque (hex plus) (1)



### Safety Warning:

Installation and assembly of this part requires knowledge of steering and suspension systems. Failure to precisely adhere to installation procedure may cause a part failure resulting in vehicle damage and serious injury or death. This part only fits Iron Rock Off Road track bars in good condition. Iron Rock Off Road makes no claims that this part will fit track bars from other manufacturers. Improper fitment may cause a part failure resulting in vehicle damage, serious injury, or death.

### 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 Ensure that you have high strength threadlocker (such as red Loctite) and multi-purpose grease.

### Fitment:

This kit replaces the poly bushings and inner sleeve in your Iron Rock Off Road track bar. This part only fits track bars manufactured by Iron Rock Off Road after 2009 with an inside diameter of 1.510", a width of 1.250", and a radiused inside corner.

**\*\*\*To verify fitment: Remove the track bar from your vehicle, remove the poly bushings, clean the parts, and verify the following is true: \*\*\***

- The plastic races fit tight inside the inside bore.
- Both end caps fit the inside bore with just a bit of "wobble room".
- Both end caps slide in freely until the flat shoulder rests firmly against the end of the outer tube.
- The overall width of the outer tube is 1.250". This can be measured with a caliper or verified after flex end is fully assembled. Once fully assembled (bolts torqued to spec.) the shoulders of the end caps should rest firmly against the ends of the outer tube. At the same time, the ball should fit tight inside the assembly. It should require a tool (such as a screwdriver) to pivot or rotate the ball. The ball should pivot smoothly with even resistance in any position.



If any of those steps cannot be verified, please contact us to order a new track bar.

Bolt size: This bushing replacement assembly is only available to fit a 12mm & 14mm bolt at this time. Those with a 10mm fastener may wish to upgrade to 12mm hardware for more strength (drill your bracket and install a 12mm bolt).

### Assembly:

1. Verify fitment per the "Fitment" section above.
2. Insert four socket head cap screws into one end cap and one race. (Race should have spherical bore facing away from end cap.)
3. Install this small assembly into the track bar outer bushing tube. The races are a light press fit, use a wide punch and hammer to assist you if needed.
4. Apply a thin coat of multi-purpose grease to the ball and the spherical mating surface of the races. Coat both mating surfaces but leave no excess grease that would interfere with the threadlocker adhesive on the bolts.
5. Place the ball into the race inside the housing. The ball should fit the contour of the race perfectly.
6. Insert the other race on top of 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 four screws should be through one end cap and both races at this point.)
7. Apply a generous coating of high strength threadlocker (such as red Loctite) to all 8 screws (including the ones already installed).
8. Install the second end cap, aligning the screws with the tapped holes. When completed 4 screws will be inserted from each side.
9. Insert the last four screws and tighten them all snug.
10. Torque screws in sequence using a crisscross pattern, like torquing lug nuts. Tighten all 8 screws evenly in small steps. Take your time and do not rush. Tighten all 8 screws to 20 in/lbs.

