

IRON ROCK OFF ROAD

XJ 5.5" Long Arm Lift Kit
Installation Instructions
XJ 84-01 Jeep Cherokee

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

Parts Checklist:

BOX 1 33x17x8

- Instructions
- Invoice
- Iron Rock Off Road logo decal 10001 (2)
- Ironrockoffroad.com decal (1)
- XJ/ZJ Adjustable double shear track bar 92185 (1)
 - Track bar male threaded end 92004 (1)
- XJ/ZJ double shear track bar bracket 91015 (1)
- Front sway bar link 10.75" center to center 92146 (2)
- Front subframe center section 91082 (1)
- Front subframe left end 91083 (1)
- Front subframe right end 91084 (1)
- XJ Brake line set 4-8" (1)
- IRO Boomerang Shackle 91110 (2)

BOX 2 24x12x12

- Front coil spring 96029 (2)
- U-Bolt set - specific to customer vehicle:
 - Optional: for 8.8 91093 (4 U-bolts)
 - 9/16-20 high nut (8)
 - 9/16 hardened flat washer (8)
 - Optional: for Dana 35/44 91094 (4 U-bolts)
 - 1/2-20 high nut (8)
 - 1/2 hardened flat washer (8)
 - Optional: for Chrysler 8.25 91095 (4 U-bolts)
 - 1/2-20 high nut (8)
 - 1/2 hardened fat washer (8)

#10 - Front Sway Bar Link Hardware (1)

- 3/4" hourglass bushing M00393 (4)
- 12mm sway bar bolt sleeve 92038 (4)
- 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)
- Sway bar link u-bracket 99000 (2)

#16 - Long Arm Subframe Hardware (1)

- 1/2 x 6-1/2 gr8 hex bolt (2)

- 1/2 x 1 1/2 gr8 hex bolt (4)
- 1/2 gr8 hex nut (6)
- 1/2 gr8 lock washer (6)
- 1/2 washer (7)
- M10 x 30 cl10.9 hex bolt (4)
 - 7/16 x 1 1/4 gr8 hex bolt (2)
 - 3/8 flat washer (6)

#20 - Front Track Bar Hardware (1)

- Track bar bushing half M20919 (4)
- 7/16" I.D. track bar bushing sleeve 92036 (1)
- 7/16 x 2 1/2" gr8 hex bolt (1)
- 7/16 gr8 hex nut (1)
- 12mm track bar bushing sleeve 92035 (1)
- 7/16 flat washers (3)
- 12mm x 80 hex bolt, class 10.9 (1)
- 12mm hex nut, class 10.9 (1)
- 7/8-14 jam nut

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

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

#72 - Leaf Spring Bushing Hardware (1)

- Main eye bushing M20774 (4)
- Shackle bushing M20775(4)
- Main eye bushing sleeve 91071 (2)
- Shackle bushing sleeve 91070 (2)

#76 - Caster Adjuster Hardware (1)

- 5/16- x 1 1/4 carriage bolt (4)
- M10 x 90 hex head bolt (1)
- 1/4 USS flat washer (4)
- 3/8 USS flat washer (2)
- 5/16 hex nut (4)
- M10 nylock hex nut (1)

#134 - IRO Shackle Hardware (1)

- IRO shackle bushing M02247 (4)
- IRO bushing sleeve 91100 (2)
- 1/4" straight grease zerk (2)

Shocks

HD Hydro

- Front Shock 79002 (2)
- Rear Shock 79004 (2)

#15 - Shock Hardware (1)

- 2.5" long front barpin 403876 (2)
- 2.75" long rear barpin 404127 (2)

Doetsch Upgrade (Optional)

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

#15 - Shock Hardware (1)

- 2.5" long front barpin 403876 (2)
- 2.75" long rear barpin 404127 (2)

Bilstein Upgrade (Optional)

- Front Shock 33-230375 (2)
- Rear Shock 33-186559 (2)

#15 - Shock Hardware (1)

- Front barpin 2.5" 403876 (2)
- Rear barpin 2.75" 404127 (2)

BOX 3 42x15x7

- Optional: Fixed
 - Fixed Iron Y 91085 (1)
 - Bushings installed
 - Fixed PSL 99086 (1)
 - Bushings installed
- Optional: Adjustable
 - Adj. Iron Y 91086 (1)
 - Bushings installed
 - Adj. PSL 99087 (1)
 - Bushings installed
 - XJ/ZJ long arm male end 91109 (2)
 - #65 - Adjustable LCA Locking Bolts (1)
 - 1/4" - 28 x 1.125" socket head cap screw (4)
 - 1/4" - 28 Gr8. nut (4)
- Caster adjust bracket 92100 (1)

Unboxed

- XJ 3.5" leaf spring (90149) (2)

Installation Instructions:

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

Installing a suspension lift kit raises the center of gravity of the vehicle. This increases the possibility of a rollover accident. Avoid sudden maneuvers at high speed and avoid all situations where a side rollover may occur. In addition, larger tires decrease braking performance, please drive accordingly. We recommend a tire and wheel combination that makes the vehicle's track width wider (wheels with less backspacing than OEM). This will lower the center of gravity and add stability. We also recommend that this system be installed by a qualified professional. Knowledge of suspension component function is necessary for safe installation and post installation inspections. Be sure to re-torque all suspension components after the first 100 miles of use, and frequently inspect all safety critical suspension components.

Before you begin:

- Read all safety warnings.
- Read and understand installation instructions.
- Check all steering and suspension components for wear and replace as needed.
- Contact Iron Rock Off Road with any questions before, during, or after installation.
- Ensure that all parts are present and in good condition using the included shipping checklist.
- Be sure you have the following tools and supplies:
 - Floor jack and jack stands
 - Basic hand tools
 - Multi-purpose grease (all poly bushings should be greased before installation)
 - Anti-seize compound
 - A coil spring compressor makes installation easier but is not required.
 - Hand drill
 - 1/2" drill bit
 - 23/64" drill bit (.359" diameter)
 - 7/16-14 Taper Hand Tap



Assemble Caster Adjuster

1. Slide Caster adjuster on top of welded on u-shaped bracket as shown.
2. Insert the (4) 5/16" carriage bolts from the inside of the bracket outwards, engaging the square end of the carriage bolt into the welded-on bracket.
3. Install washers and nuts on the carriage bolts finger tight.
4. Once Iron Y is installed in vehicle, install washer onto the 10mm bolt and slide through the caster bracket assembly and upper control arm bushing. Add the last washer and nylock nut, torque to spec.

Prepare the parts for installation:

5. Locate hardware kit 15 and the rear shocks.
6. Grease and install the barpins into the top side of the rear shocks. It helps to use a press, or clamp the barpin vertically in a bench vise, and lower the shock onto the barpin while rotating the shock back and forth. Be sure to thoroughly grease the barpin and the shock bushing. If needed you can grind or file the corners of the barpin to provide a lead in surface. Remove any sharp edges to prevent damage to the shock bushing.
7. Install the front barpins using by repeating the procedure in step 2.
8. Locate the front track bar and hardware kit 20.
9. Thread the jam nut onto the threaded end of the track bar.
10. Adjust the length to 33-1/2" front center to center as a starting point. This may need to be adjusted after a short test drive. Do not tighten jam nut at this time.
11. Lubricate track bar bushings and bushing sleeves with multi-purpose grease and install into track bar: smaller I.D. bushing sleeve is installed at axle end (without adjusting threads), and larger I.D. sleeve at unibody end (with adjusting thread).
12. Leave the rest of the hardware in the bag for future use.
13. Locate the front sway bar links, front sway bar link u-brackets, and hardware kit 10. (If you purchased a JKS Sway Bar Disconnect system, refer to JKS instructions.)
14. Grease and install the hourglass bushings.
15. Grease and install the sway bar link inner sleeves.
16. Leave the rest of the hardware in the bag for future use.
17. Locate the rear leaf spring shackle kit. If equipped with poly bushings, grease and install the poly bushings and inner bushing sleeves.

Lower control arm mounting subframe:

18. Lift front and rear of vehicle and support with jack stands under the front axle.
****TIP:** break lug nuts loose before lifting vehicle.
19. Ensure that vehicle is safely supported.
20. Remove front and rear tires.
21. Remove the four nuts that fasten the transfer case mount to the transfer case crossmember.
22. Raise the transfer case slightly and support with a jack stand.
23. Remove transfer case crossmember.
24. Using a stud puller, remove the two crossmember mounting studs. If you do not have a stud puller, you can install 2 nuts and tighten one against the other then remove using a box end wrench on the inner nut.
25. Drill and tap the third mounting hole on each side (the next hole directly forward from the two crossmember mounting holes) using the 23/64 (.359" diameter) drill bit and 7/16-14 hand tap. Use plenty of oil during drilling and tapping.
26. Locate the front lower control arm mounting subframe pieces (3) and hardware kit 16.
27. Loosely assemble the three subframe pieces using provided 1/2 x 1-1/2 and 1/2 x 6-1/2 hex bolts, nuts, and washers where applicable. Assemble all bolts with nuts on the outside. The 6-1/2" long bolts on top of each side with nuts toward the rear (opposite "Iron Rock Off Road" text), lock washer under each nut, and no flat washer on the passenger side front lower bolt. The "IRON ROCK OFF ROAD" text faces

- forward with the open end of the lower control arm mounts. The upper holes drop the transfer case 1", or if you are using a transfer case slip yoke eliminator and CV driveshaft, use the lower holes. Tighten bolts finger tight.
28. Apply anti-seize to bolts and install the subframe using provided M10 x 30mm bolts, 7/16 x 1-1/4" bolts, and washers. Tighten bolts finger tight.
 29. Torque lower subframe to subframe nuts to 90 foot pounds.
 30. Torque upper subframe to subframe bolts to 30 foot pounds.
 31. Torque subframe to unibody bolts to 50 foot pounds for the rear four M10 bolts, and 65 foot pounds for the front two 7/16" bolts.
 32. Lower the transfer case onto the subframe.
 33. Install the four transfer case mount nuts and torque to 15 foot pounds.

Front Suspension:

34. Lift front of vehicle and support with tall jack stands under the unibody frame or transfer case subframe.
35. Ensure the vehicle is safely supported.
36. Place a floor jack under the front axle for support, do not lift vehicle.
37. Remove the front shocks.
38. Remove the track bar and mounting bracket at unibody. No need to separate track bar from bracket.
39. Remove front sway bar links.
40. Remove front brake hoses and install supplied extended length, braided stainless steel brake hoses. Be sure to route brake hoses away from any moving parts or pinch points. Route hoses so they will not rub against any other parts which could wear a hole in the brake line. Be sure brake lines are securely fastened to the unibody at the top side.
41. Remove driver's side upper and lower control arms. Loosen passenger side upper and lower control arms. Remove nuts but do not remove bolts.
42. With the axle hanging as low as possible, remove coil springs.
43. Locate Iron Y control arm.
44. Install Iron Y control arm on the driver's side. First install the axle end lower bushing into the axle and insert the bolt, then rotate up to install the arm onto the upper control arm bushing on the axle and insert the supplied m10 x 90 bolt, washers, and locknut.
45. Install the back side of the Iron Y control arm into the new lower control arm mounting bracket. Do not tighten bolts at this time.
46. Remove passenger side upper and lower control arms.
47. Install passenger side lower control arm. Do not tighten bolts at this time.
48. Install new springs in vehicle being careful to align the springs to the spring buckets on the axle.
49. Using a floor jack lift the front axle just enough to apply some load to the coil springs, do not lift vehicle.
50. Ensure that the vehicle is safely supported.
51. Locate front track bar, track bar mounting bracket, and hardware kit 20.
52. Install the track bar bracket onto the unibody with the factory bolts. Loosely attach the bracket with the upper two bolts, then align the lower bolt mounting holes. Install the lower mounting bolts and torque all track bar bracket hardware to 92 ft. lbs.
*****NOTE:** If the unibody is rusty, the seam behind the factory bracket may have swelled making installation of the lower mounting bolts difficult. Using a ratchet strap to pull the bracket to align the holes or smoothing the seam with a hammer is recommended.
53. Install the track bar and torque bolt at axle to 74 ft. lbs., and bolt at bracket to 80 ft. lbs. If necessary use a floor jack and/or the steering wheel to help align the track bar.
54. Tighten jam nut very tight.
55. Re-install coil spring retainer clamps.
56. Install new front shocks using original barpin bolts. Tighten upper stud mount nuts just enough to slightly compress the bushings. Over compressing these bushings will result in damage to the bushings and premature bushing failure.
57. Locate front sway bar links (10.75" center to center), two u-brackets, and the remainder of hardware kit 10.
58. 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 foot pounds.
59. Install sway bar links driver's side first using provided M12 x 70mm class 10.9 hex bolt and nut through the u-bracket with the nuts toward the outside of the vehicle, and the original bolt, nut, and washer at the axle. Tighten all bolts to 78 foot pounds.
60. Raise vehicle and reposition jack stands under the front axle.
61. Ensure that vehicle is safely supported.
62. Any remaining loose bolts will be torqued after rear suspension installation.

Rear Suspension:

63. Lift rear of vehicle and support with tall jack stands under the unibody frame.
****TIP:** break lug nuts loose before lifting vehicle.
64. Ensure that the vehicle is safely supported.
65. Remove rear tires.
66. Place a floor jack under the center of rear axle for support (do not lift vehicle).
67. Remove rear shocks.
68. Remove and temporarily plug rear brake line.
69. Remove leaf springs and shackles from the vehicle.
70. Apply anti-seize to bolts and install new leaf spring shackles. IRO text facing rearward. Do not tighten bolts at this time.
71. Apply anti-seize to bolts and install new leaf springs into the unibody. Short end of leaf spring forward. Use lower mounting hole in shackle. Do not tighten bolts at this time.
72. Install new U-bolts. Do not tighten at this time.
73. Raise vehicle and reposition jack stands under the rear axle.
74. Ensure that the vehicle is safely supported.
75. Torque U-bolts to 90 foot pounds.
76. With the weight of the vehicle on the springs, torque leaf spring and shackle bolts to 120 foot pounds.
77. Install rear brake line.
78. Grease lower shock studs, apply anti-seize to upper bolts and install rear shocks using original hardware.

79. Torque lower shock bolts to 46 foot pounds.
80. Torque upper shock barpin bolts to 17 foot pounds.
81. Bleed the front and rear brakes. See service manual for brake bleeding procedure.
82. With the weight of the vehicle on the springs, torque any loose bolts to spec.
83. Torque all lower control arm nuts to 120 foot pounds.
84. On the front axle, set the caster adjuster on the Iron Y to the middle of the range as a starting point. Torque upper control arm nut to 60 foot pounds. Torque the four locking nuts to 15 foot pounds.
85. Torque any remaining loose bolts to spec.
86. Install tires and place the vehicle on the ground.
87. Torque lug nuts to spec. (85-115 foot pounds depending on your wheels)

Adjustments and Final Inspection:

88. Check all components for clearance for suspension to fully cycle up and down and wheels to turn lock to lock. Pay special attention to brake lines, axle vent hoses, and ABS wires. Reposition as needed by bending the brackets, relocating, or extending hoses and wiring.
* A professional front end alignment is required after installation. We recommend the following alignment settings:

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

Toe-in: +1/16" to +1/8"

89. Check caster angle. Using a laser level or string level, set the front axle level to the rear axle (left side and right). Bounce the Jeep up and down to ensure the suspension is in resting position (at exact ride height). Place the angle finder under the axle "C" (or on top of the upper ball joint). Ensure the angle finder is parallel to the Jeep front to rear. This is your caster angle.
90. Recheck all fasteners and torque any remaining loose nuts or bolts to spec.



Final Safety Warning:

* Re-torque all fasteners after 100 miles, and frequently inspect all safety critical suspension components. It is the responsibility of the installer to ensure all fasteners are properly tightened after installation and to ensure the owner knows his/her ongoing responsibility. It is the responsibility of the owner of the vehicle to be sure all safety critical components are inspected frequently, especially after off road or other demanding use.

IRON ROCK OFF ROAD

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

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

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

Before you begin:

- Read and understand installation instructions.
- Contact Iron Rock Off Road with any questions before, during, or after installation.
- **Ensure that all parts are present and in good condition per attached shipping checklist!**
- Have these tools handy:
 - 5/32" allen head socket
 - 3/8" open end wrench
 - Inch-lb. torque wrench
 - Multipurpose grease/grease gun

Parts Checklist:

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

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

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



Figure 1

Assembly:

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



Figure 2

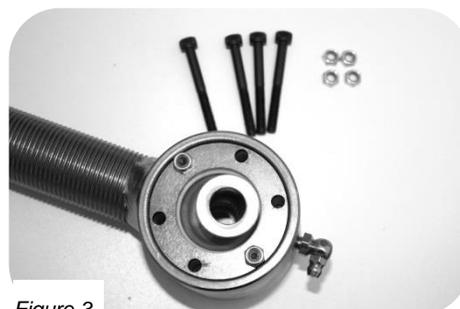


Figure 3



Figure 4

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



Shipping Checklist:

Hardware Kit # 72

- Instructions
- Main Eye Leaf Spring Bushings (4) – M20774
- Leaf Spring Shackle Bushings (4) – M20775
- Main Eye Bushing Sleeve (2)
- Shackle Bushing Sleeve (2)



Installation Instructions:

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.**
- You will need basic wheel bearing multi-purpose grease and a brush.

Bushing Installation:

1. Locate main eye bushings (M20774) and main eye bushing sleeves (M20775) and separate from other parts.
2. Liberally apply grease to the inside of the leaf spring main eye bushing opening.
3. Apply grease to bushing halves on mating surface and sleeves.
4. Press one bushing half into main eye bushing opening.
5. Press the other bushing half into the main eye bushing opening on the opposite side of the first half.
6. Apply grease to the bushing sleeve and slide it into the two bushing halves.
7. Mimic the main eye installation for the shackle bushings using shortest sleeves and thinner flange bushing halves.