

# IRON ROCK OFF ROAD

## XJ 4" Premium Short Arm Lift Kit Installation Instructions

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

XJ 84-01 Jeep Cherokee

### Parts Checklist:

#### \*BOX 1\* 24x12x12

- Literature (instructions)
- Invoice
- Iron Rock logo decal (2)
- Ironrockoffroad.com decal (1)
- XJ 4" front spring 96012 (2)
- 8.75" Front sway bar link 92145 (2)
- XJ 1" transfer case drop spacer 90165 (2)
- XJ boomerang shackle 91110 (2)
- U-Bolt set - specific to customer vehicle:
  - Optional: #93 for 8.8 91093 (4 U-bolts)
    - 9/16-20 high nut (8)
    - 9/16 hardened flat washer (8)
  - Optional: #94 for Dana 35/44 91094 (4 U-bolts)
    - 1/2-20 high nut (8)
    - 1/2 hardened flat washer (8)
  - Optional: #95 for Chrysler 8.25 91095 (4 U-bolts)
    - 1/2-20 high nut (8)
    - 1/2 hardened fat washer (8)

#### Shocks

- IRO Hydro**
  - Front shock SL2450F (2)
  - Rear shock LL2498F (2)
- #15 Shock Hardware (1)**
  - 2.5" long front barpin 403872 (2)
  - 2.75" long rear barpin 404127 (2)
- Optional: Doetsch Upgrade**
  - Front shock DT 8352 (2)
  - Rear shock DT 8299 (2)
- #15 Shock Hardware (1)**
  - 2.5" long front barpin 403827 (2)
  - 2.75" long rear barpin 404127 (2)
- Optional: Bilstein Upgrade**
  - Front shock 33-185606 (2)
  - Rear shock 33-186542 (2)
- #18 Bilstein Shock Hardware(1)**
  - Front barpin 2.5" 403827 (2)
  - Rear barpin 2.75" 404127 (2)
  - SBL U-bracket 99000 (2)
  - 12mm shock sleeve 404739 (4)
  - 1/2 x 1 1/2 gr8 Hex Bolt (2)
  - 1/2 gr8 hex nut (2)
  - 1/2 USS washer (2)
  - 1/2 gr8 lock washer (2)
  - 7/16 USS washer (6)
  - M12x60 cl10.9 hex bolt (2)
  - M12 cl10.9 hex nut (2)

- #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)

- #11 Front Brake Line Relocation Hardware (1)**
  - 1/4 x 1" Self drilling sheet metal screw (2)

- #14 T-Case Drop, Rear Brake Line Bracket Hardware (1)**
  - M10 X 60mm hex bolt (4)
  - 3/8" washer (4)
  - 5/16 x 1" hex bolt (1)
  - 5/16 washer (2)
  - 5/16 hex nut (1)
  - XJ rear brake line drop bracket 91089 (1)
- #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"lg gr8 hex bolt (1)
  - 7/16 gr8 hex nut (1)
  - 12mm track bar bushing sleeve 92035 (1)
  - 7/16 flat washers (2)
  - 12mm x 80 hex bolt, class 10.9 (1)
  - 12mm hex nut, class 10.9 (1)
  - 7/8-14 jam nut (1)
- #134 IRO Shackle Hardware (1)**
  - IRO shackle bushing M02247 (4)
  - IRO bushing sleeve 91100 (2)
  - 3/4"-28 straight grease zerk (2)

#### \*BOX 2\* 36x8x8

- 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)
- Adjustable lower control arm with bend 99071 (2)
  - LCA Threaded Male End 99070 (2)
  - 1 1/4-12 Jam Nut (2)
  - Bushing installed (4)
- Adjustable front upper control arm 99068 (2)
  - Front UCA Threaded Male End 99067 (2)
  - 1-14 Jam Nut (2)
  - Bushing installed (2)

#### \*BOX 3\*

- IRO Full Length Add-a-Leaf 96013 (2 Leafs)
  - Upper leaf clamp 96021 (4)
  - Lower leaf clamp 96022 (4)
  - 5/16-24 x 4 Center pin (2)
  - 5/16-24 hex nut (2)

#### ~Optional Parts~

- XJ 3.5" leaf spring (90149) (2)
- Bushing installation instructions
- #72 Leaf Spring Bushing Hardware (1)**
  - Front bushing M20774 (4)
  - Rear bushing M20775(4)
  - Front bushing sleeve 91071 (2)
  - Rear bushing sleeve 91070 (2)



# **Installation Instructions**

## **Safety Warning:**

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). 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 customer service with any questions before, during, or after installation.
- Ensure that all parts are present and in good condition using the included parts 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
  - Optional: This is a great time to replace your axle side upper control arm bushings with IRO flex ends.

## **Front suspension:**

1. Lift front of vehicle and support with tall jack stands under the unibody frame.
  - a. \*Tip: break lug nuts loose before lifting vehicle.
2. Ensure that vehicle is safely supported.
3. Remove front tires.
4. Remove front shocks.
5. Remove front sway bar links.
6. Remove track bar bolt at axle end only (do not loosen the "tie rod end" at the uni-frame).
7. Remove track bar bracket from the uni-frame, taking the track bar with it.
8. Loosen all upper and lower control arm bolts (remove nuts but leave bolts for now).
9. Place a floor jack under the driver's side of front axle for support (do not lift vehicle).
10. Remove the coil spring clamps (at the axle).
11. Remove lower control arms.
12. Remove coil springs.
13. Install new coil springs making sure to align the end of the spring to the coil spring bucket on the axle. Do not install coil spring clamps at this time.
14. Locate lower control arms with male threaded ends and jam nuts.
15. Apply a thorough coating of anti-seize compound to male threads, install jam nuts, and thread male end into female end. Adjust length to 16.25" center to center.
16. Install lower control arms into the Jeep. Bend at axle end hanging down to clear shock mount at full droop. Re-use original fasteners. Do not tighten nuts at this time.
17. Locate upper control arms, male threaded ends, and jam nuts. Thoroughly coat male threads with anti-seize compound. Install jam nuts and threaded male end into female end. Adjust length to 15.25" center to center at the inner hole.
18. Remove upper control arms from the Jeep and install new ones using the inner (shorter length) hole at the axle side. Re-use original fasteners. Do not tighten nuts at this time.
19. Install new front shocks using provided bolts, washers, and nuts. 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.
20. Locate track bar, track bar male threaded end, track bar bracket, and hardware kit 20. Apply a thorough coating of anti-seize compound to the male threads. Install jam nut and thread male end into female end. Adjust length to 33 3/8" center to center as a starting point.
21. Apply multi-purpose grease to both mating parts then insert poly bushings. Grease both parts then insert inner bushing sleeves. The sleeve with the larger hole goes into the male threaded end (uniframe side).
22. Install bracket onto Jeep using original fasteners. Torque bolts to 92 ft-lbs.
23. Install track bar with adjusting threads at uniframe side. Sharper bend at axle side hangs down to clear the axle bracket at full droop. Use new 7/16 x 2 1/2 bolt, washer, and nut at axle side. Torque to 74 ft-lbs. M12 x 80 bolt, nut, and two washers at uniframe side. Torque to 80 ft-lbs. Use steering wheel or a ratcheting strap to help line up the holes.
24. Locate front sway bar links (8.75" center to center), 2 u-brackets, and hardware kit 10.
25. 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. Align brackets with offset holes pushing the brackets toward the outside of the vehicle. Torque nuts to 80 foot pounds.
26. Lubricate sway bar link bushings and bushing sleeves with multi-purpose grease and install into sway bar links.
27. Install sway bar links passenger side first using provided M12 x 70mm 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. Torque all nuts to 78 foot pounds.
28. Locate hardware kit 11.
29. On one side, remove the bolt that holds the brake hose to the unibody.
30. Any rusted, worn, cracked, or damaged rubber or steel brake line should be replaced.



31. Pull brake line down as far as possible without over-stressing or causing a kink in the line. \*Note: Your brake line may appear different from the photo. Do not pull too far and damage the brake line.
32. Using two adjustable wrenches bend brake line bracket mounting surface so brake line points outward toward the brake caliper. See photo.
33. Mark location and drill a 1/4" hole for the brake line locating tab.
34. Fasten brake line to unibody using provided self-drilling sheet metal screw.
35. Repeat for other side.
36. Install front tires.
37. Raise vehicle from jack stands and place jack stands under the axle.
38. Install coil spring clamps.
39. With the vehicle's weight on the suspension, torque upper control nuts to 60 foot pounds.
40. Torque lower control arm nuts to 120 foot pounds.
41. Tighten all jam nuts very tight.
42. Torque lug nuts to spec.
43. Torque any other loose bolts to spec.

### **Rear Suspension:**

44. Lift rear of vehicle and support with tall jack stands under the unibody frame.  
\*Tip: break lug nuts loose before lifting vehicle.
45. Ensure that the vehicle is safely supported.
46. Remove rear tires.
47. Remove rear shocks.
48. Allow suspension to droop as much as possible.
49. Remove retaining clip from rear brake line at the unibody.
50. Push the brake line forward until it can be pulled down out of the bracket.
51. Install rear brake line bracket using 5/16 x 1" bolt, nut, and 2 washers. Bracket should be oriented to extend the brake line down and back.
52. Gently bend the steel brake line into its new location in the bracket. Be very careful to not create a crack or a kink. Any rusted, worn, cracked, or damaged rubber or steel brake line should be replaced.
53. Install brake line retaining clip.
54. Remove leaf spring shackles.
55. Locate new leaf spring shackles and hardware kit 134.
56. Apply multi-purpose grease to both mating parts then insert poly bushings. Grease both parts and then install inner bushing sleeves.
57. Install shackles onto the unibody side with the IRO text facing the rear. Re-use existing bolts.

### **If replacing leaf springs: (if installing add-a-leaf kit proceed to step 68)**

58. Starting with the driver's side: place a floor jack under the driver's side of the rear axle for support (do not lift vehicle).
59. Remove leaf spring bolts at unibody and shackle.
60. Remove the u-bolts.
61. Allow axle to droop and remove leaf spring.
62. Install new leaf spring.
63. Install front bolt and rear bolts but do not tighten yet.
64. Clean any debris from axle seating surfaces.
65. Raise the axle up to the leaf spring, make sure the center pin drops into the axle and the axle seats flat against the leaf spring. Install u-bolts.
66. With the vehicles weight on the suspension, torque U-bolts to 90 foot pounds and re-torque after 100 miles.
67. Repeat for passenger side.

### **If installing add-a-leaf kit:**

68. Starting with the driver's side, remove u-bolts.
69. Allow axle to droop and remove leaf spring clamps and center pin to take apart the leaf spring pack. Note orientation of leaves.
70. Install the new highly arched leaf in the spring pack (directly under main leaf in the #2 spot) with the long end of leaf towards the rear of the vehicle. Use a c-clamp or two to help install the new center pin.
71. Tighten leaf spring centering pin.
72. Use a c-clamp or two to help install new leaf spring clamps.
73. Clean any debris from axle seating surfaces.
74. Raise the axle up to the leaf spring, make sure the center pin drops into the axle and the axle seats flat against the leaf spring. Install u-bolts and torque to 90 foot pounds. Be sure to re-torque u-bolts after first 100 miles of use.
75. Repeat for passenger side.
76. Install new shocks.
77. Install rear tires.
78. Lower vehicle from jack stands.
79. With the vehicle on the ground, torque any loose bolts to spec. including leaf spring bolts and lug nuts.

### **Transfer Case Drop Kit:**

80. Place a floor jack under the driver's side of transfer case crossmember for support.
81. Remove bolt and nut that hold the t-case crossmember to the unibody.
82. Lower t-case crossmember away from unibody and remove threaded stud from unibody. 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.
83. Install spacer using new bolts and washers. Torque to spec.
84. Repeat for passenger side.

### **Adjustments and Safety Inspection:**

85. 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 line length and location of all brake lines, axle vent hoses, and ABS wires. Reposition as needed.
86. For a very short test drive then check track bar adjustment. Measure from top of the tire to the uniframe on each side and adjust until both measurements are equal.  
A professional front end alignment is required after installation. Your toe-in will be affected and may cause unpredictable steering and accelerated tire wear.  
Recommended caster setting: +3.75 to +6.0 (+4.5 degrees is recommended unless a different setting is required for proper driveshaft running length)  
Recommended toe in setting: 0 degrees

\* Re-torque all fasteners, including lug nuts, after 100 miles, and frequently inspect all safety critical suspension components.