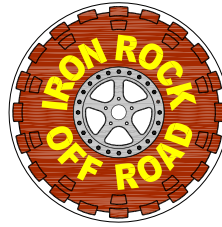


Installation Instructions: Critical Path Long Arm Upgrade Kit Jeep WJ Grand Cherokee 99-04



Iron Rock Off Road, Inc.

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Shipping Checklist

Box 1

- Instructions
- Invoice
- Iron Rock Off Road logo decal (1)
- Long arm mounting bracket (1 left, 1 right)
- Upper coil spring retainer (2)

Hardware kit 6 (Front Brake Line Spacers, Coil Spring Retainers)

- Front brake line spacers (10mm SBL sleeve) (2)
- M6 x 45 Front brake line bolts (2)
- 1/4" washers (2)
- 1/2 x 5" Socket Head Cap Screw (2)

Hardware kit 7 (Front Control Arm Brackets)

- WJ Front Control Arm Bracket Nut Plate 2.75" center to center (4)
- 7/16 x 1 1/4" gr8 Hex Bolt (8)
- 7/16" washer (8)

Box 2

- Front Iron Y with bushings installed, super flex joint assembled, caster adjuster assembled (1)
- Front Lower control arm with bushings installed and super flex joint assembled (1)
- Lower control arm bushing spacers (4)

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 make 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:

- o Read all safety warnings.
- o Read and understand installation instructions.
- o Check all steering and suspension components for wear and replace as needed.
- 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 using the included shipping checklist.
- o Be sure you have the following tools and supplies:
 - o Floor jack and jack stands
 - o Basic hand tools
 - o A coil spring compressor makes installation easier but is not required.
 - o Hand Drill with good quality 7/16" drill bit
 - o 1/2 -20 Fine thread hand tap with tap handle
 - o Touch up paint to match the color of your unibody frame.
 - o Rubberized undercoating.
 - o High Strength threadlocker adhesive such as Loctite red

Lower Control Arm Mounting Brackets:

1. Locate the front lower control arm mounting brackets, and hardware kit 7.
2. Lift front of vehicle and support with jack stands under the front axle.
**Tip: break lug nuts loose before lifting vehicle.
3. Ensure that vehicle is safely supported.
4. Remove front tires.
5. Place a floor jack under the center of the transmission/transfer case crossmember for support.
6. On one side remove the 4 bolts that hold the crossmember to the unibody.
7. Lower the crossmember away from the unibody enough to install the correct left or right side lower control arm mounting bracket. It may be necessary to loosen the bolts on the other side of the crossmember.
8. Install the bracket using the existing bolts.
9. Align the lower control arm mounting bracket to the vehicle.
10. Tighten bolts
11. Using the bracket as a guide, drill the four 7/16" mounting holes at the front of the bracket.
12. Take the bracket out and remove any burrs from the drilled holes and paint any exposed metal.

13. Insert the nut plates through the hole in the unibody frame and move them into position above the drilled holes. The nuts should face up, and the plate should face down.
14. Spray the area where the control arm mounting bracket meets the unibody frame with rubberized undercoating to seal out any moisture between the bracket and the unibody.
15. While the undercoating is still wet, re-install the mounting bracket. Use washers under all bolts.
16. Torque all 8 bolts to 85 lb/ft.
17. Repeat for the other side.
18. Re-Torque all 16 bolts.

Front Suspension:

19. Lift front of vehicle support with tall jack stands under the unibody frame or transfer case crossmember.
20. Ensure the vehicle is safely supported.
21. Place a floor jack under the front axle for support, do not lift vehicle.
22. Remove the front shocks.
23. Remove the track bar.
24. Remove front sway bar links.
25. Locate Hardware Kit 6.
26. Install front brake line spacers between front brake line and axle where the brake line meets the shock mount. Use new M6 bolts and washers.
27. Remove driver's side upper and lower control arms. Loosen Passenger side upper and lower control arms. Remove nuts but do not remove bolts.
28. With the axle hanging as low as possible, remove coil springs and lower coil spring isolators.
29. Locate Iron Y control arm and 2 control arm bushing spacers (large 1/4" thick washers).
30. Install Iron Y control arm on the drivers side. First install the axle end lower bushing into the axle with 2 spacers on the outboard side, then rotate up to install the arm onto the upper control arm bushing on the axle. Use existing lower control arm bolts, and new m10 x 80 bolt washers, and locknut for the upper control arm (from hardware kit 7). Finally install the back side into the new lower control arm mounting bracket. Do not tighten bolts at this time.
31. Remove passenger side upper and lower control arms.
32. Install passenger side lower control arm using 2 control arm bushing spacers on the outboard side of the axle end. Do not tighten bolts at this time.
33. Locate the coil spring retainers (approx 2.5" diameter x 5" long aluminum cylinders) and the remainder of hardware kit 6. The coil spring retainers bolt onto the front upper coil spring perch to keep the coil springs from falling out under extreme droop.
34. Using your 1/2-20 fine thread hand tap, tap the existing hole in the center of each front upper coil spring perch.
35. Apply high strength threadlocker adhesive (such as Loctite red) to the threads of both 1/2" x 5" socket head cap screws.
36. Position the coil spring retainer onto the upper coil spring pad and install the bolt. Tighten firmly, but do not over torque and strip out the threads. Repeat for opposite side.
37. Snap the coil spring isolator into the spring.
38. Install the spring in vehicle being careful to align isolator pin with the hole in the spring bucket.
39. Repeat for other front coil spring.
40. Install Front tires.
41. Lower vehicle from Jack stands.
42. With the vehicle on the ground, torque any loose bolts to spec. including Upper and Lower control arm bolts, caster adjuster bolts, lug nuts, etc...

Adjustments and Final Inspection:

43. 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.
 44. Re-center steering wheel by adjusting the drag link (longer) until the steering wheel is centered.
- * 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"

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.