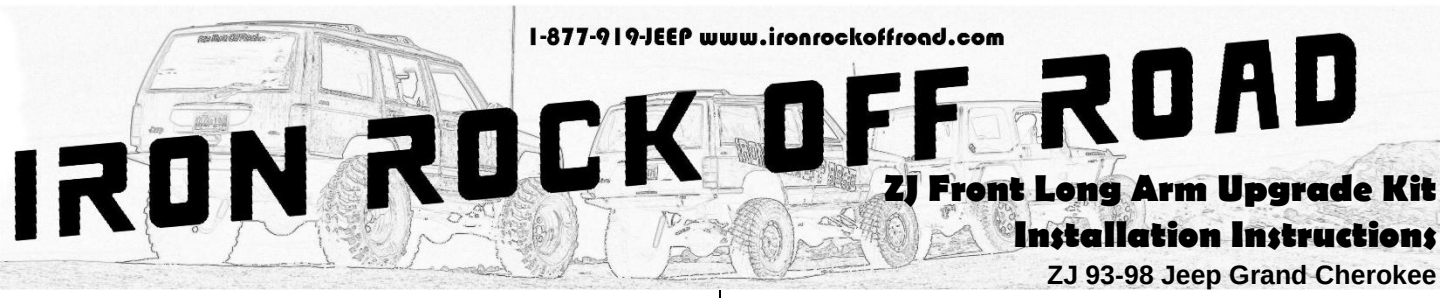


Parts Checklist:

BOX 1 24x14x6

- ❑ Instructions
- ❑ Invoice
- ❑ Iron Rock Off Road logo decal (2)
- ❑ Ironrockoffroad.com decal (1)
- ❑ 3” front bump stop spacer (2)
- ❑ ZJ front long arm subframe center section (2 hole or 4 hole specific to customer vehicle) (1)
- ❑ ZJ front long arm subframe left outer (1)
- ❑ ZJ front long arm subframe right outer (1)

#34 - Front Long Arm Subframe

- ❑ 1/2" x 1-1/2” hex bolt, gr8 (5)
- ❑ 1/2" x 6-1/2” hex bolt, gr8 (1)
- ❑ 7/16” x 1-1/4” hex bolt, gr8 (8)
- ❑ M10x100 hex bolt, gr8 (2)
- ❑ 1/2" hex nut, gr8 (6)
- ❑ 7/16” hex nut, gr8 (8)
- ❑ 1/2” lock washer, gr8 (6)
- ❑ 1/2" USS washer (6)
- ❑ 3/8” USS washer (8)

#76 - Caster Adjuster

- ❑ 5/16” x 1-1/4” carriage bolt (4)
- ❑ M10x90 hex bolt, cl10.9 (1)
- ❑ 1/4" USS flat washer (4)
- ❑ 3/8” USS flat washer (2)
- ❑ 5/16” hex nut (4)
- ❑ M10 nylock hex nut (1)

#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 ¼”-28 Grease Zerk Fitting (1)

BOX 2 42x15x6

- ❑ Front Iron Y and front passenger lower control arm with bushings installed (1)
  - ❑ Fixed
  - ❑ Adjustable
    - ❑ Long arm male end (2)
    - ❑ ***#65 – Adjustable LCA Clamping Hardware***
      - ❑ 1/4" – 28 x 1.125” socket head cap screw (4)
      - ❑ 1/4" – 28 hex nut, gr8 (4)
- ❑ Caster adjust bracket (1)

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). 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.

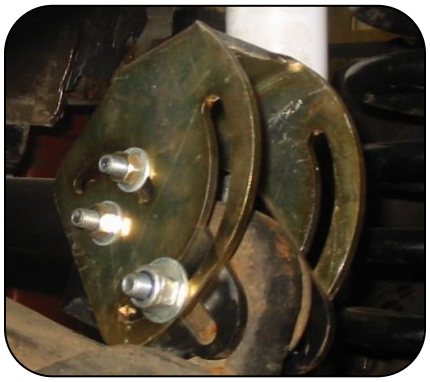
Before you begin:

- ❑ Read all safety warnings.
- ❑ Read and understand installation instructions.
- ❑ Check all steering and suspension components for wear and replace as needed.
- ❑ You will need a hand drill and good quality 7/16” drill bit.
- ❑ You will need undercoating and anti-seize compound.
- ❑ Ensure that <u>all parts</u> are present and in good condition per attached shipping checklist.
- ❑ Contact Iron Rock Off Road with any questions before, during, or after installation.

Prepare the parts for installation:

1. Assemble Flex Ends per instructions on last page.

Assemble Caster Adjuster



2. Slide Caster adjuster on top of welded on u-shaped bracket as shown.
3. 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.
4. Install washers and nuts on the carriage bolts finger tight.

5. 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.

Subframe Installation:

6. Lift front of vehicle and support with tall jack stands under the axle.
7. Lift rear of vehicle and support with tall jack stands under the axle.
8. Ensure the vehicle is safely supported.
9. Optional welding instructions: Some hardcore off roaders will wish to weld the subframes in place. This is optional and not required even in abusive off road situations. Welding should only be performed by a qualified professional welder. If you wish to weld the subframe in place, follow the same installation procedure as the bolt in with the following changes: Clean the unibody down to bare metal around the outside edge of the subframe. Do not undercoat in areas that will be welded. Clean the outside edge of the subframe down to bare metal where it meets the unibody. After bolting in both subframes, stitch weld the subframe to the unibody using 1" of weld and 1.5" gap between welds around the outside edges and front and rear edges (no welds on the inside edges). The unibody is thin .075" thick sheet metal so direct most of the heat toward the 1/4" thick subframe. Allow time between welds and take all necessary precautions to avoid burning through or overheating the unibody. Beware of any nearby flammable materials such as fuel lines, brake lines, wiring etc… After the welds have cooled, clean any exposed metal, apply primer, and apply undercoating.
10. Locate the front subframe (3 pieces) and hardware kit 34. Loosely assemble the 3 pieces together and tighten bolts finger tight. Use the upper holes that give 1" transfer case drop. Assemble all bolts with the nuts on the outside. The 6 1/2" long bolt goes on the passenger side upper hole with the nut toward the rear (opposite the "Iron Rock Off Road" text).
11. Under the Jeep, slightly lift transfer case and support with jack stand.
12. Remove factory crossmember.
13. Apply anti-seize compound to all bolts. If you wish to weld the subframe in place (optional, not required), clean the unibody down to bare metal around the outside edge of the subframe, do not undercoat in areas that will be welded.
14. Apply undercoating to mating surface of uni-frame and install new subframe using existing bolts.
15. Drill the four 7/16" mounting holes per side.
16. Install 7/16 x 1-1/4 bolts, washers, and nuts with washers and nuts on top.
17. Torque all eight 7/16" bolts to 65 foot pounds.
18. Torque factory 10mm bolts to 50 foot pounds.
19. Torque all seven 1/2" subframe to subframe bolts to 90 foot pounds.

Long Arm Installation:

20. Lift front of vehicle and support with tall jack stands under the unibody frame.
    a. Tip: break lug nuts loose before lifting vehicle if necessary.
21. Ensure that vehicle is safely supported.
22. Remove front tires.
23. Support front axle with a floor jack (do not lift vehicle).
24. Remove front upper and lower control arms.
25. Allow axle to droop as much as possible.
26. Remove front coil spring clamps and coil springs.
27. Remove bump stops and bump stop cups.
28. Locate front coil spring retainers (2" O.D. x 3" long plastic spacers). Apply anti-seize compound to provided M10 x 100mm bolts and install coil spring retainers between bump stop cup and unibody.
29. Install coil springs. Ensure coil spring is aligned to spring bucket on axle.
30. Install passenger side front lower control arm using factory bolts.
31. Install driver's side Iron Y arm. Start with the lower axle side bolt, then upper axle side bolt, then unibody side bolt.
32. Lift front of vehicle and support with jack stands under the axle.
33. Install coil spring retainers and torque to spec.
34. Torque all lower control arm bolts to 120 foot pounds. Set the caster adjuster for maximum caster as a starting point. Torque the upper control arm nut to 60 foot pounds. Torque the 5/16" locking nuts to 15 foot pounds.
35. Torque any remaining loose bolts to spec.

Adjustments and Safety Inspection:

36. 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.
37. Check front driveshaft for proper running length. Slight adjustments can be made by adjusting caster angle, otherwise different length control arms, or custom driveshafts may be required.
38. A professional front end alignment is required after installation. We recommend the following alignment settings:
    Caster: +3.75 to +7.0 (+5.0 is preferred if possible, less for taller lift heights)
    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.

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

Parts Checklist:

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

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

- ❑ Inner race 91118 (2)
- ❑ Thrust washer 91119 (2)
- ❑ Ball 91117 (1)
- ❑ 10-32 x 1-1/4" Socket Head Cap Screw (6)
- ❑ 10-32 Nylock Nut (6)
- ❑ 90 Degree ¼"-28 Grease Zerk Fitting (1)

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

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.
2. Install this small assembly into the flex end housing. The races are a light press fit, use a wide punch and hammer to assist you if needed.
3. Apply a thin coating of multi-purpose grease to the mating surfaces of the ball and both races.
4. Place the ball in the race (inside the flex end). The ball should perfectly fit the contour of the race.
5. Insert the other race onto the ball so that the spherical bore is contacting the ball. Once again, the races are a light press fit, use a hammer and wide punch if needed. (The two screws should be through one washer and both races at this point)
6. Insert the second thrust washer on top of the flex end housing, sliding the bolts through the holes.
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.
9. Snug up all of the bolts fairly tight.
10. Torque bolts evenly starting at one bolt using a crisscross pattern, like torqueing lug nuts. Torque all six bolts to 70 in/lbs., then to 85 in/lbs.
11. Install 90 Degree 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.