188Parts List:

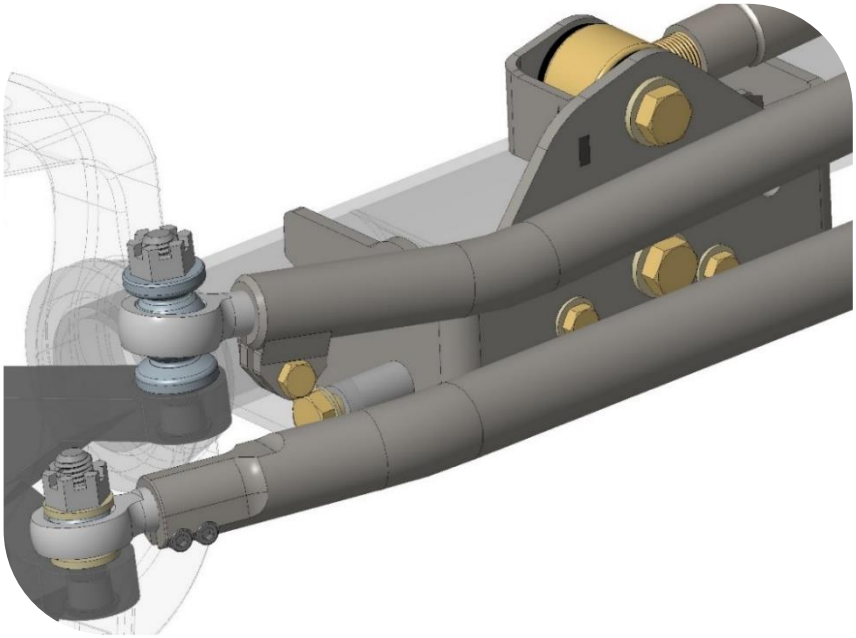
- ❑ Instructions
- ❑ Iron Rock Off Road logo decal 10001 (1)
- ❑ Over the Knuckle Tie Rod 95119 (1)
- ❑ JK D44 Swap Drag Link 95214 (1)
- ❑ Double adjuster 95017 (1)
- ❑ Tie Rod Spherical rod end XMR10-12 (2)
- ❑ Drag Link Spherical rod end XMR-12 (1)
- ❑ Drag Link Spherical rod end XMR 8-12 (1)

#187 - Tie Rod Hardware (1)

- ❑ M6 x 1.0 x 20mm socket head cap screw (4)
- ❑ 5/8-11 x 2.5” Tapered Tie Rod Bolt 80043 (2)
- ❑ 5/8-11 castle nut (2)
- ❑ 5/8” F436 washer (4)
- ❑ 1/8” x 1 ½” cotter pin (2)

#259 - Drag Link Hardware (1)

- ❑ 5/8-11 x 3” Tapered Bolt 80042 (1)
- ❑ 1/2-20 x 3-1/4” Drilled Hex Bolt 95167 (1)
- ❑ 9/16 F436 washer (1)
- ❑ 5/8-11 castle nut (1)
- ❑ 1/2-20 castle nut (1)
- ❑ Steering Clamp 95018 (3)
- ❑ M12 x 60mm hex bolt cl 10.9 (3)
- ❑ M12 nylock nut cl 10.9 (3)
- ❑ High Misalignment washer 95015 (2)
- ❑ High Misalignment washer 95006 (2)
- ❑ Spacer Sleeve 95123 (1)
- ❑ Pitman arm tapered sleeve 1/2" ID, 95043 (1)
- ❑ 5/8-11 x 3-3/4” drilled hex bolt, gr8 80041 (1)
- ❑ 3/8-16 x 1-1/4” hex bolt, gr8 (1)
- ❑ 3/8-16 nylock nut, gr8 (1)
- ❑ 3/8 Mil spec washer 95229A480 (1)
- ❑ 1/8” x 1-1/2” cotter pin (2)
- ❑ 7/16” F436 washer (4)



Installation Instructions:

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

We recommend this system be installed by a qualified professional. Knowledge of steering component function is necessary for safe installation and post installation inspections. Be sure to re-torque all steering components after the first 100 miles of use, and frequently inspect all safety critical steering components.

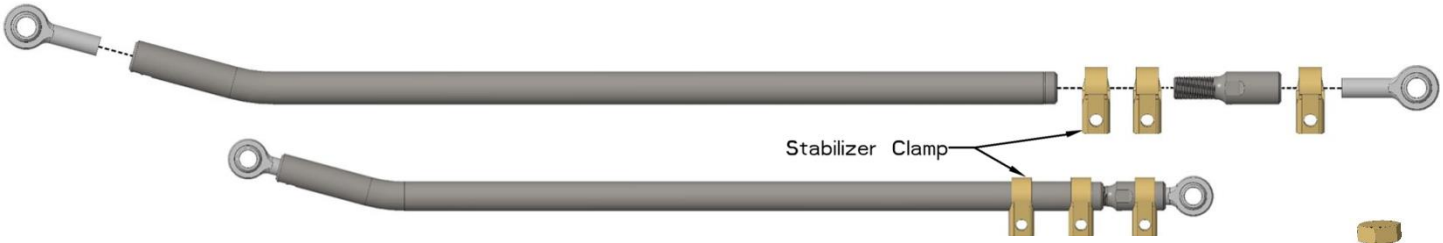
Before you begin:

- ❑ Read all safety warnings and understand installation instructions.
- ❑ Contact Iron Rock Off Road with any questions before, during, or after installation.
- ❑ Requires 3" bump stop minimum (some shock/lift combinations require additional bump stop).
- ❑ **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.).
  - ❑ Torque wrench (ft-lb and in-lb)
  - ❑ Tape measure
  - ❑ Medium to large size flat file, fine tooth
  - ❑ Hand drill and 3/8" drill bit
  - ❑ Anti-seize compound

Removal of existing parts:

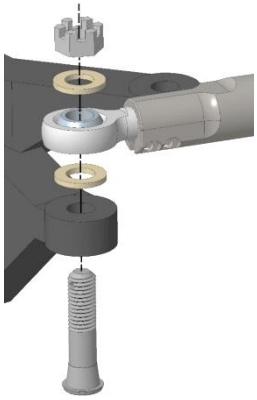
1. Raise the front end of the vehicle and secure on jack stands under the frame.
2. Remove front tires.
3. Measure from center of stud to center of stud on your existing tie rod. Record that length here _____
   ****NOTE**** You will need this measurement later when adjusting the new tie rod.
4. Remove the factory tie rod, including tie rod ends and steering stabilizer.
5. Remove the factory drag link.
6. Disconnect track bar from the axle and position it out of the way.

Drag Link Installation:



7. Thread one XMR-12 (3/4" hole) rod end fully into the end of the drag link closest to the bend until it stops. Thread it back out 2 full turns.
8. Install 3/8-16 clamping bolt from the front side of the drag link. Attach with nylock nut and washer from hardware kit #259. Tighten the clamping bolt until slight drag is required to rotate it.
9. Slide **two** clamps onto the opposite end of the drag link then thread double adjuster into the end of the drag link.
10. Slide a clamp onto the double adjuster then thread the XMR 8-12 (1/2" hole) rod end into the double adjuster.
11. Install M12 x 60mm bolts, nylock nuts, and washers into both drag link clamps. Do not tighten at this time.
12. Install tapered sleeve into the bottom of the pitman arm then install the drag link to the pitman arm using two high misalignment washers, spacer sleeve, and 1/2-20 x 3-1/4" bolt, castle nut and washers.
13. Insert the 5/8-11 x 3" Tapered Bolt into knuckle from the bottom side. Install the draglink to the tapered bolt using the high misalignment washers, castle nut and cotter pin.
14. Orient the drag link with the bend forward and both heim joints resting as shown in the picture. The clamping tabs (near the bend) should be pointing straight down when oriented properly. Tighten 5/8" bolts to 105 ft-lb, clamping bolt to 40 ft-lb, adjuster clamps to 55 ft-lb.

Tie Rod Installation:

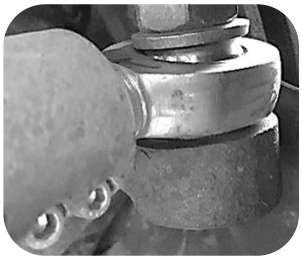


15. Thread XMR 10-12 (5/8" hole) heim joint into each end of the tie rod.
16. Using the measurement taken in step 3 above, adjust the new tie rod to the same length, taking care to adjust both heims equally out of the tie rod and that your measurement is from center of bolt hole to center of bolt hole.
    ****TIP:** As a starting point, thread each heim in fully, then turn each one out **3 full turns**. Be sure that the heims are parallel.
17. Install M6 x 1.0 x 20mm socket head cap screws and nuts onto tie rod from hardware kit #187. Do not tighten at this time.
18. File top and bottom of the knuckles until they are flat where the tie rod mounts. This important step will help prevent loosening of the bolts.
19. Install the new tie rod using 5/8-11 x 2.5" Tapered Bolt, F436 washers, 5/8" castle nuts and 1/8" cotter pins from hardware kit #187.
20. Insert the Tapered Bolt into knuckle from the bottom side with washers on either side of the heim.
    Position the clearance flat facing up and parallel to the ground with both heims resting at their forward most angle as shown in the picture.

21. Torque the castle nut to 140 ft-lb then align castle nut to the next hole and secure with the cotter pin.
22. Tighten M6 socket head clamping bolts to 140 in-lbs.
23. Reinstall wheels/tires and torque lug nuts to 85-115 ft-lb.

Alignment Procedure:

24. A professional alignment is recommended and will result in the safest handling and minimized tire wear. As a temporary solution, with careful measurements you can set your toe-in fairly accurately using a tape measure.
25. Make sure the vehicle is on a level surface and the front tires are raised slightly off the ground with jack stands under the axle and the vehicles weight on the suspension.



26. Make a mark anywhere on the tread area of each front tire. The marks do not have to be in the same spot on each tire. This method ensures that your measurements are accurate regardless of rim and tire runout, even bent rims or untrue tires will not affect the measurement.
27. Measure from one mark to the other making sure your measurement is parallel to the axle housing and your marks are facing exactly forward. This is your front measurement.
28. Rotate tires so the marks are facing exactly backward. Measure from one mark to the other making sure your measurement is parallel to the front axle housing. This is your rear measurement.

For 29-32" tire diameter (measured): adjust your tie rod until the front measurement is 1/16" less than your rear measurement.

For 33-36" tire diameter (measured): adjust your tie rod until the front measurement is 1/8" less than your rear measurement.

29. Re-check your measurements.
30. Lower your vehicle from the jack stands.
31. Double check to ensure that all fasteners are tight.
32. Re-torque all fasteners frequently.

Steering wheel alignment:

33. Ensure all fasteners are torqued to spec and cotter pins are installed.
34. Go for a short test drive.
35. Note steering wheel angle when driving straight and steady.
36. Drive straight into your working area making sure steering wheel angle matches angle during test drive.
37. Loosen only the double adjuster clamps on drag link.
38. Turn only the double adjuster until steering wheel is straight.
39. Tighten clamps. Ensure the clamping bolts are on the front side of the drag link. Bolts vertical, nuts on top. See picture.
40. Test drive again, recheck steering wheel angle.
41. Repeat steps if necessary.

Final Safety Warning:

* Re-torque all fasteners after 100 miles, and frequently inspect all safety critical steering 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