Parts Checklist:

BOX 1 24x14x6

- ❑ Instructions
- ❑ Invoice
- ❑ Iron Rock Off Road logo decal (2)
- ❑ Ironrockoffroad.com decal (1)
- ❑ XJ 4" Front spring (1 pair)
- ❑ Front sway bar link 8.75" center to center (2)
- ❑ IRO Boomerang Shackle (1)
- ❑ 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)

BOX 2 24x12x12

- ❑ Front subframe center section (1)
- ❑ Front subframe left end (1)
- ❑ Front subframe right end (1)

Shocks

- ❑ ***HD Hydro***
  - ❑ Front shock 79001 (2)
  - ❑ Rear shock 79004 (2)

  #15 - Shock Hardware (1)
    - ❑ 2.5" long front barpin 403872 (2)
    - ❑ 2.75" long rear barpin 404127 (2)
- ❑ ***Doetsch Upgrade (Optional)***
  - ❑ Front shock 8350 (2)
  - ❑ Rear shock 8299 (2)

  #15 - Shock Hardware (1)
    - ❑ 2.5" long front barpin 403872 (2)
    - ❑ 2.75" long rear barpin 404127 (2)
- ❑ ***Bilstein Upgrade (Optional)***
  - ❑ Front shock 33-230351 (2)
  - ❑ Rear shock 33-186542(2)

  #15 - Shock Hardware (1)
    - ❑ 2.5" long front barpin 403872 (2)
    - ❑ 2.75" long rear barpin 404127 (2)

❑ ***#10 - Front Sway Bar Link Hardware (1)***
- ❑ 3/4" hourglass bushing (4)
- ❑ 12mm sway bar bolt sleeve (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 (2)

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

❑ ***#16 - Long Arm Subframe Hardware (1)***
- ❑ 1/2 x 6 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)

❑ ***#30 - Rear Brake Line Bracket Hardware (1)***
- ❑ 5/16 x 1" hex bolt (1)
- ❑ 5/16 washer (2)
- ❑ 5/16 hex nut (1)
- ❑ XJ rear brake line drop bracket (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)

❑ ***#76 - Caster Adjuster Hardware (1)***
- ❑ 5/16- x 1 ¼ carriage bolt (4)
- ❑ M10 x 90 hex head bolt (1)
- ❑ ¼ 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 (4)
- ❑ IRO bushing sleeve (2)
- ❑ ¼" straight grease zerk (2)

BOX 3

- ❑ IRO Add-a-Leaf (2 Leafs)
  - ❑ Upper leaf clamp (4)
  - ❑ Lower leaf clamp (4)
  - ❑ Center pin (2)
  - ❑ 5/16-24 hex nut (2)

~OR~

- ❑ XJ 3.5" leaf spring (90149) (2)
- ❑ Bushing installation instructions

  #72 - Leaf Spring Bushing Hardware (1)
  - ❑ Main eye bushing M20774 (4)
  - ❑ Shackle bushing M20775(4)
  - ❑ Main eye bushing sleeve (2)
  - ❑ Shackle bushing sleeve (2)

BOX 4 42x15x7

- ❑ Front Iron Y and front lower control arm with bushings installed (1)
  - ❑ Fixed
  - ❑ Adjustable
    - ❑ Long arm male end (2)
    - ❑ ¼" – 28 x 1.125" socket head cap screw (2)
    - ❑ ¼" – 28 gr8. nut (2)
- ❑ Caster Adjust Bracket (1)

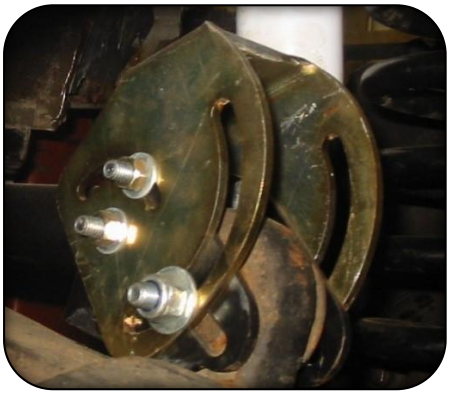
Installation Instructions:

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 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 customer service 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
  - ❑ Letter "T" drill bit (.358" diameter)
  - ❑ 7/16-14 Course Thread Hand Tap



Prepare the parts for installation:

1. 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 the JKS instructions.
2. Grease and install the hourglass bushings.
3. Grease and install the sway bar link inner sleeves.
4. Leave the rest of the hardware in the bag for future use.
5. Locate the rear leaf spring shackle kit. If equipped with poly bushings, grease and install the poly bushings and inner bushing sleeves.

Assemble Caster Adjuster

6. Slide Caster adjuster on top of welded on u-shaped bracket as shown.
7. 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.
8. Install washers and nuts on the carriage bolts finger tight.
9. 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.

Lower control arm mounting subframe:

10. Lift front and rear of vehicle and support with jack stands under the front and rear axle.
    i. **Tip: break lug nuts loose before lifting vehicle.
11. Ensure that vehicle is safely supported.
12. Remove front and rear tires.
13. Remove the four nuts that fasten the transfer case mount to the transfer case crossmember.
14. Raise the transfer case slightly and support with a jack stand.
15. Remove transfer case crossmember.
16. 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.
17. Drill and tap the third mounting hole on each side (the next hole directly forward from the two crossmember mounting holes) using letter T (.358" diameter) drill bit and 7/16-14 hand tap. Use plenty of oil during drilling and tapping.
18. Locate the front lower control arm mounting subframe pieces (3) and hardware kit 16.
19. 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), lockwasher under each nut, but 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.
20. 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.
21. Torque lower subframe to subframe nuts to 90 foot pounds.
22. Torque upper subframe to subframe bolts to 30 foot pounds.
23. 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.
24. Lower the transfer case onto the subframe.
25. Install the four transfer case mount nuts and torque to 15 foot pounds.

Front Suspension:

26. Lift front of vehicle and support with tall jack stands under the unibody frame or transfer case subframe.
27. Ensure the vehicle is safely supported.
28. Place a floor jack under the front axle for support, do not lift vehicle.
29. Remove the front shocks.
30. Remove track bar bolt at axle end only (do not loosen the “tie rod end” at the uni-frame).
31. Remove front sway bar links.
32. Remove driver’s side upper and lower control arms. Loosen passenger side upper and lower control arms. Remove nuts but do not remove bolts.
33. With the axle hanging as low as possible, remove coil springs.
34. Locate Iron Y control arm.
35. 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.
36. 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.
37. Remove passenger side upper and lower control arms.
38. Install passenger side lower control arm. Do not tighten bolts at this time.
39. Install new springs in vehicle being careful to align the springs to the spring buckets on the axle.
40. Using a floor jack, lift the front axle just enough to apply some load to the coil springs, do not lift vehicle.
41. Ensure that the vehicle is safely supported.
42. Re-install coil spring retainer clamps.
43. Drill a new hole for the track bar. On the axle side, with the track bar removed, measure from the center of the existing hole 3/4" straight over toward the driver’s side, mark, center punch and drill with a 7/16” drill bit.
44. Install track bar in the new hole, do not tighten at this time.
45. Locate hardware kit 11.
46. On one side, remove the bolt that holds the brake hose to the unibody.
47. Any rusted, worn, cracked, or damaged rubber or steel brake line should be replaced.
48. 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.
49. Using two adjustable wrenches bend brake line bracket mounting surface so brake line points out toward the brake caliper. See photo.
50. Mark location and drill a 1/4” hole for the brake line locating tab.
51. Fasten brake line to unibody using provided self drilling sheet metal screw.
52. Repeat for other side.
53. 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.
54. Locate front sway bar links (8.75” center to center), two u-brackets, and the remainder of hardware kit 10.
55. 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.

56. 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.
57. Raise vehicle and reposition jack stands under the front axle.
58. Ensure that vehicle is safely supported.
59. Any remaining loose bolts will be torqued after rear suspension installation.

Rear Suspension:

60. Lift rear of vehicle and support with tall jack stands under the unibody frame.
    a. *Tip: break lug nuts loose before lifting vehicle.
61. Ensure that the vehicle is safely supported.
62. Remove rear tires.
63. Remove rear shocks.
64. Allow suspension to droop as much as possible.
65. Remove retaining clip from rear brake line at the unibody.
66. Push the brake line forward until it can be pulled down out of the bracket.
67. 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.
68. 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.
69. Install brake line retaining clip.

If replacing leaf springs: (if installing add-a-leaf kit proceed to step 79)

70. 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).
71. Remove leaf spring bolts at unibody and shackle.
72. Remove the u-bolts.
73. Allow axle to droop and remove leaf spring.
74. Install new leaf spring.
75. Install front bolt and rear bolts but do not tighten yet.
76. Clean any debris from axle seating surfaces.
77. 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.
78. With the vehicles weight on the suspension, torque U-bolts to 90 foot pounds and re-torque after 100 miles.
79. Repeat for passenger side.

If installing add-a-leaf kit:

80. Starting with the driver's side, remove u-bolts.
81. Allow axle to droop and remove leaf spring clamps and center pin to take apart the leaf spring pack. Note orientation of leaves.
82. 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.
83. Tighten leaf spring centering pin.
84. Use a c-clamp or two to help install new leaf spring clamps.
85. Clean any debris from axle seating surfaces.
86. 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.
87. Repeat for passenger side.
88. Install new shocks.
89. Install rear tires.
90. Lower vehicle from jack stands.
91. With the vehicle on the ground, torque any loose bolts to spec. including leaf spring bolts and lug nuts.

Adjustments and Final Inspection:

92. 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. Torque all loose fasteners to spec. including (but not limited to): Lower control arm and leaf spring bolts: 120 ft/lbs. Upper control arm bolt, 60 ft/lbs. Caster adjuster 5/16" carriage bolts: 15 ft/lbs.
    * 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:

1. 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.

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.

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.