

XJ 8" Critical Path Long Arm Lift Kit Installation Instructions



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Shipping Checklist:

Box 1 36x8x8

- Instructions
- Invoice
- Iron Rock Off Road logo decal (2)
- Ironrockoffroad.com decal (1)
- XJ/ZJ Adjustable double shear track bar (1)
- Track bar male threaded end (1)
- XJ/ZJ Double shear track bar bracket (1)
- Front sway bar links 11.25" center to center (2)
- Sway bar link u-brackets (2)
- 2" Drop pitman arm
- Front subframe center section (1)
- Front subframe left end (1)
- Front subframe right end (1)
- XJ Brake line set (1)
- XJ Extended length leaf spring shackle kit 1077 (1)

Box 2 24x12x12

- 8" Front coil springs (1 pair)
- U-Bolt set - specific to customer vehicle; 7621 for Dana 35/44; 7639 for Chrysler 8.25 (1 set)

Hardware kit 10 (Front Sway Bar Links)

- 3/4" Hourglass bushings (4)
- 12mm Sway bar bolt sleeves (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)

Hardware kit 15 (Shocks)

- 2.5" Long front barpin (2)
- 2.75" Long rear barpin (2)

Hardware kit 16 (Long arm subframe)

- 1/2 x 6-1/2 gr8 Hex bolt (2)
- 1/2 x 1 1/2 gr8 Hex bolt (4)
- 1/2 gr8 Hex nut (6)
- 1/2 gr8 Lockwasher (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)

Hardware kit 20 (front track bar)

- Track bar bushing half (4)
- 7/16" I.D. Track bar bushing sleeve (1)
- 7/16 x 2 1/2"lg gr8 Hex bolt (1)
- 7/16 gr8 Hex nut (1)
- 12mm Track bar bushing sleeve (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
- Standard shocks (without shock upgrade)**
 - Front shocks RC 8170 (2)
 - Rear shocks RC 8111 (2)
- With nitro shock upgrade only**
 - Front shocks RC 9170 (2)
 - Rear shocks RC 9111 (2)
- With DT8000 shock upgrade only**
 - Front shocks DT 8421 (2)
 - Rear shocks DT 8403 (2)

Unboxed

- 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)

Unboxed

- XJ 5.5" Leaf spring (90150) (2)
- Add-a-leaf kit 6123 modified for use with 90150 springs (1 kit)

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 make 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 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 hardware kit 15 and the rear shocks.
2. Grease and install the barpins into the top side of the rear shocks. It helps to use a press, or clamp the barpin vertically in a bench vise, and lower the shock onto the barpin while rotating the shock back and forth. Be sure to thoroughly grease the barpin and the shock bushing. If needed you can grind or file the corners of the barpin to provide a lead in surface. Remove any sharp edges to prevent damage to the shock bushing.
3. Install the front barpins by repeating the procedure in step 2.
4. Locate the front track bar and hardware kit 20.
5. Thread the jam nut onto the threaded end of the track bar.
6. Adjust the length to 34" front center to center as a starting point. This may need to be adjusted after a short test drive. Do not tighten jam nut at this time.
7. Lubricate track bar bushings and bushing sleeves with multi-purpose grease and install into track bar: smaller I.D. bushing sleeve is installed at axle end (without adjusting threads), and larger I.D. sleeve at unibody end (with adjusting thread).
8. Leave the rest of the hardware in the bag for future use.
9. Locate the front sway bar links, front sway bar link u-brackets, and hardware kit 10. (If you purchased JKS Sway Bar Disconnect system, refer to JKS instructions.
10. Grease and install the hourglass bushings.
11. Grease and install the sway bar link inner sleeves.
12. Leave the rest of the hardware in the bag for future use.
13. Locate the rear leaf spring shackle kit. If equipped with poly bushings, grease and install the poly bushings and inner bushing sleeves.

Lower control arm mounting subframe:

14. Lift front and rear of vehicle and support with jack stands under the front axle.
****Tip: break lug nuts loose before lifting vehicle.**
15. Ensure that vehicle is safely supported.
16. Remove front and rear tires.
17. Remove the four nuts that fasten the transfer case mount to the transfer case crossmember.
18. Raise the transfer case slightly and support with a jack stand.
19. Remove transfer case crossmember.
20. 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.
21. 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.
22. Locate the front lower control arm mounting subframe pieces (3) and hardware kit 16.
23. 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, 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.
24. Apply anti-seize to bolts and install the subframe and using provided M10 x 30mm bolts, 7/16 x 1-1/4" bolts, and washers. Tighten bolts finger tight.
25. Torque subframe to subframe nuts to 90 foot pounds, except driver's side upper bolt. Torque driver's side upper nut to 50 foot pounds.
26. 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.
27. Lower the transfer case onto the subframe.
28. Install the four transfer case mount nuts and torque to 15 foot pounds.

Front Suspension:

29. Lift front of vehicle and support with tall jack stands under the unibody frame or transfer case subframe.
30. Ensure the vehicle is safely supported.
31. Place a floor jack under the front axle for support, do not lift vehicle.

32. Remove the front shocks.
33. Remove the track bar and mounting bracket at unibody. No need to separate track bar from bracket, just discard them both.
34. Remove front sway bar links.
35. Remove front brake hoses and install supplied extended length, braided stainless steel brake hoses. Be sure to route brake hoses away from any moving parts or pinch points. Route hoses so they will not rub against any other parts which could wear a hole in the brake line. Be sure brake lines are securely fastened to the unibody at the top side.
36. Remove driver's side upper and lower control arms. Loosen passenger side upper and lower control arms. Remove nuts but do not remove bolts.
37. With the axle hanging as low as possible, remove coil springs.
38. Locate Iron Y control arm.
39. 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.
40. 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.
41. Remove passenger side upper and lower control arms.
42. Install passenger side lower control arm. Do not tighten bolts at this time.
43. Install new springs in vehicle being careful to align the springs to the spring buckets on the axle.
44. Using a floor jack lift the front axle just enough to apply some load to the coil springs, do not lift vehicle.
45. Ensure that the vehicle is safely supported.
46. Locate front track bar, track bar mounting bracket, and hardware kit 20.
47. Install the track bar bracket onto the unibody and torque bolts to 92 ft. lbs.
48. Install the track bar and torque bolt at axle to 74 foot pounds, and nut at bracket to 80 foot pounds. If necessary use a floor jack and/or the steering wheel to help align the track bar.
49. Tighten jam nut very tight.
50. Re-install coil spring retainer clamps.
51. Install new front shocks using original barpin bolts. Tighten upper stud mount nuts just enough to slightly compress the bushings. Overcompressing these bushings will result in damage to the bushings and premature bushing failure.
52. Locate front sway bar links (11.25" center to center), two u-brackets, and the remainder of hardware kit 10. If you purchased JKS Quicker Disconnects follow JKS instructions, then proceed to step 55.
53. 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.
54. 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.
55. Remove drag link (goes from pitman arm to passenger side steering knuckle). Leave steering stabilizer attached to drag link. Add a bend, just above where the tie rod connects. Bend roughly 5 degrees outward, or just enough to clear the sway bar mount while turning with the suspension fully drooped.
56. Remove pitman arm. Note clocking of pitman arm.
57. Install new drop pitman arm. Torque to 185 foot pounds.
58. Install drag link and verify it clears the sway bar link mount.
59. Raise vehicle and reposition jack stands under the front axle.
60. Ensure that vehicle is safely supported.
61. Any remaining loose bolts will be torqued after rear suspension installation.

Rear Suspension:

62. Lift rear of vehicle and support with tall jack stands under the unibody frame.
**Tip: break lug nuts loose before lifting vehicle.
63. Ensure that the vehicle is safely supported.
64. Remove rear tires.
65. Place a floor jack under the center of rear axle for support (do not lift vehicle).
66. Remove rear shocks.
67. Remove and temporarily plug rear brake line.
68. Remove leaf springs and shackles from the vehicle.
69. Install add-a-leaf kit into leaf springs.
70. Apply anti-seize to bolts and install new leaf spring shackles. Do not tighten bolts at this time.
71. Apply anti-seize to bolts and install new leaf springs into the unibody. Do not tighten bolts at this time.
72. Install new U-Bolts. Do not tighten at this time.
73. Raise vehicle and reposition jack stands under the rear axle.
74. Ensure that the vehicle is safely supported.
75. Torque U-Bolts to 90 foot pounds.
76. With the weight of the vehicle on the springs, torque leaf spring and shackle bolts to 120 foot pounds.
77. Install rear brake line.
78. Grease lower shock studs, apply anti-seize to upper bolts and install rear shocks using original hardware.
79. Torque lower shock bolts to 46 foot pounds.
80. Torque upper shock barpin bolts to 17 foot pounds.
81. Bleed the front and rear brakes. See service manual for brake bleeding procedure.
82. With the weight of the vehicle on the front and rear springs, torque any loose bolts to spec. front and rear.
83. Torque all lower control arm nuts to 120 foot pounds.
84. On the front axle, set the caster adjuster on the Iron Y all the way up as a starting point. Torque upper control arm nut to 60 foot pounds. Torque the four locking nuts to 15 foot pounds.
85. Torque any remaining loose bolts to spec.
86. Install tires and place the vehicle on the ground.
87. Torque lug nuts to spec. (85-115 foot pounds depending on your wheels)

Adjustments and Final Inspection:

88. 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.

* A professional front end alignment is required after installation. We recommend the following alignment settings:

Caster: +2.75 to +5.75 (+4.0 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.

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