

# Installation Instructions

## 4" Premium Short Arm Lift Kit

### TJ Jeep Wrangler (1997-2006)



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#### Shipping Checklist:

##### \*Box 1\*

- Instructions
- Invoice
- Iron Rock logo decals (2)
- Ironrockoffroad.com decal (1)
- Brake Line Set #7425
- Drop pitman arm XXXX5285
- Transfer case drop kit 1668TC (1997-2002) or 1669TC (2003-2006) (1)
- Adjustable lower control arm with bend (4)
  - Bushing installed (8)
- Adjustable front upper control arm (2)
  - Bushing installed (2)
- Adjustable rear upper control arm (2)
  - Bushing installed (4)

##### \*Box 2\*

- XJ/ZJ/TJ Heavy duty adjustable front track bar
- Rear track bar relocation bracket
- Sway bar link 10.75" center to center (4)
- Standard shocks (without shock upgrade)**
  - Front shocks RC 8304 (2)
  - Rear shocks RC 8178 (2)
- With nitro shock upgrade only**
  - Front shocks RC 9304 (2)
  - Rear shocks RC 9178 (2)
- With DT8000 shock upgrade only**
  - Front shocks DT 8352 (2)
  - Rear shocks DT 8336 (2)
- Hardware kit 9 (DT front shocks)**
  - 2.5" Front barpin BP7 (2)
- With 2.2 Performance series shock upgrade only**
  - PERF2.24TJ
- With Bilstein shock upgrade only**
  - BE5-A464-H5 (4)
- Hardware kit 18 (Bilstein Shocks)**
  - Front barpins 2.5" (2)
  - Rear barpins 2.75" (2)
  - SBL U-brackets (2)
  - 12mm Shock sleeves (2)
  - 1/2 x 1 1/2 gr8 Hex Bolt (2)
  - 1/2 gr8 Hex nut (2)
  - 1/2 USS Washer (2)
  - 1/2 gr8 Lock washer (2)
  - M12x60 cl10.9 Hex bolt (2)
  - M12 cl10.9 Hex nut (2)

##### **Hardware kit 8 (front track bar)**

- Track bar bushing half (2)
- 7/16 Track bar bushing sleeve (1)
- 7/16 x 2 1/2 gr8 Hex bolt (1)
- 7/16 gr8 Hex nut (1)
- 7/16 USS Washer (1)
- M22 x 1.5 Left hand jam nut (1)
- ES3096 Tie rod end (1)

##### **Hardware kit 53 (Rear track bar bracket)**

- 12mm Track Bar Sleeve (1)
- 7/16 x 1 1/4 gr8 Hex bolt (3)
- M12 x 70 cl10.9 Hex bolt (2)
- 7/16 gr8 Hex nut (3)
- M12 cl10.9 Hex nut (2)
- 7/16 USS Washer (7)

##### **Hardware kit 57 (Control arm jam nuts)**

- 1 1/4-12 Fine thread jam nut (4)
- 1-12 Fine thread jam nut (4)

##### **Hardware kit 58 (Front Sway Bar Links)**

- 3/4" I.D. Hourglass shock bushings (4)

- 12mm I.D. Sway bar bolt sleeves (4)
- 12mm x 60mm Class 10.9 hex bolt (2)
- 12mm Class 10.9 Hex nut (2)
- M10 x 30 cl10.9 Hex bolt (2)
- 3/8 USS Washer (2)
- M10 cl10.9 Hex nut (2)
- Sway bar link U-bracket (2)

**Hardware kit 60 (Rear Sway Bar Links)**

- 3/4" Hourglass bushings (4)
- 10mm Sway bar bolt sleeves (4)
- M10 x 60 Sway bar link bolt (4)
- M10 X 1.5 Hex nut (4)
- 7/16 USS Washer (4)

**\*Box 3 (22 x 22 x 6)\***

- TJ 4" Front coil springs (1 pair)
- TJ 4" Rear coil springs (1 pair)

**Installation Instructions:**

**\*\*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 **\*\*\*Ensure that all parts are present and in good condition using above shipping checklist.\*\*\***
- 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 Required tools and supplies:
  - o Pitman arm puller
  - o Hand drill with 7/16" drill bit, preferably a close quarters drill or right angle drill for drilling in small spaces.
  - o Anti-seize compound

**Prepare the parts for installation:**

1. Locate all upper and lower control arms and hardware kit 57. Perform these steps to each control arm:
  - a. Remove male threaded end.
  - b. Install jam nut onto male end.
  - c. Generously apply anti-seize to male threads.
  - d. Adjust to these lengths:

Front lower control arm (front and rear are same part)	16 1/4" center to center
Rear lower control arm (front and rear are same part)	16 1/2" center to center
Front upper control arm (one rubber bushing, one u-bracket)	15 1/4" center to center using inner hole
Rear upper control arm (two rubber bushings)	13 5/8" center to center

- e. Tighten jam nut hand tight. Jam nut will be tightened after installation in the Jeep.
2. Locate front track bar and hardware kit 8. Install jam nut (left hand thread) onto rod end then apply anti-seize compound to the male threads. Adjust length to 33" outside edge to outside edge as a starting point. Tighten jam nut hand tight. Grease poly bushings inside and out and install into track bar. Grease the outside of the bushing inner sleeve and install. Leave remaining hardware in the bag for future use.
3. Locate front sway bar links and hardware kit 58. Front and rear sway bar links are identical until hardware is installed. Grease hourglass bushing inside and out and insert into each end of each link. Grease outside of inner bushing sleeve and insert one into each bushing. Leave remaining hardware in the bag for future use.
4. Locate rear sway bar links and hardware kit 60. Grease hourglass bushing inside and out and insert into each end of each link. Grease outside of inner bushing sleeve and insert one into each bushing. Leave remaining hardware in the bag for future use.
5. Locate shocks and install barpins if they are not pre-installed. Rear shocks are loop-loop mount and require the long barpins on the top side. Front shocks are stem-loop and require the short barpins on the bottom side. Barpins may be found pre-installed or in a hardware kit in the shock box or in the lift kit box. Some front shock boxes will contain rear barpins, verify that the barpin you install will fit properly on the Jeep (long rear, short front). Place the barpin vertically in a bench vise. Grease the barpin and the poly shock bushing. Lower the shock onto the barpin using steady pressure and rotating the shock back and forth.
6. Grease and install 12mm inside diameter x 1 1/4" long shock bushing inner sleeve into the bottom of each rear shock. Shock sleeves may be found pre-installed, or in a hardware kit in the shock box or lift kit box. Ensure the shock sleeve properly fits the Jeep.

**Front suspension:**

1. Lift front of vehicle and support with tall jack stands under the frame.
  - a. \*Tip: break lug nuts loose before lifting vehicle.
2. Ensure that vehicle is safely supported.
3. Remove front tires.
4. Remove front shocks.
5. Remove front sway bar links.
6. Remove front track bar.
7. Remove front upper and lower control arms on one side.
8. Loosen remaining upper and lower control arm bolts. Remove nuts but do not remove control arms at this time.
9. Remove the coil spring clamps (at the axle).
10. Remove coil springs.
11. Install new springs in vehicle being careful to align the spring to the spring bucket on the axle.
12. Install new upper and lower control arms on one side, do not tighten bolt at this time. Bend hangs down on axle side. Use shorter hole in upper control arm.
13. Remove remaining stock upper and lower control arms and replace with new ones.
14. Install new front shocks using original axle side hardware. 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.

15. Locate front sway bar links and hardware kit 58.
16. Install sway bar link u-brackets to the sway bar using M10 x 30 hex bolts nuts and washers. Brackets mount to the bottom of the sway bar with the bolt facing up and the washer and nut on top of the sway bar. Align brackets with offset holes pushing the brackets toward the outside of the vehicle. Torque nuts to 60 foot pounds.
17. Install sway bar links passenger side first using provided M12 x 70mm 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 (washer goes outside bushing). Torque all nuts to 78 foot pounds.
18. Install track bar using new 7/16 x 2 1/2" bolt and nut on the axle side. Torque to 65 foot pounds.
19. Tighten frame side nut snug, but do not tighten until after track bar length is adjusted and verified (after rear suspension is installed).
20. Replace brake lines with provided stainless steel braided lines.
21. Raise vehicle from jack stands and place jack stands under the axle.
22. Install coil spring clamps.
23. With the vehicle's weight on the suspension, torque upper control nuts to 60 foot pounds.
24. Torque lower control arm nuts to 120 foot pounds.
25. Bleed front brakes.
26. Lower vehicle from jack stands.
27. Install front tires.
28. Torque lug nuts to spec.
29. Torque any other loose bolts to spec. except track bar castle nut which will be tightened after rear suspension is installed and track bar length is verified.

**Rear Suspension:**

30. Lift rear of vehicle and support with tall jack stands under the frame.  
\*Tip: break lug nuts loose before lifting vehicle.
31. Ensure that the vehicle is safely supported.
32. Remove rear tires.
33. Remove rear shocks.
34. Allow suspension to droop as much as possible.
35. Remove rear brake line and replace with new braided stainless steel line.
36. Remove upper and lower control arm on one side.
37. Loosen remaining upper and lower control arm bolts. Remove nuts but do not remove control arms at this time.
38. Remove coil spring clamps and coil springs.
39. Unbolt rear track bar from axle side mount. Loosen frame side track bar bolt but do not remove.
40. Locate track bar relocation bracket and hardware kit 53.
41. Bolt the new bracket into the existing hole using steel sleeve in place of original track bar and new M12 x 70 bolt and washer. Tighten enough to prevent movement during drilling.
42. Drill the three 7/16 holes (top, left side, and rear lower).
43. Peck drill and use plenty of oil.
44. Install 7/16 bolts and nuts using washers where possible.
45. Torque 7/16 bolts to 65 foot pounds.
46. Torque M12 bolt to 78 foot pounds.
47. Bolt the OEM track bar into the new bracket with a new M12 x 70 bolt, nut, and washers. Do not tighten bolts at this time.
48. Install new springs.
49. Install new upper and lower control arm on one side. Do not tighten bolts at this time. Bend hangs down at axle side. Upper control arm adjusting threads go on frame side.
50. Remove remaining stock control arms and replace with new.
51. Install new shocks using existing hardware.
52. Torque lower shock bolts to 70 foot pounds.
53. Tighten upper shock bolts.
54. Locate rear sway bar links and hardware kit 60.
55. Install sway bar links with new bolts and a washer on the outside of each bushing (the washer keeps the sway bar link from falling off).
56. Torque all four sway bar link nuts to 60 foot pounds.
57. Raise vehicle from jack stands and place jack stands under the axle.
58. With weight on the suspension, torque upper control arm nuts to 60 foot pounds.
59. Torque lower control arm nuts to 120 foot pounds.
60. Torque track bar nuts to 78 foot pounds.
61. Install coil spring clamps.
62. Bleed rear brakes.
63. Install rear tires.
64. Lower vehicle from jack stands.
65. Torque any remaining loose bolts to spec.
66. Bounce the front of the Jeep up and down to set springs into place.
67. Check the length of the front track bar by measuring from tire to frame on each side. Adjust track bar length as needed.
68. Tighten frame side front track bar castle nut and install cotter pin. Tighten Jam nut very tight.

**Transfer Case Drop Kit:**

69. Place a floor jack under the driver's side of transfer case skid plate for support.
70. Remove transfer case skid plate bolts on driver's side.
71. Lower t-case skid plate away from frame enough to fit the spacer in place. Loosen passenger side bolts if needed.
72. Install spacer using new bolts and washers. Do not tighten at this time.
73. Repeat for passenger side.
74. Torque bolts to 70 foot pounds.

**Adjustments and Safety Inspection:**

75. 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.  
A professional front end alignment is required after installation. Your toe-in will be affected and may cause unpredictable steering and accelerated tire wear.  
Recommended caster setting: +3.75 to +6.0 (+5 degrees is recommended)  
Recommended toe in setting: 0 degrees

\* Re-torque all fasteners, including lug nuts, after 100 miles, and frequently inspect all safety critical suspension components.