

Rusty's XJ Cherokee 4.5" Add-a-Leaf Kit RK-405AL-XJ INSTALLATION INSTRUCTIONS

Last Revised: 1/10/18

Introduction:

Rusty's recommends that this installation be performed by a certified automotive technician or a person with professional mechanical knowledge. Installing this kit without this expertise may jeopardize the handling and safety of the vehicle.

Read instructions several times before starting. Be sure you have all the needed parts and know where they install. Read each step completely as you go. Exhaust modifications may be necessary. Prior to drilling or cutting, check behind the surface being worked on for any wires, lines, or hoses that could be damaged. After any drilling or cutting, remove burrs and grind smooth any surfaces. An inclinometer or similar tool may be needed to measure driveshaft angles before and after the installation.

Warning:

- It is the owners' responsibility to inspect all Rusty's products for proper torque specs to prevent loosening of components.
- Seat belts and shoulder harnesses should be worn at all times.
- Re-check all bolts and nuts after the first 100 miles and after any off-road usage during the first 300 miles.
- Although all of our products are made from the highest quality materials possible, they are not a substitute for Safe and Careful driving. In other words, have good safe on-road / off-road sense. Know the terrain, the speed limitations, and any obstacles that may lie ahead. Please remember to preserve our right to enjoy public land through the proper use of off-road vehicles.

Before Starting Installation:

1. Carefully Read all warnings and instructions completely before beginning.
2. Verify all parts have been received in this kit by checking the parts list on page#2 of this document.
3. Only install this kit on the vehicle for which it is specified.
4. Park the vehicle on a clean, dry, flat, level surface and block the tires so the vehicle cannot roll in either direction.
5. Be certain the vehicle is safely secured on jack stands or a vehicle lift prior to working around or under a vehicle. Never rely on a jack alone to support a vehicle's weight; use appropriately rated stands to support the vehicle's frame and any other heavy components.

Parts List:

Note: Please be sure that you have all the provided parts listed below before continuing with the installation.

<u>Part #</u>	<u>DESCRIPTION:</u>	<u>Quantity</u>
RC-CS405-XJ	Rusty's 4.5" Front Coil Springs (Pair)	1
RC-TB122-UV	Rusty's Adjustable Front Track Bar (TJ,XJ,ZJ)	1
RC-CA111-UV	Rusty's Fixed Front Lower Control Arms (16.25") (XJ,TJ) (Pair)	1
RC-SB250-UV	Rusty's Front or Rear Sway Bar Drop Kit	1
RC-2123	Rusty's 3.5" Full-Length Add-A-Leaf (Pair) (Contents Below)	1
KK-9	Rusty's Leaf Spring Clip	2
CB0504	5/16"-24 x 4" Length Centering Pin	2
CB0504	5/16"-24 Grade 8 Nut	2
RC-SHIMS-6	Rusty's Billet Steel 6 Degree Shims (Pair)	1
RC-SH150-XJ	Rusty's 1.5" Rear Greaseable Shackles (Pair)	
RX-36	Rusty's RX100 Performance Shock: RX-36 (Contents Below)	2
	(Bushing Packs: PO1318 & PO1314)	
RX-13	Rusty's RX100 Performance Shock: RX-13 (Contents Below)	2
	(Bushing Packs: PO1313 & PO1532)	
RC-TCD1-XJ	Rusty's Transfer Case Drop Kit (Contents Below)	1
RC-TCD1-XJ-SP	Rusty's Transfer Case Drop Spacer (XJ,MJ)	2
09889080	M10 x 1.50mm x 50mm Length Hex Head Cap Screw	4
67493080	M10 x 20mm O.D. Flat Washer	4
RB-BL10-UV	Rusty's Brake Line Extension Kit (Contains Front & Rear)	1
RC-UB-2	Rusty's Dana 35/44 Grade 8 U-Bolt	4
OR	OR	OR
RC-UB-3	Rusty's Chrysler 8.25 Grade 8 U-Bolt	4

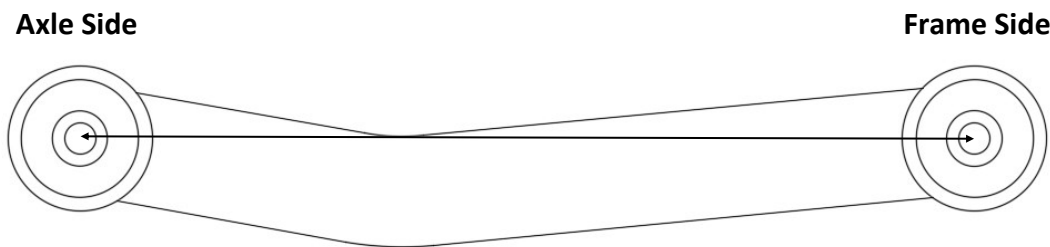


For Questions or Suggestions, contact our Tech Department (256-442-0607)

Front Installation Instructions

Note: Save all factory components and hardware for reuse, unless noted.

1. Raise vehicle and place jack stands under the frame. Chock the rear tires to prevent any accidental movement.
2. Remove the tires and wheels.
3. Remove the factory shocks at the top inside of the fender well and at the bottom, don't discard hardware. The hardware will be reused.
4. Unbolt the sway bar links on both sides, don't discard hardware. The hardware will be reused.
5. Support the front axle with the floor jack.
6. Remove the track bar from the axle housing on passenger side using a 15mm wrench. Retain factory bolt and flag nut for re-use.
7. Remove both the driver and passenger side lower control arms by removing the factory hardware at the axle and frame mounts. The hardware will be reused. (**Note:** Make note of the hardware location to prevent installing backward.)
8. Remove the factory coil spring retainer clips with a 13mm wrench. Retain the hardware for re-use.
9. Remove the factory coil springs from the vehicle. Lower the jack used to support axle if needed to remove the coil springs. (**Note:** If using a coil spring compressor, take special care.)
10. Install the supplied 16-1/4" fixed lower control arms with the short side bend at the axle end to clearance the lower axle control arm mount as illustrated below using the factory hardware. (**Note:** If you upgraded to the optional Rusty's adjustable lower control arms adjust them to 16-1/4" center hole to center hole, and install the fixed end of the control arm at the axle mount and the adjustable end is positioned at the frame mount.)



Lower Control Arm Measurement: 16-1/4" Center to Center Length

11. Set the new coil springs into place and reinstall the factory coil spring retainer clips you removed in step 8. (Torque to 10 ft. lbs.)



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Front Installation Instructions

Note: Save all factory components and hardware for reuse, unless noted.

12. Install the new Rusty's front shocks into their upper mounting position with the supplied hardware. (Torque to 17 ft. lbs.) (**Note:** It is a good idea to take a wire brush and clean any excess paint from the threads on the stud to prevent the nut from tightening properly.)
13. Install the lower end of the shock to the axle using the factory hardware. (Torque to 20 ft. lbs.)
14. Reinstall the factory sway bar links at this time using factory hardware. Install the supplied sway bar drop kit to the sway bar frame mounting points. (**Note:** If you purchased Rusty's Forged Adjustable Sway Bar Quick-Disconnects install them at this time using the supplied instructions.)
15. Install the supplied front brake line extension brackets at this time with the supplied instructions.
16. Install tires and wheels.
17. Jack up the vehicle and remove the jack stands in order to lower the vehicle back to the ground.
18. Install the supplied adjustable front track bar with the supplied instructions.

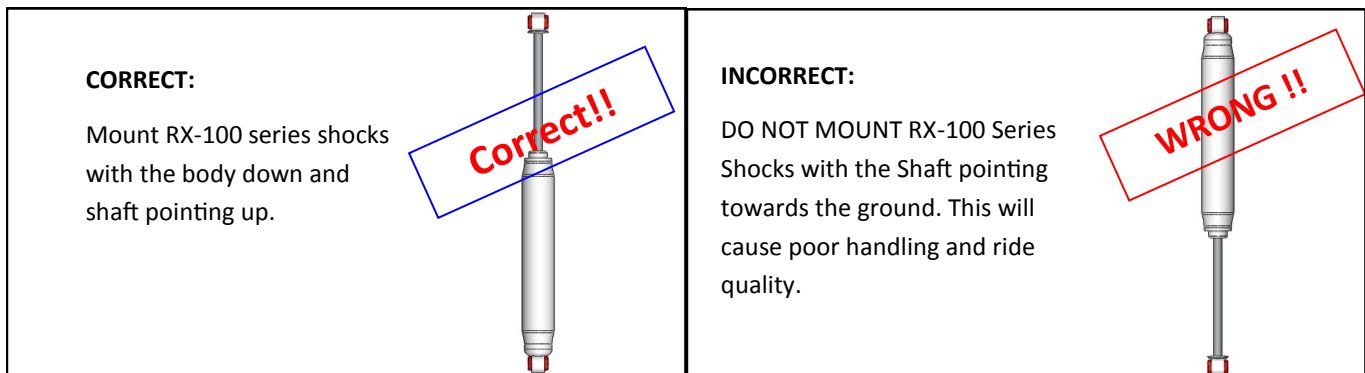
Rear Installation Instructions

19. Install the supplied transfer case drop kit with the supplied instructions.
20. Raise vehicle and place jack stands under the frame. Chock the rear tires to prevent any accidental movement.
21. Remove the tires and wheels.
22. Remove the factory rear shocks, keeping the hardware and discarding the old shocks.
23. Install the supplied rear brake line extension bracket with the supplied instructions.
24. Support the rear axle with a floor jack.
25. Unbolt the U-bolts and carefully lower the axle by lowering the floor jack slowly. Retain the U-bolt plates for reuse. (Note: Use caution not to over extend the rear brake line.)
26. Using a chisel, cutoff wheel, saw, or similar tool, remove the leaf spring retaining straps that align the leaves in the spring pack. They are located on both the front and rear portion of the springs.
27. Position a C-clamp near the spring centering pin and tighten it to hold the spring pack together. Remove or cut off the spring centering pin if it is seized. Carefully loosen the clamp to relieve the pressure in the spring pack in a controlled manner.
28. Position the Rusty's add-a-leaf in the spring pack. It should be placed directly under the main leaf, or under the next longest leaf in the spring pack. All of the shorter leaves should be placed under the add-a-leaf in order of descending length. The long side of the new leaf will go towards the rear of the vehicle.



Rear Installation Instructions (Continued)

29. Align the centering pin holes in each leaf and use a C-clamp to clamp the pack together. (Note: Do not use the centering pin to compress the leaf pack.) Position the pin so that the head is pointed downward and install the supplied new centering pin in the aligned holes. Lube the threads and slowly tighten the nut; do not over tighten the pin as it will strip easily.
30. Install the supplied new leaf spring retaining straps on the front or rear portion of the leaf springs near where the original ones were located.
31. Remove the upper shackle bolt in order to allow the leaf spring and shackle to detach from the frame. The hardware will be reused.
32. Remove the shackle from the rear leaf spring pack. The hardware will be reused.
33. Attach the supplied extended shackle to the rear leaf pack using the factory hardware. Make sure to properly apply grease prior to installation. (Torque to 25 ft. lbs.)
34. Use a jack to help raise or lower the spring and shackle assembly in order to align the frame side mounting point to the frame and then fasten using the factory hardware. (Torque to 25 ft. lbs.)
35. Slowly raise the axle up into position and be sure the center pins align with the holes in the axle pads on each side.
37. Position the supplied U-bolts and factory spring plates into position. Install a flat washer followed by the nut then tighten the hardware. (Torque to 75 ft. lbs.)
38. Install the bushings and sleeves in the new Rusty's shocks. Install them on the vehicle with the factory hardware. (Torque upper bolts to 18 ft. lbs. and lower bolts to 40 ft. lbs.) (**Note:** Please note the orientation of the rear shocks.)



39. Reinstall the tires and wheels and lower vehicle.
40. Remove the jack stands and lower the vehicle to the ground.
41. Tighten the lug nuts to the factory torque specifications.
42. Installation Completed!

Final Notes:

At this point there should be no parts left but installing the stickers. The vehicle will need to have an alignment as soon as possible, if you don't you may get the "death wobble", poor tire wear or just a bad handling vehicle.

Alignment Recommended Specifications

- Toe: Should be set at 0 to 1/32" Toe Out
- Castor: 7.5 Degrees Positive
- Camber: 0

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