



Rusty's Off-Road Products
7161 Steele Station Road
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www.rustysoffroad.com

Rusty's XJ Cherokee 6.5" Spring Pack Kit RK-605SP-XJ INSTALLATION INSTRUCTIONS

Last Revised: 5/22/2017

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 sup-



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Parts List:

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

Part #	DESCRIPTION:	Quantity
RC-CS808-XJ	Rusty's 6.5" Front Coil Springs (Pair)	1
RC-CA111-UV	Rusty's Fixed Front Lower Control Arms (16.75")(XJ,TJ) (Pair)	1
RC-CA121-UV	Rusty's Fixed Front Upper Control Arms (XJ,TJ,ZJ) (Pair)	1
RC-TB160-UV	Rusty's HD Track Bar Frame Mount (XJ,ZJ)	1
RS-FRB1-XJ	Rusty's Frame Strengthenener & Track Bar Mount Brace	1
RC-TB225-UV	Rusty's Adjustable Front HD Track Bar (5-8") (XJ,ZJ)	1
05728357	1/2"-13 x 3-1/2" Length Grade 8 Hex Head Cap Screw	1
05724646	1/2" SAE Flat Washer	2
67488965	1/2"-13 Grade 8 Hex Lock Nut	1
RS-DPA3	Rusty's Drop Pitman Arm 3" (XJ/YJ)	1
RC-SB500-UV	Rusty's Forged Adjustable Sway Bar Quick Disconnects (Pair)	1
RC-LS650-XJ	Rusty's XJ 6.5" Rear Leaf Spring (Pair)	1
RC-SHIMS-6	Rusty's Billet Steel 6 Degree Shims (Pair) (Contents Below)	1
CB0504	5/16"-24 x 4" Length Centering Pin & 5/16"-24 Grade 8 Nut	2
CB0304	3/8"-24 x 4" Length Centering Pin & 3/8"-24 Grade 8 Nut	2
RX-16	Rusty's RX100 Performance Shock: RX-16 (Contents Below)	2
	(Bushing Packs: PO1318 & PO1314)	
RX-11	Rusty's RX100 Performance Shock: RX-11 (Contents Below)	2
	(Bushing Packs: PO1313 & PO1532)	
RB-SBL10-UV	Rusty's Stainless Steel Brake Hoses Set (Contains Front & Rear Lines)	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



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Front Installation Instructions

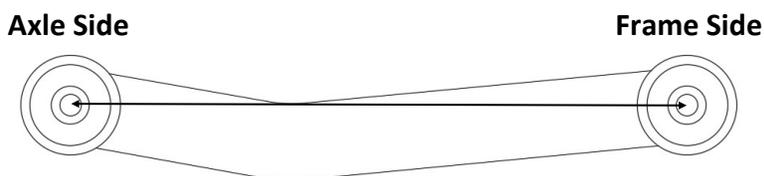
Note: Save all factory components and hardware for reuse, unless noted.

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 stock shock absorbers using a 15mm wrench. The stock bolts and nuts on the bottom of the shock will be reused. (**Note:** In order to access the upper shock studs can be obtained through the engine compartment. It also may be necessary to temporarily remove the washer fluid reservoir to access the driver side upper shock mount nut.)
4. Remove the sway bar links on both sides using a T-55 torx bit /19mm wrench and a 15mm for the upper nut.
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 the track bar from the factory track bar frame mount point by removing the cotter pin and nut. Discard track bar and hardware.
8. Remove the factory track bar frame mount from the frame rail by removing the four bolts that attach it to the frame rail. Two bolts will be located at the very top side of the bracket and two will be located on the underside of the bracket. Inspect the factory hardware and replace if damaged. Retain the factory hardware for re-use. Retain the factory hardware for re-use.
9. Remove the drag link tie rod end that is attached to the factory pitman arm by removing the cotter pin and nut. A ball joint separator must be used in order to detach the tie rod end from the pitman arm.
10. Using a paint marker or scribe mark the location of the factory pitman arm to ensure accurate placement of the supplied drop pitman arm. Remove the pitman arm from the steering gear shaft by removing the nut and washer. A puller tool will be needed for the removal of the pitman arm. Retain the factory hardware for re-use.
11. Remove the factory coil spring retainer clips with a 13mm wrench. Retain the hardware for re-use.
12. Slowly lower the jack used to support the front axle until the coil springs can be removed. If using a coil spring compressor use caution! (**Note:** Use caution to not over extended the brake lines. If needed you can remove the brake calipers from the rotors to allow the axle to be lowered further. If you remove the brake calipers do not allow them to hang from the brake lines as this may cause damage to the lines or fittings. We suggest using a bungee cord or similar device to hold the caliper up out of the way temporarily.)



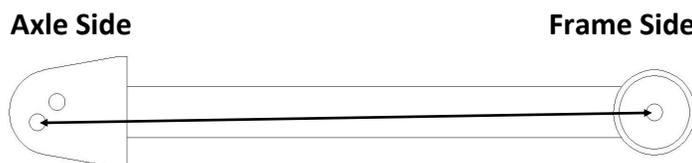
Front Installation Instructions (Continued)

12. Remove the front lower control arms with the front axle supported. Use a 21mm wrench to remove the mounting hardware for the factory front lower control arms at the lower control arm axle and frame mounts. Retain factory hardware, as it will be reused.
13. With the front axle lowered, install the supplied front coil springs. (**Note:** Make sure to seat the coil spring wrap into the lower spring cup.
14. Reinstall the factory coil spring retainers with a 13mm wrench.
15. Install the supplied 16-3/4" fixed lower control arms with the short side bend at the axle end to clear 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 16-3/4" center hole to center hole. 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: 16-3/4" Center to Center Length

16. Remove the driver side upper control arm by removing the factory hardware at the upper control arm axle and frame mounting points. Retain factory hardware, as it will be reused. (Note: This is a great time to inspect and replace the axle housing upper control arm bushings if needed, however removal is not needed for installation of this suspension kit.)
17. Install one of the supplied fixed upper control arms using the factory hardware. The axle side mounting point of the supplied fixed upper control arms will have two offset mounting holes. Measure from the center of the hole in the fixed bushing end to both mounting holes in order to determine which mounting point is correct for your lift height. For the installation of this kit you will use the longer distance of 15-3/4" center hole to center hole. Refer to the image below for correct installation orientation. (**Note:** Install the fixed upper control arm so that the extra mounting hole is positioned above the hole used to mount the control arm to the axle mount.)



Upper Control Arm Measurement: 15-3/4" Center to Center



Front Installation Instructions (Continued)

18. Repeat steps 13-14 on the passenger side of the vehicle.
19. The caster adjustment bolts on the lower control arm frame mounts can be adjust if needed to add more caster. However the final alignment should be preformed by a professional alignment shop.
20. Clean the frame of any grease or dirt then install the supplied Rusty's HD Track Bar Frame Mount using the factory hardware. Start the two lower bolts then start the two upper bolts that attach the mount to the frame rail, be sure to apply Red thread lock compound to the bolts. (Torque to 90 ft. lbs.) (Note: A Drift maybe necessary on some models to align the mounting holes to start the bolts.)
21. Install the track bar in the factory location axle mount using factory hardware. Do not attach the frame end of the new track rod at this time. Installation is to be completed once the vehicle is lowered to the ground using the instructions provided with the adjustable front track bar.
22. Install the supplied 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 tighten properly.)
23. Install the lower end of the shock to the axle using the factory hardware. (Torque to 20 ft. lbs.)
24. Reinstall the wiper reservoir if removed.
25. Install the front wheels and tires. Jack up the vehicle, remove jack stands and lower the vehicle to the ground.
26. Install the supplied Rusty's 3" Drop Pitman Arm onto the steering gear box shaft using the factory hardware, making sure to position it in the same orientation as the factory pitman arm. Be sure to apply Red thread lock compound to the nut. (Torque to 120 ft. lbs.)
27. Reattach the draglink to the pitman arm using the factory nut and cotter pin. (Torque to 60 ft. lbs.)
28. At this time refer to the supplied instructions with the Rusty's front adjustable track bar and complete the adjustment and installation of the trackbar and the supplied Rusty's Frame Strengthener & Track Bar Mount Brace.
29. Install the supplied Rusty's Forged Adjustable Sway Bar Quick-Disconnects and install using the supplied instructions.
30. Install the Rusty's Rear Stainless Steel Brake Hose using the supplied instructions.
31. Front installation is completed!



Rear Installation Instructions

32. Remove the factory shocks, keeping the hardware and discarding the old shocks.
33. Raise rear of the vehicle and place jack stands under frame. Chock the front tires to prevent any accidental movement.
34. Remove the tires and wheels.
35. Remove the clip that fastens the rear brake line to the factory bracket. Pull the brake line towards the axle until it drops out of the factory bracket.
36. Support the rear axle with a floor jack.
37. 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.)
38. Remove the factory rear spring pack by removing the hardware at the front frame mounting points and remove the lower rear shackle bolts using a 21mm wrench. Retain the factory hardware for re-use, discard the factory rear leaf packs. (Note: Inspect the hardware once removed and replace if needed.)
39. Grind or cut off the excess length of rear bumper bolt that is located directly behind the shackle at the frame mounting point in order to allow more clearance when the shackle pivots towards the rear of the vehicle. Refer to the image below.

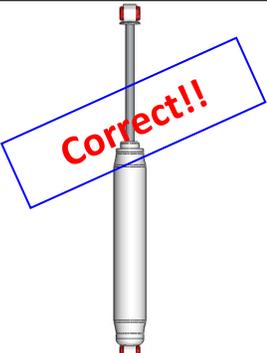
**Grind or cut off the excess length
of this bolt.**



40. Install the new spring packs with the factory hardware removed in step 27. It is a good idea to grease the threads on the spring bolts. Mount the frame end first and then the shackle. Install the supplied pair of 6 degree axle shims and new centering pins to install to the leaf springs if needed in order to obtain the proper driveline angle. (Note: Do not torque hardware until instructed.)
41. Slowly raise the axle up into position and be sure the center pins align with the holes in the axle pads on each side.
42. 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.)

Rear Installation Instructions (Continued)

43. 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.

<p>CORRECT:</p> <p>Mount RX-100 series shocks with the body down and shaft pointing up.</p> 	<p>INCORRECT:</p> <p>DO NOT MOUNT RX-100 Series Shocks with the Shaft pointing towards the ground. This will cause poor handling and ride quality.</p> 
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44. Reinstall the tires and wheels and lower vehicle.

45. Remove the jack stands and lower the vehicle to the ground.

46. Tighten the leaf spring and shackle hardware to the torque specifications. (Torque the frame bolts to 100 ft. lbs. and shackle bolts to 25 ft. lbs.)

47. Tighten the lug nuts to the factory torque specifications.

48. Install the Rusty's Rear Stainless Steel Brake Hose using the supplied instructions.

49. Installation Completed!



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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

Tighten hardware to torque specifications called for the components below with the vehicle resting at ride height to prevent preloading any of the joints or bushings.

- Control Arms
- Leaf Springs
- Shackles
- Track Bars

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Rusty's Extended Stainless Steel Front and Rear Brake Hoses

RB-SBL10-UV

INSTALLATION INSTRUCTIONS

Parts List:

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

RB-SBL10F-UV Parts List:		
<u>Part #</u>	<u>DESCRIPTION:</u>	<u>Quantity</u>
RB-SBL10F-UV	Rusty's Front Extended Stainless Steel Brake Hose	2
RB-SBL10-CW	3/8" Copper Crush Washer	4
RB-SBL10-MB	Brake Hose Frame Mounting Bracket	2
RB-SBL10-RC	Brake Hose Mounting Bracket Retaining Clip	2
67378927	5/16" -18 x .625" Length Hex Head Thread Cutting Screw	2

RB-SBL10F-UV Installation Instructions

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

1. The installation of these brake lines can be installed with the vehicle on the ground. You need to park the vehicle on level ground and set the parking brake/chock the tires to prevent any movement.
2. Turn the tires in order to gain better access to the calipers and the brake lines.
3. Inspect all of the brake components and repair or replace components as necessary.
4. Disconnect the factory soft line from the hardline connection at the frame rail. Retain the factory hardware for reuse.
5. Remove the factory banjo bolt from the caliper, make sure to remove the factory crush washers as well. Retain or replace the banjo bolt for installation of the new brake hoses.
6. Clean and inspect all of the mounting surfaces before continuing.
7. Mount the supplied brake hose mounting bracket to the frame rail in the factory mounting hole with the original hardware. (**Note:** If needed use the supplied 5/16" -18 x .625" Length Hex Head Thread Cutting Screws to mount brake hose mounting brackets to the frame rail if you need to relocate the lines for any reason.)





RB-SBL10F-UV Installation Instructions (Continued)

8. Insert the supplied brake hose through the mounting bracket opening then insert the supplied retaining clip to secure the line.
9. Attach the brake hose to the factory hard line by starting the threaded fitting on the factory hard line by hand then tighten to factory specifications.
10. Attach the brake hose to the caliper using the factory banjo bolt and the supplied copper crush washers. Position a crush washer on each side of the fitting at the bottom of the brake hose. Tighten to factory specifications.
11. Position the brake line in order to make sure that it will not get caught or damaged by the suspension or tire when in use.
12. Repeat steps 2-11 on the opposite side of the vehicle.
13. If only installing the front brake hoses at this time you may go ahead and bleed the brake lines using standard brake system bleeding procedures. (Note: If installing the rear brake hose, you can wait to bleed brake system until completing the installation.)
14. Front Installation Completed!

RB-SBL10R-UV Parts List:

Part #	DESCRIPTION:	Quantity
RB-SBL10R-UV	Rusty's Rear Extended Stainless Steel Brake Hose	1
RB-SBL10-MB	Brake Hose Frame Mounting Bracket	1
RB-SBL10-RC	Brake Hose Mounting Bracket Retaining Clip	1
67378927	5/16" -18 x .625" Length Hex Head Thread Cutting Screw	1

RB-SBL10R-UV Installation Instructions

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

1. The installation of the rear brake line can be installed with the vehicle on the ground. You need to park the vehicle on level ground and chock the tires to prevent any movement.
2. Inspect all of the brake components and repair or replace components as necessary.
3. Disconnect the factory soft line from the hardline connection at the frame rail. Retain the factory hardware for reuse.
4. Remove the bolt that attaches the factory soft line to the frame rail. Retain the factory hardware for reuse.
5. Disconnect the two hard lines at the brake line fitting on the rear axle.
6. Remove the fitting that the rear axle breather tube is attached to in order to remove the factory soft line.





RB-SBL10R-UV Installation Instructions (Continued)

7. Clean and inspect all of the mounting surfaces before continuing.
8. Mount the supplied brake hose mounting bracket to the frame rail in the factory mounting hole with the original hardware. (**Note:** If needed use the supplied 5/16" -18 x .625" Length Hex Head Thread Cutting Screws to mount brake hose mounting brackets to the frame rail if you need to relocate the lines for any reason.)
9. Insert the supplied brake hose through the mounting bracket opening then insert the supplied retaining clip to secure the line.
10. Attach the brake hose to the factory hard line at the frame by starting the threaded fitting on the factory hard line by hand then tighten to factory specifications.
11. Attach the brake hose fitting to the axle tube using the fitting that the rear axle breather tube is attached with.
12. Connect both of the factory hard lines on the axle tube to the threaded fittings on the rear brake hose junction block by starting the threaded fittings on the factory hard lines by hand then tighten to factory specifications.
13. Connect both of the factory hard lines on the axle tube to the threaded fittings on the rear brake hose junction block by starting the threaded fittings on the factory hard lines by hand then tighten to factory specifications.
14. If only installing the rear brake hose at this time you may go ahead and bleed the brake lines using standard brake system bleeding procedures.
15. Rear Installation Completed!

Important Safety Notes

CAUTION!!! Failure to properly bleed the brake system will cause your brakes not to work properly. Before the vehicle is ready to drive you will need to refill the brake reservoir with brake fluid and bleed any air out of the brake lines. If you have any reservations or not experienced in this procedure please do not attempt the installation and seek professional assistance or help in order to ensure the effectiveness of your brake system.

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