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WJ 6.5" Long Travel

PART #: RK-605LT-WJ | **APPLICATION:** WJ

INTRODUCTION

Rusty's recommends that this installation should be performed by a certified automotive technician or a person with a professional mechanical knowledge. Installing this kit with out this expertise may jeopardize the handling and safety of the vehicle.

Read instructions several times before starting. Be sure you have all needed parts and know where they install. Read each step completely as you go. Exhaust modifications may be necessary. You will need an inclinometer or similar tool to check rear driveline angles; this will help take a lot of the guess work out. A front end alignment is a must. 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, de burr and grind smooth any surfaces, be sure to paint or undercoat afterwards.

Specialty tools required for installation:

Coil Spring Compressor
 Drill Bits: 15/32, 5/16, 7/16, 1 inch

PARTS LIST

Be sure you have all needed parts and know where they install. Read each step completely as you go.

PART NO	DESCRIPTION	QTY.
RC-CS600-WJ	600 Front Coils	1 PAIR
RC-CS605-WJ	610 Rear Coils	1 PAIR
RX-16-WJ	Rusty's Performance Hydro Shocks Front	2
RX-11-WJ	Rusty's Performance Hydro Shocks Rear	2
RC-TB300-WJ	Adjustable Front Trac Bar	1
RS-DPA5	Drop Pitman Arm	1
RS-SB500-UV	Rusty's Quicker Disconnects	1 PAIR
	Long Arm Cross Member	1
	Cross Member Outer Frame Plates	2
	Front Upper Arms	2
	Front Lower Long Arms	2

	Rear Frame Mounts	2
	Rear Lower Long Arms	2
R43-WJ	Rear Upper 3 Link Swing Arm	1
R43-WJ	Rear Axle Upper Mount	1
RC-SB505-WJ	Rear Sway Bar Links	2
	Installation Instructions	1

FRONT INSTALLATION

- 1) Start by removing the front sway bar links and front trac bar. Also remove the front shock stud nuts access from engine compartment. The tie rod end at the pitman arm should be disconnected. **Do not discard the nuts as it will be reused.** The removal of all parts listed should be done before the vehicles front end is lifted or jacked up for installation of kit.
- 2) Properly secure vehicle as now the front end can be lifted for installation.
- 3) Lift the vehicle as high as possible and place jack-stand under the frame behind the stock lower control arm mount. Lower the front-end slightly until the frame rails come in contact with the jack-stand. This will stabilize the vehicle.
- 4) Remove front tires and then lower shock bolts. **Do not discard bolts as they will be reused.**
- 5) Properly secure the front-end with jack-stands, lift-stands etc. and with the rear tires properly secured, you can now begin the installation of your crossmember.
- 6) Place the jack under the transmission or transfer case, lift to take a slight amount of pressure off the transmission mount. Remove the 4 bolts that secure the transmission mount to the bottom center of the crossmember. You should have about a ¼ inch of separation between the transmission mount and the stock crossmember. **Do not discard the bolts as they will be reused.** The 4 bolts that hold the crossmember to the frame rails should now be removed. Support the crossmember while removing these bolts to prevent the stock crossmember from falling.
- 7) Install the new crossmember with the rectangular four bolt pattern toward the front of the vehicle. Install the 10mm x 1.5 bolts and 3/8 washers in the crossmember inner stock location. Install the 10mm x 120 bolt and 3/8 washers in the crossmember outer stock location. Before fully tightening these bolts the stock bolts for the transmission mounts should be started. Once started the crossmember bolts on the frame rail should be tightened.
- 8) Lower the jack or support from transmission or transfer case. Once mount is lowered in place the 4 bolts for the transmission mount can be tightened.

- 9) Locate the rectangular 4 bolt pattern on each front side of the crossmember. Locate the center of each hole and center punch, marking it for a drill point. These should now be drilled 15/32 (slightly larger than 7/16.) Drill out the 4 bolt pattern in driver and passenger side.
- 10) Locate the numbered tab bolts (1-4) these bolts should be installed through the existing access hole views in picture. **Do not install nuts and washer until step 10 is completed.**
- 11) Once tab bolts have been installed in each side of the frame-rail, locate the outer frame reinforcement brackets (there is a designated driver and passenger side bracket.) The slotted holes in the bracket will line up with the tab bolts. Hold the brackets in place and install the 3/8 washers and 7/16 nyloc nuts as the nuts are being tighten apply pressure from the outside pushing in, securing the outside bracket tightly to the side of the frame-rail. This should be done on each side (driver and passenger.)
- 12) Once the outer frame reinforcement brackets are in place and tightened at the bottom locate the 4 holes in the side of the bracket. Using a punch mark the center of each hole (this will prevent the drill bit from walking.) Once holes are center punched: use a 5/16 drill bit to drill each hole, 4 per side. Be sure not to over tighten the 3/8 self tapping screws as they are not to be torque as a standard bolt and nut. The installation of the crossmember is now complete be sure to go back and check all bolts and nuts to make sure everything is tight.
- 13) Move to the front end to begin the rest of installation. Lower the jack under the front axle, the factory front coil springs will probably fall out when lowering the jack. If the coil springs do not fall out, use a coil spring compressor to safely remove the factory coil springs.
- 14) Having removed the coil springs, slightly raise the jack under the front axle to relieve the weight. Now remove the front upper and lower control arms. **Do not discard the lower control arm bolts at the axle they will be reused.**
- 15) Be sure to wear eye protection during this step. The lower control arm mounts at frame (both driver and passenger) can now be removed. This should be done very delicately and precise to ensure that the frame rail is not cut. Rusty's recommend using a plasma cutter or cutting wheel to remove the mount. Finish the cut area with a flap sanding wheel to smooth and finish the area, prime and paint the area to prevent rust.
- 16) Position the Rusty's front lower long arms (both driver and passenger.) Bolt the axle end in place only starting the nut; use the supplied washers on each side of the bushing sleeves (total of four washers). Measure the arm length from center of bolt hole to center of bolt hole. This should be set 36 9/16 center hole to center hole straight line at 6.5 lift. This length will vary depending on the amount of lift. If the lift is a different height, this length should be set according to correct aligned wheelbase.
- 17) Once the lower arm is set to length, place the adjustable flex joint in the crossmember using the original bolt, this bolt can be torque to 115 Ft lbs. Apply a small amount of Red Locktite to the threads of the flex joint and tighten the jam nut.
- 18) The front upper radius arm can be connected at the lower control using the 7/16 x 3 1/2, 3/8 washers and 7/16 nyloc nuts. This connection should be made at driver and passenger side. These bolts can be torque

to 55ft lbs. The arm should now be measured to length, center bolt hole to center bolt hole. Set the arm length to 15 3/8 at 6.5 lift, this length may vary because of pinion angle and caster adjustments. Install the factory bolts to the upper control axle point, torque to 55ft lbs speed.

- 19) The front coil spring should now be put in place, slightly lower the jack to the point you can place the coils. Once in place, raise the jack to slightly compress the coils.
- 20) Be sure to check all crossmember bolts as well as the control arm bolts; tightening all bolts except the lower control arm at the axle.
- 21) Raise the jack and remove the jack-stands. Install the tires and lower the jack this places the vehicle at riding height.
- 22) Installation of the front shocks should now be done. Access the stud end of the shock from the engine compartment and torque the nut on the stud to slightly compress the poly bushings on each side 26in lbs. Connect the lower end of the shock using the original bolt and torque to 20in lbs. The front lower control bolt at the axle should now be torque to 120ft lbs.
- 23) Install the drop pitman arm and torque to 185ft lbs, making sure it is aligned in the original position. The draglink should be reinstalled, torque to spec. Pitman arm End torques to 65ft lbs and the Knuckle end torques to 35ft lbs.
- 24) The installation of the Rusty's sway bar disconnects should now begin, follow the instructions supplied. Torque all sway bar bolts to 78ft lbs.
- 25) Locate front brake line relocation brackets (two 3" flat brackets with 3/8 weld stud.) Place the weld stud end of the bracket inside the upper control arm mount of the frame. The stud will come through the inner side of the mount, place 3/8 washers and 3/8 nyloc nuts and slightly tighten the nuts to a point the bracket can slightly move. Connect each brake line to brackets using the supplied 5/16 hardware. The hard metal brake line may have to be straighten to allow for more drop. The 3/8 nuts maybe tightened as well as 5/16 hardware may be tighten.
- 26) The last step of the front installation is to install the front adjustable trac bar. The trac bar mounting location at the frame and axle should be drilled to 1/2. This will allow for the larger bolts supplied. Once mounting points are drilled, the front axle should be centered under the body, to move left or right shift, turning the steering wheel left or right to shift the body over the axle. Mount both ends of the trac bar in place and torque to 80ft lbs both ends. Apply red loctite to the adjustable thread and tighten the jamnut. This is very important step, after the first 300 miles it is important to recheck all bolts, nuts, and jamnuts.

REAR INSTALLATION

- 1) Lift the rear of the vehicle as high as possible and properly secure the front tires to keep the vehicle from moving. Remove the driver and passenger tires. Place the jack-stands on the body to frame support, directly outside of the stock rear lower control arm mounts at the frame. This is an important location

because of an interference with the new long-arms if placed in the wrong location. Once the jack-stands are in place, slightly lower the jack until the frame comes in contact with the jack-stand.

- 2) Remove the rear sway bar links; **do not discard the hardware as it will be reused.**
- 3) Remove the rear shocks; **do not discard the hardware as it will be reused.**
- 4) Lower the jack until the rear springs decompress and are removable. At this point remove the rear coil spring. If springs do not fall out you may have to use a coil spring compressor.
- 5) Remove the stock rear lower control arms; **do not discard the hardware as it will be reused.**
- 6) The lower control arm mount at the frame can now be removed. This should be cut from the frame very delicately to insure that the frame rail is not cut. Rusty's recommends using a plasma cutter or cutting wheel to remove these mounts. Finish with a flap sending wheel to smooth the surface. Prime and paint to prevent rust.
- 7) Locate the HD rear lower long-arm mounts. If you are looking at the driver or passenger side mount the two $\frac{1}{2}$ inch holes will be on the outside of the frame-rail. The open end of the mount will face towards the rear of the vehicle. The bracket should now be placed $9 \frac{1}{2}$ inches toward the rear of the frame split line. Once placed the upper holes as well as the two lower holes in each bracket should be marked circularly to insure the holes are drilled accurately.
- 8) Once all the holes are marked, all circular marked holes should be center punched. Drilling can now begin. The outside of the frame holes should be drilled $\frac{1}{2}$ inch. The inside frame holes should be drilled or cut 1 inch. The bottom frame holes should be drilled $\frac{7}{16}$.
- 9) With the frame holes drilled, the $\frac{7}{16}$ x 1 inch tab bolts should be placed through the 1 inch holes previously drilled and the bolts should protrude through the bottom frame-rail, there is 2 per side.
- 10) The HD long-arm mount should now be placed using the protruding $\frac{7}{16}$ bolts to align the brackets. Place the $\frac{3}{8}$ washers and $\frac{7}{16}$ nyloc nuts to hold the brackets in place and slightly tighten to pull the bracket closer to the bottom of the frame-rail. Insert the 1 inch diameter slugs (2 per side.) From the inside of the frame. Place the $\frac{1}{2}$ x 6 bolts and $\frac{1}{2}$ washers from the outside pushing the bolts through 2 per side.) Having the bolts protruding through the frame, locate the slug retainers and place from the inside of the frame-rail (basically a large "washer" that retains and compress the frame rail evenly) and install the $\frac{1}{2}$ nyloc nuts. The $\frac{7}{16}$ nuts on the bottom or lower end of the brackets can now be tightened. (2 per side)
- 11) The lower long arms can now be placed. The rubber end of the arm will mount at the axle end and the adjustable end will mount at the frame end. The factory fasteners will be used to mount each end of the lower long arm. The arm will bend in toward the center of the vehicle. The arm should be measured from the center of bolt hole to center of bolt hole and set at $33 \frac{15}{16}$ for the 6.5 lift. This length may vary depending on the amount of lift. This length will correct the wheelbase. At this point the frame end can now be torque to 115 lbs. Do not tighten the lower control arm bolt at the axle until the vehicle is set at ride height.

- 12) The coil springs should now be set in place. The use of a coil spring compressor may be needed to complete this step.
- 13) The rear tires (both driver and passenger) should be mounted. Raise the jack until the vehicle is clear of the jack-stands and lower the vehicle to ride height.
- 14) The installation of the rear three link and bracket should now begin. Follow the instructions enclosed with the bracket. Once completed return to step 15.
- 15) The rear long travel shock may now be installed reusing the factory fasteners, torque upper to 80ft lbs and lower bolts to 85ft lbs.
- 16) The rear lower control arm bolts at the axle should now be torque at 120ft lbs.
- 17) The rear extended length sway bar links should now be installed reusing the factory hardware, tighten the upper and lower bolts and nuts. Bar end torque at 40 lbs and axle end 68 lbs.

***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 specs are 7 degree positive castor, 0 camber and the toe should start at 0.

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 300 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. Thank you for choosing Rusty's Off Road Products.

For questions or suggestions, contact our Tech Department 256-442-0607



