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INSTALLATION INSTRUCTIONS FOR:
RE7353 2 DOOR JK WRANGLER
RE7363 4 DOOR JK WRANGLER
3.5" EXTREME DUTY LONG ARM SYSTEM

Congratulations on purchasing the ultimate suspension package available for the Jeep JK!

Application Notes:

1) The JK long arm system is a complete suspension system designed to replace the stock short arm configuration.
2) Installation of the system will require the removal of the factory rear upper and lower control arm brackets. The front lower control arm brackets can remain on the frame but we suggest that they are removed for a better visual appearance.
3) This kit **does** require the removal of the fuel tank for installation. Special tools are **not** required to remove the fuel tank.
4) 2012 JK's require modifications to the exhaust system (RE4531 sold separately): it is recommended that the exhaust, from the transmission cross member back is removed to better access the frame rail during rear bracket installation.
5) The transmission skid plate must be removed and will not be reinstalled due to drive shaft clearance.
6) It is absolutely necessary that a front and rear CV drive shaft be used in conjunction with this suspension system.
7) Shock absorbers are sold separately from the suspension system. It is highly critical that the correct length shock be used with the system to prevent excessive axle droop. Incorrect length shocks will result in loss of coil springs and/or drive shaft damage. Rubicon Express Long arm systems are designed around Mono-Tube shocks, using a twin tube shock may cause interference issues and damage to the shock or suspension. Rubicon Express always recommends using Rubicon Mono-Tube Shock Absorbers for proper fitment and vehicle specific valving.

Safety Warning:
Suspension systems or components that enhance the off-road performance of your vehicle may cause it to handle differently, on and off-road, than it did from the factory. Care must be taken to prevent loss of control or vehicle rollover during sudden maneuvers. Failure to drive the vehicle safely may result in serious injury or death to driver and passengers. We recommend you always wear your seat belt, drive safely and avoid quick turns and other sudden maneuvers. Constant maintenance is required to keep your vehicle safe. Thoroughly inspect your vehicle before and after every off-road use.

Installation Warning:
All procedures described in these instructions were performed while the vehicle was properly supported on a vehicle lift. Use caution when supporting the vehicle as removing and installing parts will change the vehicle center weight. Rubicon Express recommends that chassis support jacks are always used at the front and rear of the vehicle during the installation of a suspension system.
We recommend that certified technicians perform the installations of our products. Attempts to install these products without knowledge or experience may jeopardize the safety of the vehicle. These instructions only cover the installation of our products and may not include factory procedures for disassembly and reassembly of factory components. Read instructions from start to finish and be sure all parts are present before disassembling the vehicle. Included instructions are guidelines only for recommended procedures and in no way are meant to be definitive. Installer is responsible to insure a safe and controllable vehicle after performing modifications. Do not perform test drives on public roads with partially completed installations. Always double and triple check your work before use.

ESP WARNING NOTE: The new 2007 Jeep Wrangler JK is equipped an Electric Stability Program (ESP). This system is designed to help control the vehicle in times of uncertain traction conditions and roll stability. Due to the complex nature of this program Rubicon Express strongly suggest that after lifting the vehicle it is returned to the dealer for a computer "flash" to re address tire size and proper ESP control settings. Rubicon Express also recommends that you become familiar with the ESP controls and how the different level of settings can help you to keep better control of your vehicle.

KIT CONTENTS

RE1370 (2 door JK front 3.5" coil springs) **OR** RE1371 (4 door JK Front 3.5" Coil Springs)
RE1375 (2 door JK Rear 3.5" coil springs) **OR** RE1376 (4 door JK Rear 3.5" Coil Springs)
RE1157 Sway Bar End Links
RE1143 Gen2 Sway Bar Disconnects
RE1380 2" Front lower bump stops
RE1387 Rear bump stop pad
RE1530 Front SS brake line set
RE1540 Rear SS brake line set
RE1607 Rear Lower Track Bar Bracket
RE1673 Front Adjustable Track Bar
RE4070 Extreme Duty Control Arm Front Lower Left
RE4080 Extreme Duty Control Arm Front Lower Right
RE4075 Extreme Duty Control Arm Front Upper, pair
RE4085 Extreme Duty Control Arm Rear Lower Left
RE4095 Extreme Duty Control Arm Rear Lower Right
RE4090 Extreme Duty Control Arm Rear Upper, pair
RE4521 3 Piece Extreme Duty front Cross Member
RE4525 Rear Control Arm Bracket kit

TYPICAL TOOLS REQUIRED

1. Basic mechanical hand tools
2. 1″ & 1.25″ bi-metal hole saws
3. ½″ drill motor & drill bits
4. angle drill (for tight locations)
5. angle grinder
6. welder
7. plasma cutter, or reciprocating saw w/metal cutting blades, or cutting wheels for angle or die grinder (to remove control arm mounts)

PRE INSTALLATION NOTE:

Control arm bushings are pre-lubed during initial assembly at Rubicon Express. As general maintenance the control arm bushings should be lubed with a silicone base grease as needed. Silicone base grease can be purchased at your local auto parts store.

The Super-flex joints are also pre-lubed during initial assembly at Rubicon Express. As general maintenance the super-flex joints should be greased as needed and the outer spanner nut tightened on the joint. Any type of grease will work on the Super-flex joints. Spanner nut tools are available through Rubicon Express (RE3771 & RE3772) if needed for tightening of the joints.

INSTALLATION OVERVIEW

The installation process can be broken down into the following tasks:

1. Vehicle preparation for suspension installation
2. Installation of 3 piece cross member assembly
3. Installation of front control arms, track bar, coil springs and bump stops, shocks, and brake lines, Sway bar discos
4. Installation of rear control arm brackets
5. Installation of rear control arms, track bar bracket, bump stops, coil springs, shocks, brake lines, and sway bar links
6. Final detailing and adjustments.

Step 1 – Vehicle preparation

Prepare the vehicle for the suspension installation by removing the following parts from the vehicle. The transfer case skid plate (4 Door models), fuel tank and exhaust will be re-installed at the end of the installation.

1. Automatic transmission skid plate (if equipped)
2. Transfer case skid plate (not re-installed on 4 door models)
3. Front and rear drive shafts
4. Fuel tank.
5. Exhaust, from the collector at the cross member to the muffler

NOTE: 2 Door JK's will also require that the exhaust hanger just behind the head pipe to tail pipe connection and the nut plate welded into the bottom of the frame on the drivers side for the t-case skid be removed for proper fitment of the drivers side rear control arm brackets.

FUEL TANK REMOVALL: The fuel tank removal should be done when there is less than 1/8 tank of fuel in the tank to avoid excess fuel sloshing weight Special tools are **not** required for the removal of the fuel tank. All plastic clips should come apart by squeezing the outer portion of the clip and gently pulling apart. The following connections need to be removed: supply and return at the front of the tank, large plastic line at the charcoal canister, vent hose at fuel tank, and the fuel filler hose. DO NOT use excessive force, damage to the fittings or seals may result.. Before lowering the tank back out the bolt from the right rear lower control arm to avoid dragging the side of the tank on the end of the bolt. Do not completely remove the bolt at this time.
Caution: With the fuel tank removed, there may be fuel vapors present. Use good judgment when drilling, cutting, and welding near the fuel system components.

Step 2 – Three Piece cross member installation.

A. Prepare the new cross member, RE4521, by loosely installing the supplied ½″ bolts thru all 3 pieces before trying to install into the vehicle. The shorter of the two ½″ bolts install from the front to the back and the longer of the two from the back to the front. Install the 4, 3/8″ flat head bolts into the bottom of the cross member and tighten, then tighten the prior installed ½″ bolts and torque to 80 ft/lbs. Installing the hardware in this fashion will allow the removal of the center cross member section without removal of the front lower control arms should transmission service become necessary. **(photo 1)**
B. Support the transmission/transfer case assembly at the rear output shaft.
C. Remove the 3 transmission mount nuts and gently lift the transmission/transfer case assembly to relive the weight off the factory cross member. Remove the 4 cross member thru bolts and remove the factory cross member. **(photo 2)**
D. Install the left and right cross member brace's using the supplied ½″ bolt, washer, and nut strip. The nut strip is placed thru the square hole just forward of the cross member, install hardware and loosely tighten. **(Photo 3)**

E. Install the new Rubicon Express cross member into the factory mounts with the control arm pockets facing forward. Reinstall the 4 factory cross member bolts thru the factory mounts and brace, tighten to 65 ft/lbs. Once tight, torque the forward cross member brace bolt to 65 ft/lbs

F. Lower the transmission, install and tighten the transmission mount nuts. Re-check that all new or reused hardware has been properly tightened.

Photo # 1

Photo #2

Photo#3

Step 3 – Front arm and component installation

NOTE: All of the dimensions listed for set up of the Rubicon Express control arms are base line measurements for set up only. Due to differences in individual vehicle tolerances each vehicle will need to be fine tuned for its particular lift height and tire size. Final adjustments should be checked with the shocks installed and coil springs removed and the suspension cycled from full compression to full droop including full articulation to the left and right side. Any areas of contact should be addressed at this point by adjusting the control arms.

A. Prepare for the front end installation by removing the following items, Shocks, sway bar links, and track bar.

B. Remove the brake line attaching screw at the frame, unclip the abs wires from there attaching points for additional length, and lower the breather hose clip on the shock tower approximately 6″.

Front arm Installation

A. Prepare the new Rubicon Express front lower long arms by pre setting the length to 36 3/4″ center to center

B. Remove the passengers side factory upper and lower control arms.

NOTE: It will be necessary to cut the upper control arm bolt off at the frame end to remove the passenger upper front arm. This is due to the bolt being installed from the inside out prior to the exhaust installation from the factory. Alternatively the head pipe assembly can be removed to pull the bolt out of the frame bracket. If choosing to unbolt the head pipe be sure to disconnect all O2 sensors before removal**. (photo 4)**

NOTE: To identify front left and right lower control arms lay each arm side by side on the ground as they would be installed in the vehicle. At this point, both upper control arm pockets should be leaning toward each other or the center of the car. The upper front arms are symmetrical and can be used on either the left or right side. **(photo 6) Passenger side shown.**

C. Using the supplied 9/16″ x 4.5″ bolt from the Rubicon Express front arm kit, install the passenger side lower arm into the cross member mount. **(photo 5)** Next install the bushing end of the arm into the stock lower control arm location on the axle housing using the factory hardware.

D. Set the upper arms to 15 1/8″ center to center. With the supplied ½″ bolt install the rubber bushing end into the pocket on the lower control arm and the fork of the arm over the bushing mount on the axle. Use the factory hardware thru the fork end of the arm. **(photo 6)** If it is necessary to have the upper arm shorter for more castor adjustment the male portion of the threads on the control arm can be cut down the necessary amount. Be sure that there is always 1″ of thread engagement between the coupler and control arm.

NOTE: The rubber coupler is welded at an offset angle. Be sure when installing the arm that the bushing is in a neutral position. If the arm does not drop over the upper mount remove the ½″ bolt and rotate the coupler 180 degrees.

E. Repeat steps A – D on the drivers side

F. Tighten the lower control arm bolts at the cross member only, all other rubber attaching points should remain loose until the vehicle is under its own weight to prevent bushing preload.

Photo # 4

Photo # 5

Photo # 6

Photo # 7

Front bump stops and coil springs

A. Remove stock coils

B. Place the front bump stop on the center of the lower spring mount on the axle tube. Insert a center punch thru the center and mark the hole to be drilled. Drill the marked hole to 5/16″, use the supplied self-tapping bolt to secure the bump stop to the lower spring cup.

C. Raise the small diameter end of the coil into the upper spring bucket and over the lower spring cup and bump stop. Then raise the axle to seat the upper mount and rotate the coil to properly index in the lower mounts.

NOTE: If the axle cannot be dropped far enough from the frame due to brake line or ABS wire length to install the coil springs remove the bump stop and insert it into the coil. Then slide the coil over the stock axle mount and re-install the bump stop bolts. **(photo 7)**

Front Track bar

A. Set the track bar at an initial setting of 32 7/8″.

B. Using the factory track bar bolt, install the bushing end into the axle mount. Attach the heim joint end of the track bar to the factory frame mount using the supplied misalignment spacers and the factory bolt. The bend on the track bar will be with the elbow up to clear the front differential cover.

NOTE: Once the suspension is completely installed and the vehicle on the ground it may be necessary to adjust the track bar for proper axle center.

Front brake lines, shocks, and sway bar links/disconnects

A. Remove and replace the front brake lines with the included stainless steel brake lines. The lines are left and right specific, when installed the 90 degree leader from the caliper should be leaning away from the tire. **(photo 12)**

B. Install shock absorbers.

NOTE: Shock absorbers are sold separately from the suspension system. It is highly critical that the correct length shock be used with the system to prevent excessive axle droop. Incorrect length shocks will result in loss of coil springs and/or drive shaft damage. Rubicon Express Long arm systems are designed around Mono-Tube shocks, using a twin tube shock may cause interference issues and damage to the shock or suspension. Rubicon Express always recommends using Rubicon Mono-Tube Shock Absorbers for proper fitment and vehicle specific valving.

C. Install sway bar links. See supplied instruction sheet for the front sway bar link / disconnect information (RE1143). This kit contains all parts necessary to be used on a Jeep Rubicon model with factory electronic disconnect as well as X and Sahara Jeep models.

Photo # 12

Photo # 13

Step 4 – Rear control arm bracket installation

NOTE: All of the dimensions listed for set up of the Rubicon Express control arms are base line measurements for set up only. Due to differences in individual vehicle tolerances each vehicle will need to be fine tuned for its particular lift height and tire size. Final adjustments should be checked with the shocks installed and coil springs removed and the suspension cycled from full compression to full droop including full articulation to the left and right side. Any areas of contact should be addressed at this point by adjusting the control arms.

NOTES:

1. If the vehicle is equipped with factory rocker skids, remove the rockers before going forward with the control arm bracket installation.
2. Two Door models will require the forward exhaust hanger and t-case skid mount nut be cut off of the frame and sanded smooth for proper bracket clearance.
3. The rear control arm brackets should be installed before any of the factory rear suspension components come off of the vehicle. This will keep the axle in place while working around the rear section of the frame.
4. After the Rubicon Express rear control arm brackets are installed the factory upper and lower rear control arm brackets must be removed.
5. The front edge of the rear body mount must be trimmed 2″ up for additional control arm clearance. **(photo)**

CAUTION: During the next few steps we recommend constantly double checking the marked hole locations, pilot drill locations and final drill locations. Doing so will result in a better fit without the need to ream holes for proper installation.

A. First, separate the four brackets (2 per side) that make up the left and right bracket sets. The brackets in the photo are shown as left and right assemblies with the top of the photo being the front of the vehicle. **(Photo 13)**

B. Using the driver's side inner reinforcement plate, locate the indexing oval on the inside of the driver frame rail. Mark the 2 countersunk holes at the rear of the bracket and 3 square holes. **(photo 14) Drivers side shown**

C. Using the same driver's side inner reinforcement plate, repeat step B on the passenger outside frame rail with the addition of marking the 3/16″ hole near the bottom center of the plate. **(photo 15) Passenger side shown**

D. Using the passenger side inner reinforcement plate repeat steps B & C on the inside passenger and outside driver frame rails.

E. Using a 1.5″ hole saw, cut the relief hole for the outer control arm plate to sit flush against the outside frame rail. **(photo 16)**

F. Locate the outer nut plate over the outside frame rail and double check the prior marked three square and two tapered holes. If the alignment is good drill the remainder of the marked holes to 3/16″

G. On the inside of the frame us a 1″ hole saw to open the two rear most vertically marked and pilot drilled holes for the ½″ I.D. threaded weld spacers. Drill all other holes to ½″ thru both frame rails.

H. Place the outer nut plate on the outside frame rail. Using a spare ½″ bolt, partially engage the threaded spacers on the bolt and insert thru the inside of the frame. Insert the ½″ tapered head bolt thru the nut plate and into the spacer from the outside frame rail, tighten to secure and remove the spare bolt from the spacer. Weld each spacer to the inside of the frame rail, sand the frame smooth and paint all raw steel. **(Photo 17)**

NOTE: When welding the spacers to the inside frame rail it may be helpful to leave the spare bolt in the spacer to prevent the weld berries from entering and damaging the threaded spacer.

I. Place the inner reinforcement plate on the inside frame rail and insert the three ½″ carriage bolts thru all three brackets. Install the two ½″ tapered head bolts from the inside to the threaded spacers and tighten. **(photo 18) Passenger inside**

J. Using washers and nylock nuts, tighten the three carriage and four tapered head bolts to 55 ft/lbs. **(photo 19)**

K. Mark the two tapered holes on the bottom of the frame rail and drill to ½″. Using a piece of mechanics wire, insert the nut strip thru the existing hole in the outside frame rail and pull into location. **(Photo 20) Drivers side**

L. Install one of the tapered head bolts into the open hole, pull the wire from the nut strip and install the second tapered head bolt. Torque to 55 ft/lbs. **(photo 21)**

Photo # 14

Photo # 15

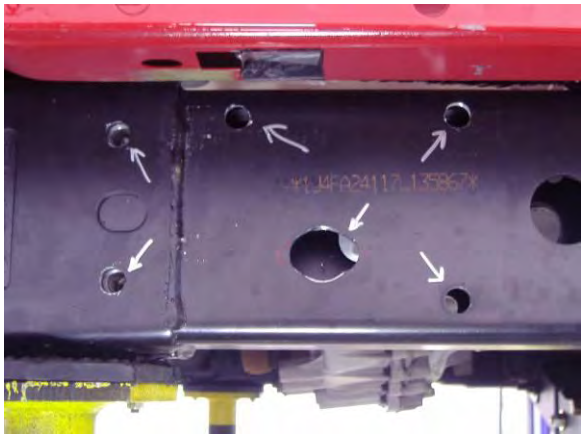


Photo # 16

Photo # 17

Photo #18

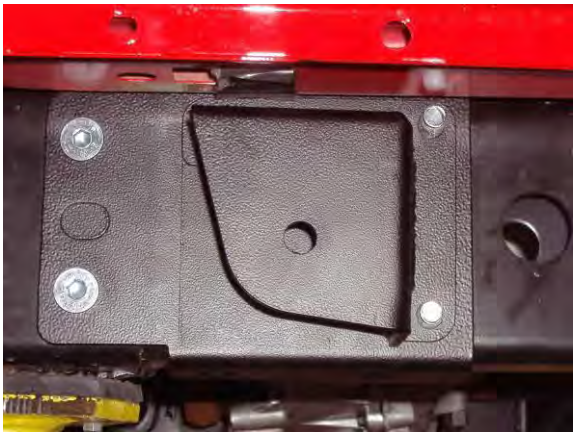


Photo # 19

Photo # 20

Photo # 21

Step 5 – Rear arm and component installation

Rear arms

A. Prepare the rear of the vehicle for control arm and component installation by removing the following items: shocks, sway bar links, coil springs, track bar, brake line brackets at the frame, e-brake cables at the body and the driver's side upper and lower control arms.

B. Pre set the lower rear long arms to 41 3/4″ center to center and install the coupler end into the frame brackets with the supplied 9/16″ bolt, flat and lock washers. Attach the rubber bushing end into the lower control arm mount on the axle housing using the factory hardware. Do not tighten the rubber bushing until the vehicle is on the ground to avoid bushing preload.

C. Set the upper arm to an initial setting of 17″ center to center, install the coupler end at the mounting point on the lower arm with the supplied ½″ hardware and the other end at the upper mount on the axle using the factory hardware. **(photo 22)**

D. Repeat steps A – C on the passenger side.

E. The upper arms may need to be to be readjusted after the installation is complete for proper pinion angle.

Photo # 22

Photo # 23

Rear track bar bracket and factory track bar (photo 23)

NOTE: With the installation of the rear track bar bracket you may notice that at ride height, the axle is not completely centered under the chassis; this is intentional. The reason for such offset at ride height is to allow for proper tire to frame, and/or control arm clearance. Centering the axle under the chassis at ride height may cause the tire to contact the frame and/or control arm which may result in tire damage or failure!

A. With the axle properly supported remove the driver's side rear lower control arm from the frame and axle.

B. Place the new track bar bracket over the factory track bar mounting point on the axle while aligning the two 3/8" holes on the back side of the lower control arm bracket. Loosely install the two 3/8" bolts, washers, and nuts thru the lower control arm bracket and track bar bracket.

C. Install the 9/16x3.5" bolt thru the factory track bar location being sure to use the supplied spacer to keep the factory bracket from collapsing. Tighten the two 3/8" bolts to 35 ft/lbs then tighten the 9/16" bolt to 90 ft/lbs.

D. Using the supplied 9/16x3" install the factory track bar into the new bracket. Install the nut on the back side near the coil spring but do not tighten at this time.

Rear Bump stops, coil springs and sway bar links

A. Remove stock coils.

B. Install the rear bump stop pads (RE1387) to the top of the axle tube using the supplied 3/8" hardware.

C. Using the factory spring isolator place the rear coils up into the upper mount and over the lower mount. Raise the axle into place just enough to keep the coil spring from falling out.

D. Install the supplied links (RE1157) in the factory location.

Rear brake lines and shocks

A. Remove and replace the rear brake lines with the included stainless steel brake lines. The lines are left and right specific and when installed the 90 degree leader from the caliper should be leaning away from the tire. **(photo 12)**

B. Install shock absorbers.

NOTE: Shock absorbers are sold separately from the suspension system. It is highly critical the correct length shock be used with the system to prevent excessive axle droop. Incorrect length shocks will result in loss of coil springs and/or drive shaft damage. Rubicon Express Long arm systems are designed around Mono-Tube shocks, using a twin tube shock may cause interference issues and damage to the shock or suspension. Rubicon Express always recommends using Rubicon Mono-Tube Shock Absorbers for proper fitment and vehicle specific valving.

Fuel tank and exhaust

A. Reinstall the fuel tank in the reverse order of removal. Be sure that the hoses do not get bound on any frame rails or cross members while raising the tank into position. Connect the wire harness and hose on the top of the tank before completely raising the tank. **(photo 24)**

B. Route the e-brake cables below the fuel filler and breather hose so during suspension cycling the cables do not pull on the fuel hoses. **(photo 25)**

C. Re-hang the factory exhaust system and tighten all clamps.

NOTE: It may be necessary that the exhaust system is loosened from the exhaust manifold connection. Doing so will allow for minor adjustments to the catalytic head pipe for increased clearance around the cross member. Be sure to tighten all connections after adjustments to the exhaust have been made.

Photo # 24

Photo # 25

Step 6 - Final details, adjustments.

A. Install wheels, verify all coils are properly seated, shocks installed, and lower the vehicle.

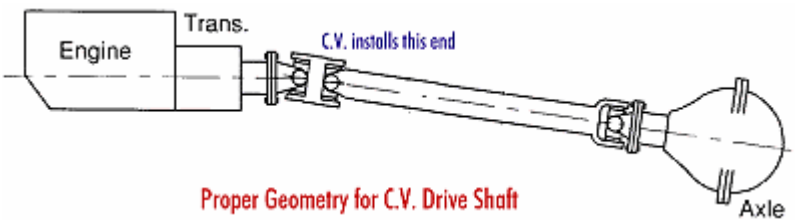
B. Check the front track bar for axle center, adjust as necessary.

C. Tighten all control arm and track bar rubber bushing hardware. Use factory specs where factory bolts are used.

D. Properly bleed brake lines per factory manual and check for leaks and a firm pedal.

E. Manually disable the factory ESP system before the first test drive. (Refer to owners manual for the disable procedure) Note the location of steering wheel while driving in a straight line and any driveline vibrations.

F. Adjust upper control arms if necessary for proper front castor angle and rear pinion angle. **NOTE:** Shown below is a diagram of proper pinion angle for a CV style drive shaft (see Troubleshooting as well).



G. Retighten all bolts after 50 miles and again after every off road excursion.
H. After all adjustments have been made, Rubicon Express recommends that your local Jeep dealership "flash" the computer to adjust for proper tire size and ESP control settings. .

TROUBLESHOOTING

Rear driveline:
Acceleration vibration: Caused by the pinion being too high in relation to the transfer case output shaft. Adjust upper control arm to lower pinion accordingly.

Deceleration vibration: Caused by the pinion being too low in relation to the transfer case output shaft. Adjust upper control arm to raise pinion accordingly.

High speed wobble:
It is a condition where front tires will shimmy after hitting a bump. Avoid bias ply tires and wheels with excessive offset. Check for worn or loose parts. In most cases a reduction of positive castor will eliminate this condition.