



RUBICON MANUFACTURING INC. 3290 MONIER CIR., RANCHO CORDOVA, CA. 95742 916-473-4600

## INSTALLATION INSTRUCTIONS FOR: RE5525 4.5" CJ EXTREME DUTY LEAF SPRING LIFT KIT

### 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 seatbelt, 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:

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.

## KIT CONTENTS:

- 1 RE1170 Sway bar disconnect kit
- 2 RE1450 Front 5-leaf springs
- 2 RE1451 Rear 6-leaf springs
- 1 RE1465 2\* Pair of Aluminum shims
- 1 RE1513 Rear brake line
- 1 RE1550 Front brake lines '82-86 (RE1552 '77-81)
- 4 RE2050 Spring plates w/ shock mount stud
- 2 RE2051 Sway bar disconnect mount stud
- 1 RE2140 Transfer case drop kit
- 1 RE2435 Front u-bolt kit
- 1 RE2440 Rear u-bolt kit
- 1 RE2501 Pitman arm p/s (RE2505 m/s)
- 1 RE2785 Front CJ conversion shackle kit
- 1 RE2786 Rear shackle kit
- 1 RE2790 Main eye greasable bushing kit

## REQUIRED TOOLS:

Basic mechanics' tools  
Pitman arm puller  
Tie rod removal tool  
Floor jack  
Jack stands (2 pair)

## INSTALLATION:

**Note:** Rear driveline modifications may be required with this lift (see fixed yoke vibrations in "trouble shooting" before continuing).

- 1 Block rear wheels of vehicle.
  - 2 Raise front of vehicle and support frame with jack stands.
  - 3 Remove front wheels.
  - 4 Remove front shocks.
  - 5 Support axle with jack stands.
  - 6 Remove u-bolts & spring plates.
  - 7 Remove leaf springs.
  - 8 Remove stock shackles and bushings from frame.
  - 9 Remove brake hoses and replace with new stainless lines.
  - 10 Lightly grease front shackle and main spring eye bushings. Small shackle bushings go to the frame end and do not use a steel sleeve. Main spring eyes use the steel sleeves (9/16" id one at double wrap end). Front conversion shackles have bent side plates to accommodate the new 2.5" wide leaf springs and include a cross bar and bolt (see photo 1).
  - 11 Install front shackles and springs into vehicle with double military wrapped end at the frame (see photo 2). The center pins may come with spacers installed for use w/ floating type degree shims (not included). Be sure pins do not bottom out on axle tube whether using shims or not- remove spacers as required. DO NOT fully tighten the spring eye or shackle bolts at this time. Bolts will be tightened to spec once the vehicle is on the ground (step 14 & 17).
  - 12 (See photo 3 for typical installation of steps 12-14) install new u-bolts and spring plates with shock and disconnect studs. Torque u-bolts to 65-80 ft/lbs, or u-bolt specs if supplied.
  - 13 Install longer front shocks.
  - 14 Install front tires and Lower vehicle to ground.
  - 15 Install front sway bar disconnects.
  - 16 Torque spring eye bolts. 1/2" bolts 65-80: ft/lbs. 9/16" bolts: 75-90 ft/lbs.
  - 17 Tighten top shackle bolts (don't over torque this will crush bushing).
  - 18 Use tie rod removal tool to remove drag link at pitman arm. Use puller to remove pitman arm. Install drop pitman arm and drag link (see photo 4).
- REAR AXLE-**
- 19 Block front wheels of vehicle.
  - 20 Raise rear of vehicle and support frame with jack stands.
  - 21 Remove rear wheels.
  - 22 Support rear axle with jack stands.
  - 23 Remove shocks.

- 24 Remove u-bolts & spring plates.
- 25 Remove stock rear leaf springs.
- 26 Remove factory brake hose and replace with new stainless line.
- 27 Lightly grease and install rear shackle and main spring eye bushings. Small shackle bushings go to the frame and do not use a steel sleeve. Main spring eyes use the steel sleeves (9/16" id one at double wrap end). Rear shackles have straight side plates and include a cross bar and bolt (see photo 5).
- 28 Install rear shackles and springs into vehicle with double wrap end at the frame (see photo 6). The center pins may come with spacers installed for use w/ floating type degree shims. Be sure pins do not bottom out on axle tube whether using shims or not- remove spacers as required DO NOT fully tighten the spring eye or shackle bolts at this time. Bolts will be tightened to spec once the vehicle is on the ground If using, insert 2.5" wide shim between spring and spring pad on axle. Thicker end of shim should be at front of vehicle (pinion points up).
- 29 (See photo 7 for typical installation of steps 30-31) install new u-bolts and spring plates with shock studs. Torque u-bolts to 65-80 ft/lbs, or u-bolt specs if supplied.
- 30 Install longer rear shocks.
- 31 Torque spring eye bolts. 1/2": 65-80 ft/lbs. 9/16": 75-90 ft/lbs.
- 32 If using, install transfer case drop by supporting one side of transfer case with floor jack. Remove hardware from one side of cross member. Install spacers and new hardware. Tighten to 55 ft/lbs. Repeat on opposite side.
- 33 Lower axle so that it is at full droop. Rotate the rear drive shaft to insure the yokes do not bind. If binding occurs and shims are properly installed, a CV yoke and CV drive shaft are likely required.
- 34 Lower vehicle and tighten top shackle bolts (do not over torque this will crush bushing).
- 35 Bleed brake system. Inspect all brake hoses and lines for leaks, kinks or damage.
- 36 Grease all zerk fittings on new bushings.
- 37 Lengthen drag link to center steering wheel.
- 38 Recheck all bolts - use factory torque specs if not given. Recheck after 50 miles and then after every off road excursion.



< FRAME END (MILITARY WRAP) - PHOTO 2 - SHACKLE END >



PHOTO 3



PHOTO 4



PHOTO 1

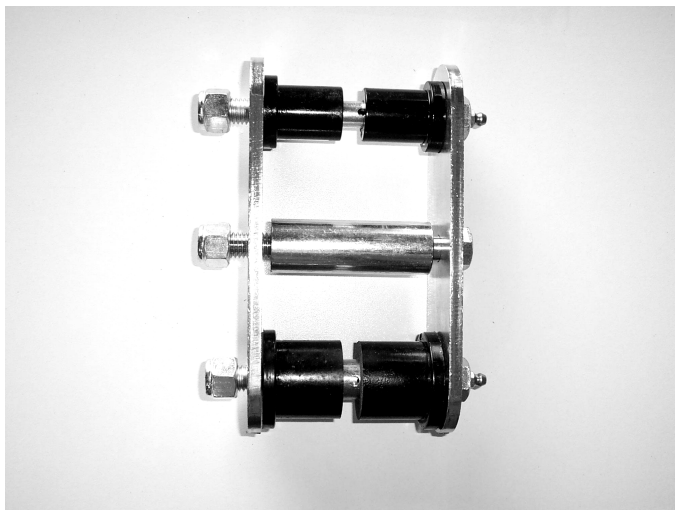


PHOTO 5

deceleration vibration troubleshooting above). Note that transfer case drop kits can usually be omitted when using a CV drive shaft.

#### **BUMP STEER:**

Caused by a steep drag link angle on CJ's. Installing a drop pitman arm may help.



< SHACKLE END – PHOTO 6 – FRAME END (MILITARY WRAP) >

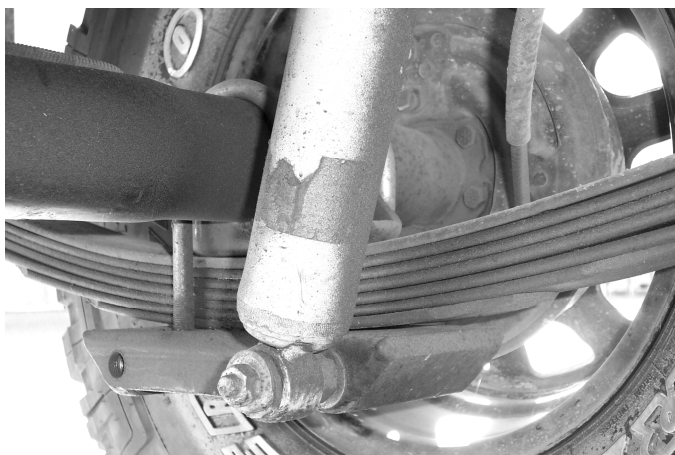


PHOTO 7

### **LIFT KIT TROUBLESHOOTING**

#### **REAR DRIVELINE:**

Acceleration vibration: Caused by the pinion being too high in relation to the transfer case output shaft. On leaf sprung vehicles, install axle shims to lower pinion accordingly.

Deceleration vibration: Caused by the pinion being too low in relation to the transfer case output shaft. On leaf sprung vehicles, install axle shims to raise pinion accordingly.

Fixed yoke vibration: Caused by excessive angle at the rear transfer case yoke. Very common on vehicles with 2" or more of lift. Can typically be cured with a transfer case drop kit and shims provided (pinion adjustment may also be required- see acceleration and deceleration vibration troubleshooting above). If this does not cure it, a CV yoke and CV drive shaft may be require. Adjust pinion so it is 2 degrees below parallel with CV drive shaft (see acceleration and