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

INSTALLATION INSTRUCTIONS FOR:
RE8000 4.5" ZJ SUPER-FLEX SUSPENSION SYSTEM

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:

RE1150	Rear sway bar end links
RE1141	Gen2 sway bar disconnects
RE1345	Front coil springs
RE1350	Rear coil springs
RE1380	Front bump stop extensions
RE1390	Rear bump stop extension
RE1550	Front brake lines ss.
RE1600	Front adjustable track bar
RE1604	Rear track bar bracket
RE2120	Transfer case drop kit
RE3700	Pair, Lower front fixed control arms
RE3715	Pair, Lower Adjustable rear control arms
RE3780	Pair, Upper front Adjustable control arms
RE3783	Pair, Upper rear Adjustable control arms

REQUIRED TOOLS:

Basic mechanics' hand tools
Jack stands and floor jack
Spring compressors
Drill motor and drill bits (including 5/8")

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:

Note: Lift heights over 3.5" usually require modifications to the rear and/or front drive shaft – see slip yoke vibration in troubleshooting before proceeding.

1. Raise vehicle and support with stands.
2. Remove wheels.
3. Remove front shocks.
4. Remove front sway bar end links.
5. Remove front spring retainer clamps.
6. Disconnect front track bar. Disconnecting steering at pitman arm makes axle droop out farther.
7. Remove front springs. Spring compressors may be helpful.
8. Support the front axle with jack stands.
9. Remove all four factory control arms.
10. Remove factory brake lines and replace with supplied lines. Some require positioning the block and line vertically at the caliper. Watch line routing, use angle brackets and e-clips.
11. Drill 5/16" hole in center of lower spring pads.
12. Use self-tapping bolt through bump stop extension spacer to cut threads in lower spring pad. Remove bolt and spacer, it will be installed with the spring.
13. If so equipped, use factory eccentric hardware at front axle lower arm mount. If not, use the supplied bolt.
14. Install the lower front control arms with the rubber bushing at the uni-body. Use the factory bolt and nut at the uni-body mount (don't fully tighten until vehicle is back on the ground). The super-flex joint will be installed at axle with offset tube being mounted as low as possible (zerk on top - see photo 1).
15. Install the new upper front adjustable control arms using supplied hardware at axle end and factory bolt at frame end (don't fully tighten until vehicle is back on the ground). Set both control arms to an initial length of 15 3/8" center to center. Further adjustment may be needed at time of alignment for caster angle.
16. The front springs are the longer ones. Install the front springs with the 2" bump stop extension inside of the coil. Coil spring compressors may be useful. Once the spring is in place, thread the

bolt into the lower spring pad (ref. step #12). Rotate the coil to index the spring with lower coil cup.

17. Install the spring retainer clamp removed in step #5.
18. Install longer front shocks. Bar pins may need to be put through the bottom shock eyes (use light grease).
19. Install adjustable front track bar per instructions supplied with track bar. Make final adjustment when weight is on vehicle and axle is centered.
20. Install sway bar quick disconnects per instructions supplied with disconnects (see photo 2 for typical installation).

-REAR AXLE-

21. Remove the rear shocks.
22. Remove the rear sway bar end links.
23. Support the rear axle.
24. Disconnect rear track bar at axle.
25. Remove all four factory control arms.
26. Remove the rear springs.
27. Remove the plastic dust shield that covers the bolt securing the rear track bar to the mount on the axle housing and discard.
28. Remove the Torx head bolt (t55) and disconnect axle end of track bar. If not done previously
29. Install track bar bracket using the supplied ½" bolt and spacer (the spacer goes in the location vacated by the track bar to prevent the bracket from deforming when the bolt is tightened - see photo 3 for similar installation).
30. With the track bar bracket in place, drill two 5/16" holes in the axle mount where the plastic dust shield was previously located, one on top and one on angled surface.
31. Install the 5/16" hardware in the holes drilled in step #30. If required, use supplied horseshoe shim to take up space between bracket and axle mount at top 5/16" bolt.
32. Install the track bar in the track bar bracket using the Torx bolt removed in step #28. It may be easier to do this later with weight on the vehicle.
33. Set lower control arm length to 17.5" for 4.5" lift. Install the lower control arms with the rubber bushing at the uni-body and super flex end at the axle. The offset tube should be mounted as low as possible (zerk on top - see photo 4). Use the factory hardware at the uni-body and supplied bolt at the axle mount (don't fully tighten until vehicle is back on the ground).
34. Set upper control arm length 3/8" longer than stock for a good starting point (see troubleshooting for drive shaft vibration/pinion angle adjustment). Install the upper control arms using the factory hardware (don't fully tighten until vehicle is back on the ground). Super flex end should be at axle with zerk on top (see photo 5).
35. Remove the rubber insert from the rear bump stop. Remove the bump stop cup. Place the spacer between the bump stop cup and the frame member of the uni-body using the supplied longer metric hardware (see photo 6). Reinstall rubber bump stop.
36. Install springs. Spring compressors may be helpful.
37. Install replacement sway bar end links.
38. Install longer rear shocks.
39. If installing RE2120 transfer case drop kit (see slip yoke vibration in troubleshooting) install it now. Support cross member with floor jack. The cross member is factory mounted with two studs and two bolts. The studs will have to be removed with a stud remover or by double nutting them and backing them out. One side at a time, lower the cross member just enough to insert the spacers at each bolthole and install bolts and washers.
40. Install all tires.
41. Lower vehicle to ground and adjust front track bar to center front axle per instructions supplied with track bar.
42. Thoroughly bleed brake lines and check for leaks.
43. Double-check all nuts and bolts to factory torque specs.
44. Test drive and note location of steering wheel. Adjust drag link to center steering wheel.
45. Align vehicle as soon as practical. A good rule of thumb is minimum factory caster and maximum factory toe-in.
46. Recheck all bolts after 50 miles and again after every off road excursion.

< FRAME END (RUBBER) - PHOTO 1 –AXLE END (ZERK ON TOP) >

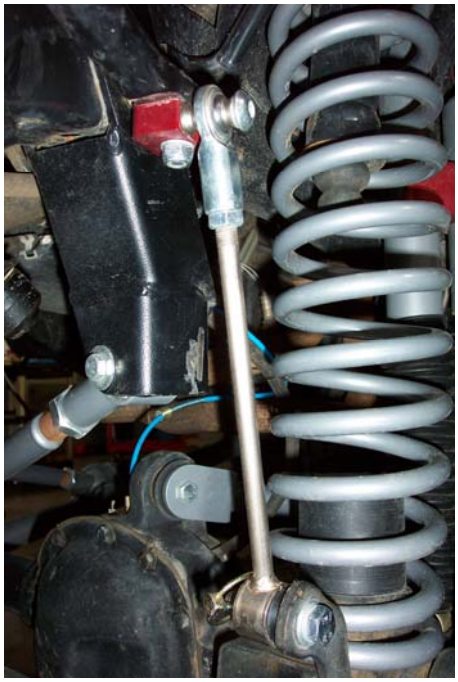

PHOTO 2

PHOTO 3

< UNI-BODY END – PHOTO 4 – AXLE END (ZERK ON TOP) >

< UNI-BODY END) – PHOTO 5 - AXLE END (ZERK ON TOP) >

PHOTO 6

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.

Slip yoke vibration: Caused by excessive angle on the transfer case slip yoke. Very common on vehicles with 2" or more of lift. This can sometimes be cured on 4.5" lifts with NP231 or NP242 transfer cases with the included transfer case drop kit. Note that pinion adjustment may also be required - see acceleration and deceleration vibration troubleshooting above. For best performance on NP231 or NP242 t-cases, install a slip yoke eliminator (SYE) kit and rear CV drive shaft. For best performance on NP249 t-cases, install new yokes and a standard two ujoint front drive shaft, and an SYE kit and rear CV drive shaft. Adjust rear pinion so it is 2 degrees below parallel with CV drive shaft (see acceleration and deceleration vibration troubleshooting above). *A transfer case drop kit can usually be omitted with these drive shaft changes.*

High speed wobble:
This is fairly common with y-type steering on lifted ZJ's. 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. A good rule of thumb is minimum factory caster and maximum factory toe in. Note that lift heights increased with coil spacers (or taller coils) may exhibit wobble that cannot be corrected with alignment.

Bump steer:
Caused by improper relationship of drag link and track bar. To correct, center axle again following the instructions supplied with the track bar. Next determine the neutral position of the steering wheel. Adjust the drag link to center the steering wheel.