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1997-2006 Jeep Wrangler TJ Value Flex Long Arm Kits # TJ251K-SVX | # TJ401K-SVX Installation Instructions

Required Tools List:

- SAE Sockets \ Wrenches
- Metric Hex Key & Metric Sockets \ Wrenches
- Jack Stands • Floor Jack
- Wheel Chocks • Measuring Tape
- Safety Glasses • Paint Marker
- Torque Wrench • Ball Peen Hammer
- Center Punch • Power Drill
- Power Grinder • Assorted Drill Bits
- Reciprocating Saw or Suitable Cutting Tool
- Plastic Fastener Removal Tool



Before beginning the installation, read these instructions & the enclosed driver's WARNING NOTICE thoroughly & completely. Also affix the WARNING decal in the passenger compartment in clear view of all occupants. Please refer to the Parts List to insure that all parts & hardware are received prior to disassembly of the vehicle. If any parts are found to be missing, contact SKYJACKER® Customer Service at 318-388-0816 to obtain the needed items. If you have any questions or reservations about installing this product, contact SKYJACKER® Technical Assistance at 318-388-0816.

Make sure you park the vehicle on a level concrete or asphalt surface. Many times a vehicle is not level (side-to-side) from the factory, but is usually not noticed until a lift kit has been installed which makes the difference more visible. Using a measuring tape, measure the front & rear (both sides) from the ground up to the center of the fender opening above the axle. Record this information below for future reference.

Driver Side Front: _____

Passenger Side Front: _____

Driver Side Rear: _____

Passenger Side Rear: _____

Important Notes:

- If Larger Tires (10% More Than the OEM Diameter) Are Installed, Speedometer Recalibration Will Be Necessary. Contact Your Local Ford Dealer or an Authorized Skyjacker® Dealer for Details.
- After Installation, a Qualified Alignment Facility Is Required to Align the Vehicle to the OEM Specifications.
- 6-Speed Transmission Models May Require Additional Modifications, Contact Skyjacker® (318) 388-0816 for Additional Information.
- Exhaust Modifications May Be Necessary.
- 2003-2006 Models with an Automatic Transmission Must Remove the Front Transmission Skid Plate for Driveshaft Clearance.

Pre-Installation Tips:

Now you are ready to 'SET' the length of the FLEX Link Assemblies.

It is very important to position the swivel ball socket so that the bushings are exactly centered. Measure the length of the link assembly between the center of the eyelet & the rod end. Rotate the rod end as needed, being sure to keep the rod end square with the eyelet end until the link assembly measures:

Note: These are pre-alignment measurements only. Final Measurements are to be set by a qualified alignment facility.

Link Measurements

Lower Front should be set @ 16-1/16"

Lower Rear should be set @ 16-1/16"

On the rod end, rotate the jam nut against the steel tubing. Hold the rod end in place with a pipe wrench & use another pipe wrench on the jam nut to completely tighten.

Note: The jam nut must be tightened against the steel tubing before installation.



Front Installation:

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

1. Secure & properly block the rear tires / wheels of the vehicle on a level concrete or asphalt surface.
2. Raise the front of the vehicle & install jack stands under the frame behind the lower link rear brackets. Remove the front tires\wheels & front shocks. Remove the steering damper & remove the track bar from the passenger side axle & driver side frame. It may be necessary to pry loose. (See Photo # 1)

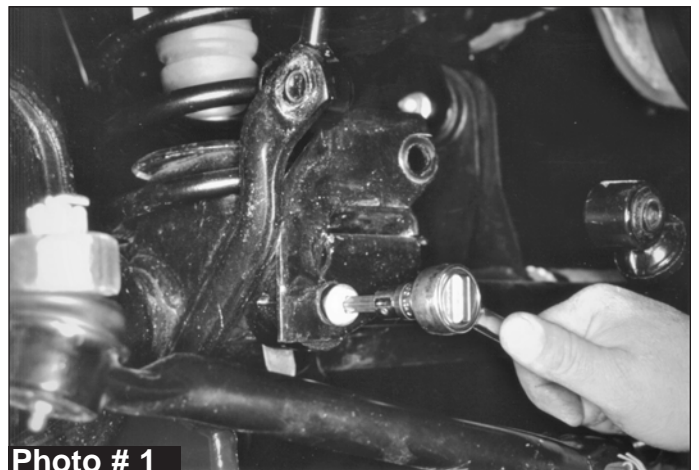


Photo # 1

3. Remove the drag link assembly from the pitman arm & lower it down. (For 4" lifts, remove the pitman arm also.) Remove the sway bar end link's lower bolt at the axle housing on both sides. (See Photo # 2) Lower the front axle down until the coil springs become loose. Remove the bottom bolt & clip from the left front coil spring. (See Photo # 3)

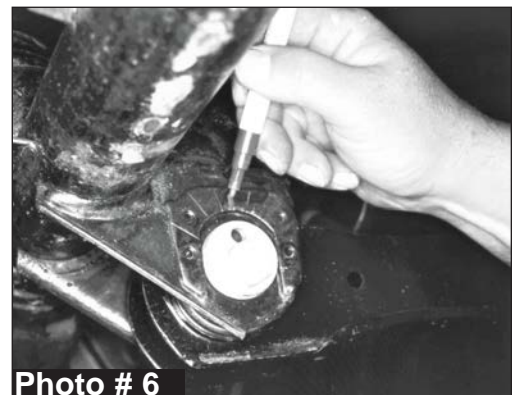
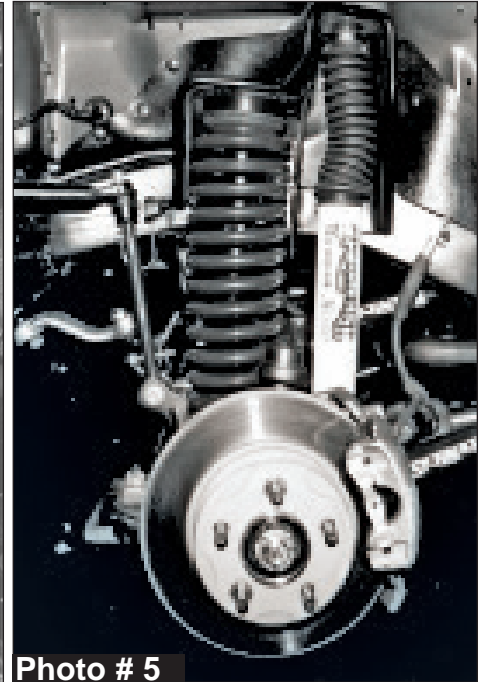


4. Remove both coil springs & remove the upper bump stop. (Use channel lock pliers working the bump stop back & forth).

2.5" Lifts: Remove the bolt from the inside bump stop cup. Install the bump stop spacer & original cup using the supplied 10mm x 1-3/4" long bolts. Reinstall the OEM bump stop. (See Photo # 4)

4" Lifts: Install the longer red polyurethane bump stops.

5. Install the new coil springs & raise the jack up so enough load is applied to hold the coil springs in place. Reinstall the spring bolt & clip at the bottom of the left front coil.
6. Install the new shocks. (See Photo # 5) On 4" lifts, install the new drop pitman arm at this time. Reinstall the drag link to the pitman arm & tighten. (Be sure to install the cotter pin). Install the front tires\wheels & lower the vehicle to the ground.



7. At the front lower link adjustment cams, mark (with an ink marker, or scribe a mark) the vertical line on the cam & the reinforcement bracket for reference so you can realign the marks after installation. (See Photo # 6)

8. **SET the length of the FLEX Link Assemblies**

A) It is very important to position the swivel ball socket so that the bushings are exactly centered. (See Photo # 7)

B) Measure the length of the link assembly between the center of each eye on each end. Rotate the rod end as needed, being sure to keep the ends square with each other until the link assembly measures: Lower Front & Rear should be 16-1/16".

C) On the rod end, rotate the jam nut against the steel tubing. Hold the rod end in place with a crescent wrench & using a pipe or crescent wrench on the jam nut, completely tighten.

Note: Jam nuts must be tight against the steel tubing before installation. (See Photo # 8)

D) Recheck the center-to-center measurement to be sure it is correct & that the ends are square with each other.

IMPORTANT: Under No Circumstances Should the Rod End (heim) Be Adjusted Out More than 1/2" (Including the Jam Nut) from the Steel Tubing of the Link Assembly!

9. Remove & replace the lower links with the new Skyjacker® Flex Series links. Only start these bolts & nuts, do not tighten at this time. (On Single Flex Lower links, the adjustable rod end is installed at the axle.) Once all links are installed, tighten each link being sure to realign the marks on the eccentric cams. (See Photo # 9)

10. Install the new sway bar end links. The new end link mounting bracket should be mounted to the bottom of the sway bar with the bolt pointing up through the sway bar & the nut & washer applied on top. (See Photo # 10) Apply lithium grease to the metal sleeves & insert them into the end link eyes. The top 1/2" x 2-1/2" bolt connecting the bracket to the end link must be installed with the nut to the outside of the vehicle to provide adequate clearance to the frame. Install the new double disconnect end links on the inboard side of the axle bracket. (See Photo # 11)

Photo # 7

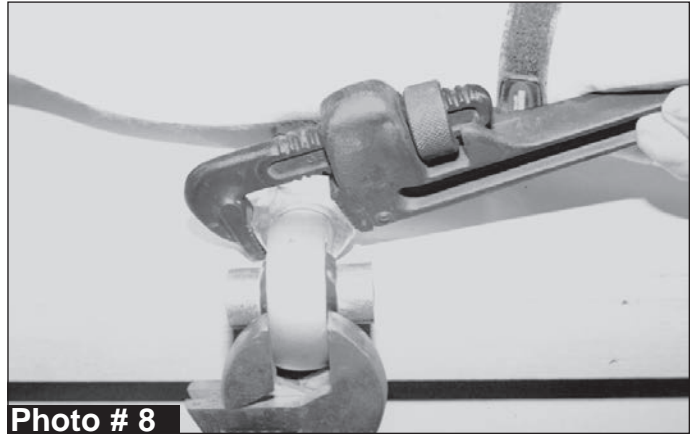
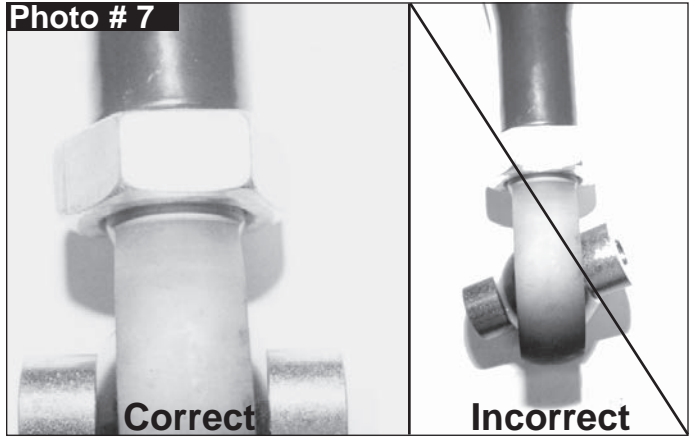


Photo # 8

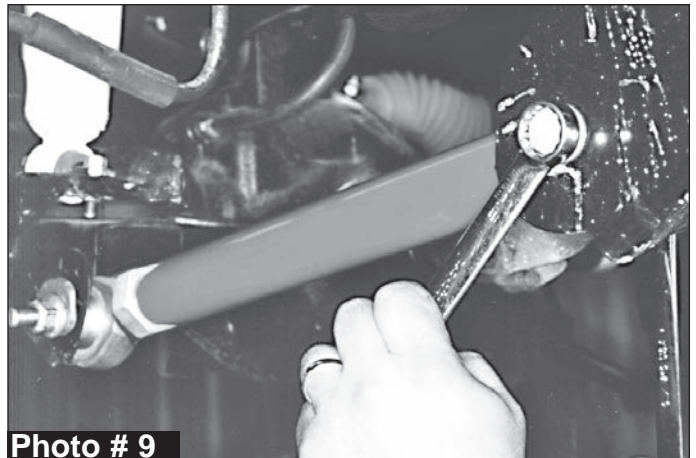


Photo # 9

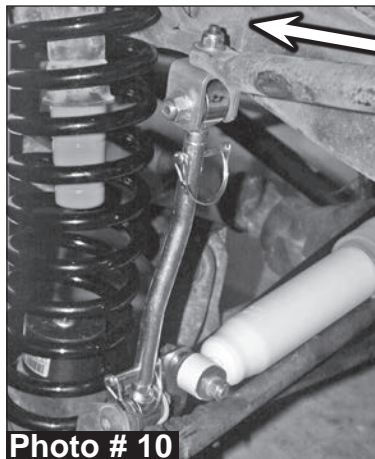


Photo # 10

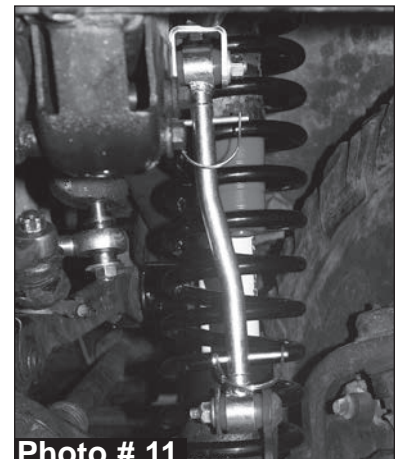


Photo # 11

11. **2.5" Lifts:** Reattach the track bar in the OEM axle mount. (It may be necessary to rotate the steering wheel left or right to align the bolt hole.)

4" Lifts: Locate the front track bar mounting bracket on the axle, measure straight across to the right (inward) 3/4" & put a mark. Center punch & drill a 7/16" hole through both front & back plates, keeping the drill as straight & square to the bracket as possible. (See Photo # 12) Reattach the track bar. (It may be necessary to rotate the steering wheel left or right to align the bolt hole.)

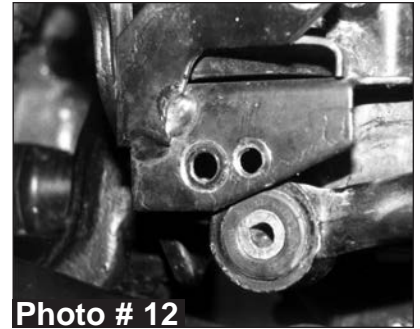


Photo # 12

12. Place a jack under the transfer case cross member & remove the four screws that mount the transfer case pivot assembly from the body of the vehicle. (It will be necessary to roll the floor mat back to gain access to the bolts.)
13. Remove the three bolts on each side of the transfer case skid plate & lower down enough to install the new square tube spacers between the skid plate & frame. Apply a few drops of supplied thread lock compound on the bolt threads prior to installing. Tighten bolts to 75-80 ft. lbs. (See Photo # 13)

2.5" Lifts Will Use the 1" Square Tube Spacers.

4" Lifts Will Use the 1.5" Square Tube Spacers.

Note: 1997-2002 Models Will Use the Supplied Flat Socket Head Tapered Bolts.

Note: 2003-2006 Models Will Use the Supplied 12mm Bolts & Washers.



Photo # 13

Note: 2003-2006 Models also remove the two engine skid plate bolts. Install the small square tube spacers at the mounting points on the frame rails using the supplied 12mm bolts supplied.

14. Install the new transfer case linkage pivot drop bracket to the OEM pivot bracket using the OEM screws. Using the supplied 1/4" x 1" bolts, washers, & nuts, bolt the ball swivel bracket to the new drop bracket. (See Photo # 14)

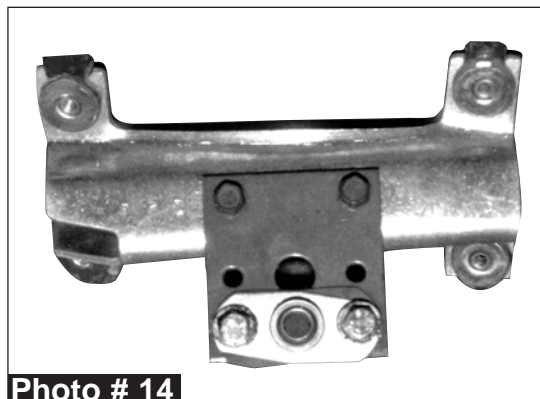


Photo # 14

Note: The bracket has two sets of holes: the bottom holes are for a 4" lift as shown, or next to the bottom for a 2.5" lift.) Placing the pivot bracket back in location, start the end of the rod thru the ball swivel & bolt the bracket back into location with the OEM hardware. (See Photo # 15)



Photo # 15

Rear Installation:

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

15. Place a floor jack under the rear axle & raise the vehicle. Place jack stands under the frame ahead of the lower link bracket to support the vehicle & remove the rear tires\wheels & rear shocks.
16. Remove the rear track bar & sway bar end link bolts at the axle housing. Lower the rear axle down to remove the coil springs.
17. After removing both coil springs, remove the bump stops. (It may help to use channel lock pliers working the bump stop back & forth.) Remove the 10mm bolt from inside the bump stop cup. Install the bump stop spacer & OEM cup using the supplied 10mm bolts. Reinstall the OEM bump stop. Optional poly bump stops like the front are available on 4" lifts, order Part # BP50.
18. Place the new rear track bar relocation bracket in position & place the track bar in the new bracket. (Do not start its bolt) Start the new 12mm x 70mm bolt thru the OEM track bar location using the supplied spacer sleeve (# 54314) with a self-locking nut. Tighten at this time.

Drill a 1/2" hole thru the hole in the end of the new bracket. Remove the 12mm x 70mm bolt, installed before drilling & install a 1/2 x 1-1/2" bolt, with a washer on each side, thru the new drilled hole & tighten with a self-locking nut.

(See Photo # 16)

Reinstall the new 12mm x 70mm bolt thru the OEM track bar location using the supplied spacer sleeve (# 54314) with a self-locking nut & tighten. Do not bolt up the track bar, you must wait until the vehicle is on the ground. (See Photo # 17)

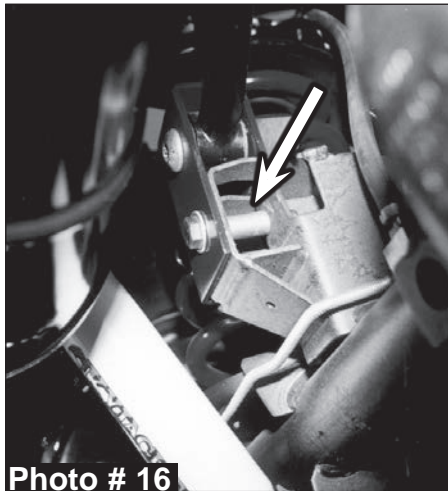


Photo # 16



Photo # 17

19. Install the new coil springs. Raise the jack up so enough load is applied to hold the coil springs in place.
20. Remove & replace the lower links with the new Skyjacker Flex Series links. Only start these bolts & nuts, do not tighten at this time. The Single Flex Lower links are installed with the adjustable rod end at the axle. Once all links are installed, tighten each one. (See Photo # 18)
21. Assemble the new rear extended sway bar end links by applying grease to the metal sleeves & inserting them into each eye. Install using the OEM hardware. (See Photo # 18)



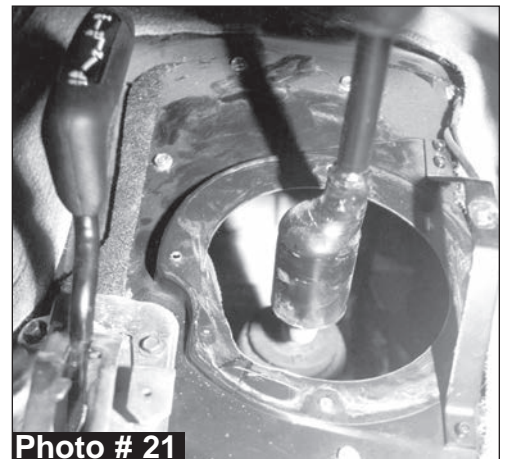
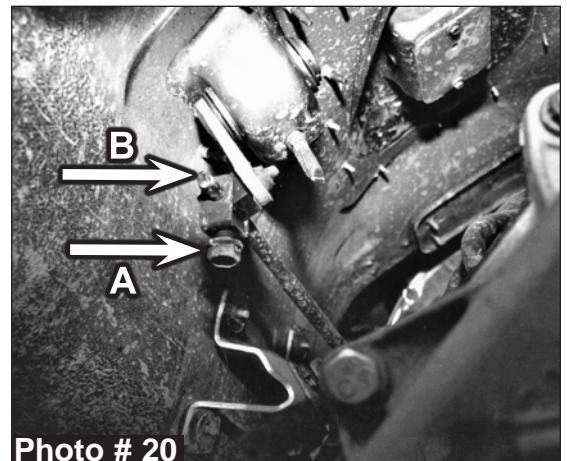
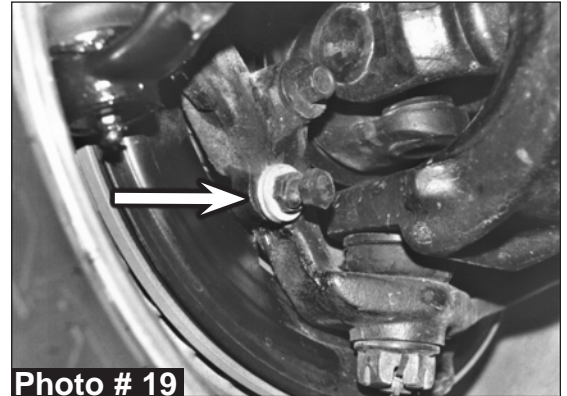
Photo # 18

22. Install the new rear shocks, rear tires\wheels, & lower the vehicle to the ground. Bolt the track bar to the new relocation bracket using the OEM hardware. (See Photo # 16 & # 17) Also, be sure the OEM upper track bar bolt is tight.

WARNING: On these Wrangler TJ Jeep models, only the shock absorbers limit the extended position of the front & rear suspension! The use of shocks other than those supplied in this system, may cause coil disengagement, adverse steering angles, brake line failure, driveline component failure, and / or other related component failure! The use of other shocks will void your Skyjacker® warranty!

Post-Installation Notes:

- Check the clearance between the inner side wall of the tires & links. It may be necessary to adjust the steering stops (By adding 2-3 washers on the bolt) to eliminate interference. (See Photo # 19)
- Check the transfer case shifter to see if it will move to **4L**. If not, the linkage will need adjusting as follows. Place the shifter in **4L**, loosen the adjustment bolt ("A" Arrow in Photo # 20) & push the linkage ("B" Arrow in Photo # 20) forward until it stops. Retighten the adjustment bolt. Check to be sure the 4WD works properly.
- On 5-Speed Models, engage the clutch & check the transmission shifter to see if it will go into 2nd gear. If not, the shifter housing on the floor will need trimming. Remove the center console, pull the back carpet, remove the screws holding the shifter boot to the floor board, & trim or grind the floor board until sufficient clearance is obtained. (See Photo # 21) Shift thru each gear to check for clearance at this time. Reinstall the boot, carpet, & console.
- Rotate the front & rear driveshafts & check for interference at the differential yoke & Cardan joint. If necessary, lightly dress the casting & / or U-joint tabs in order to eliminate binding.



- If you purchased the Skyjacker # CAM500 TJ Rear Driveline Cam-Bolt Kit (Part # CAM500) install the kit as follows. Remove the bolt in the rear upper link (The end toward the rear bumper) & raise the link up out of the mounts.

Note: The hole is notched so it can be a slotted hole. Knock out the notches on the front & rear half of the holes on each side of the link mounts. (See Arrows in Photo # 22) Repeat on the other side.

Lower the links back into the mounts. Install the new eccentric cam-bolts, eccentric washers, & nuts on each link & tighten. These bolts can be rotated to adjust the axle pinion angle to eliminate any driveline vibration.

Driveline vibrations can be caused from the removal or addition of the hardtop which changes the rear vehicle weight & the rear height which affects the rear drive shaft pinion angle. This cam-bolt will eliminate such vibrations by rotating the axle correcting the angle.(See Photo # 23)

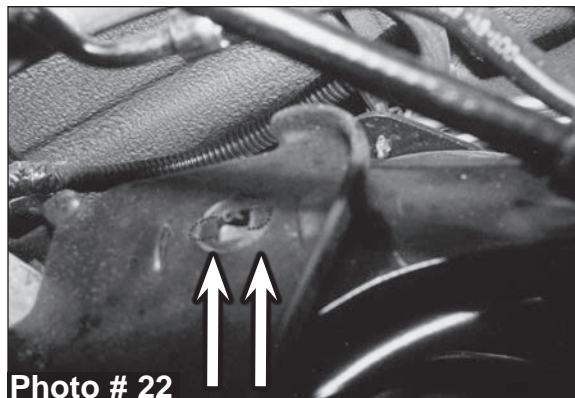


Photo # 22

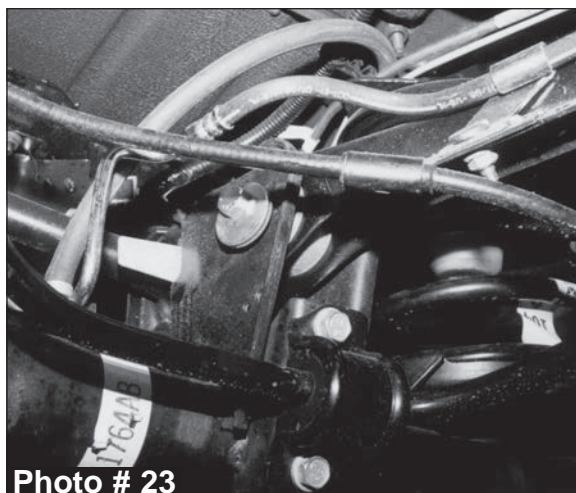


Photo # 23

Final Notes:

- After the installation is complete, double check that all nuts & bolts are tight. Refer to the following chart for the proper torque specifications. (**Note:** Do not re-tighten the nuts & bolts where thread lock compound was used.)

| TORQUE SPECIFICATIONS | | | | | |
|-----------------------|-----------|-----------|---------------|-----------|------------|
| INCH SYSTEM | | | METRIC SYSTEM | | |
| Bolt Size | Grade 5 | Grade 8 | Bolt Size | Class 8.8 | Class 10.9 |
| 5/16 | 15 FT LB | 20 FT LB | 6MM | 5 FT LB | 9 FT LB |
| 3/8 | 30 FT LB | 35 FT LB | 8MM | 18 FT LB | 23 FT LB |
| 7/16 | 45 FT LB | 60 FT LB | 10MM | 32 FT LB | 45 FT LB |
| 1/2 | 65 FT LB | 90 FT LB | 12MM | 55 FT LB | 75 FT LB |
| 9/16 | 95 FT LB | 130 FT LB | 14MM | 85 FT LB | 120 FT LB |
| 5/8 | 135 FT LB | 175 FT LB | 16MM | 130 FT LB | 165 FT LB |
| 3/4 | 185 FT LB | 280 FT LB | 18MM | 170 FT LB | 240 FT LB |

The above specifications are not to be used when the bolt is being installed with a bushing.

- With the vehicle placed on the ground, cycle the steering lock to lock & inspect the steering, suspension, brake lines, front & rear drivelines, fuel lines & wiring harnesses for proper operation, tightness & adequate clearance.
- Ensure there is adequate clearance between the exhaust, brake lines, fuel lines, fuel tank, floor board, & wiring harnesses. Check the steering gear for interference & proper working order.
- Inspect the brake lines for damage & adequate clearance. Test the brake system before driving.

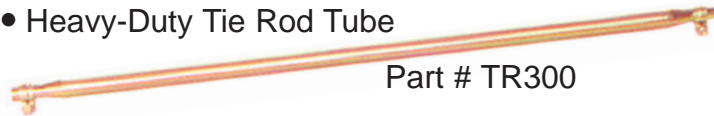
- Have the headlights readjusted to the proper settings.
- Have a qualified alignment center align the vehicle to the OEM specifications.
- After the first 100 miles, check all hardware for the proper torque & periodically thereafter.

Seat Belts Save Lives, Please Wear Your Seat Belt.



Skyjacker® 1997-2006 Jeep Wrangler TJ Accessories

- Heavy-Duty Tie Rod Tube



Part # TR300

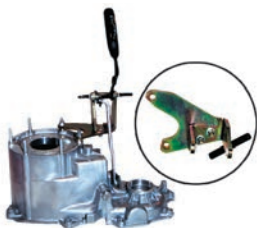
- High Capacity Oil Pan
(1997-02 Models w/ Automatic Transmission)
Part# OPA999



- High Clearance Transfer Case Skid Plate.
1997-2006 TJ Models
Part # SP176



- Shifter Relocation Bracket
(Included in Rock Ready® Kits)
1997-2006 TJ Models with NP231 Transfer Case
Part # JSRB231A



- Stainless Steel Brakelines 4 - 10" Lift
Front Part # FBL44
Rear Part # RBL98



- Heavy-Duty Limiting Straps
LS16K 16" LS28K 28"
LS20K 20" LS32K 32"
LS24K 24"



- Rear Shock Relocation
Brackets Part
TJRSB10



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1997-2006 Jeep Wrangler TJ Steering Box Skid Plate #RRSP20 Installation Instructions

1. Remove the driver side lower bumper bolt (Bolt #1) also remove lower steering box mounting bolt (Bolt #2) from frame as shown in figure #1.
2. Holding the Steering Box Skid Plate in place, placing the three holes in the skid plate over the existing holes in frame.
3. With the Steering Box Skid Plate in place, replace the bumper bolt (Bolt #1) and steering box bolt (Bolt #2).
4. Use the existing hole in the frame (A) to line up the rear Steering Box Skid Plate bolt. (Bolt #3) Put the nut inside the frame.
5. Put the 5/8" aluminum spacer in place, shim accordingly with supplied washers and install the 3/8" x 2" bolt (Bolt #3).
6. With the skid plate in place, locate the remaining hole in the ear of the skid plate. With the hole as a guide, use a center punch to mark the location you will be drilling.
7. Drill a 1/4" hole in the frame at the location you just marked.
8. Screw the 5/16" self-tapping bolt (Bolt #4) into the hole you just made and tighten.

Items Included In This Kit:

- (1) Steering Box Skid Plate
- (2) 1/2" Washers
- (1) 3/8" Fine Thread Nut
- (1) 3/8" Washer
- (1) 3/8" x 2" Fine Thread Bolt
- (1) 5/16" Self-Tapping Bolt
- (1) 5/8" Aluminum Spacer

NOTE: Skyjacker's Steering Box Skid Plate is Compatible with Oversized AGR Aftermarket Steering Boxes.

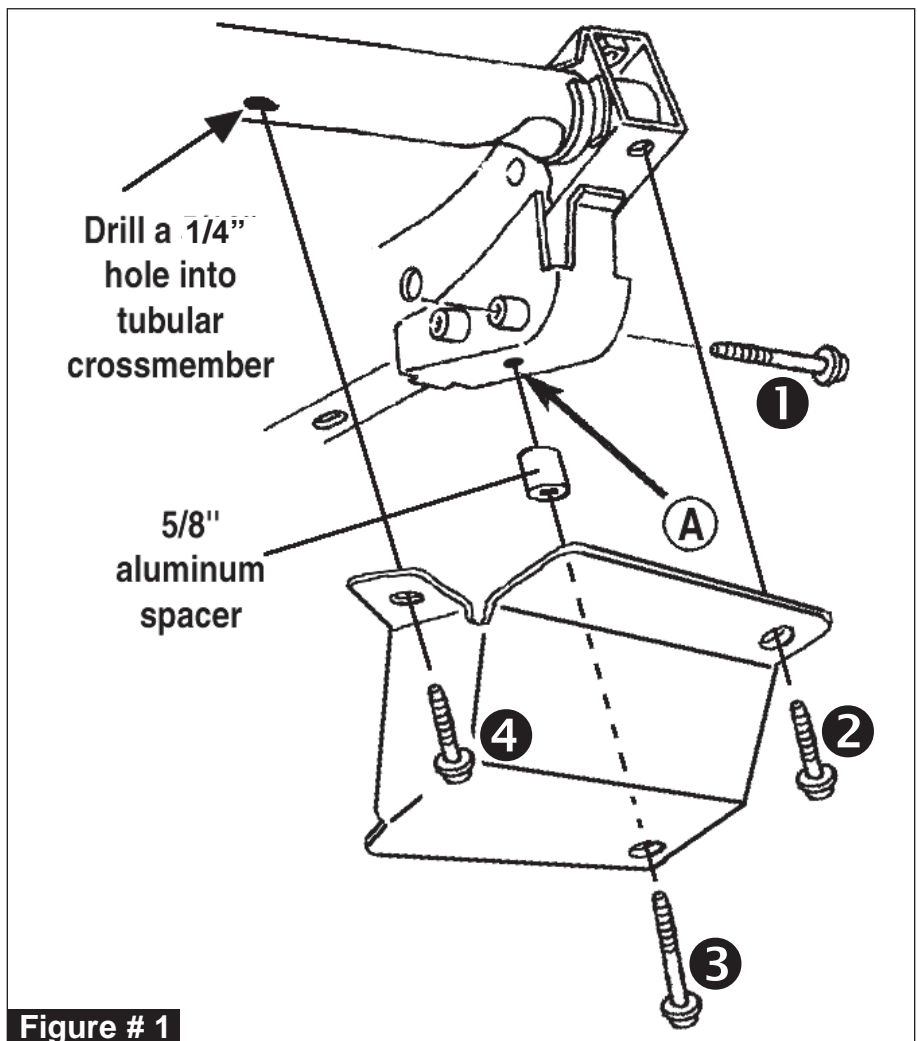


Figure # 1