DODGE RAM PICKUP
INSTALLATION INSTRUCTIONS

Kit #: **D501K/KN/KS/KSN** **D502K/KN/KS/KSN**
D451K/KN/KS/KSN **D452K/KN/KS/KSN**
D551K/KN/KS/KSN **D552K/KN/KS/KSN**

February 9, 1994 and Newer Models

SKYJACKER®
THE BEAR OF SUSPENSIONS

Before beginning the installation, read these instructions and the enclosed driver's "WARNING NOTICE" thoroughly and completely. Also affix the "WARNING" decal in passenger compartment in clear view of all occupants. If any of these items are missing from this instruction packet, do not proceed with installation, but call SKYJACKER® to obtain needed items. If you have any questions or reservations about installing this lift kit, call SKYJACKER® at 318-388-0816 for Technical Assistance or Customer Service departments.

Due to the inconsistency of vehicles when manufactured and the various options available, the amount of actual lift gained by this lift kit will vary.

IMPORTANT NOTES:

- **Check Coil Spring Part Number:**
  Kits beginning with "D50" and include #D50 coil springs are for all 1/2 tons and 3/4 tons up to 7,500# GVWR (which have lighter rated front coil springs and 2½" wide rear springs).

  Kits beginning with "D45" and include #D45 coil springs are designed for heavy 3/4 and 1 ton models equipped **with V10 and Cummins Diesel engines** (which have heavier rated front coil springs and 3" wide rear springs). If equipped with a "Camper Package" or "Towing Package", longer u-bolts may be necessary, and possibe rear spring spacers #SP1230.

  Kits beginning with "D55" and include #D50 coil springs are designed for 3/4 ton and 1 ton models with 7,500# GVWR or more, **NOT V10 or Cummins Diesel engines** (which have the lighter rated front coil springs but have 3" wide rear springs).

- On 3/4 tons, it is recommended to check GVWR rating and width of rear springs to assure you have the correct kit before beginning installation. If in question, call SKYJACKER's® Technical Assistance Department at 318-388-0816.

AS SEEN IN 4 WHEEL & OFFROAD MAGAZINE

AS SEEN IN FOURWHEELER MAGAZINE

- **Before beginning installation**, models with rear springs consisting of an overload spacer and overload leaf on **top** of rear spring pack, may need longer rear u-bolts (compare the u-bolts supplied in this kit to be sure they are at least 1½" longer). This is found on models equipped with a “Camper Package” or “Towing Package”.

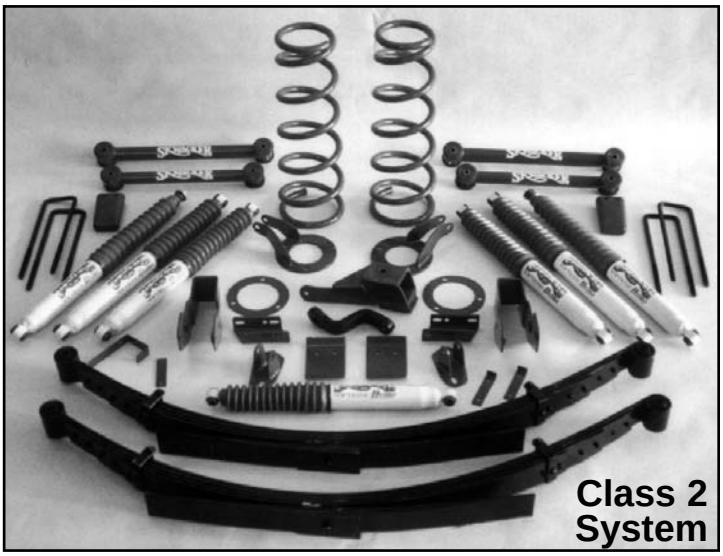
- These 4-5" lift kits are only designed to fit those models manufactured on or after **February 9, 1994** due to the size of the track bar stud.

- Dually models will receive less lift than stated and usually have a “Camper Package” or “Towing Package”, which may require longer u-bolts, and possibly spring spacers #SP1230.

- Under **NO** circumstances are SKYJACKER® coil springs to be used in conjunction with any type of coil spring or spring tower block/spacer. The use of coil spring block/spacers will allow ANY coil spring to exceed its designed stress and travel loads allowing it be overstressed, oversprung, fatigued, and possibly break. SKYJACKER® warranty is void under any such application.

PRE-INSTALLATION NOTES:

- A professional mechanic is recommened to perform the installation..
- Read the instructions *carefully* and *study* the photo illustrations before attempting installation.
- Secure and properly block the vehicle on a level concrete or asphalt surface.
- Always wear safety glasses.
- Foot pound torque reading are listed on the Torque Specifications chart at the end of instructions and should be followed unless specifically stated. Apply Loctite retaining compound where specified.



Class 2 System

ACCESSORIES:

- **Dual Steering Stabilizer #7217WR (Shown at right)**
- Polyurethane Sway Bar Bushing Kit #DSB94

Included in Class II lifts:

- Front Dual Shock Kit #DS390 (2 additional shock required)
- Lower Link Skid Plates #DSP2345

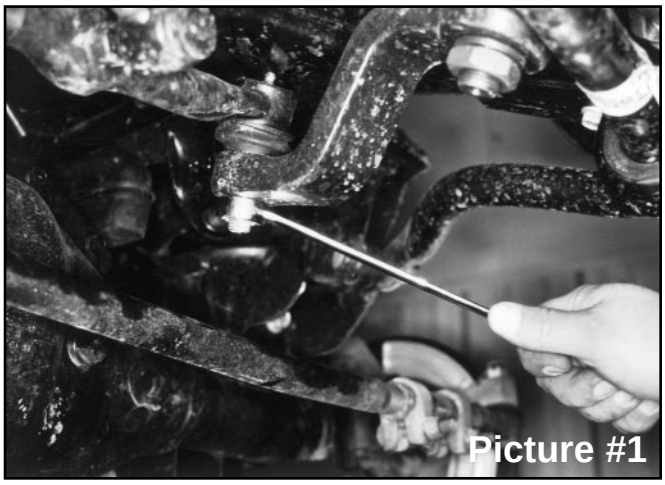
The SOFTRIDE® rear springs used in the Systems are also available separately.

7217WR Dual Steering Stabilizer

FRONT:

1. Secure and properly block the tires of vehicle on a level concrete or asphalt surface.

2. Open hood, remove the upper shock nuts and retainers, remove the 3 nuts on the upper shock tower brackets and remove brackets.


Picture #1

3. Jack up front of vehicle and install jack stands under frame behind the lower link rear brackets. Remove tires and brakeline anchor bracket between the upper and lower links behind coil spring.

4. Loosen trackbar at the axle housing, then remove other end from the frame, and lower down. Completely remove original steering stabilizer

5. Remove drag link from pitman arm (see picture #1) and lower it down, then remove pitman arm from steering sector (a puller will be required, see picture #2). Install new Skyjacker® drop pitman arm using the original lock washer and nut, and torque to OEM specs (do not reinstall drag link to pitman arm at this time).

Picture #2

6. Loosen the front sway bar bolts at frame, but do not remove. At the differential end of the sway bar (at front of coil springs), remove the nuts and rubber bushings from sway bar studs and lower them down (see picture #3). Note: a replacement polyurethane bushing kit is available, Skyjacker® part #DSB94.)

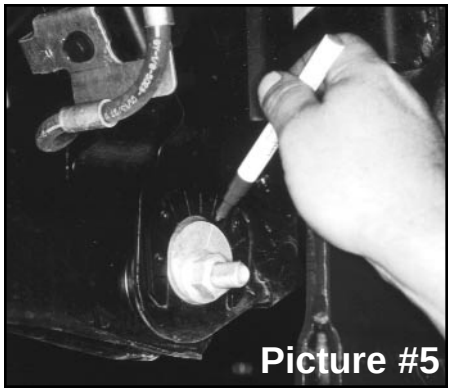
7. Remove upper shock tower (see picture #4), remove lower shock bolts and pull shocks up through the coil spring under the hood. Now lower front axle down until coil springs become loose. Remove coils, rubber insulator and 3-bolt tower ring.

   Locate the front rubber bumpstops, mounted on the frame rail behind the coils. Remove bumpstop from its pocket by using a large flat screwdriver to pry them out or using a pair of channel lock pliers working them back and forth.

Picture #3

Picture #4

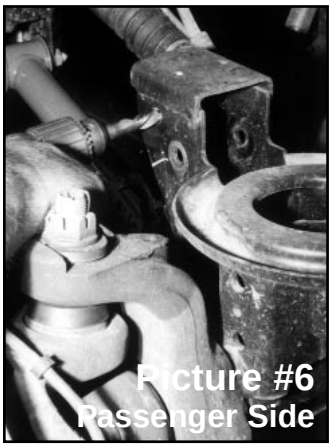
8. At the front lower link adjustment cams, mark (with an ink marker, or scribe a mark) the vertical line on the cam and the reinforcement bracket for reference so you can realign the marks after installation. (See picture #5.)

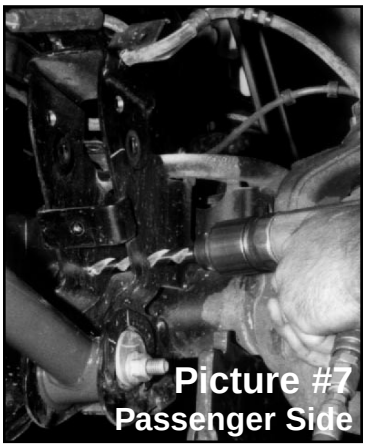

Picture #5

9. Install drive-in zirc fittings in each end of all 4 links by using a 1/4" socket over the fitting, tap with a hammer until fitting is completely tapped in.

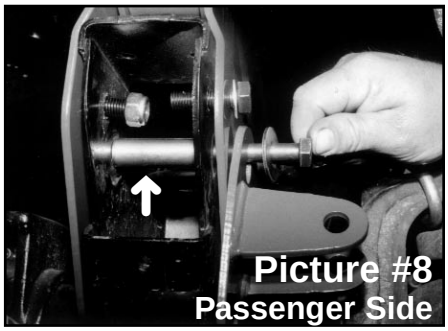
10. Install poly bushings in each end: #2617 in the lower/larger links, #2618 in the upper/smaller links. Be sure to slightly grease them prior to installation. Insert the steel sleeve tube in the links: 2.645" long sleeve in the lower/larger links, 2.375" long sleeve in the upper/smaller links.

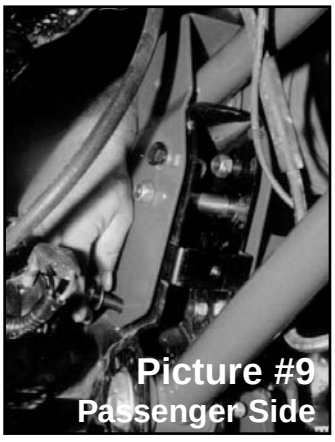
11. Loosen and remove the upper and lower links from both sides. Now replace the **lower** links with new Skyjacker® links (one side at a time). Only start these bolts, do not tighten at this time. NOTE: so that the links may be greased while on the vehicle, install the lower links with the zirc fittings positioned as follows: **front** eye of link has fitting pointing out the **end**, **rear** eye of link should have the fitting pointing **down**.

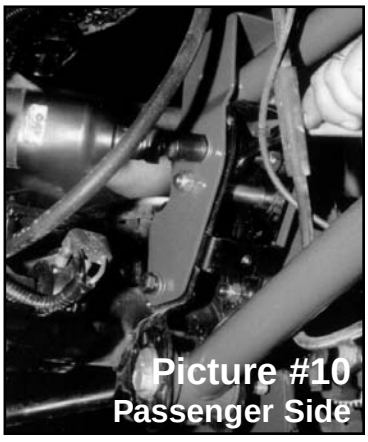

Picture #6
Passenger Side


Picture #7
Passenger Side

12. To installing new upper link relocating brackets (see picture #6-10). Prior to installing brackets take a 12mm bolt and check holes on each side of the upper link axle mounts to be sure holes are large enough to accept bolt. In most cases they are, but if not, you must drill out holes to 1/2" (picture #6), and the lower holes must be drilled from the outside of the axle mount to the inside through both holes (picture #7). Place new relocating bracket down over existing mount. Install a 12mm x 110mm (4 1/2" long) bolt with a large 1/2" washer on each side (one under bolt head and one beside nut), using a 2.375" long steel sleeve inside the original axle mount to maintain original spacing (picture #8, shown with lower dual shock bracket also). Now install the other four 12mm x 40mm bolts with the bolt heads facing outward (nuts to the inside) with a small 1/2" washer under each bolt head (picture #8-9). Now tighten all bolts, torque the 40mm bolts 73-77 and the 110mm bolt 52-55 ft.lbs. (picture #10) . **NOTE:** If installing dual shock kit, included in the Class 2 suspensions, it is important to see those instructions at this time.


Picture #8
Passenger Side


Picture #9
Passenger Side


Picture #10
Passenger Side

13. Now when installing the new **upper** Skyjacker® links slide the front eye through the new upper relocation bracket enough to bolt the rear eye in the original frame mount. Then position and bolt front eye through upper relocation bracket using original bolt and nut. Only start these bolts, do not tighten at this time. NOTE: so that the links

may be greased while on the vehicle, install the upper links with the zirc fittings positioned as follows: **front** eye of link has fitting pointing out the **end**, **rear** eye of link should have the fitting pointing **up**.

14. On right hand side of frame, remove screw on the steel vacuum lines at drop point going to vacuum actuator valve and install the furnished drop bracket (flat 1"wide x 4"long) using the original screw at top and the furnished 1/4" x 1" bolt at bottom to secure lines (see picture #11). Unplug electrical line at valve and release plastic clip at bracket. If more slack is needed after installation, remove wire from top of cross member and route under cross member using original clip from cross member attached to rectangular slot in frame.

    On V10/Cummins Diesel kits, remove axle vent hose plug from original hose and insert in end of new extended hose. Install new vent hose, if needed (some models have enough hose length).

15. To install the track bar drop bracket, first remove the brakeline clamp screw from the cross member (rearward facing, see picture #12) and push brakeline up approximately 2" for clearance.

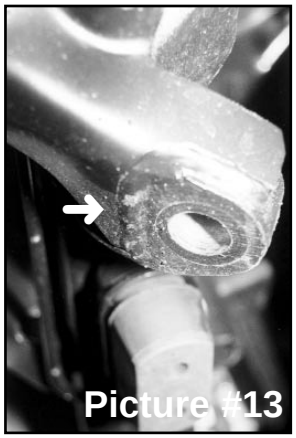
    <u>IMPORTANT</u>: Check track bar frame mount to be *sure* it is smooth. Some models (usually heavy duty and diesel models) having a reinforcement plate (see arrow in picture #13) welded to frame mount that **MUST** be ground smooth (see pictures #14). The new track bar drop bracket **MUST** make 100% smooth contact on the frame mount.

    Using thread loctite #609 (supplied), put a few drops on the end of the 18mm bolt. Hold new drop bracket up to original track bar frame mount, and start 18mm bolt with metric washer down through the original frame mount and drop bracket. Use the 18mm self locking nut and tighten until snug (see picture #15).

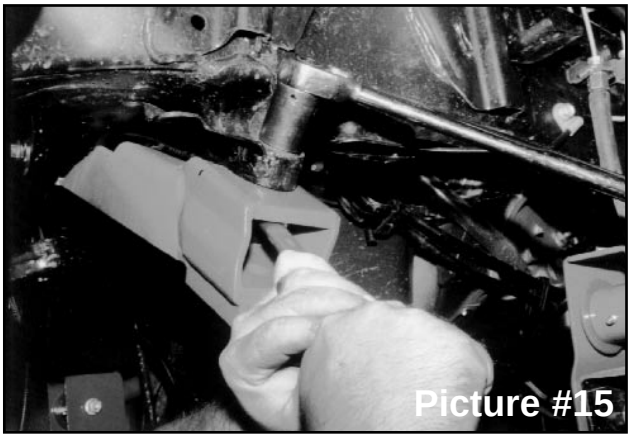
    Being sure the 18mm bolt is snug, twist drop bracket so that brace is flat against cross member. If clearance is needed for brace, mark and grind with die grinder or file until clearance is obtained (see pictures #16-17) then position brace flat against cross member.

Picture #11

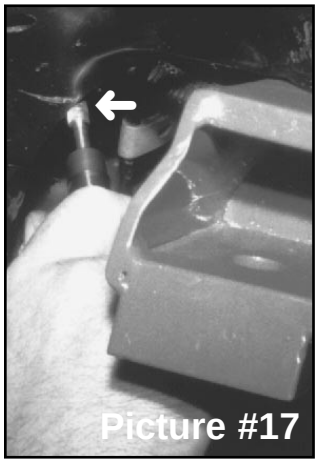
Picture #12


Picture #13

Picture #14

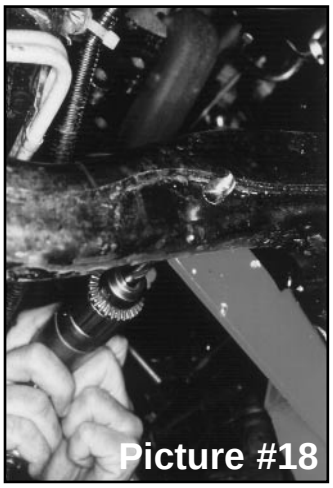

Picture #15

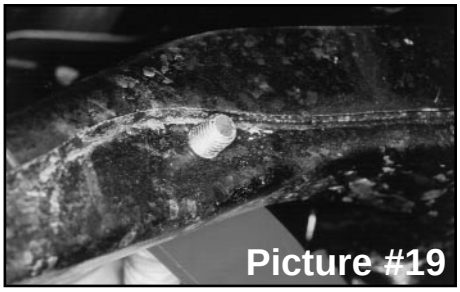
Picture #16

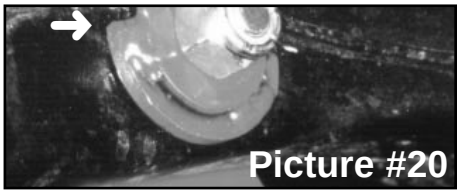

Picture #17

Using a 1/2" drill bit, start through hole in brace and drill through cross member being sure hole

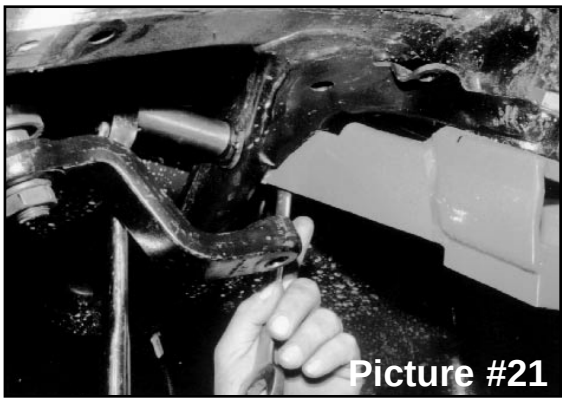
comes out below weld mount on front side (see picture #18). Start 1/2 x 2 1/2" grade 8 bolt with 1/2" washer through cross member (see picture #19), and place the "special" washer so that the back "half" section is below the weld mount (see picture #20), and tighten nut. Now torque the 18mm bolt to 200 ft.lbs., and the 1/2" bolt to **only** 70-75 ft.lbs. (be sure **not** to crush cross member), see picture #21.


Picture #18


Picture #19

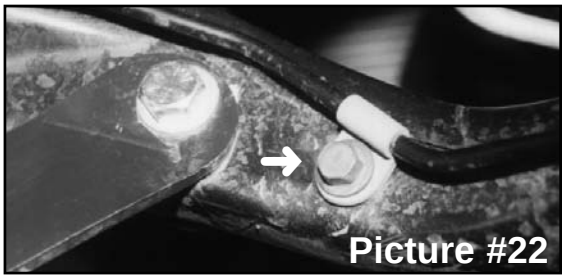

Picture #20

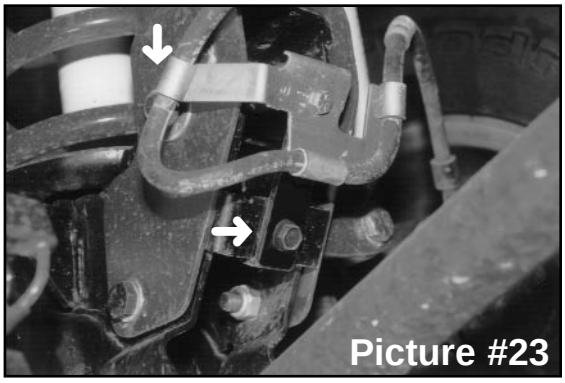
Now move brakeline clamp down line and drill new hole (19/64) and rebolt clamp. Before completely tightening clamp, push brakeline up for clearance against track bar brace and cross member; then tighten clamp screw (see picture #22).


Picture #21

16. To begin coil spring installation, insert original 3-bolt tower ring in place inside top of coil tower, and start a couple of the nuts just to hold ring in place (do not tighten). **NOTE:** If installing dual shock kit, included in the Class 2 suspensions, it is important to see those instructions at this time.

17. Start coil springs at bottom, place rubber isolator on top of coil and then start coil into position in the upper tower, on both sides. Align coil springs so that the end of the bottom wraps are turned to the inside at the center of the axle. Lift up on jack under differential until coil springs are securely in place, and keep a load on them to hold in place. **NOTE:** On coil spring part #D50 (for 1/2 tons and 3/4 tons without V10 or Cummins Diesel engines), the coil springs are labeled driver and passenger side and must be installed on appropriate side. On coil spring part #D45 (for V10 and Cummins Diesel engines) there are not specific driver side and passenger side coil springs.

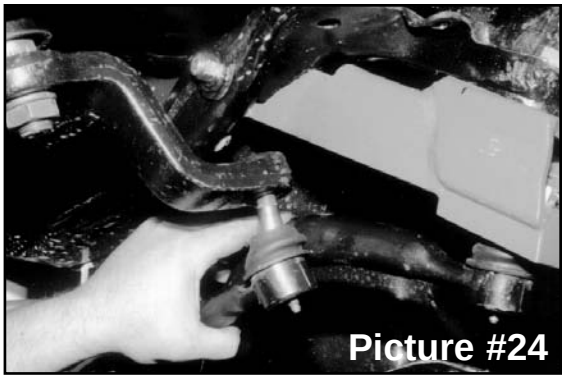

Picture #22


Picture #23

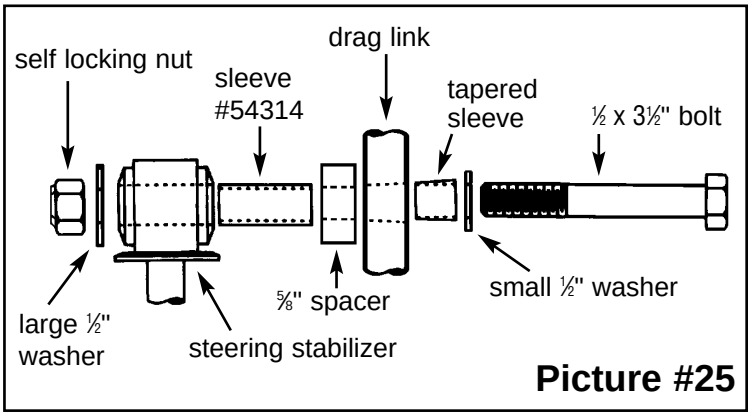
18. Now remove nuts that were put on 3-bolt tower ring in step 16. Install new shocks down through coil towers under hood and install lower bolts. Place a retainer and poly bushing on shock stems. Now install original upper shock bracket over 3 bolts of tower ring, install 7/16" self locking nuts and tighten. Install shock grommets, retainer washers and nuts. Tighten nuts. **NOTE:** If installing dual shock kit, included in the Class 2 suspensions, it is important to see those instructions at this time.

19. Two new front brakeline anchor relocation brackets have been included (they have one small 90° bend). First position new brackets with small 90° bend at bottom facing forward, install the original metric bolt in bottom of bracket and tighten. Place original anchor bracket at top of new bracket using the 1/4 x 1" bolts supplied and tighten (see picture #23). It may be necessary to bend original anchor bracket's side wing out for clearance on bolt heads.

20. In order for drag link to be connected to new drop pitman arm, loosen turn buckle clamps on drag link and rotate 180°, install drag link to the bottom end of pitman, and tighten (see picture #24). Be sure to install new cotter pin furnished. Now tighten turn buckle with the clamps and bolts rotated to the top side of drag link to provide clearance for the steering stabilizer boot.

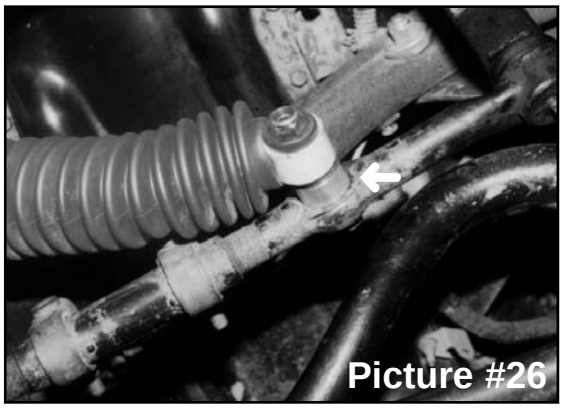

Picture #24

21. To install new steering stabilizer: A. **98-Current models** - insert a poly bushing and steel sleeve #51792 into each eye of the stabilizer. Install poly boot and secure with tie strap. Place stabilizer into the original mounting brackets and install using the original hardware. Tighten completely.



Picture #25

B. **94-97 models** - insert a poly bushing and steel sleeve #54314 into each eye of the stabilizer. Install poly boot and secure with tie strap. To install piston end of stabilizer to the drag link use the hardware shown in picture #25: insert tapered sleeve into tapered hole in the tie rod, place the small ½" washer on the new ½ x 3½" bolt and install through drag link hole. Install the ⅝" spacer, the rod end of steering stabilizer (with sleeve #54314 in the eye), large ½" washer, and ½" self locking nut onto bolt, and tighten (see pictures #25-26).


Picture #26

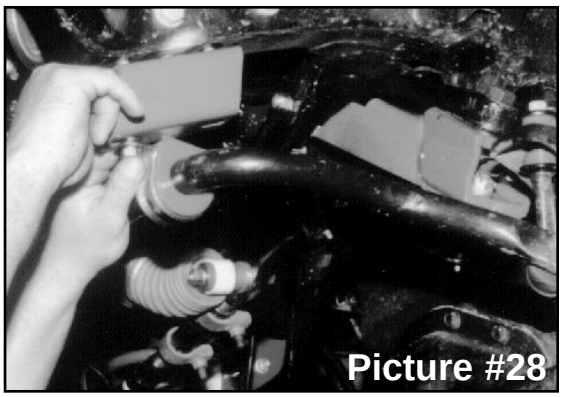
At the frame end of steering stabilizer insert the ½ x 4" long bolt through a washer, the steering stabilizer, and the original mounting tabs (with provided spacer sleeve between original mounting tabs). Install as shown in photo #27 - do not install in original mounting tabs for that tends to put downward stress on drag link. Tighten nut.

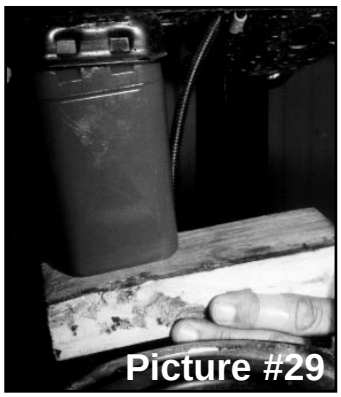
22. Take the stud ends of the front sway bar and swing them back up and reattach. Now remove the 2 bolts at the frame from each side of sway bar and lower bar down. Install new sway bar lowering brackets with the offset sloping toward the front bumper (see picture #28) using original bolts at top and new furnished bolts at bottom.

Picture #27

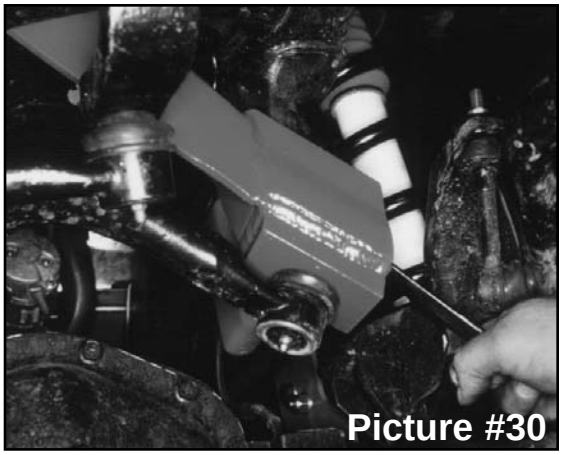
23. Install tires, remove jack stands, and lower vehicle to the ground.

24. Place the new poly bumpstops in the original bumpstop pocket. By using leverage against the bottom of bumpstop, force the bumpstop into place (it may be helpful to use a 2x4 and block, see picture #29).

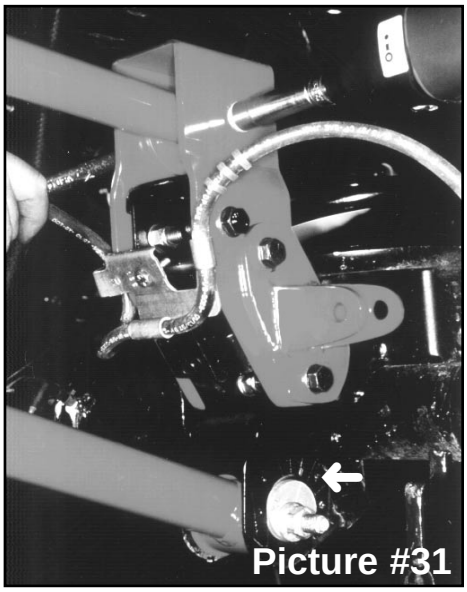

Picture #28


Picture #29

25. Raise the track bar up and bolt to the bottom of the new track bar drop bracket (see picture #30). (It may be necessary to turn steering wheel left or right in order to realign holes when installing bolt.) Tighten to OEM specs. (Be sure to install cotter pin). Now retighten the track bar bolt on the passenger side axle housing.


Picture #30

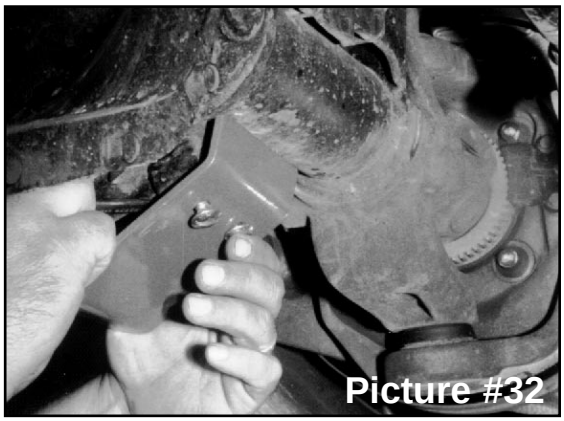
26. Tighten each end of the upper and lower links (see picture #31) being sure to realign the marks on the eccentric cams. Thoroughly grease all 8 zirc fittings. After the lift is complete take vehicle to a qualified alignment shop so that caster, toe-in, toe-out and steering wheel alignment can be checked.


Picture #31

27. Install polyurethane bushings and steel sleeves in bottom eyes of front shocks (the front shocks are those with a "stud" top and "eye" bottom), and place a washer and stem bushing on the upper studs of the shocks. From under the hood, lower shocks down through the coil spring, install and tighten bottom bolts.

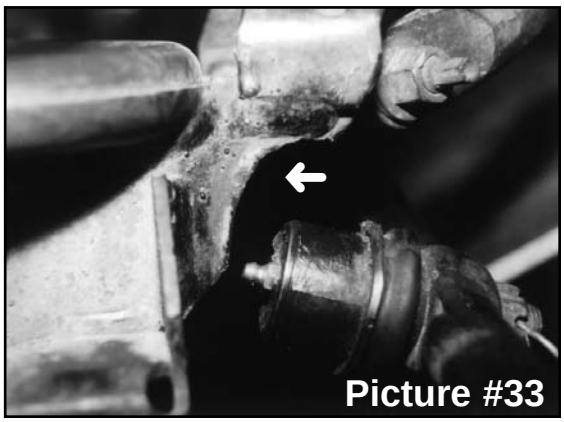
    Remove the nuts on the coil spring's 3-bolt tower ring installed previously. Now place the original shock tower (that was removed earlier in step 7, picture #4) over the shock's stud and align over the threads of the 3-bolt tower ring. Install and tighten self locking nuts on both tower rings. Install upper shock stem bushings, washers, lock washer and nuts. Tighten nuts. **NOTE:** If installing dual shock kit, included in Class 2 suspensions, it is important to see those instructions at this time.

<u>WARNING</u>: On the Dodge Ram trucks, the front shock absorbers limit extended position of the front suspension! The use of shocks other than those supplied in this system, may cause coil disengagement, adverse steering angles, brakehose failure, driveline component failure, and/or other related component failure! The use of other shocks will void your Skyjacker® warranty!


Picture #32

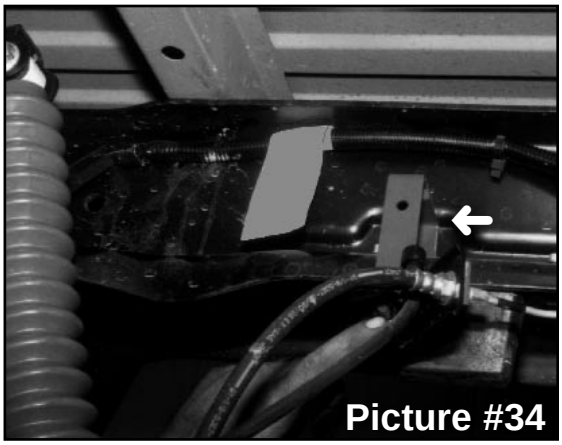
28. If installing Class 2 lift, install new lower link skid plates underneath the front of lower link assemblies, using the 5/16 x 1" carriage bolts furnished. Position the brackets so that the holes are closest to the front bumper (see picture #32).

29. Cycle the steering to full left and right turns checking clearance between the sway bar end links mounts, at front base of coil springs, and the drag link tie rod assembly. It may be necessary on some 94-97 models to trim/grind for needed clearance (see picture #33).


Picture #33

REAR:

1. Place a floor jack under rear axle and raise vehicle. Place jack stands under the frame to support vehicle and remove the rear tires and shock absorbers.


Picture #34

2. Disconnect the rear brakeline harness bracket from driver side frame rail (above bump stop. Install new relocation bracket using the 1/4 x 1" bolt furnished, and bolt original rear brakeline harness bracket to new relocation bracket using original bolt (see picture #34). For those models equipped with a rear brake proportional valve, order extension bracket #PV98, if needed.

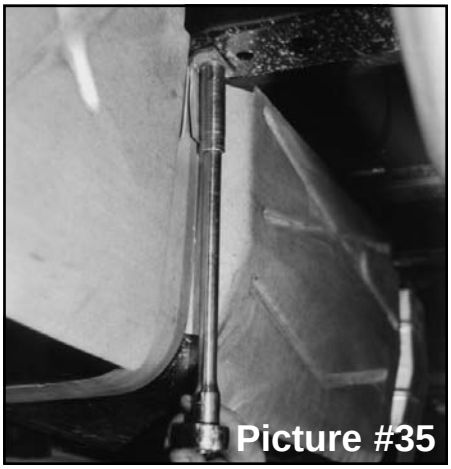
3. Remove the axle U-bolts and lower axle down a few inches. Care should be take because when U-bolts are removed, axle can move freely.

IF INSTALLING A SOFTRIDE® "SYSTEM" WITH NEW REAR SPRINGS, SKIP TO STEP #7.

4. ADD-A-LEAF INSTALLATION: To perform the installation of add-a-leafs properly you must use two large C-clamps to contain the elastic potential energy in a leaf spring when the center tie bolt is being removed. Attach and tighten a C-clamp on leaf spring on both sides of the center tie bolt to hold spring assembly securely together. Using vise-grips to hold the head of the center bolt, loosen and remove it. With care, slowly loosen and remove the C-clamps and spring's bottom overload leaf, if equipped.

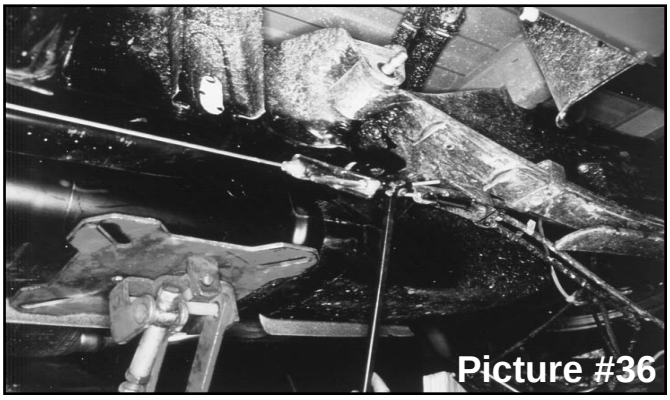
5. Insert new tie bolt through new axle wedge shim (thick end towards rear bumper), original bottom overload leaf, new add-a-leaf, and through original spring pack. Only finger tighten the nut.

6. DO NOT USE THE CENTER TIE BOLT TO DRAW THE SPRING LEAVES TOGETHER. FAILURE OF ANY COMPONENT CAN CAUSE AN EXPLOSIVE DISASSEMBLY AND POSSIBLE INJURY! Place one C-clamp on each side of the center bolt and tighten evenly. Once C-clamp has drawn leaves securely together, hold the center tie bolt head with vise-grips and tighten nut. Remove C-clamps. Cut off excess length of tie bolt. Skip to step 9.


Picture #35

7. NEW SPRING INSTALLATION: Safely support fuel tank. Loosen vent and fill hoses on filler neck. Loosen, do not remove, the front fuel tank strap bolt. Disconnect and remove the rear bolt and strap (see picture #35). Carefully slide fuel tank toward center of vehicle to acquire sufficient room to access the driver side front spring eye bolt.

   Remove the spring eye bolts and remove original springs from vehicle. It will be necessary on the driver side, to pry the gas tank away from frame allowing more room to remove and reinstall factory bolt (see picture #36). NOTE: do not pry gas tank too much or lower down too much because the fitting at top may be broken off.

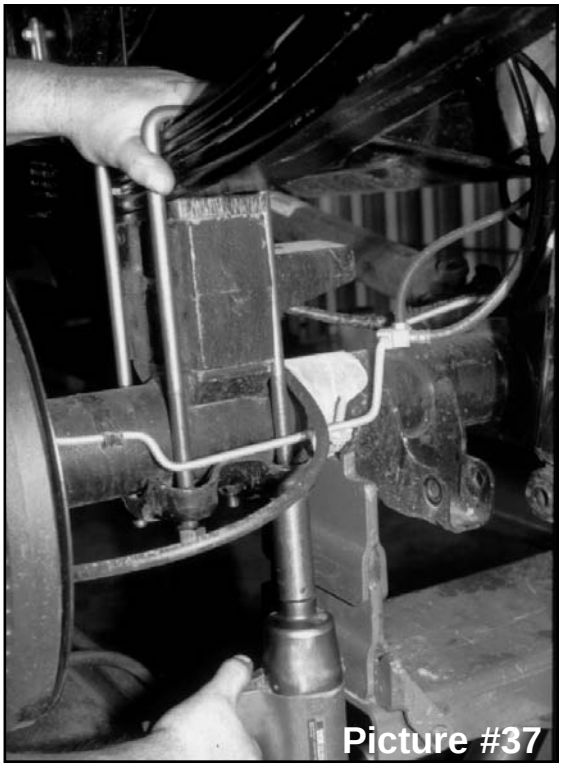

Picture #36

8. Install new springs with thick end of bottom wedge shims towards the rear bumper (which is also the long end of springs toward the rear bumper).

   Reconnect rear fuel tank strap and bolt, tighten front strap bolt, and tighten vent and fill hoses on filler neck.

9. Raise the rear axle back up, aligning spring pins into original blocks and being sure block pins are still aligned in axle housing. Install and tighten new u-bolts evenly (torque u-bolts to 85-90 ft.lbs.).

10. Install rear shock absorbers, tires, remove jack stands and lower vehicle down.


Picture #37

Picture #38

FINAL NOTES:

- After installation is complete, double check that all nuts and bolts are tight. (Do not retighten nut and bolt where Loctite was used.) Check to ensure there is adequate clearance between All rotating, mobile and fixed members.
- Rotate driveshafts and check for interference at differential yoke and cardan joint. If necessary, lightly dress casting(s) and/or U-joint tabs in order to eliminate binding.
- On models with a rear carrier bearing, if a driveshaft vibration is present, insert a spacer (approximately. ½") at cross member to eliminate vibration (see picture #38).
- Check to ensure there is adequate clearance between All rotating, mobile and fixed members. Check clearance between inner side wall of tires. It may be necessary to reset steering stops to eliminate interference.
- Ensure there is adequate clearance between exhaust and brakelines, fuel lines, fuel tank, floor board, and wiring harnesses. Check steering gear for interference and proper working order. Inspect brakelines for damage and adequate clearance. Test brake system.
- With the vehicle on the floor, cycle steering lock to lock and inspect steering, suspension, driveline and brakeline systems for proper operation, tightness and adequate clearance.
- Have headlights readjusted to proper settings.
- Front end realignment is necessary so have a *qualified* alignment center realign front end to factory specifications.

TORQUE SPECIFICATIONS:

1/4" Fine Thread Bolts.....9-10 ft.lbs.	5/16" Carriage Bolts.....11-13 ft.lbs.
7/16" Fine Thread Bolts.....55-58 ft.lbs.	7/16" Carriage Bolts.....33-39 ft.lbs.
1/2" Fine Thread Bolts.....85-90 ft.lbs.	1/2" Course Thread Bolts .....75-80 ft.lbs.
12mm Bolts .....73-77 ft.lbs.	

Photos by: Greg Grasmehr of *FOUR WHEELER Magazine,* Rick Pewe of *PETERSEN'S 4 WHEEL & OFF-ROAD Magazine,* and staff of *SKYJACKER*®