



2/2/10

'87-'94 JEEP WRANGLER 3" SUSPENSION LIFT

Installation Instructions P/N 10-45487

Box 1 of 4

<u>Item</u>	<u>Description</u>	<u>Qty.</u>	<u>Illus.</u>
20-55089-15	Sway Bar Link Pin	2	1
13-90061	U-Bolt, 1/2" x 3-1/4" x 8" Round	2	2
13-90074	U-Bolt, 1/2" x 2-1/2" x 7-1/2" Round	2	2
20-69631	Hardware Pack Containing: (Bushings/Sleeves)		
15-11083	Bushings, Hourglass	4	1
15-11096	Bushings, Spring Eye (Large)	8	
15-11655	Bushings, Spring Eye (Small)	8	
20-833544	Sleeve, 5/8" x .060w x 3"	4	
20-831997	Sleeve, 3/4" x .095w x 3"	4	
20-65991	Hardware Pack Containing: (U-Bolt hardware)		
13-30382	Washer, 1/2" Flat	8	2
13-10332	High Nut, 1/2" Fine	8	2

<u>Item</u>	<u>Description</u>	<u>Qty.</u>	<u>Illus.</u>
20-69644	Hardware Pack:		
13-22249-Z	Screw, 1/2"-13 x 3-1/2" Gr. 8	7	5, 8
13-23406-Z	Screw, 12MM x 1.75 x 70MM Gr. 10.9	1	3
13-22379-Z	Screw, 12MM x 1.75 x 50MM Gr. 10.9	1	3
13-21534-Z	Screw, 3/8"-16 x 1" Gr. 8	1	6
13-23341-Z	Screw, 5/16"-18 x 1" Gr. 8	1	8
13-21352-Z	Screw, 1/4"-20 x 1"	2	4
13-30028-Z	Washer, 1/2" Split Lock	6	5
13-30382-Z	Washer, 1/2" Flat Hrdn.	11	3, 5, 8
13-30408-Z	Washer, 3/8" Flat Hrdn.	2	6
13-30421-Z	Washer, 5/16" Flat Hrdn.	2	8
13-30195-Z	Washer, 1/4" Flat	4	4
13-10514-Z	Nut, 1/2"-13 Top Lock Gr. C	2	8
13-10553-Z	Nut, 3/8"-16 Top Lock Gr. C	1	6
13-10696-Z	Nut, 12MM-1.75 Top Lock Gr. 10.9	1	3
13-10566-Z	Nut, 5/16"-18 Top Lock Gr. C	1	8
13-10161-Z	Nut, 1/4" NyLoc	2	4
20-69657	Hardware Pack Containing: (Brackets)		
20-55089-3	Bracket, Brake Line (drv)	1	4
20-55089-4	Bracket, Brake Line (pass)	1	4
20-55089-5	Bracket, Brake Line Extension	1	6
20-55089-6	Bracket, Bumpstop	4	2, 7
20-55089-9	Bracket, Rear Trac-Bar Extension	1	8
20-55089-10	Bracket, Front Trac-Bar Extension	1	3
20-55089-11	Square Washer, Large Hole	1	3
20-55089-12	Square Washer, Small Hole	1	3
20-832257	Sleeve, 3/4" x .095w x 1.52"	1	8
20-832244	Spacer, Transfer Case	6	5
20-831893	Spacer, Conical 1/2" ID	6	5

<u>Item</u>	<u>Description</u>	<u>Qty.</u>	<u>Illus.</u>
20-68305	Hardware Pack:		
13-20447-Z	Screw, #10 x 1/2" Unslotted Hex	4	
15-10966	Clamp, 3/8" x 3/8" x .203	4	
15-11395	Wire Tie, Plastic 6"	4	
15-11447	Wire Tie, Plastic 8"	2	
15-11460	Wire Tie, Plastic 11"	2	

Box 2 of 3

BE5-6457-H5/H7	Shocks, Front	2	
BE5-6458-H5/H7	Shocks, Rear	2	

Box 3 of 4

13-70130-0	Leaf Pack, 3"-4" Front YJ	2	2
13-70143-0	Leaf Pack, 3"-4" Rear YJ w/ Shim	2	7

Box 4 of 4

BEFORE YOU BEGIN:

Read instructions carefully and study the illustrations before attempting installation. *Race Car Dynamics* is not responsible for damage, failure or injury resulting from improper installation or parts substitution of this kit.

Check the parts and hardware against the parts list to assure that your kit is complete. Report any shortages to *Race Car Dynamics* at (1-619-588-4723). The parts and hardware supplied are of high-grade material and must not be replaced by inferior parts or failure may result.

Separate parts according to the areas they will be used. Placing the hardware with brackets before you begin will save installation time.

This kit is supplied as a bolt-on assembly. Do not weld anything to the components and do not weld the components to the vehicle.

All components in this kit come with a protective coating. Do not plate (i.e. chrome, cadmium, zinc etc.) or otherwise alter the finish in any way. This could weaken the structural strength of the components.

INSTALLATION INSTRUCTIONS

FRONT

- 1) Measure ride height with the vehicle supporting its own weight. Ride height is the measured distance from the center of the spindle to the top of the fender well.
- 2) Raise the vehicle. If working without a shop hoist, put vehicle in gear. Set emergency brake and block rear wheels, in front and behind tires. Loosen front wheel lug nuts. Place floor jack under the front axle and raise the vehicle. Place safety jack stands under frame rails, behind front wheel wells, and lower the frame onto the stands. Remove front wheels.

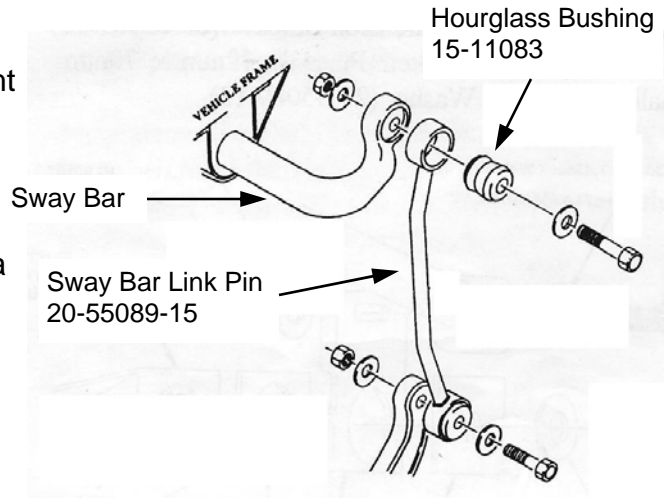


Illustration 1

- 3) Remove the sway bar upper and lower mount pins. Using the same mount pins replace the stock sway bar links with the new Sway Bar Links (**20-55089-15**) using new Hourglass Bushings supplied (**15-11083**). (**Illustration 1**)
- 4) Remove both front shocks.
- 5) Supporting the front axle, remove the front trac-bar bolt at the axle. Lower floor jack to relieve pressure from springs.
- 6) Support the axle with a floor jack and remove front U-Bolts. Remove Spring hanger and shackle bolts going through springs. Save bolts for reuse. Remove stock leaf spring
- 7) Press two large bushings (**15-11096**) and one sleeve (**20-831997**) through large eyelet of both new front leaf spring (**W/O Shim**). Press two small bushings (**15-11655**) and one sleeve (**20-833544**) through small eyelet of both new front leaf springs.
- 8) Install new front leaf springs on vehicle using stock bolts. The smaller eyelet on the leaf spring goes to the shackle and the larger eyelet goes to the stationary spring hanger.

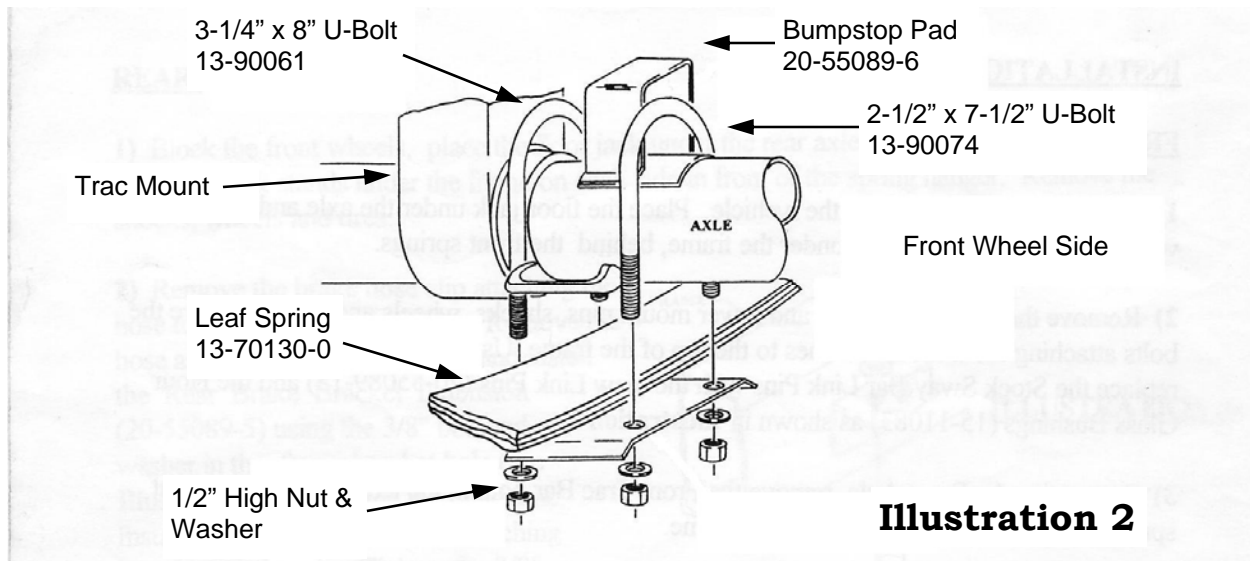


Illustration 2

9) Lower axle onto the springs making sure that the spring pad drops over the center bolt on the new leaf spring. Place the new Bumpstop Pad (**20-55089-6**) over the axle tube. Install new U-Bolt over the Bumpstop Pad and around axle. The larger I.D. U-Bolt fits over the axle tube castings as seen in **Illustration 2**. Re-install the spring retainer plate using 1/2" U-Bolt hardware provided. Tighten U-Bolts to 90 ft. lbs.

10) Referring to **Illustration 3**, install Large Hole Square Washer (**20-55089-11**) over the trac-bar mount on the axle. Place the Front Trac-Bar Extension Bracket (**20-55089-10**) on the same mount with the slotted hole at the top of the bracket. Place 12mm x 70mm bolt and 1/2" flat washer through the Small Square Hole Washer (**20-55089-12**) and into the assembly on the axle. Install a 1/2" washer and 12mm nut on the backside and tighten the assembly to 80 ft. lbs. Allow the trac-bar to hang freely until the vehicle is sitting on the ground.

11) Install the two Front Brake Bracket Extensions (**20-55089-3** driv. & **20-55089-4** pass.) where the brake lines were mounted to the frame using the existing bolts. Use the 1/4" x 1" bolts and hardware provided to attach original brake line brackets to the bracket extensions on the other end. (**Illustration 4**)

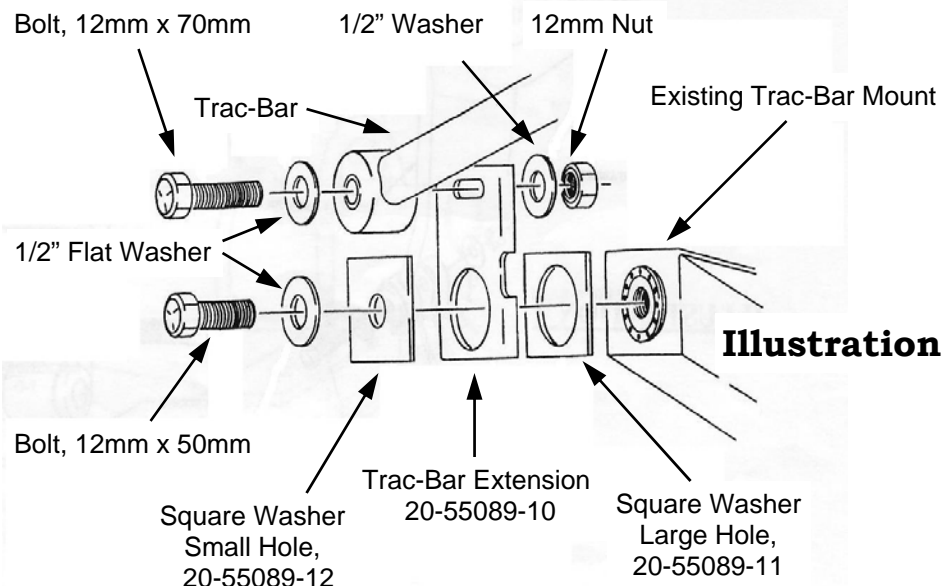


Illustration 3

12) Install new shocks provided (F4-BE5-6457) and wheels and tires.

13) Lower front of vehicle to the ground and tighten all spring mount bolts and re-install sway bar lower link mounts. Tighten all fasteners to required torque specifications. **(See Torque Charts on Last Page)**

14) Referring to **Illustration 3** again, install the 12mm x 50mm and the washer through the trac-bar and into the new bracket on the axle. Tighten to 75 ft. lbs.

15) Place floor jack under the transfer case skid plate. Loosen the three adjustment mount bolts on the bottom side of the skid plates.

16) Remove the skid plate from the frame bolts (**three on each side**) Lower the assembly enough to place the Transfer Case Spacer Tubes (**20-832244**) between the skid plate and the frame. Use the 1/2" x 3-1/2" bolt with hardware provided to re-install the skidplate as shown in **Illustration 5**.

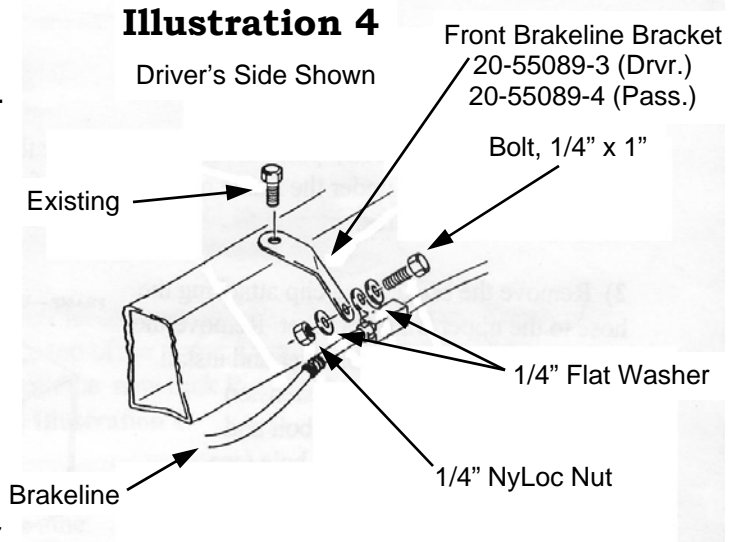
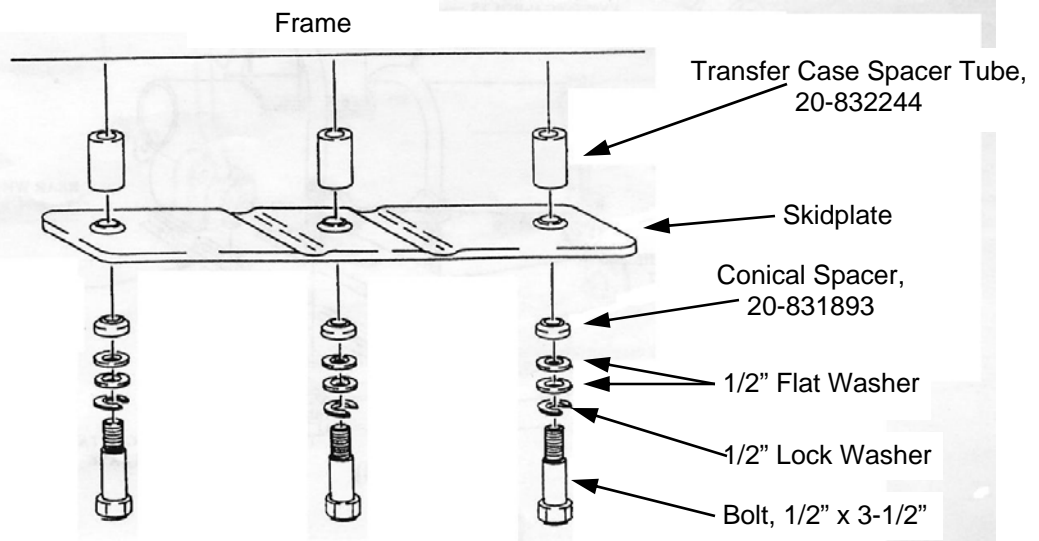


Illustration 5



REAR

- 1) Raise the vehicle. If working without a shop hoist block front wheels, in front and behind tires. Loosen rear wheel lug nuts. Place floor jack under the axle and raise the vehicle. Place safety jack stands under frame rails, in front of rear wheel wells, and lower the frame onto the stands. Remove rear wheels.
- 2) Remove brake hose clip attaching the hose to the upper frame bracket. Remove the hose assembly from the bracket and install the Rear Brake Bracket Extension (**20-55089-5**) using the 3/8" bolt and hardware in the frame bracket hole. (**Illustration 6**) Re-align the brake line. Install it into new bracket, attaching it to the existing clip. Tighten the 3/8" bolt to 20 ft. lbs.
- 3) Keeping slight pressure on the axle, remove the trac-bar at the axle. Remove U-Bolts and both Springs also. Refer to step 7 and 8 on the front install section and install the appropriate bushings and sleeves in the leaves and install leaves onto rear of vehicle.
- 4) Lower axle onto springs. Make sure spring pad lines up with center bolt through shim. Place Bumpstop Pad on top of axle and install original U-Bolts over Pad, around axle and through the original U-Bolt Plate. Torque U-Bolts to 90 ft. lbs. (**Illustration 7**)

Illustration 6

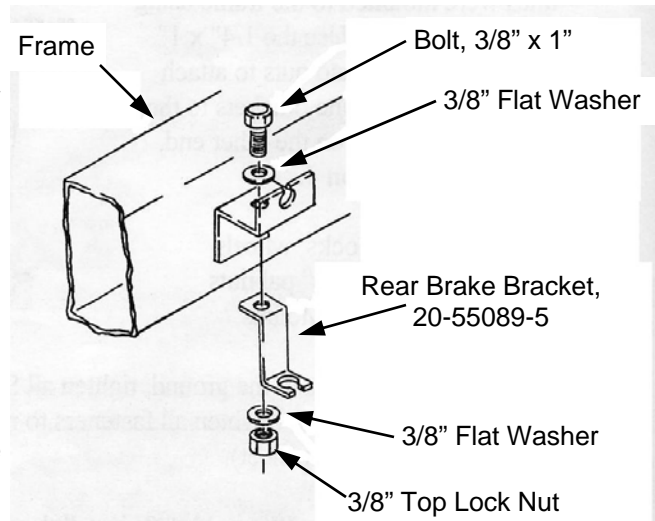
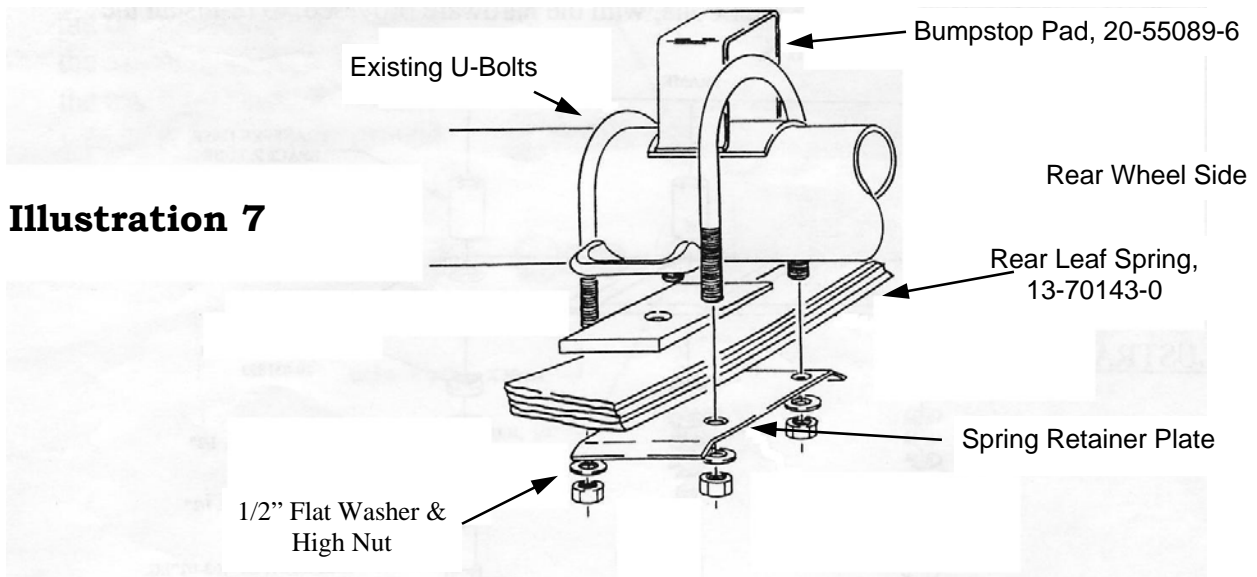
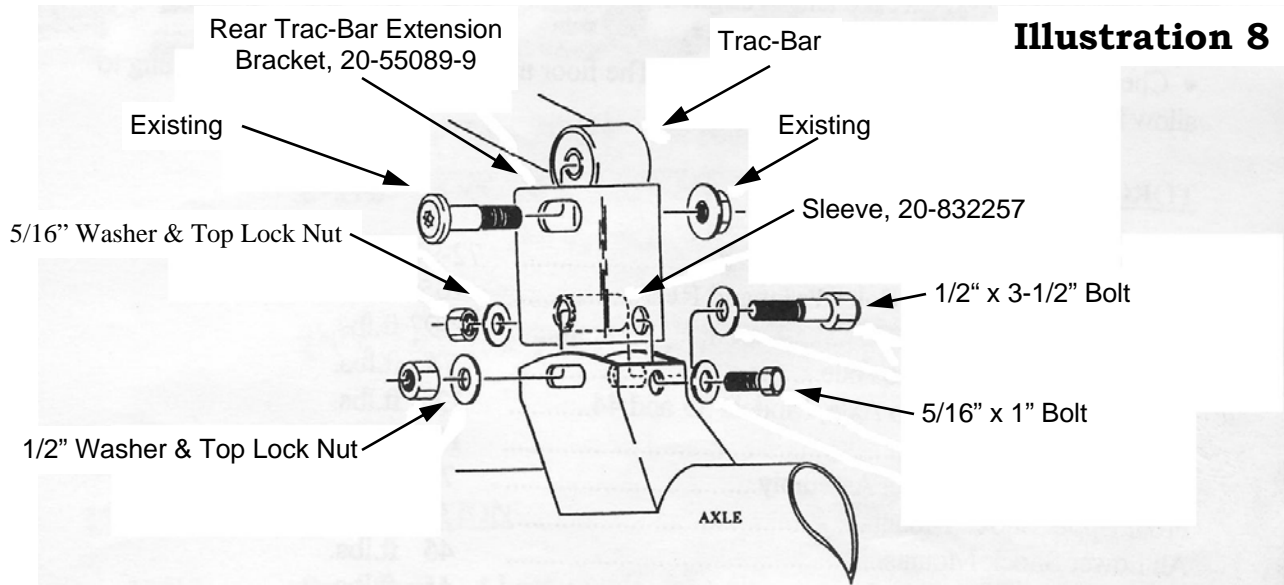


Illustration 7



- 5) Install Rear Trac-Bar Extension Bracket (**20-55089-9**) into the bracket on the axle with the slotted holes at the top. Install the 5/16" bolt with hardware into the small hole towards the outside of the vehicle. Refer to **Illustration 8**. Tighten the bracket into place. Allow the Trac-Bar to hang freely until the vehicle is sitting on the ground.



- 6) Referring again to **Illustration 8**, place the Rear Trac Bar Sleeve (**20-832257**) inside the Rear Trac-Bar Extension Bracket, lining it up with the slotted holes. Install with 1/2" x 3-1/2" bolt and hardware as shown. Torque to 75 ft. lbs.

- 7) Install new shocks provided (F4-BE5-6458).

- 8) Install wheels and tires.

WARNING: Emergency brake cables may appear to be too tight on some models. Simply bend the bracket attaching the cables to the floor down 90 degrees. This will allow the cables to move.

- 9) Lower vehicle to ground and install existing bolt and washer through upper slotted hole and through the Trac-Bar. Install existing nut. Tighten all fasteners to the required torque specifications (**see last page**) for the spring shackles and hangers.

SOME FINAL NOTES

- Required wheel size: 15", Maximum 7" Width, with a 3-3/4" offset from inward side.
- Maximum Tire Size: 31 x 10.50
- The weld at the Trac-Bar may need to be ground to allow shock clearance.
- Check all shifter for proper engagement. The floor may require trimming or notching to allow full travel and engagement of the shifter.
- After installation is complete, double check that all nuts and bolts are tight. Refer to the torque specifications chart on the last page.
- If new tires are installed that are more than 10% taller than original tires, the speedometer must be recalibrated for the Rear Wheel Anti-Lock Brake System to function properly. Contact an Authorized Jeep dealer for details on recalibration.
- With vehicle on the floor, cycle the steering lock to lock and inspect steering, suspension and driveline systems for proper operation, tightness and adequate clearance. Recheck brake/hose fitting for leaks. Be sure all hoses are long enough.
- Have headlights readjusted to proper setting.
- Realign front end to factory specifications. Be sure vehicle is at desired ride height prior to realignment.



Factory Torque Specifications

Spring to Shackle Bolts, Front and Rear	72-97 ft. lbs.
Spring to Frame Hanger Bolts, Front and Rear	105 ft. lbs.
Existing U-Bolts, Rear	72-97 ft. lbs.
Front Trac-Bar Bracket to Axle	74 ft. lbs.
Rear Trac Bar Bracket to Axle, Models 35 & 44	125 ft. lbs.
Rear Trac Bar to Bracket	100 ft. lbs.
Front Trac Bar to Bracket Assembly	75 ft. lbs.
Front Upper Shock Mount	9 ft. lbs.
All Lower Shock Mounts	45 ft. lbs.
Rear Upper Shock Mount	45 ft. lbs.
Transfer Case Skid Plate Mount Bolts	75 ft. lbs.

5/16" NUTS	20 FT. LBS.	M6	9 FT. LBS.
3/8" NUTS	35 FT. LBS.	M8	23 FT. LBS.
7/16" NUTS	60 FT. LBS.	M10	45 FT. LBS.
1/2" NUTS	90 FT. LBS.	M12	75 FT. LBS.
9/16" NUTS	160 FT. LBS.	M14	120 FT. LBS.
5/8" NUTS	175 FT. LBS.	M16	165 FT. LBS.