



02-05 Chevy Avalanche 2500
4WD
6" Suspension Lift
Installation Instructions

REQUIRED TOOL LIST:

- * Metric / Standard Wrenches & Sockets
- * Allen Wrenches
- * Assorted Drill Bits
- * Floor Jack
- * Jack Stands
- * Measuring Tape
- * Torsion Bar Tool
- * Torque Wrench
- * Transmission Jack
- * Reciprocating Saw
- * Grinder



Before beginning the installation, thoroughly & completely read these instructions & the enclosed driver's WARNING NOTICE. 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 the disassembly of the vehicle. If any parts are found to be missing, contact SKYJACKER®. 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 & 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:

- Minor modifications are required on all Duramax Diesel models.
- This lift is determined from the amount of lift to the front of the vehicle, while only lifting the rear to a position level with the front.
- If larger tires (10% more than the stock diameter) are installed, speedometer recalibration will be necessary. Contact your local GM dealer or an authorized dealer for details.
- After installation a qualified alignment facility is required to align the vehicle to factory specifications.

Kit Box Breakdown:

C9671A:

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
GM256L	GM 1500 HD,LEFT STEERING KNUCKLE	1
GM256R	GM 1500 HD,RIGHT STEERING KNUCKLE	1
C968-EXS	UPPER A-ARM EXT STOP SHIM	2
C967TBD-S	AVALANCHE TORSION DROP BRACKET	2
HB-C967-TBB	HDWR BG:TORSION BRACKETS C967	1
I-C9671	INST SHEET: C9671	1

Hardware Bag Breakdown:

HB-C967-TBB Torsion Bar Drop Brackets

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
SP3445	GM 1/2T,3/4T TORSION BUSHING	4
TBSC967	TORSION BAR SLEEVE,1.5"L	2
12X112FTB	1/2 X 1 1/2 FINE THRD BOLT	8
12FTN	1/2-20 FINE N/I LOCK NUT	8
12SAEW	1/2 SAE WASHER	16

C9671B:

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
C9682FCM-B	GM 3/4T,FRONT CROSS MEMBER	1
C9682RCM-B	GM 3/4T,REAR CROSS MEMBER	1
C9682BSB-D	01-09 GM2500 DRV BMPSTP BRK	1
C9682BSB-P	01-09 GM2500 PAS BMPSTP BRK	1
C9682PS-S	GM 3/4T,DIFF PASS SIDE BRKT	1
C9682FDB-B	01-09 GM2500 FRT DIFF BRKT	1
C9682SKD-S	01-09 GM 2500HD DIFF SKDPLT	1
C968CVS-D	2500 HD,CV SPACER, 3.063"WIDE,DRIVER	1
C968CVS-P	2500 HD,CV SPACER,15/16"WIDE,PASSENGER	1
CBL2500	CARR BRG LWRG KIT, 2500 HD	1
RB45	4.5" REAR BLOCK	2
58X234X1212U	5/8 X 2 53/4 X 12 1/2 U-BT S	4
HB-C968-CM	HDWR BAG/CROSS-MEMBER C968 KIT	1
HB-C9682FDB	HDWR BAG:C9682 FRT DIFF BRK	1
HB-C968-CVS	HDWR BAR/CV SPACERS C968	1
HB-C968-SBL	HDWR BAG/SWAY BAR-MISC C968	1
HB-C968-SKD	HDWR BAG: C968 DIF SKID PLT	1
HB-58	HDWARE BAG: 8 - 58FTN NUTS	1

Kit Box Breakdown:

Hardware Bag Breakdown:

HB-C968-CM Front and Rear Cross Member

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
58X5FTB	5/8 X 5 FINE THREAD BOLT	2
58X512FTB	5/8 X 5 1/2 FINE THD,GR. 8	2
58FTN	5/8-18 NYLON INSERT LOCKNUT	4
58SAEW	5/8 SAE WASHERS	12
716x112FTB	7/16 X 1 1/2 FINE THRD BOLT	6
716FTN	7/16-20 FINE N/I LOCK NUT	6
716SAEW	7/16 SAE WASHERS	12

HB-C968-CVS C.V. Spacers

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
10MMX50MMB	10 X 50 METRIC BOLT/10.9	6
10MMX100MMB	10 X 100 METRIC BOLT/ 10.9	6
LT100	NUTS N' BOLTS 427 1 ML TUBE	2

HB-C9682FDB Front Differential Brackets

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
10MMX60MMB	10 X 60 METRIC BOLT/10.9	4
38SAEW	3/8 SAE WASHER	4
916X112FTB	9/16 X 1 1/2 FINE THRD BOLT	2
916FTN	9/16-18 NYLON INSERT LOCKNU	2
916SAEW	9/16 SAE WASHERS	4
2433	BUSHING IFSGM DIFF & STRUTS	2
C968SHIM	GM 3/4T,SHIM-PASS DIFF BRKT	1
CS2375	CRUSH SLEEVE / 2.375"	1
LT100	NUTS N' BOLTS 427 1 ML TUBE	1

HB-C968-SBL Sway Bar Links

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
5MMX12SHB	5MM X 12MM-.80 SKT HEAD C/S	6
38X312FTB	3/8 X 3 1/2 FINE THREAD BOLT	2
38FTN	3/8-24 FINE N/I LOCK NUT	2
38SAEW	3/8 SAE WASHER	4
38CC	3/8" CABLE CLAMPS	6
SBE1125-S	FRONT,OE SWAY BAR LINK 6"GM	2
SBE-CBSH	END LINK BUSHING	2

Kit Box Breakdown:

HB-C968-SKD

Diff Skid Plate

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
516X1CARB	5/16 X 1 CARRIAGE BOLT	2
516X1FTB	5/16 X 1 FINE THRD BOLT	2
516CTN	5/16-18 COARSE N/I LOCK NUT	2
516FTN	5/16" FINE THRD N/I LOCKNUT	2
516LW	5/16" GRADE 8 LOCK WASHER	2
516SAEW	5/16 SAE WASHER	6

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Nuts For U-Bolts

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
58FTN	5/8-18 NYLON INSERT LOCKNUT	8

Attention all Duramax Diesel Models:

All models equipped with the Duramax Diesel may require modifications to the torque converter housing.

Before installation of the suspension lift, the lower driver side of the torque converter housing must be cut off. Photo # 1 shows the pinion yoke in contact with the housing with the lift installed, before modification. Photo # 2 shows the housing after modifications. The housing must be trimmed off past the OEM casting dowel hole.

Some models will require that the differential be ground for clearance of the switch located on the side of the oil pan. (See Photo # 3) The differential may also have to be ground for clearance of the oil pan itself. (See Photo # 4)



FRONT DISASSEMBLY:

1. With the vehicle on flat level ground set the emergency brake & block the rear tires. Place a floor jack under the lower control arm's front cross member & raise the vehicle. Place jack stands under the frame rails, behind the front wheel wells & lower the frame onto the stands.
2. Remove the front OEM skid plates located in front of & under the front differential using a 15mm socket. (See Photo # 1)

WARNING: Be extremely careful when loading or unloading the torsion bars; there is a tremendous amount of stored energy (load pressure) in the bars. Keep your hands & body clear of the adjuster arm assembly & puller tool in case anything slips or breaks.

NOTE: A special PULLER TOOL is required for SAFE REMOVAL/ INSTALLATION of the torsion bars. This special puller can be purchased from a GM Dealer (Tool #J36202) or from Kent Moore Tool Group, Roseville, MI (800) 345-2233 or (313) 774-9500 (Part # J-22517-C).

3. Locate the torsion bar adjuster bolt on the bottom of the rear cross member, measure & record the length of the torsion bar adjusting bolt that is exposed below the nut & remove the torsion bar adjusting bolt. Apply a small amount of lubricating grease to the puller threads & the puller shaft-to-adjuster arm contact point. Position the puller & load adjuster arm until the adjuster nut can be removed from the cross member. With the bar unloaded, slide it further forward into the lower control arm. If the bar seems lodged, use a hammer & punch through the hole in back of the cross member. When the bar shifts forward, the adjuster will fall free. (See Photo # 2) Repeat this process on passenger side.
4. With the torsion bars removed from the rear cross member, remove the torsion bar cross member using 21mm socket. With the cross member removed, remove the torsion bars from the vehicle. **Note:** Be sure to mark the driver & passenger side for reinstallation.
5. Remove the front tires & remove the front shocks using a 21mm socket & 15mm wrench. Remove the front sway bar links using a 13mm wrench.
6. Remove the tie rod end nut from the steering knuckle using a 21mm socket. Remove the tie rod end from the knuckle by striking the knuckle to dislodge the tie rod end. **Note:** Be careful not to damage the tie rod end. (See Photo # 4)



Photo # 1

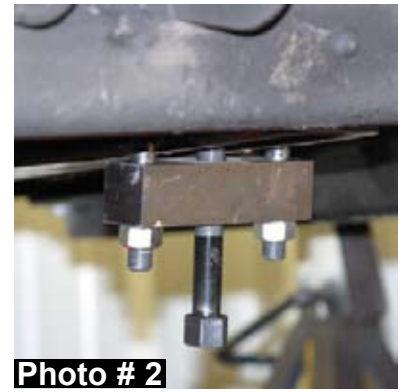


Photo # 2



Photo # 3



Photo # 4

7. Disconnect the ABS line at the top of the frame rail. Remove the brakeline retaining bracket from the top of the steering knuckle using a 10mm wrench. **Note:** It will not be necessary to disconnect the actual banjo fitting at the brake caliper. Remove the caliper using a 21mm socket. Then wire the caliper out of the way so that there is no stress on the brakeline. With the caliper removed, remove the brake rotor. (See Photo # 5)

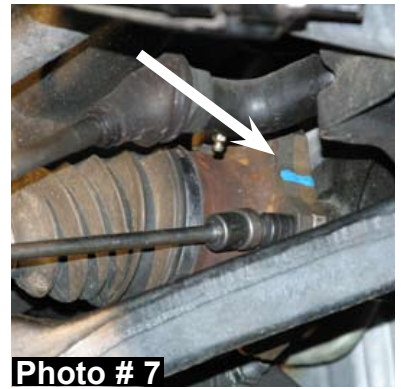


8. Remove the outer axle nut dust cover to allow access to the outer axle nut. Remove the outer axle nut & washer using a 1 7/16" socket. (See Photo # 6)



9. Mark the cv-shaft prior to removal so that the cv-shaft can be reinstalled the same way as removed. Also be sure to mark the left & right. Remove the cv-shaft from the front differential using a 15mm socket & remove the cv-shaft. (See Photo # 7)

10. Remove the upper & lower a-arm ball joints from the knuckle using a 18mm & 24mm socket. Once again, it may be necessary to strike the knuckle to allow the tie rod end to dislodge. Remove the knuckle from the vehicle.



11. Remove the spindle bearing from the knuckle using a 15mm socket & remove the inner o-ring from the knuckle. The o-ring will be reused later in the installation process. (See Photo # 8)

12. Remove the lower a-arm from the frame using a 24mm socket & 18mm wrench. (See Photo # 9)

13. Disconnect the front driveshaft using a 11mm wrench. **Caution:** Be sure to mark the u-joint & yoke at the differential. The drive shaft **must** be installed the same way during reinstallation. Failure to realign the u-joint & yoke in the exact same point could result in vibration after install. (See Photo #10). Do not remove the driveshaft all together. Simply strap it out of the way.

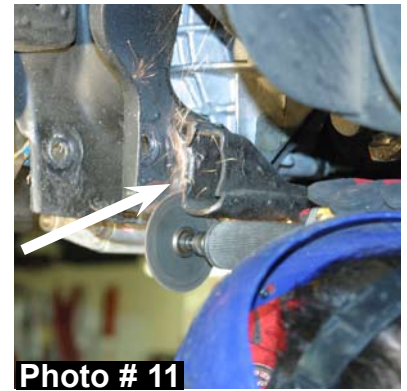


NOTE: GM front drive shafts are balanced on each vehicle due to driveline vibrations. It is **very** important that the drive shaft is reinstalled the same as factory.

Photo # 9
I-C9671

Photo # 10

14. Locate the OEM rear two piece differential cross member. Locate the point on the driver side where the cross member is welded to the frame, it will be necessary to grind off the welds so that the cross member can be removed. (See Photo # 11)
15. With the welds ground off, remove the cross member mounting bolts using a 18mm wrench & remove the rear cross member assembly. (See Photo # 12)
16. While supporting the front differential with a transmission jack, remove the passenger side differential mounting bolts using a 21mm socket. Disconnect the actuator line from the passenger side of the front differential. (See Photo # 13)
17. Remove the driver side upper differential bolt using a 21mm socket. Disconnect the vacuum hose on the driver side of the front differential & remove the differential using a transmission jack. (See Photo # 14)
18. On the passenger side differential tube pad, locate the rearward mounting hole. Measure 1/2" from the outside edge of the hole to the outside edge of the mount & make a mark. Using a reciprocating saw, cut along the mark. (See Photo # 15 & 16)
19. Locate the rear cross member mount on the driver side & passenger side frame & grind the front outside edge smooth. (See Photo # 17)



REAR mounting point on passenger side diff tube.



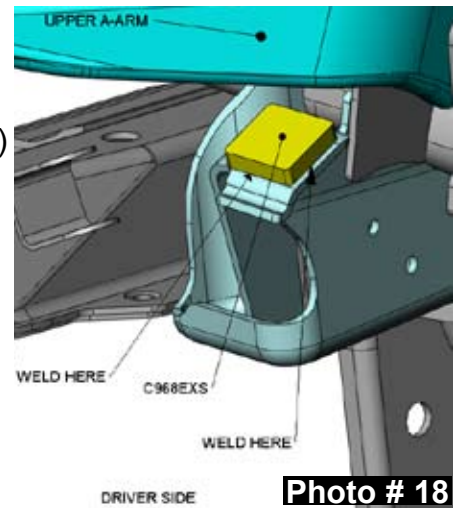
Photo # 15
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Photo # 16

Photo # 17

FRONT ASSEMBLY:

20. Place the upper a-arm extension stop shim on the upper portion of the OEM a-arm stop bracket & weld in place. (See Photo # 18)
21. Locate the upper mount of the differential & make a mark across the lower portion of the differential mount. Using a reciprocating saw, remove the factory upper differential mount. **Note:** Be extremely careful not to cut into the differential housing. (See Photo # 19) Use a grinder to clean up any imperfections or uneven cuts. (See Photo # 20) Some models will require the removal of the lower differential casting tab for rear cross member clearance. (See Photo # 21)



22. Insert the two poly bushings (SP3445) & sleeve into the eyelet of the new Skyjacker driver side differential bracket. Install the driver side differential bracket to the factory differential using the four 10mm x 60mm bolts & washers. (See Photo # 22) **Note:** Use the supplied thread lock compound when installing these differential bolts.



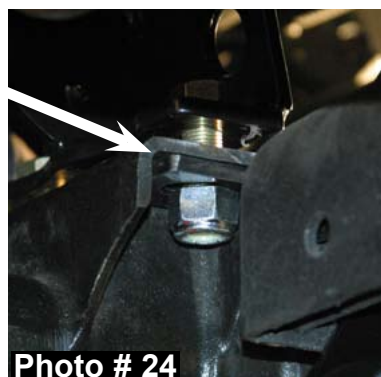
23. Install the new Skyjacker passenger side differential bracket. The bracket will install with the open end to the inside & the longest end on top. Use the OEM hardware to attach the upper part of bracket to the OEM mount. (See Photo #23)



24. Support the front differential & attach the differential to the passenger side bracket using the two 9/16" x 2" coarse thread bolts, washers, & nuts. **Note:** Be sure to install the support shim under the rear differential mount. This piece is used to support the mount that was cut earlier. (See Photo #24)



Arrow shows the support shim from step # 24.
Found in hardware bag part # HB-C9682FDB



25. Remove the OEM bump stops from the frame using a 15mm socket. Enlarge the two OEM bump stop bracket bolt holes, using a 7/16" drill bit. Install the new Skyjacker bump stop bracket using the 7/16" x 1 1/2" fine thread bolts, washers, & nuts. Center punch the remaining hole & drill using a 7/16" drill bit. Install the remaining 7/16" x 1 1/2" fine thread bolt, washers, & nut. (See Photo # 25)

26. Attach the OEM bump stop to the new Skyjacker bump stop brackets, using the OEM hardware.

27. Install the new Skyjacker rear cross member using the 5/8" x 5 1/2" fine thread bolts, washers, & nuts at the upper mount. (See Photo # 26)

28. Attach the rear of the differential to the rear cross member using the OEM hardware. Push the differential back toward the rear of the vehicle & tighten the bolts. Reattach the front vacuum line & front actuator line.

29. Install the new Skyjacker front cross member using the 5/8" x 5" fine thread bolts, washers, & nuts at the upper mount. (See Photo # 27)

30. Attach the driver front differential bracket to the new front cross member using the OEM hardware from the upper differential mount.

31. Install the lower a-arms to the new cross members using the OEM hardware. (See Photo # 28)

32. Attach the hub bearing assembly to the new knuckle using the OEM hardware. Be sure to reinstall O-Ring and use loctite on the bolts. Torque flange bolts to 130 ft. lbs. (See Photo # 29)

33. Install the new Skyjacker steering knuckles. Attach the upper & lower a-arms to the new knuckle using the OEM hardware. The outer tie rod end will install from the top instead of from the bottom as OEM. (See Photo # 30)

34. Reinstall the brake rotor & brake caliper. Torque the caliper bolts to 70 ft. lbs.

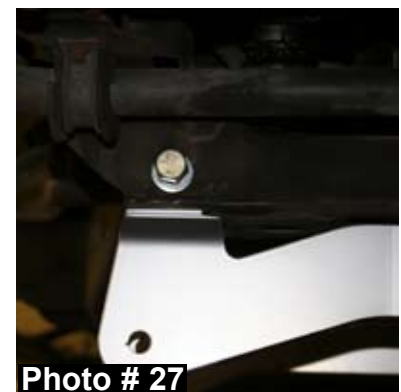


Photo # 30
I-C9671

35. Install the driver & passenger side cv-shafts. Use the 3.063" cv-shaft spacer on the DRIVER'S side & use the 15/16" wide cv-shaft spacer on the PASSENGER side. The spacers will install between the cv-shaft & differential with the male end against the differential. Use the 10mm x 100mm bolts on the driverside & the 10mm x 50mm bolts on the passenger side. **Note:** Be sure to use thread lock compound on these bolts & torque the bolts to 45 ft. lbs. (See Photo # 31)



Photo # 31
Passenger side shown with one 15/16" C.V. spacer.

36. Reinstall the cv-shaft retaining nut & dust cover.

37. Install the new Skyjacker front differential skid plate to the front & rear cross members using the four 5/16" x 1" bolts, washers, & nuts. (See Photo # 32)



38. Attach the ABS line to spindle using the supplied three plastic clips per side. Attach each clip to the pre-drilled holes in the knuckle. (See Photo # 33) Attach the brakeline to the side of the knuckle using the 5mm x 12mm bolts supplied. (See Photo # 34)



39. Install the new Skyjacker front shocks using the OEM bottom bolts. (See Photo # 35) **Note:** For ease of installing the front shocks into the lower front shock mount, it may be necessary to grind an 1/8" off of each side of the polyurethane shock eye bushing.



40. Install the new Skyjacker sway bar end link bushing (Part # SBE-CBSH) on the stud of the pivoting end of the new Skyjacker sway bar end link with the larger diameter end facing the boot of the sway bar end link. Align the sway bar end link bushing with the OEM mounting location of the OEM a-arm & install the new Skyjacker sway bar end link. Note: Be sure to install the sway bar end link with the pivoting end at the a-arm. (See Photo # 36)

41. Reinstall the front drive shaft being sure to reinstall in the exact same position with the marks made to the u-joint & yoke from Step # 13. (See Photo # 37)



42. Install the new Skyjacker torsion bar drop brackets by aligning the bracket with the rivets on the frame. Position the bracket so there is equal distance between the bolt holes in the bracket & the rivets in the frame. Secure with a c-clamp, mark, & drill the holes using a 17/32" drill bit. Once drilled, attach the bracket to the frame using the 1/2" x 1 1/2" fine thread bolts, washers, & nuts. At this point, the center of the bracket should be lined up with the center of the OEM bushing on the frame. With the brackets installed, install the poly bushings & sleeves into the drop bracket. Reinstall the OEM torsion bar cross member using the OEM hardware. (See Photo # 38)



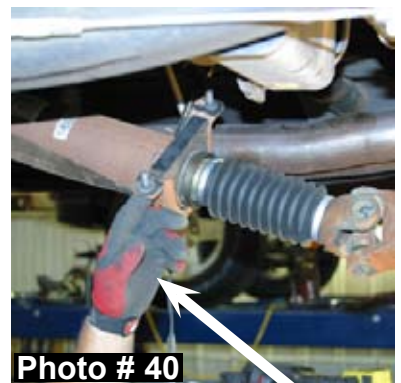
43. Reinstall the OEM torsion bars. **Note:** Be sure to install the adjuster bolts to the same length as OEM. (See Photo # 39)



If installing Dual Steering Stabilizer Part # 7298, see those instructions at this time.



44. On vehicles equipped with a rear carrier bearing, it will be necessary to lower the carrier bearing bracket. Remove the retaining nuts from the carrier bearing bracket using a 15mm socket. It is recommended to place a strap around the drive shaft to keep it from moving. (See Photo # 40)



45. Once the nuts are removed, knock out the factory studs & install the spacer using the 3/8" x 3 1/2" fine thread bolts, washers, & nuts. **Note:** Be sure to install the spacer using the 2" side. (See Photo # 41)



46. Reinstall the front tires & let the weight of the vehicle on the ground. At this time, check all bolts & hardware for proper installation & torque.

Rear Installation:

47. Remove the OEM rear shock using a 21 mm socket. (See Photo # 42)
48. Raise the rear of the vehicle & support the frame rails using jack stands.
49. While supporting the rear axle with a floor jack, remove the rear u-bolts using a 15/16 socket. If installing blocks, skip to step # 52.



REAR SPRING INSTALLATION:

50. Using a 15/16 socket, remove the OEM spring eye bolts & remove the OEM rear springs. (See Photo # 43) The new Skyjacker rear spring is equipped with a degree shim attached to the bottom of the spring to correct pinion angle. Be sure to install the spring with the thick end of the shim towards the rear bumper. Insert the OEM spring eye bolts. (**Do Not Tighten at This Time!**) It may be necessary to disconnect the emergency brake cable on the driver side frame rail to allow the axle to come down far enough to install the new spring. Be sure to reattach once the spring is installed.



51. Attach the new Skyjacker spring to the axle using the supplied u-bolts. **Note:** Be sure the center spring bolt seats into the axle pad. Torque the u-bolts to 100-110 Ft. Lbs. Skip to step # 53.

BLOCK INSTALLATION:

52. Install the new Skyjacker 4.5" blocks. **Note:** Be sure to install the blocks with the tallest portion toward the rear of the vehicle. Slowly let the weight down onto the blocks, being sure that the center pin in the block is inserted into the axle pad correctly & that the spring head seats into the hole in the block. Install using the supplied u-bolts. Torque the u-bolts to 100-110 ft. lbs.
53. With the u-bolts installed, remove the jack stands & let all weight down onto springs. After all the weight is down on the springs, torque the spring eye bolts to 50 ft. lbs.



54. Install the new Skyjacker shocks using OEM hardware. (See Photo # 44)

FINAL NOTES:

- After the installation is complete, double check that all nuts & bolts are tight. Refer to the following chart below for the proper torque specifications. (Do not retighten the nuts & bolts where thread lock compound was used.)
- 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.
- Have the headlights readjusted to the proper settings.
- Have a qualified alignment center realign the front end to the factory specifications.
- Retorque all the bolts after the first 100 miles.

<u>TORQUE SPECIFICATIONS</u>					
<u>INCH SYSTEM</u>			<u>METRIC SYSTEM</u>		
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 FTLB	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.**

Seat Belts Save Lives, Please Wear Your Seat Belt.