



www.skyjacker.com

01-03 Chevy/GMC 2500 HD 4x4 6" Suspension lift Installation Instructions Part # C9681K, C9681KS

REQUIRED TOOL LIST:

- * Metric and Standard wrenches and 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, 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.

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

Driver Side Front: _____ Passenger Side Front: _____

Driver Side Rear: _____ Passenger Side Rear: _____

IMPORTANT NOTES:

- **Minor modifications required on all Duramax Diesel models.**
- Please refer to Parts List to insure that all parts and hardware are received prior to disassembly of vehicle. If any parts are found to be missing, contact your dealer as soon as possible.
- If larger tires (10% more than stock diameter) are installed, speedometer recalibration is necessary (see GM dealer or Tire Store). Larger tire will not fit on factory wheel. Contact your Dealer for details.
- This lift is determined from the front while only lifting the rear to a position level with the front.
- After installation occurs, a qualified alignment facility is required to align the vehicle to factory specs.

Kit Box Breakdown:

C9681A:

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
C968L	GM 3/4T,8L,LEFT STEERING KNUCKLE	1
C968R	GM 3/4T,8L,RIGHT STEERING KNUCKLE	1
C968SPL-S	GM 3/4T,SKID PLATE - LOWER	1
C968SPU-S	GM 3/4T,SKID PLATE - UPPER	1
C968SPD-S	GM 3/4T,DRIVER SKID PLATE BRKT	1
C968SPP-S	GM 3/4T,PASS SKID PLATE BRKT	1
C968TBD-S	GM 3/4T,TORSION DROP BRKT.	2
HB-C968-SP	HDWR BAG:C968 SKID PLATES	1
HB-C968-TBB	HDWR BAG:TORSION BRKTS C968	1
I-C9681	INST SHEET FOR C968 2500HD	1

Hardware Bag Breakdown:

HB-C968-SP Front Skid Plate

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
38X1FTB	3/8 X 1 FINE THREAD BOLT	12
38X114FTB	3/8 X 1 1/2 FINE THD BLT/G8	8
38FTN	3/8-24 FINE N/I LOCK NUT	20
38SAEW	3/8 SAE WASHER	40

HB-C968-TBB Torsion Bar Drop Brackets

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
SP3445	GM 1/2T,3/4T TORSION BUSHING	4
TBBS1590	TORSION BAR SLEEVE,1.590"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

Kit Box Breakdown:

C9681B:

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
C968FCM-S	GM 3/4T,FRONT CROSS MEMBER	1
C968RCM-S	GM 3/4T,REAR CROSS MEMBER	1
C968DPS-S	GM 3/4T,DIFF PASS SIDE BRKT	1
C968DDS-S	GM 3/4T,DIFF DRIVER SIDE BRKT	1
C9668SBL-S	GM 1/2,3/4 SWAY BAR EXT LINKS	2
C968CVS-D	2500 HD,CV SPACER, 3.063"WIDE,DRIVER	1
C968CVS-P	2500 HD,CV SPACER,15/16"WIDE,PASSENGER	1
38X14CTB	3/8 X 14 COARSE BOLT,GR. 8	2
RB45	4.5" REAR BLOCK	2
58X258X1412U	5/8 X 2 5/8 X 14 1/2 U-BT S	4
HB-C968-CM	HDWR BAG/CROSS-MEMBER C968 KIT	1
HB-C968-DB	HDWR BAG/DIFF BRKTS C968	1
HB-C968-CVS	HDWR BAR/CV SPACERS C968	1
HB-C968-SBL	HDWR BAG/SWAY BAR-MISC C968	1
HB-58	HDWARE BAG: 8 - 58FTN NUTS	1

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
58X112FTB	5/8 X 1 1/2 FINE THD,GR. 8	2
58X112BHB	5/8 X 1 1/2 BUTTON HEAD BLT	2
58FTN	5/8-18 NYLON INSERT LOCKNUT	4
58CTN	5/8-11 NYLON INSERT LOCKNUT	2
58SAEW	5/8 SAE WASHERS	12
38CTN	3/8-16 COARSE N/I LOCK NUT	2

HB-C968-DB Driver and Passenger Side Differential Brackets

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY</u>
916X112FTB	9/16 X 1 1/2 FINE THRD BOLT	2
916X4FTB	9/16 X 4 FINE THREAD BOLT	1
716X112FTB	7/16 X 1 1/2 FINE THRD BOLT	1
916FTN	9/16-18 NYLON INSERT LOCKNUT	2
716FTN	7/16-20 FINE N/I LOCK NUT	1
916SAEW	9/16 SAE WASHERS	4
716SAEW	7/16 SAE WASHERS	2
C968SHIM	GM 3/4T,SHIM-PASS DIFF BRKT	1

HB-C968-CVS C.V. Spacers

ITEM#	DESCRIPTION	QTY
10MMX50MMB	10 X 50 METRIC BOLT/ 10.9	6
10MMX100MMB	10 X 100 METRIC BOLT/ 10.9	6
LT100	LOCTITE 427 1 ML TUBE	2

HB-C968-SBL Sway Bar Links

ITEM#	DESCRIPTION	QTY
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
38CTN	3/8-16 COARSE N/I LOCK NUT	2
38SBW	3/8" SWAY BAR WASHER/C966	8
38CC	3/8" CABLE CLAMPS	6

HB-58 Nuts For U-Bolts

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

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 bolt is being installed with a bushing.**

Attention all Duramax Diesel Models:

All 2500 HD models equipped with the Duramax Diesel will 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 lift installed, before modification. Photo #2 shows the housing after modifications. The housing must be trimmed off past the OEM Casting Dowel hole.



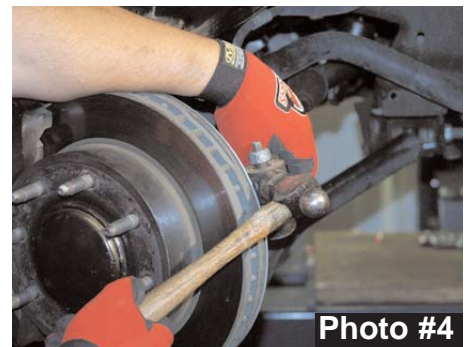
FRONT DISASSEMBLY:

1. With vehicle on flat level ground set the emergency brake and block the rear tires. Place floor jack under the lower control arm's front cross member and raise vehicle. Place jack stands under frame rails, behind the front wheel wells and lower the frame onto the stands.
2. Remove both front factory skid plates located in front of and under the front differential using 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 and body clear of the adjuster arm assembly and 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 and record the length of the torsion bar adjusting bolt that is exposed below the nut, and remove the torsion bar adjusting bolt. Apply a small amount of lubricating grease to the puller threads and the puller shaft-to-adjuster arm contact point. Position puller and 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 and 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 torsion bars removed from rear cross member, remove torsion bar cross member using 21mm socket. With cross member removed, remove the torsion bars from the vehicle, be sure to mark driver and passenger for reinstallation.
5. Remove front tires and remove the front shocks using 21mm socket and 15mm wrench. Remove front sway bar links using 13mm wrench. Be sure to save sway bar link bushings. They will be reused in further installation.
6. Remove the tie rod end nut from knuckle using 21mm socket. Remove the tie rod end from the knuckle by striking the knuckle to dislodge the tie rod end. Be careful not to damage the tie rod end. (See 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 10mm wrench. It will not be necessary to disconnect the actual banjo fitting at the caliper. Remove Caliper using 21mm socket. Then wire caliper out of the way so that there is no stress on brakeline. With caliper removed, remove the rotor. (See Photo # 5).
8. Remove outer axle nut dust cover to allow access to outer axle nut. Remove outer axle nut and washer using 1 7/16 socket. (See Photo # 6).
9. Mark C.V. shaft prior to removal so that shaft can be reinstalled the same as removed. Also be sure to mark left and right. Remove C.V. shaft from front differential using 15mm socket. Then, remove C.V. shaft. (See Photo #7).
10. Remove upper and lower A - Arm ball joints from knuckle using 18mm and 24mm socket. Once again it may be necessary to strike the knuckle to allow the tie rod end to dislodge. Remove knuckle from vehicle.
11. Remove the spindle bearing from knuckle using 15mm socket. Then remove the inner O-Ring from the knuckle. The O-Ring will be reused in installation. (See Photo # 8).
12. Remove Lower A -Arm from frame using 24mm socket and 18mm Wrench. (See Photo #9).
13. Disconnect front driveshaft using 11mm wrench. **Caution:** Be sure to mark U-Joint and Yoke at differential. The drive shaft **must** be installed the same way during reinstallation. Failure to realign the U-Joint and 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 drive shaft is reinstalled same as factory.



Photo #5

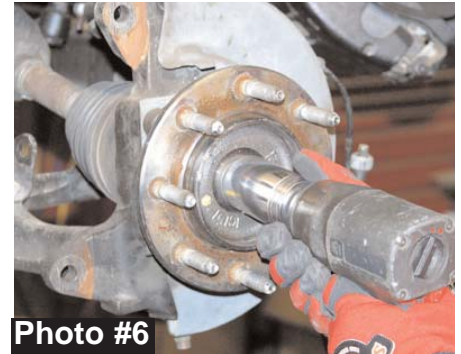


Photo #6

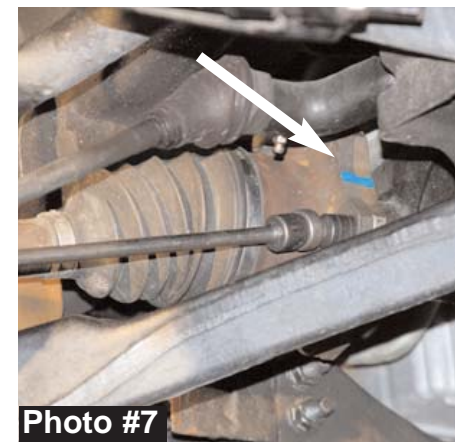


Photo #7



Photo #8

I-C9681

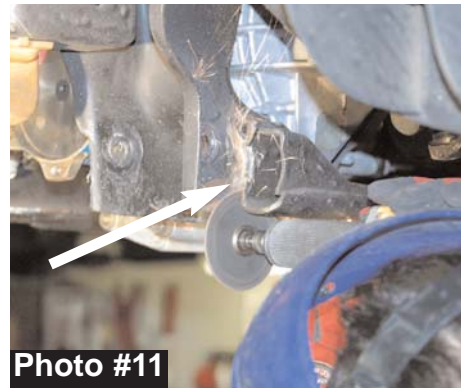


Photo #9

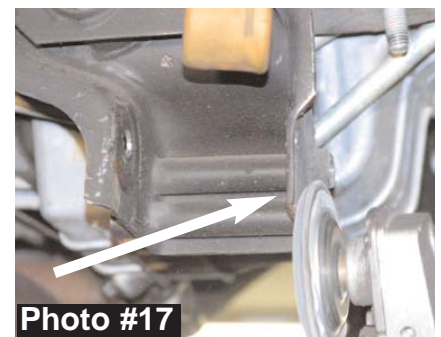


Photo #10

14. Locate the factory rear 2 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 welds ground off, remove cross member mounting bolts using 18mm wrench. Remove rear cross member assembly. (See Photo #12).
16. While supporting front differential with transmission jack, remove passenger side differential mounting bolts using 21mm socket. Also disconnect actuator line from passenger side of front differential. (See Photo #13).
17. Remove driver side upper differential bolt using 21mm socket. Disconnect vacuum hose on driver side of front differential. (See Photo # 14). Then remove differential using transmission jack.
18. On passenger side differential tube pad, locate the rearward mounting hole. Measure 1/2" from outside edge of hole to outside edge of mount and make a mark. Using a reciprocating saw, cut along mark. (See Photo #15 and 16).
19. Locate the rear cross member mount on driver side and passenger side frame. Grind the front outside edge smooth as shown in (Photo #17).

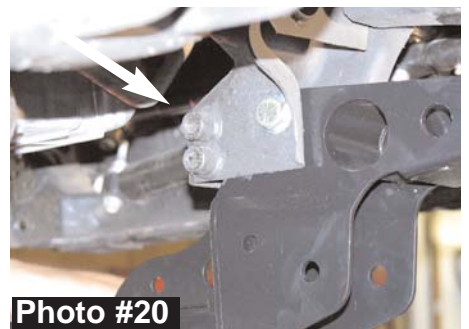
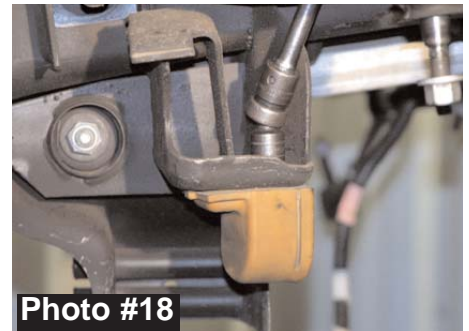


REAR mounting point on passenger side diff tube.



FRONT ASSEMBLY:

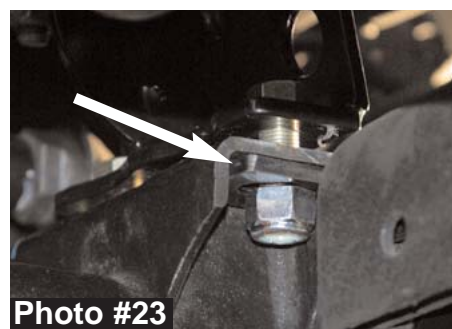
20. Remove the factory bump stops from the frame using 15mm socket. (See Photo #18).
21. Install new Skyjacker rear cross member using 5/8 x 1 1/2 **BUTTON HEAD BOLTS** for upper front holes. **NOTE:** Button Head Bolts **must** be used in upper holes for clearance. Use a washer behind the nut, not behind the head of the bolt. Install 5/8 x 1 1/2 fine thread bolts at the upper rear mount. Be sure to use washers on both sides of this bolt. Tighten both bolts. (See Photo #19).
22. Install the new Skyjacker front cross member using 5/8 x 5 fine thread bolts in the upper frame holes. (See Photo #20).
23. Install driver side differential bracket using the 9/16 x 4 fine thread bolt, washers, and nut. With bracket installed, mark the upper hole in the frame that needs to be drilled. With the hole marked, remove the bracket and drill the hole to 15/32". Reinstall bracket using the 7/16 x 1 1/2 fine thread bolts, washers, and nut. Only tighten the upper most bolt. (See Photo #21).
24. Install passenger side differential bracket onto the factory studs. Install with the open end towards driver side and the slant toward the back. (See Photo #22).
25. Using transmission jack, reinstall the front differential. Attach differential to cross members and driver side bracket using factory hardware. Attach differential to passenger side bracket using 9/16 x 1 1/2 fine thread bolts, washers, and nuts. Be sure to install support shim under the rear differential mount. This piece is used to support the mount that was cut earlier. Do not tighten bolts until all bolts are installed. (See Photo #23).
26. Attach the lower A - Arms to the new cross members using the factory bolts. (See Photo #24).



Arrow shows the support shim from step #25.
Found in hardware bag part #HB-C968-DB



I-C9681



27. Attach the factory bump stop to the new rear cross member using factory hardware. (See Photo #25).
28. Attach the hub bearing assembly to the new knuckle using factory hardware. Be sure to reinstall O-Ring and use loctite on bolts. Torque flange bolts to 130 ft. lbs. (See Photo #26).
29. Install Skyjacker Heavy Duty steering knuckles. Attach upper and lower A - Arms to new knuckle using factory hardware. The outer tie rod end will install from the top instead of from the bottom as factory. (See Photo #27).
30. Reinstall the brake rotor and caliper. Torque caliper bolts to 70 ft. lbs.
31. Install driver and passenger side C.V. shafts. Use the 3.063" C.V. spacer on DRIVER'S side. Use the 15/16" wide C.V. spacer on the PASSENGER side. Spacers will install between C.V. shaft and differential. Spacers should install with male end against the differential. Use 10mm x 100mm/class 10.9 bolts on driverside and the 10mm x 50mm/class 10.9 bolts on the passenger side. Be sure to use at least **3** drops of thread lock compound on bolts. Torque bolts to 45 ft. lbs. Reinstall C.V. retaining nut and dust cover. Photo #26 (See Photo #28).
32. Attach ABS line to spindle using the supplied three plastic clips per side. Attach each clip to pre-drilled holes in knuckle. (See Photo #29). Attach the brakeline to the side of the knuckle using the 5mmx12 bolts supplied. (See Photo #30).
33. Install Skyjacker shocks using the factory bottom bolts. (See Photo #31). **Note:** For ease of installing the front shocks into the lower front shock mount, it may be necessary to grind off 1/8" off of each side of the polyurethane shock eye bushing.

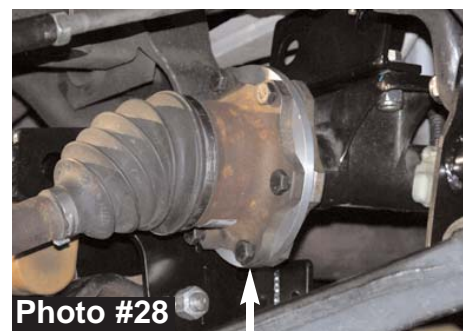
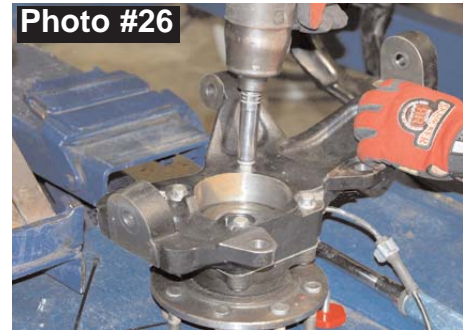
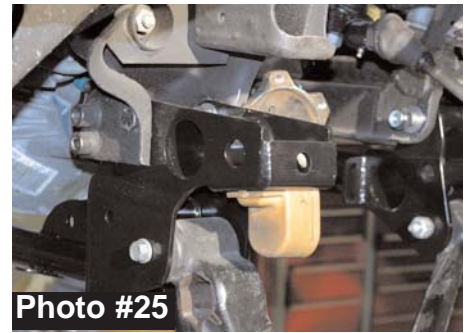


Photo #28
Passenger side shown with one 15/16" C.V. spacers.

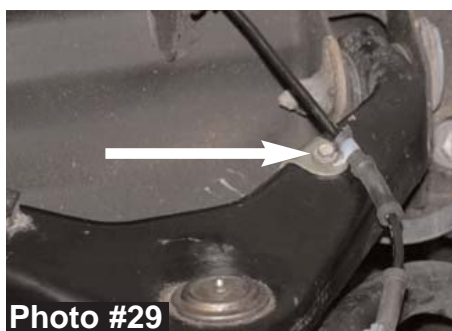


Photo #29
I-C9681

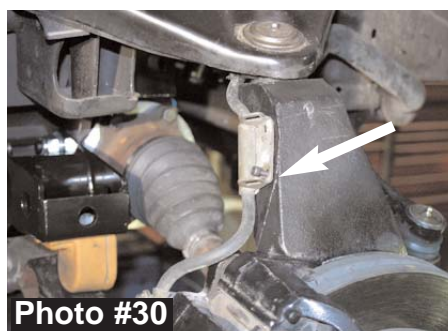


Photo #30



Photo #31

34. Install new sway bar extended links using factory bushings. The link will install using the 3/8 x 14 coarse thread bolt, nut, and washers. (See Photo #32).
35. Reinstall 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 #10 & #33).
36. Install torsion bar drop brackets. Line up bracket with the rivets on the frame. Position the bracket so there is equal distance between the bolt holes in bracket and the rivets in the frame. Secure with C-Clamp. Mark and drill the holes using 17/32" drill bit. Once drilled, attach bracket to the frame using the 1/2 x 1 1/2 fine thread bolts, washers, and nuts. At this point, the center of the bracket should be lined up with the center of the factory bushing on the frame. With brackets installed, install poly bushings and sleeves into drop bracket. Reinstall factory torsion bar cross member using factory bolts. (See Photo #34).
37. Reinstall factory torsion bars. Be sure to install adjuster bolts to the same length as factory. (See Photo #35).

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

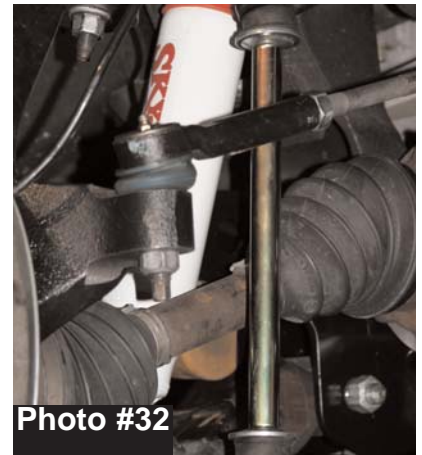
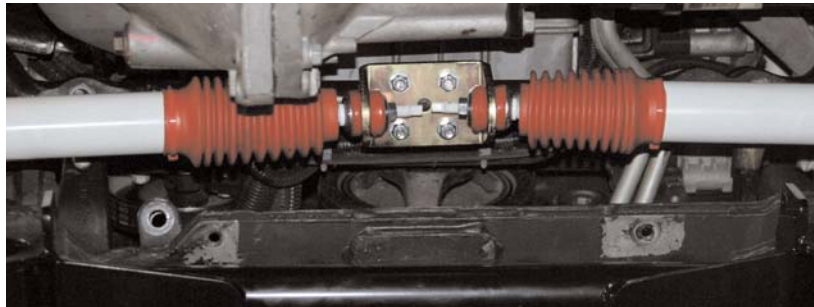


Photo #32



Photo #33

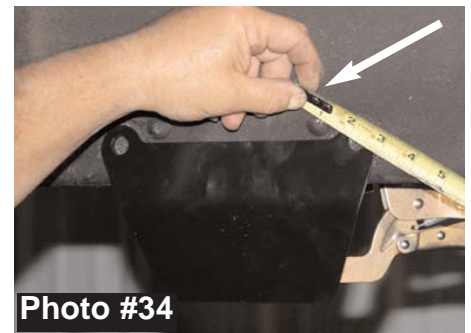


Photo #34

38. Attach skid plate braces to front and rear cross member using the 3/8 x 1 1/4 fine thread bolts, washers, and nuts. Do not tighten bolts at this time. (See Photo #36).
39. Attach lower skid plate to rear cross member, skid plate braces, and upper skid plate using 3/8 x 1 fine thread bolts, washers, and nuts. Tighten all bolts at this time. (See Photo #37).
40. Attach the upper portion of front skid plate using the factory bolts.



Photo #35



Photo #36

I-C9681

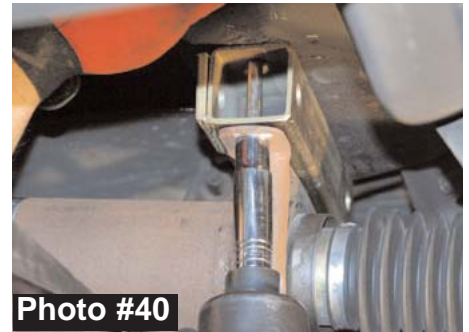


Photo #37



Photo #38

41. On vehicles equipped with rear carrier bearing, it will be necessary to lower the carrier bearing bracket. Remove the retaining nuts from the carrier bearing bracket using 15mm socket. It is recommended to place a strap around the drive shaft to keep it from moving. (See Photo #39).
42. Once nuts are removed, knock out the factory studs. Install the spacer using the 3/8 x 3 1/2 fine thread bolts, washers, and nuts. Be sure to install the spacer using the 2" side as shown in Photo #40.



If Class II option was purchased, proceed with instructions. If not, skip to step #47.

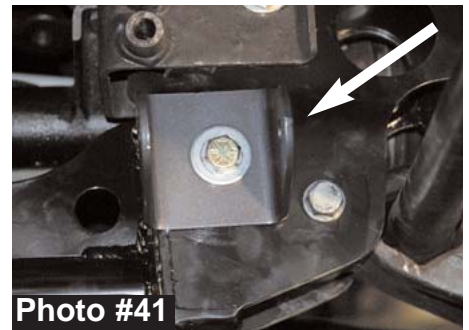
Class II Option:

Part # C9682 is a Class II option which consists of lateral compression strut bars and a multiple front shock kit. These options may also be ordered separately as follows:

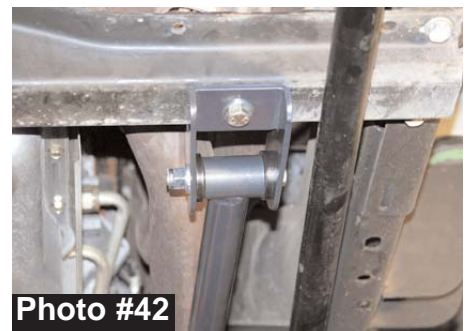
Part # MS968 - Multiple Front Shock Kit (adds two additional front shocks per side).

Part # LSCB968 - Lateral Compression Strut Bars.

Note: The shocks for the multiple shock kit are ordered separately as Part # H7080 and are soft valved for this multiple shock application.



43. Attach the front kicker braces to the rear cross member using 1/2 x 5 3/4 fine thread bolts, washers, and nuts. Bracket will install so that the offset bolt in the center of bracket closest to the outside of vehicle. (See Photo #41).
44. Install bushings and sleeves into the strut bars. Attach the strut bar to the front bracket using 1/2 x 4 fine thread bolt, washer and nut. Tighten at this time. Attach the bar to the rear bracket using the same hardware.
45. Swing the bar up so that it makes contact with the rear cross member. Hold the bar so that it is parallel with the torsion bar. Mark the hole in the center of the bracket and drill the cross member using 17/32" drill bit. Be sure to drill all the way through cross member. Attach the brackets to the cross member using 1/2 x 3 fine thread bolts, washers, and nuts. (See Photo #42).
46. Once installed, go back and tighten all bolts on the front. Check all bolts and hardware for proper installation and torque.



Rear Installation:

47. Remove factory rear shock using 21 mm socket. (See Photo #46).
48. Raise the rear end. Support the frame rails using jack stands.
49. While supporting the rear axle with floor jack, remove the rear U-Bolts using 15/16 socket. If installing blocks, skip to step #52.

REAR SPRING INSTALLATION:

50. Using 15/16 socket, remove the factory spring eye bolts and remove the factory rear springs. (See Photo #47). Skyjacker Rear spring part # CR75S is equipped with a degree shim attached to the bottom of the spring to correct pinion angle. Therefore, be sure to install spring with the thick end of shim towards the rear bumper. Insert factory 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 spring is installed.
51. Attach the new spring to the axle being sure center spring bolt seats into the axle pad. Use the 5/8" x 2 3/4" x 9" U-bolts supplied. Torque U-Bolts to 100-110 Ft. Lbs. Skip to step #53.



Photo #46



Photo #47

BLOCK INSTALLATION:

52. Install the new Skyjacker 4.5" blocks. Be sure to install with the tallest portion toward the rear. Slowly let weight down onto the blocks being sure that the dial pin in the block is inserted into the axle pad correctly, and that the spring head seats into the hole in the block. Install the 5/8" x 2 5/8" x 14 1/2" U-bolts supplied. Torque U-Bolts to 100-110 ft. lbs.
53. With U-bolts installed, remove the jack stands and 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 factory hardware. (See Photo #48).



Photo #48

FINAL NOTES:

- After installation is complete, double check that all nuts and bolts are tight. Refer to the following chart again for torque specifications. (Do not retighten nuts and bolts where Loctite was used.)
- 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 GM dealer for details on recalibration.
- With the vehicle on the floor, cycle steering lock to lock and inspect steering, suspension and driveline systems for proper operation, tightness and adequate clearance. Recheck brake hose/fittings for leaks. Be sure all hoses, including the rear, are long enough.
- Have headlights readjusted to proper settings.
- Have a qualified alignment center realign front end to factory specifications. Be sure vehicle is at desired ride height prior to realignment.
- Re-torque all bolts after the first 100 miles and after every off-road use.

Seat Belts Save Lives, Please Wear Your Seat Belt.

