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## PRO COMP SUSPENSION

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*Suspension Systems that Work!*

**Part # 51099**  
**Chevrolet / GMC 1/2 Ton 4X4**  
**1999 - 2006 Silverado / Sierra**

This document contains very important information that includes warranty information and instructions for resolving problems you may encounter. Please keep it in the vehicle as a permanent record.

# INSTALLATION INSTRUCTIONS

51099  
Revised  
2.27.08

## Important Note:

Vehicles equipped with a 246 transfer case (Auto-trac) will require a replacement CV style front drive shaft. Pro Comp offers two CV style front drive shafts.

Part Number 52246, Extreme duty shaft with a permanently installed front transfer case output shaft.

OR

Part Number 51246, Standard duty shaft with the slip shaft installed on the drive shaft.

Both drive shafts replace the 29.625" (cap centerline to cap centerline) OEM drive shafts.

**NOTE:** 2004 models with traction control and Borg Warner transfer case 4482 may require pro comp driveshaft 51246 to be shortened by 1". Driveshaft modifications should only be performed by a certified driveline shop.

- ◆ *Please note that while every effort is made to ensure that the installation of your Pro Comp lift kit is a positive experience, variations in construction and assembly in the vehicle manufacturing process will virtually ensure that some parts may seem difficult to install. Additionally, the current trend in manufacturing of vehicles results in a frame that is highly flexible and may shift slightly on disassembly prior to installation. The use of pry bars and tapered punches for alignment is considered normal and usually does not indicate a faulty product. However, if you are uncertain about some aspect of the installation process, please feel free to call our tech support department at the number listed on the cover page. We do not recommend that you modify the Pro Comp parts in any way as this will void any warranty expressed or implied by the Pro Comp Suspension company.*

## Part List:

Box 1 of 5-PN 51099-1

Part #	Description	Qty.	Illus.	Page
13-90087	9/16" U-BOLT	4	15	18
<b>20-65302</b>	<b>HARDWARE PACK</b>			
13-30330	9/16" FLAT WASHER	8	15	18
13-10423	9/16" HIGHNUT	8	15	18
90-1450	FRONT CROSS MEMBER	1	7, 8, 9	13, 14, 15
90-1496	SWAY BAR SPACER	2	10	15
90-2144	BUMP STOP SPACER	2	14	18
90-2202	DIFFERENTIAL TORQUE TUBE	1	5	10
<b>90-6158</b>	<b>HARDWARE PACK</b>			
90-2055	1/2" ID X 1 1/2" OD X 3/8" SPACER	2	7	13
90-2014	SPACER, 3/4" OD X 1/2" ID X 1/4"	2	9	15
90-4053	5/8" COUPLER	2	7, 9	13, 15
96-4036	STEERING CONE REDUCER	4	7	13
<b>90-6173</b>	<b>HARDWARE PACK</b>			
70-0372251543	3/8" X 2 1/4" NC SOCKET HEAD CAP SCREW	4	10	15
73-03700034	3/8" SAE GR 8 FLAT WASHER	8	10	15
72-03700100816	3/8" NC SELF LOCKING NUT	4	10	15
70-0503751800	1/2" X 3 3/4" NC GR 8 HEX BOLT	2	7, 10	13, 15
73-05000038	1/2" GR 8 AN FLAT WASHER	10	7	13
70-0624501800	5/8" X 4 1/2" NC GR 8 HEX BOLT	2	8	14

Part #	Description	Qty.	Illus.	Page
73-06200034	5/8" SAE GR 8 FLAT WASHER	4	8	14
72-06200100816	5/8" NC SELF LOCKING NUT	2	8	14
70-0502751800	1/2" X 2 3/4" NC GR 8 HEX BOLT	2	7	13
73-05000034	1/2" GR 8 FLAT WASHER	4	7	13
72-05000100816	1/2" NC SELF LOCKING NUT	4	7	13
95-400	CAST IRON LIFT BLOCK	2	15	18
96-1505	WELD PLATE	1	1	8
90-6303	HARDWARE PACK: FRONT BRAKE LINE	1		
90-1868	FRONT BRAKE LINE DROP	2		
90-6299	HARDWARE PACK	1		
90-6189	HARDWARE PACK: DIFF VENT	1		
90-6100	HARDWARE PACK: SWAY BAR KIT	1		

Box 2 of 5-PN 51099-2

90-1435	COMPRESSION STRUT MOUNT	2	11,12	17
90-1446	DIFFERENTIAL DROP, DRIVER SIDE	1	5	10
90-1447	DIFFERENTIAL DROP, PASSENGER SIDE	1	6	11
<b>90-6223</b>	<b>HARDWARE PACK, TORSION DROP ADAPTERS</b>	<b>1</b>		
70-0371251800	3/8" X 1 1/4" NM GR 8 HEX BOLT	4	15	18
72-03700100816	3/8" NC SELF LOCKING NUT	4	15	18
73-03700034	3/8" SAE GR 8 FLAT WASHER	8	15	18
90-1635	TORSION BAR DROP, UNIVERSAL BASE	2	14	18
90-1636	TORSION DROP ADAPTER, CHEVY/GMC 02	2	14	18
90-1638	TORSION DROP ADAPTER, CHEVY/GMC 99-01	2	14	18
90-1455	UPPER A-ARM DROP, DRIVER SIDE	1	10	15
90-1466	UPPER A-ARM DROP, PASSENGER SIDE	1	10	15
90-2196	CENTER STEERING LINK	1	7	13
<b>90-6172</b>	<b>HARDWARE PACK</b>			
70-0431251800	7/16" X 1 1/4" NC GR 8 HEX BOLT	4	10	15
73-04300034	7/16" SAE GR 8 FLAT WASHER	8	10	15
72-04300100816	7/16" NC SELF LOCKING NUT	4	10	15
70-0561501800	9/16" X 1 1/2" NC GR 8 HEX BOLT	4	10	15
70-0563751800	9/16" X 3 3/4" NC GR 8 HEX BOLT	1	5	10
73-05600034	9/16" SAE GR 8 FLAT WASHER	10	5, 10	10, 15
72-05600100816	9/16" NC SELF LOCKING NUT	5	5, 10	10, 15
70-0501251800	1/2" X 1 1/4" NC GR 8 HEX BOLT	1	5	10
73-05000034	1/2" GR 8 FLAT WASHER	2	5	10
<b>90-6177</b>	<b>HARDWARE PACK</b>			
90-2011	1.0" X .5" X 1.5" SPACER	2	13	18
15-11149	TORSION BAR DROP BUSHING	4	13	18
<b>90-6181</b>	<b>HARDWARE PACK, SHOCK ADAPTER</b>			
90-1079	SHOCK ADAPTER	2	16	18
70-0502751500	1/2" X 2 3/4" NC GR 8 HEX BOLT	2	16	18
72-05000100512	1/2" NC GR 5 NY-LOCK NUT	2	16	18
72-06200100512	5/8" NC GR 5 NY-LOCK NUT	2	16	18
73-06200032	5/8" USS FLAT WASHER	2	16	18
54314	SHOCK SLEEVE-1/2" X 5/8" X 1.480 "	2	16	18

Box 3 of 5-PN 51099-3

90-1459	REAR CROSS MEMBER	1	3, 4, 11	9, 10, 17
90-2126	COMPRESSION STRUT	2	11, 12	17
<b>90-6170</b>	<b>HARDWARE PACK</b>			
42-778T	CAM-BOLT KITS	4	8, 10	14, 15

Part #	Description	Qty.	Illus.	Page
<b>90-6174</b>	<b>HARDWARE PACK</b>			
70-0371251800	3/8" X 1 1/4" NC GR 8 HEX BOLT	2	14	18
73-03700034	3/8" SAE GR 8 FLAT WASHER	4	14	18
72-03700100816	3/8" NC SELF LOCKING NUT	2	14	18
70-0501251800	1/2" X 1 1/4" NC GR 8 HEX BOLT	2	12	17
70-0504001800	1/2" X 4" NC GR 8 HEX BOLT	4	11, 12	17
73-05000034	1/2" GR 8 FLAT WASHER	10	11, 12	17
72-05000100816	1/2" NC SELF LOCKING NUT	4	11, 12	17
70-0431251800	7/16" X 1 1/4" NC GR 8 HEX BOLT	8	13	18
73-04300034	7/16" SAE GR 8 FLAT WASHER	16	13	18
72-04300100816	7/16" NC SELF LOCKING NUT	8	13	18
<b>90-6175</b>	<b>HARDWARE PACK</b>			
70-0625501800	5/8" X 5 1/2" NC GR 8 HEX BOLT	2	8	14
73-06200034	5/8" SAE GR 8 FLAT WASHER	4	8	14
72-06200100816	5/8" NC SELF LOCKING NUT	2	8	14
70-0371251800	3/8" X 1 1/4" NC GR 8 HEX BOLT	6	3	9
73-03700034	3/8" SAE GR 8 FLAT WASHER	14	3	9
72-03700100816	3/8" NC SELF LOCKING NUT	6	3,4	9, 10
70-0561751800	9/16" X 1 1/2" NC GR 8 HEX BOLT	2	6	11
73-05600042	9/16" USS GR 8 FLAT WASHER	2	6	11
73-05600034	9/16" SAE GR 8 FLAT WASHER	2	6	11
72-05600100816	9/16" NC SELF LOCKING NUT	2	6	11
72-03700100512	3/8" NC GR 5 NY-LOCK NUT	2	4	10
<b>90-6179</b>	<b>HARDWARE PACK</b>			
15-11148	DIFFERENTIAL MOUNT BUSHING	8	11, 12	17
90-2109	COMPRESSION STRUT SLEEVE	4	11, 12	17
90-1476	NUT PLATE-1/2"	3	5, 12	10
15-11018	LOW PROFILE BUMP STOP	2	4	10
<b>90-6275</b>	<b>HARDWARE PACK</b>	<b>1</b>		
90-1784	WASHER- 1.650 X .620 X .042	8		

**Box 4 of 5-PN 51099-4**

929505	ES9000 SHOCKS, REAR	2	16	18
920590	ES9000 SHOCKS, FRONT	2		

**Box 5 of 5-PN 51099-5**

13125-1	ADD-A-LEAF	2	15	18
97-380	3/8" X 4 1/2" CENTER BOLT	2	15	18
8337-1	3/8" CENTER BOLT LOCK NUT	2	15	18
98-00250-1	2 1/2" SPRING CLAMP	4	15	18
98-00250-2	2 1/2" SPRING PLATE	4	15	18

**Equipment Available from your Pro Comp Distributor!**

**Rear MX-6 Reservoir Shocks:**

**MX6141R**

Also, Check out our outstanding selection of Pro Comp tires to compliment your new installation!

**Pro Comp now offers a full line of All-Terrain and Mud Terrain tires. Pro Comp also offers a skid plate, traction bars, light bars and a multiple shock kit for this vehicle. All product is sold separately. Contact your dealer for details.**

### Introduction:

- ◆ This installation requires a professional mechanic!
- ◆ We recommend that you have access to a GM service manual for your vehicle to assist in the disassembly and reassembly of your vehicle. It contains a wealth of detailed information.
- ◆ Prior to installation, carefully inspect the vehicle's steering and driveline systems paying close attention to the tie rod ends, ball joints, wheel bearing preload, pitman and idler arm. Additionally, check steering-to-frame and suspension-to-frame attaching points for stress cracks. The overall vehicle must be in excellent working condition. Repair or replace all worn or damaged parts!
- ◆ Read the instructions carefully and study the illustrations before attempting installation! You may save yourself a lot of extra work.
- ◆ Check the parts and hardware against the parts list to assure that your kit is complete. Separating parts according to the areas where they will be used and placing the hardware with the brackets before you begin will save installation time.
- ◆ Check the special equipment list and ensure the availability of these tools.
- ◆ Secure and properly block vehicle prior to beginning installation.
- ◆ **ALWAYS** wear safety glasses when using power tools or working under the vehicle!
- ◆ Use caution when cutting is required under the vehicle. The factory undercoating is flammable. Take appropriate precautions. Have a fire extinguisher close at hand.
- ◆ Foot pound torque readings are listed on the Torque Specifications chart at the end of the instructions. These are to be used unless specifically directed otherwise. Apply Loctite retaining compound where specified.

### Please Note:

- ◆ Front end realignment is necessary.
- ◆ Speedometer and ABS recalibration is necessary if larger tires (10% more than stock diameter) are installed
- ◆ This system utilizes the stock torsion bars which normally afford the best ride quality. If, after kit is installed, ride or handling seems too "soft", heavier Gross Vehicle Weight Rating (GVWR) bars can be installed. GM offers various bars for up to 10,000 lbs. GVWR.

- ◆ Due to differences in manufacturing, dimensions and inflated measurements, tire and wheel combinations should be test fit prior to installation. Tire and wheel choice is crucial in assuring proper fit, performance, and the safety of your Pro Comp equipped vehicle. For this application, a wheel not to exceed 8" in width with a minimum backspacing of 4" must be used. Additionally, a quality tire of radial design, not exceeding 35" tall X 12.5" wide is recommended. Please note that the use of a 35" X 12.5" tire may require fender modification. Violation of these recommendations will not be endorsed as acceptable by Pro Comp Suspension and will void any and all warranties either written or implied.
- ◆ 2005 trucks require a 17" wheels to clear the calipers.
- ◆ If your truck has a tire pressure sensors on the factory wheels please contact the wheel manufactures for proper installation and removal.

## Front disassembly:

Ensure that your work space is of adequate size and the work surface is level. Place the vehicle in neutral. Place your floor jack under the front cross member and raise vehicle. Place jack stands under the frame rails behind the front wheel wells and lower the frame onto the stands. Remove the jack and place the vehicle back in gear, set the emergency brake, and place blocks both in front and behind the rear wheels.

**Note:** A special puller tool is required for safe removal and installation of the torsion adjuster arms. This special puller can be purchased from you local GM dealer (Tool #J36202) or from Kent Moore Tool Group in Roseville, MI. (800) 345-2233 or (313) 774-9500 (Part #J22517-C). You may be able to rent one of these tools at your local parts store. Refer to the GM service manual for more information.

### **WARNING:**

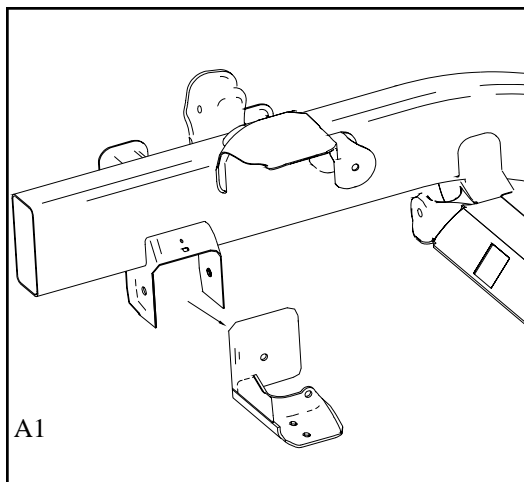
**Be extremely careful when loading or unloading the torsion bars! There is a tremendous amount of stored energy in the bars. Keep your hands and body clear of the adjuster arm assembly and puller tool in case anything slips or breaks! Remember your safety glasses!**

1. If there are factory skid plates installed, remove them.
2. Measure torsion bar adjusting screw depth and record this dimension for later use when replacing the torsion adjuster arm on reassembly. Remove the torsion bar adjusting screw. Apply a small amount of lubrication grease to the puller threads and the puller shaft-to-adjuster arm contact point. Load puller and torsion adjuster arm until the adjuster nut can be removed from the cross member. Release the puller to unload the torsion bar. With the bar unloaded, slide it forward into the lower control arm until the adjuster arm falls free. If the bar seems stuck, use a hammer and punch through the hole in the rear of the cross member to dislodge it. Repeat this procedure on the other side of the vehicle.
3. Remove the torsion bar cross member by removing the through bolts on each side of the vehicle. With the cross member out of the way, the torsion bars can be pulled from the lower control arms and removed. Mark the torsion bars as to their orientation (left side, right side, and front). They ***must*** be reinstalled exactly as removed! Save these nuts and bolts for reuse on reassembly.
4. Disconnect the ABS sensor wire and position it out of the way to prevent damage to the wiring or connector ends. Remove brake caliper assembly and securely fasten it away from the work area.

### **Steps 5 through 12 are performed one side at a time:**

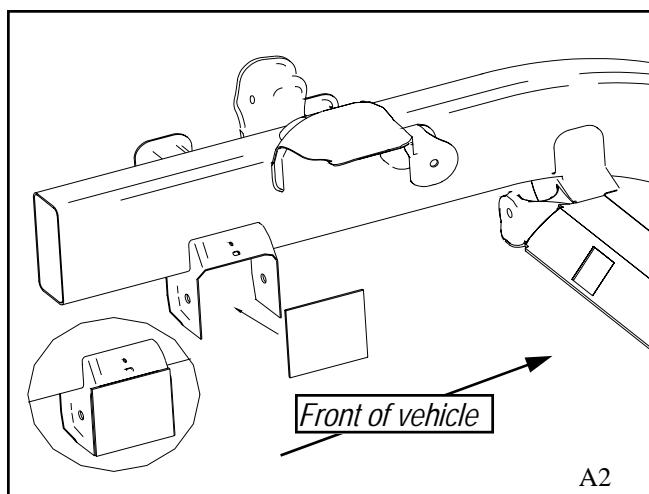
5. Remove the 6 bolts that attach the CV axle to the differential. Save these for reuse.

6. Detach the outer end of the tie rod from the spindle assembly. Special tools are available to safely remove these without damage to the joint or the protective boot. Your GM service manual has details on this procedure
7. Remove the anti-sway bar links that connect the sway bar to the lower A-arm. Save this hardware for reuse on reassembly.
8. Remove the shock absorber mounting bolts from the lower A-arm. Save this hardware for reuse.
9. Remove the upper and lower A-arm pivot nuts. Save this hardware for reuse on reassembly.
10. Support the A-arm assembly and carefully remove the pivot bolts. Lower the assembly to the floor and set aside. This assembly is relatively heavy and not a rigid assembly. Be *very* careful when removing. Save the pivot bolts for reuse.
11. Remove the upper shock nuts and remove the stock shock absorbers. Discard these parts.
12. Detach the front drive shaft from the differential yolk and secure it out of the way. Disconnect the electronic sensor and vent line from the differential and secure them out of the way.
13. Remove the factory bump stops by using a large channel lock type of pliers and discard the stops.
14. Remove drag link from the pitman arm and idler arm. It may be easier to remove the Idler arm from the frame with the drag link. Set this assembly aside. Save the nuts for reuse.
15. Remove the front differential lower mounting bolt. Save this nut and bolt for reuse.
16. Remove the passenger side differential mounting bolts. Save this hardware for reuse.
17. Remove the differential cross member and discard this hardware.
18. While supporting the differential, remove the upper mount bolt and *carefully* lower the differential to the ground. Retain this nut and bolt for reuse on reassembly.
19. Using a 2" hole saw without the pilot drill, remove the bump stop mount from the frame on each side of the vehicle. It is important that you do NOT remove any more material than you have to. ***Do NOT drill through this pad with the hole saw!***
20. Using an angle grinder or equivalent, remove any remaining weld from this area to achieve a smooth surface.
21. Using a reciprocating saw or other suitable saw, on the driver side A-arm pocket / differential mount, cut the rear section out as shown in **Illustration A** and to the dimensions shown in **Illustration 1**.
22. On the passenger side mount, cut a 45° section from the pocket as per **Illustration 2**.
23. On the OEM bump stop flanges on both sides of the truck, cut the front corners to allow for shock clearance. See **Illustration 3**.
24. On the front upper A-arm mount pockets, knock the existing alignment cam pins off with a hammer and grind the surface smooth.
25. Install the provided replacement bump stops (PN 15-11018) to the main cross member as indicated in **Illustration 4**. It is *important* that this is done now as it is not possible to install these stops after installation of the cross member.

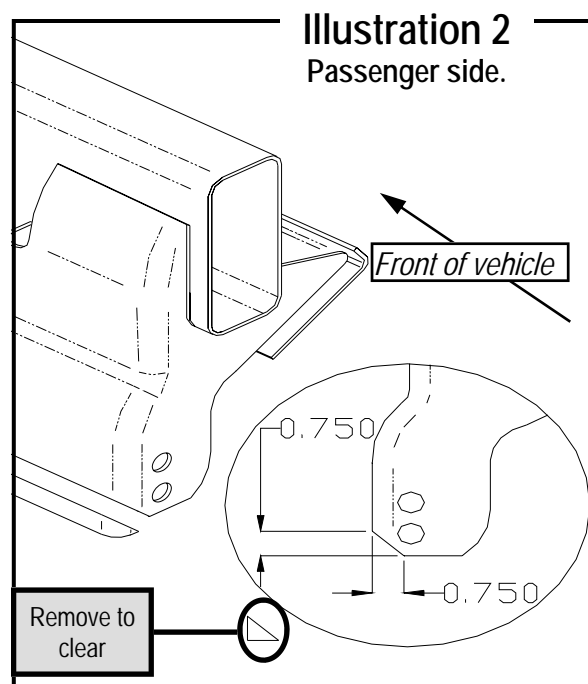
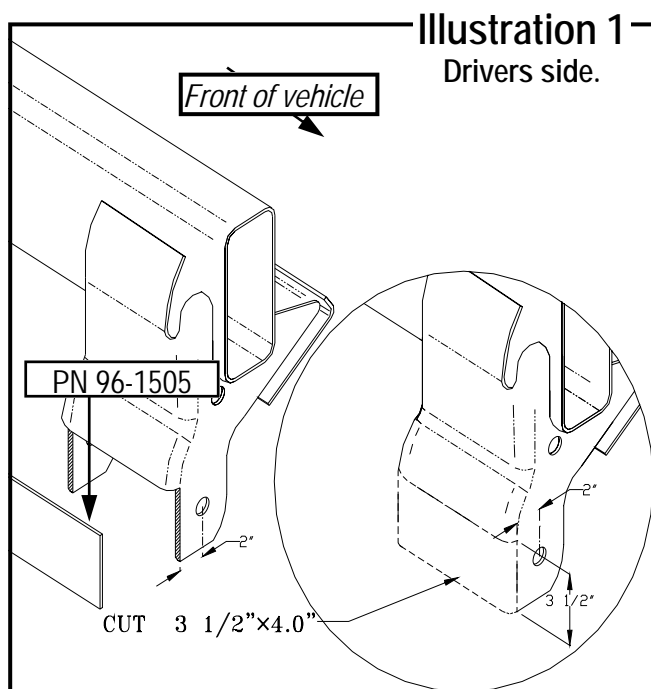


A1

**Illustration A**  
**A1+A2**  
Drivers Side  
OEM



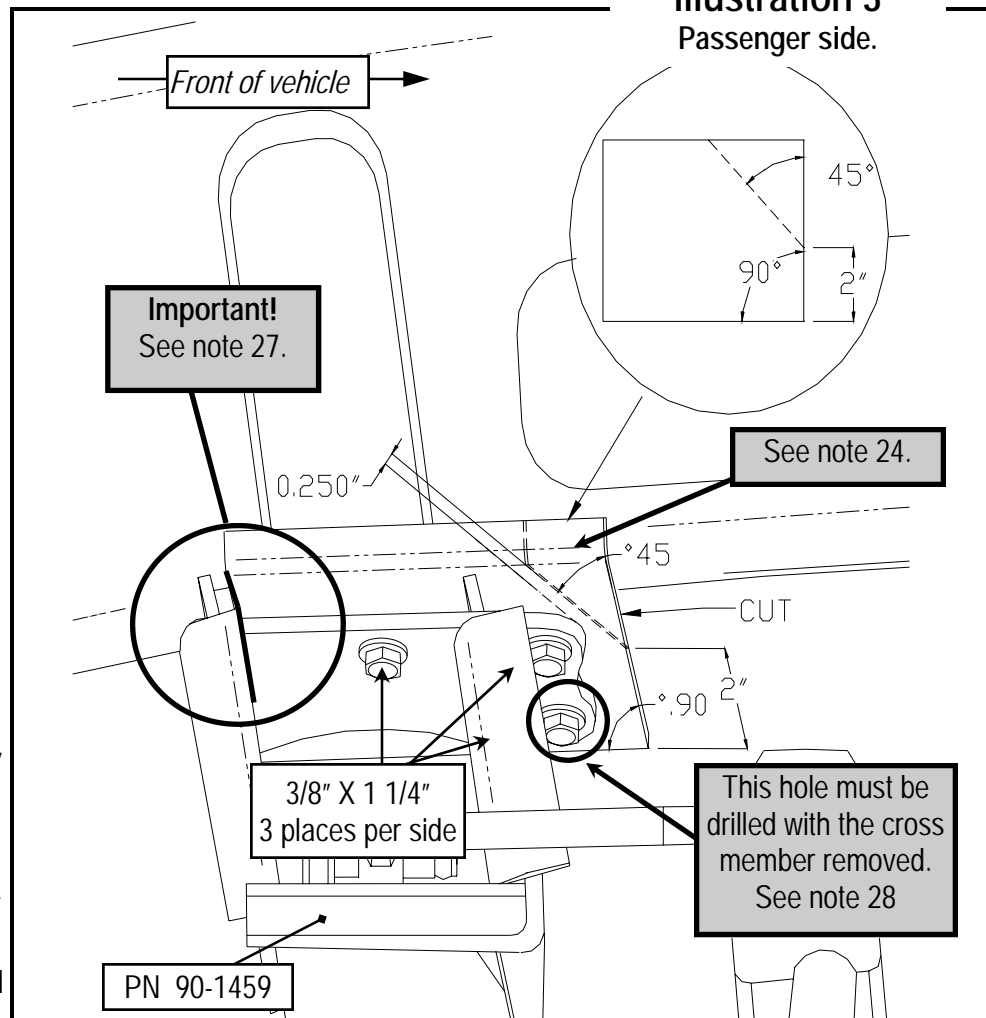
A2





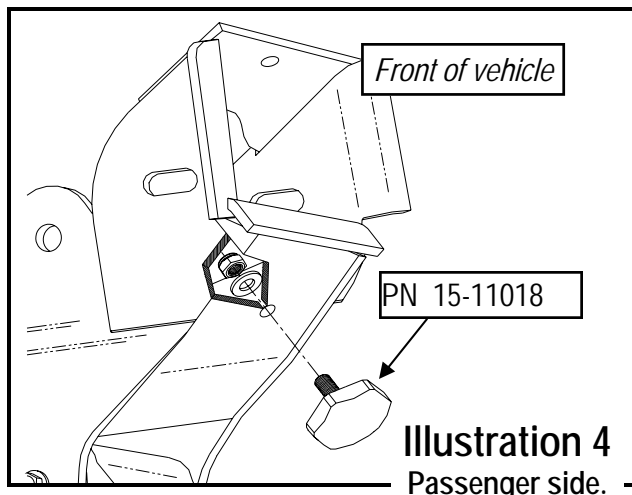
26. With the differential *out* of the vehicle, temporarily mount the main cross member (PN 90-1459) to the frame using the existing lower A-arm pockets and OEM bolts. Make sure that the cross member is located with the inside face of the rear flange even with the rear edge of the OEM bump stop flange as indicated in **Illustration 3** (the driver side should look the same as the passenger side when properly located). When the location is set, clamp the cross member to the flanges to prevent movement and drill the 2 upper mount holes through the OEM flange on both sides of the truck. The bottom hole is not accessible with a drill at this time, it must be marked for later drilling. Install provided 3/8" X 1 1/4" NC bolts, washers and Stover nuts and tighten to prevent movement. Repeat this step on the passenger side of the truck. On the driver side, tighten up the bottom OEM through bolts until there is about 1/16" clearance between the cross member and factory pocket sides. Place the supplied 1/8" X 3 1/2" X 4" plate (PN 96-1505) across the cutout at the rear of the pocket, trim if needed and tack weld this piece in place. These welds must be sufficiently strong to withstand the removal of the cross member for the next steps.
27. Remove the rear cross member. Finish welding the replacement plate to the back of the pocket. Drill the remaining 3/8" holes through the OEM flanges on both sides of the vehicle. It is important that these bolts are used. Do not skip this step.
28. Install the differential lowering shackle (PN 90-1446) into the OEM location with the original nut and bolt. See **Illustration 5**.

**Illustration 3**  
 Passenger side.



29. Install the passenger side spacer bracket (PN 90-1447) to the OEM mount using the original hardware. The bracket is slightly tapered. The narrow end of the taper is oriented to the rear of the truck. Tighten OEM fasteners to specifications. **Illustration 6**.
30. Hang the differential from the shackle using the supplied 9/16" X 3 3/4" bolt, washers, and nut. Insert the bolt from the center of the truck to the outside and install

the supplied torque strut as shown in **Illustration 5**. Install the supplied washer and lock nut and tighten the assembly enough so that the strut can be moved without much effort to complete step 33.

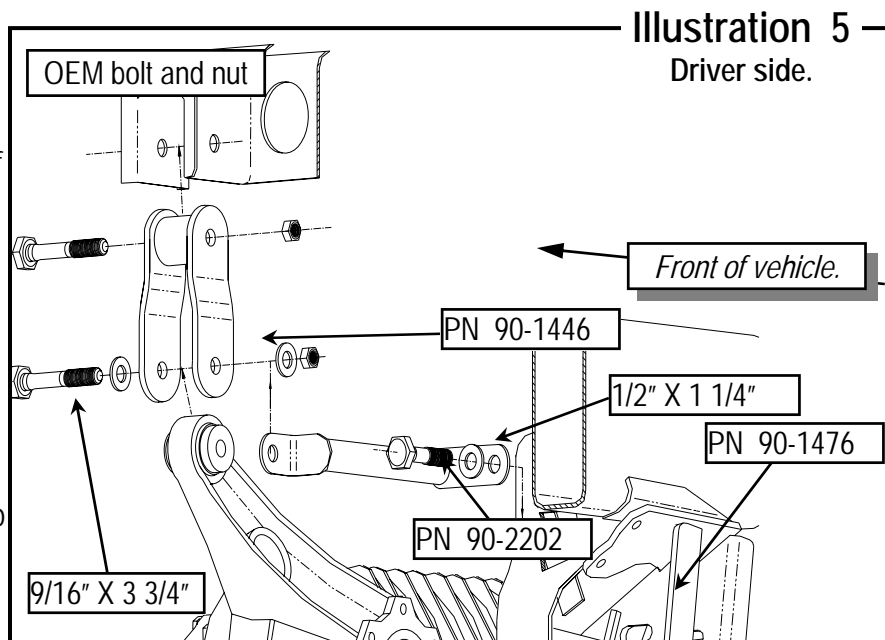


31. Attach the differential to the passenger side spacer bracket as shown in **Illustration 6**. Use the supplied 9/16" X 1 3/4" bolts, 2 SAE washers, 2 USS washers, and nuts. The USS washers go onto the slotted aluminum flange of the differential. At this point leave the fasteners slightly loose until the main cross member is back in place and the torque strut is positioned.

32. Rotate the differential torque strut *up* and to the *rear* until it is at its closest point to the truck frame as shown in **Illustration 5**. Mark the location of the hole. After marking this location, rotate the strut out of the way and drill this hole to clear a 1/2" bolt. Rotate the strut back into place and install the supplied 1/2" X 1 1/4" bolt through the strut and through the frame member. A 1/2" nut plate (PN 90-1476) is supplied to facilitate this installation, position this nut plate over the bolt on the inside of the A-arm pocket and start the bolt by hand. Leave all hardware loose until the completion of the cross member installation.

33. Reinstall the rear cross member into the truck using the OEM bolts to hold it in place. Install these bolts with the threads pointing *away* from the CV joints. Make sure to carefully guide the differential mounting bushing into its mounting flange on the new cross member. Install the OEM bolt through the cross member and differential bushing with the threads to the outside of the truck and install the OEM nut. Finish installing the 3/8" nuts, bolts, and washers to the upper flange mounts on both sides of the vehicle and torque all cross member hardware to specifications on page 21. Also tighten the differential mounting hardware to specifications at this time.

34. Using the differential drop extension pack (PN 90-6189) fit the new hose to the differential. Place the supplied plug in the end of the tube and connect the factory tube to it.

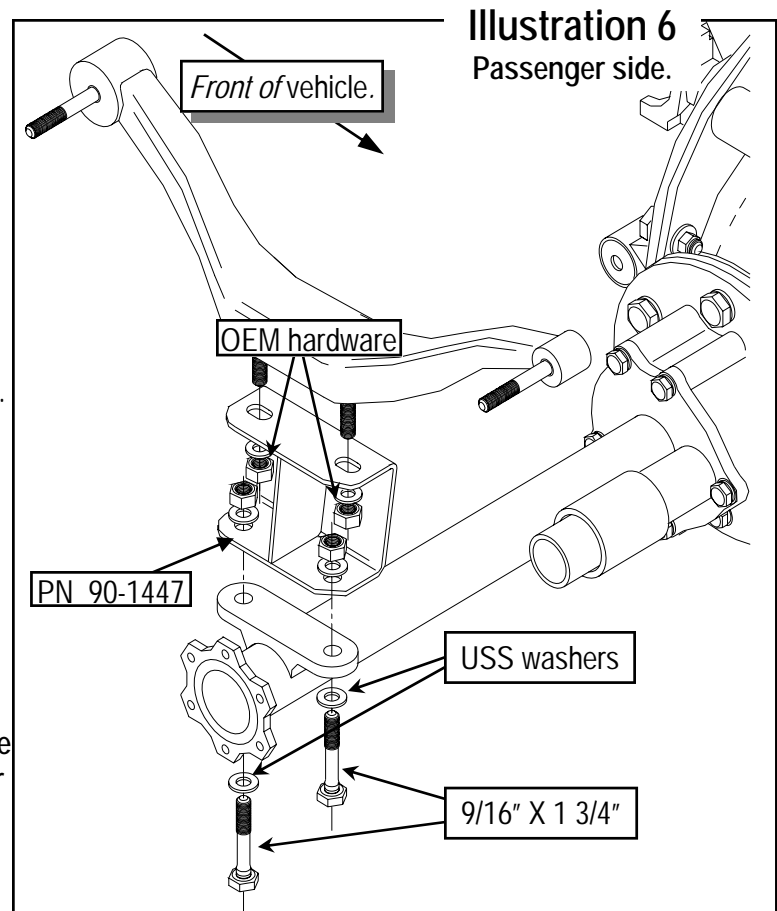


35. Install the Pro Comp. center link drop (PN 90-2196) to the pitman arm and idler arm using the factory nuts. See **Illustration 7**. When properly installed, the drop is perpendicular to the ground.

36. Mount the front cross member to the existing front, lower A-arm pockets with the OEM bolts and nuts. Tighten to specs. Using the cross member as a guide, drill through the factory frame material at this time. See hi-lighted note in **Illustration 7** for the location.
37. Loosely install the OEM center link to the center link drop, with the bends to the rear, using the supplied 1/2" X 3/4" Bolts and other hardware supplied as indicated in **Illustration 7**. Leave the lock nuts loose for the moment. *Follow this illustration exactly!*

38. Install the rod end guide (PN 90-4053) assemblies to the front cross member as shown in **Illustrations 7 & 9**. Use the supplied 1/2" X 2 3/4" bolts, spacers, washers, and nuts. Place the ends of the rod ends onto the ends of the drop link bolts. Snug up the bolt assemblies and rotate the steering assembly back and forth several times to check for clearance. Additional washers are supplied to facilitate the correction of any misalignment issues you may encounter. It is very important to ensure no binding occurs throughout the entire range of motion of the steering assembly. Once correct clearances are established. Torque all fasteners to specifications.

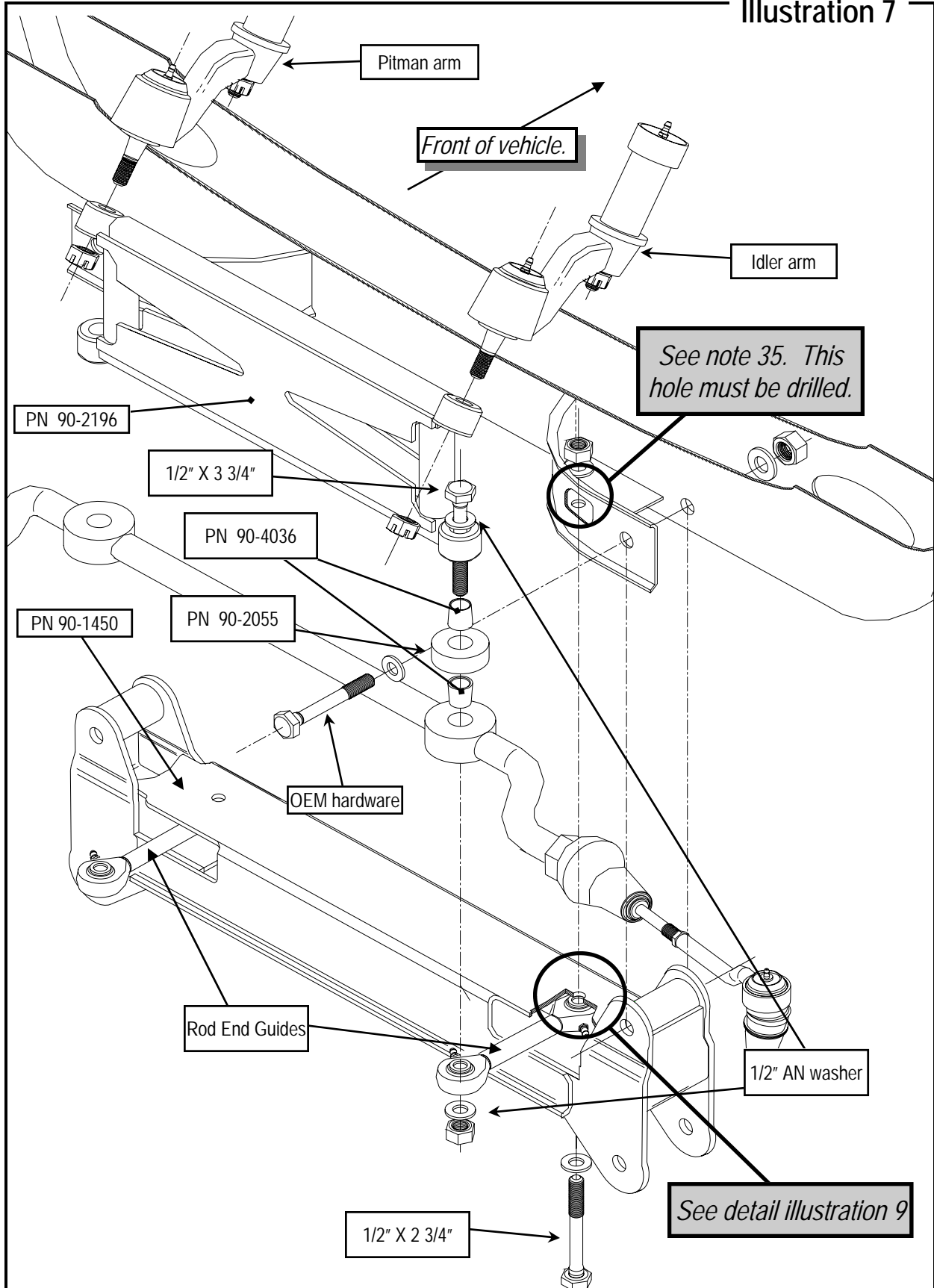
39. **At this point, if you have purchased the optional dual shocks, install the kit per the enclosed instructions before proceeding to the next step. Leave all hardware loose, and leave the front mount through bolt out until the next step is complete.**



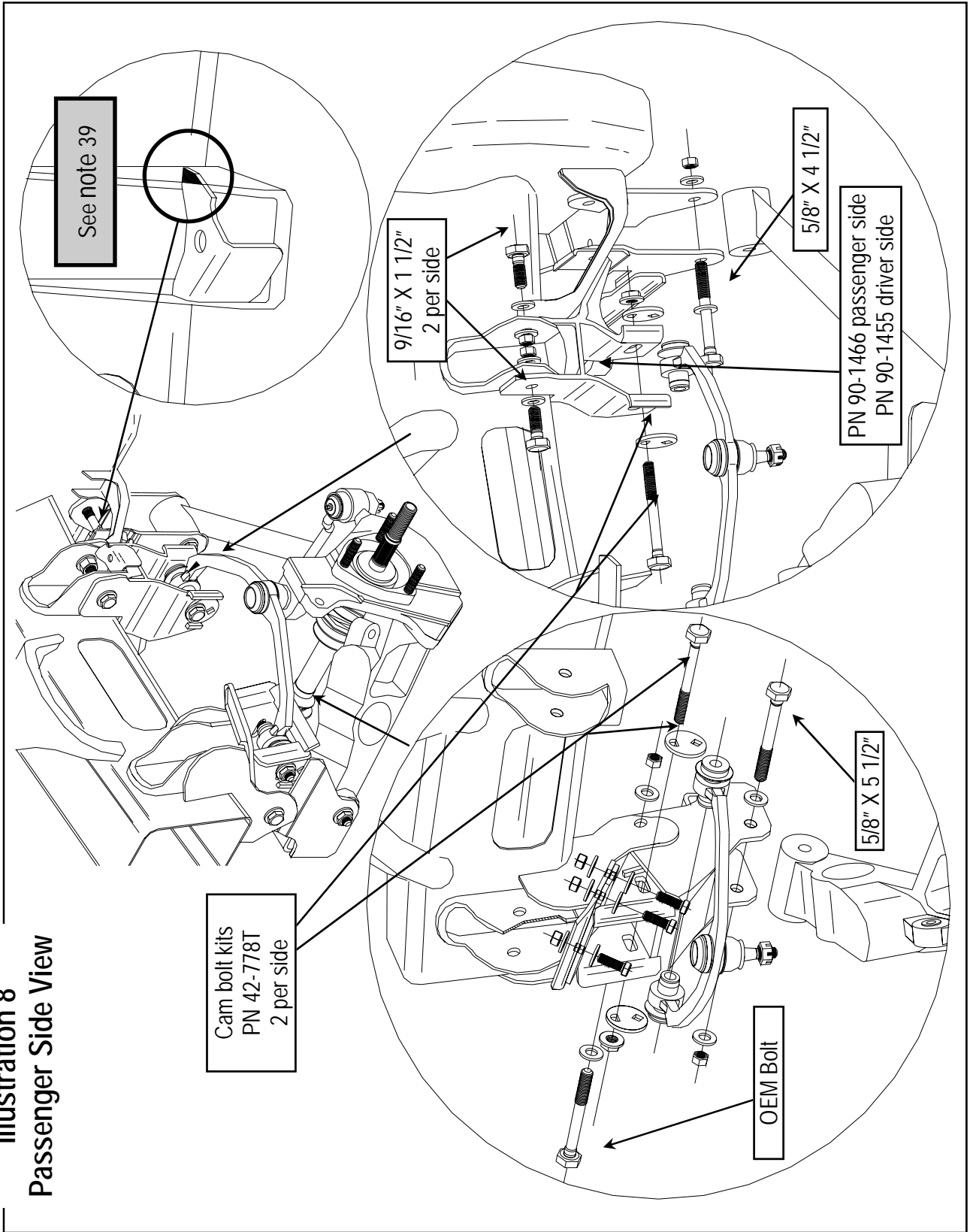
40. Drill out the sway bar mounting threads to clear 3/8" bolts (13/32"). At the front of the OEM A-arm stop, it will be necessary to grind the existing droop stop tab back enough to clear the new **PN 90-1466** hardware. See **Illustration 8**. Install the front, upper A-arm drops to the existing upper pockets using the supplied 9/16" X 1 1/2" bolts (if installing with the above mentioned shock kit, install using the 9/16" through bolt supplied with the shock kit) and the 7/16" X 1 1/4" bolts, washers, and nuts from the bottom of the adapter through the existing holes in the OEM frame. The back holes in the adapter must be drilled as indicated on **Illustration 9**. Leave slightly loose until the sway bar is installed to assure easy insertion of the sway bar mounting hardware.
40. The factory sway bar is remounted upside down using the OEM bushings and mounts. The mounts are to the original location with spacer (**PN 90-1496**), supplied 3/8" X 2 1/4" socket head cap screws, washers, and lock nuts. See **Illustration 9**. Tighten the bushing bolts enough to keep the sway bar from swinging but loose enough to facilitate the installation of the end links.

41. Assemble the compression strut bushings and sleeves into the struts as shown in **Illustrations 11 & 12** using the components in part pack # **90-6179**.
42. Position the compression struts (**PN 90-2126**) into the tabs on the front cross member using the supplied 1/2" X 4" bolts, washers, and nuts. See **Illustration 11**. The strut end with the eyes welded at an angle go to the front, the struts are angled to the outside of the vehicle. Loosely place the compression strut mounts (**PN 90-1435**) onto the transmission cross member using the supplied 1/2" X 1 1/4" bolts, washers, and tab nuts. See **Illustration 12**. The location of the rear saddle is dependant on the transmission option in your vehicle. Swing one compression strut up to its previously installed mount and position the mount to ensure easy insertion of the mounting cross bolts. You may have to rotate the saddle or use the other hole (or slot) to achieve a satisfactory fit. Swing the strut back out of the way and torque the rear strut mount bolt to specifications being careful to maintain its position. Repeat this procedure for the other side. Reinstall the struts with the remaining 1/2" X 4" bolts, washers, and nuts and torque all to specifications.
43. At this point, check all mounting hardware and adapters for correct fit and check all fasteners to make sure they are in place and correctly tightened.
44. Install the A-arm assemblies on each side of the vehicle by reversing the disassembly order. Attach the lower A-arm using the supplied 5/8" X 5 1/2" to the rear, 5/8" X 4 1/2" bolts to the front, washers and nuts. The upper A-arms are installed using the supplied new alignment cam (**PN 42-778T**) assemblies. They are installed with the threads away from the center of the A-arm. Be careful not to damage the ABS sensor wire. DO NOT tighten the pivot bolts at this time. For correct positioning of the rubber bushings, the vehicle should be fully on the ground before these bolts are torqued to specifications.  
*Note: If there is excessive space between the upper a arm and the new cross member, shim the space out with the contents of an 90-6275.*
45. Install the factory half shafts to the differential with the OEM bolts. Torque to specifications.
46. Install the sway bar link to the sway bar and lower A-arm with the OEM links. Tighten until the bushings just start to bulge out. Do not over tighten!
47. Install the front Pro Comp shock absorber (**PN 920590**) to the original position using **PN 90-1079** for the upper mount and the OEM bolts and nuts for the bottom mount.
48. Install the front drive shaft to the differential.
49. Install the tie rod ends to the steering knuckle and torque to factory specifications.
50. Carefully install the front caliper assemblies to each side of the truck.
51. Remove the factory brake line brackets from the frame. Using the supplied brackets (**PN 90-1868**) and the previously removed factory bolt attach the new bracket in place of the stock bracket with the bends facing down. Attach the stock brake line bracket to the new bracket using the new hardware (**PN 90-6299**).
52. Install the ABS sensor wiring and secure them to the brake lines with "zip-ties". Again, the harness must be routed to prevent breakage or chaffing. Move the A-arm assembly up and down to its limits several times to check for binding and to ensure that there are no interference or pinching problems with the brake lines and ABS wiring.

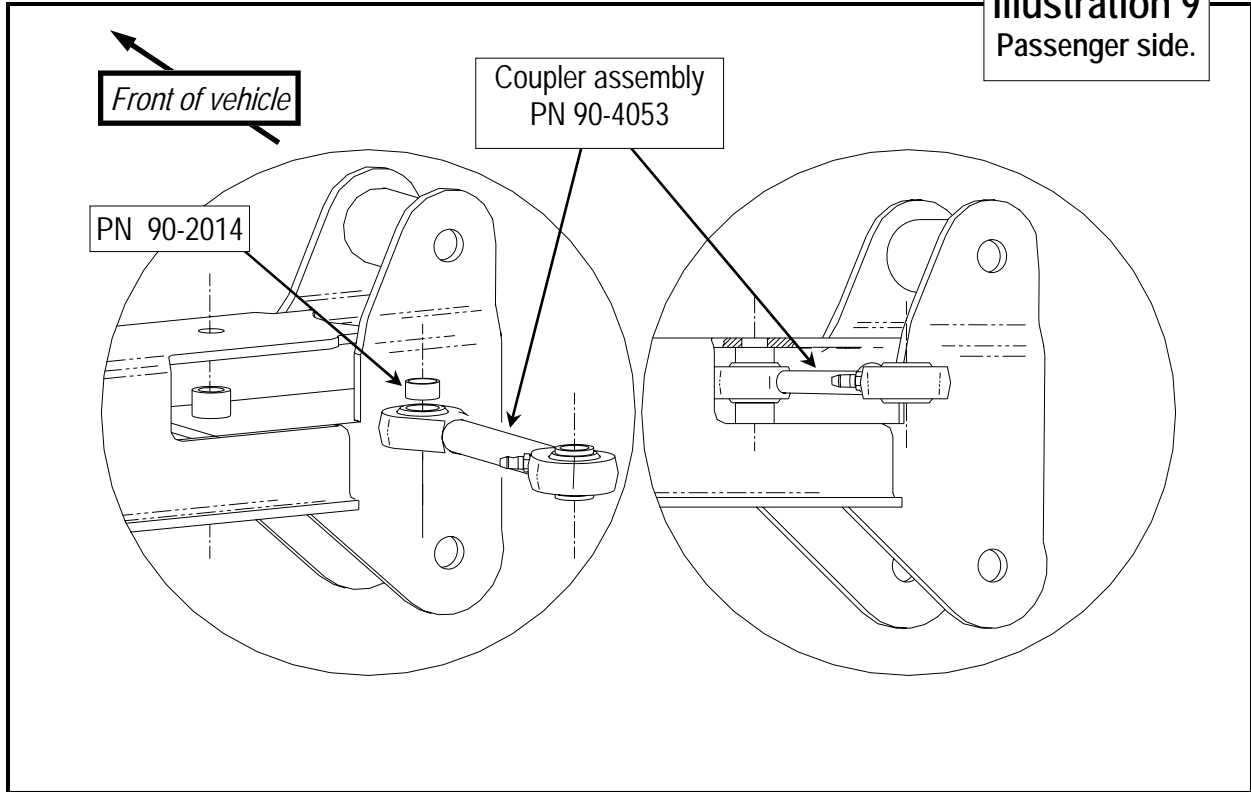
Illustration 7



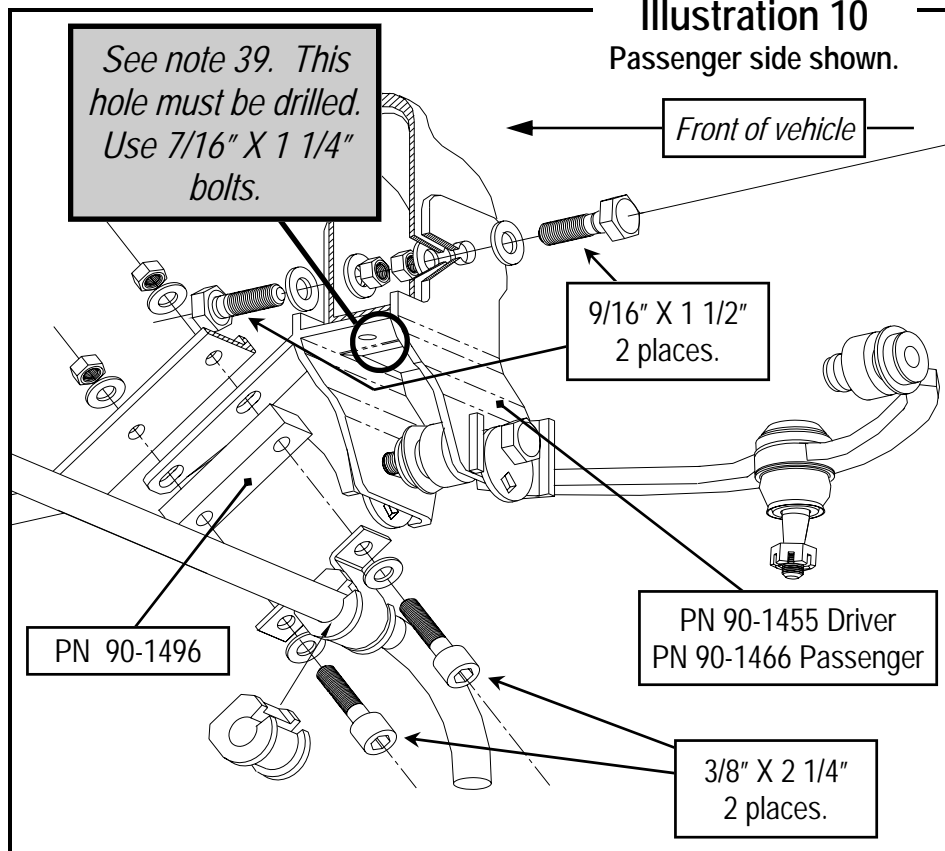
**Illustration 8**  
**Passenger Side View**



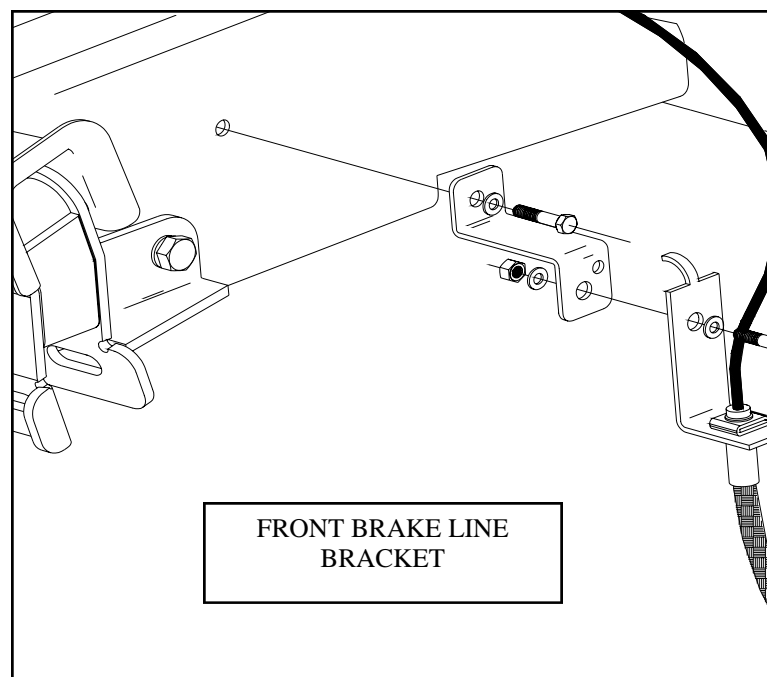
**Illustration 9**  
Passenger side.



**Illustration 10**  
Passenger side shown.



53. Install the torsion bar cross member drops by locating the new parts (**PN 90-1435**) in place as shown in **Illustrations 13, 14, 15, & 16**, and clamping them in place to the bottom and face of the frame rail. The location is determined by centering the new adapter holes around the OEM mounting rivets as shown in the detail views. Drill the four mounting holes per side for clearance of 7/16" bolts. Using the supplied 7/16" X 1 1/4" bolts, fasten the drops to the frame rails and torque to specifications.
54. From the factory, there are at least two different configurations for the torsion drop brackets. Included in the kit are adapters made specifically for these differences. The primary difference between the cross members is the width. Models with a torsion cross member width of 40 1/2" (bolt center to bolt center) will use torsion drop adapters **PN 90-1638**. cross members with a width of 39" will use **PN 90-1636**. they are mounted to the universal adapters previously installed using four 3/8" X 1 1/4" bolts from parts pack **PN 90-6223**.
55. Install the Torsion bars by reversing the order in which they were removed. Again, be very careful to install them with the same orientation that they were removed (I.E. left front to left front, right front to right front)! *Reset the preload bolts to the same measurements previously taken.*
56. With the truck still on jack stands and the suspension hanging at full extension, cycle the steering from lock to lock to check that all components have clearance and operate freely. Pay very close attention to the ABS wiring and brake lines.
57. Lower the truck to the ground to preload the suspension and unload the upper A- arms. Tighten the lower A-arm pivot bolts to specifications. It is necessary to rotate the upper A-arm alignment cam bolts to a neutral position (in the center of the alignment slot) and then tighten the cam bolts to specifications. This step is necessary to allow you to get to a professional alignment shop only! Do not assume that this setting is "close enough" and skip the alignment.





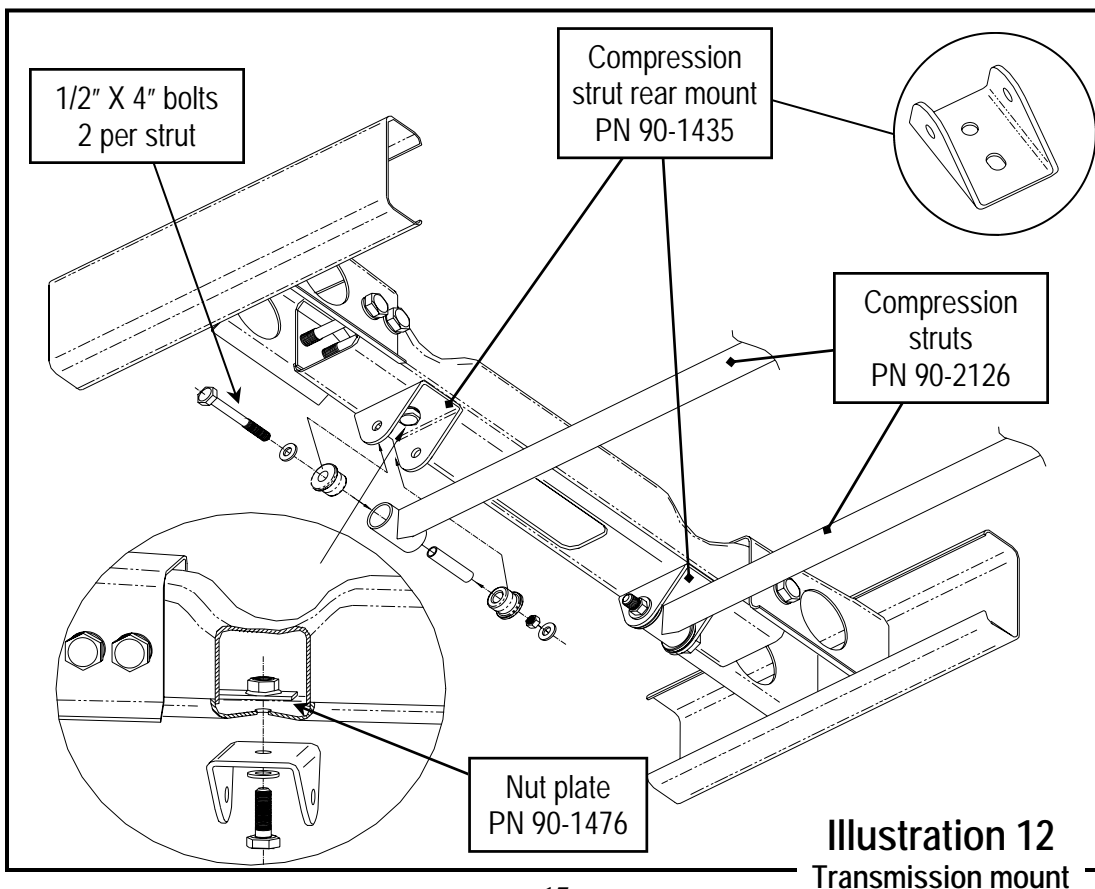
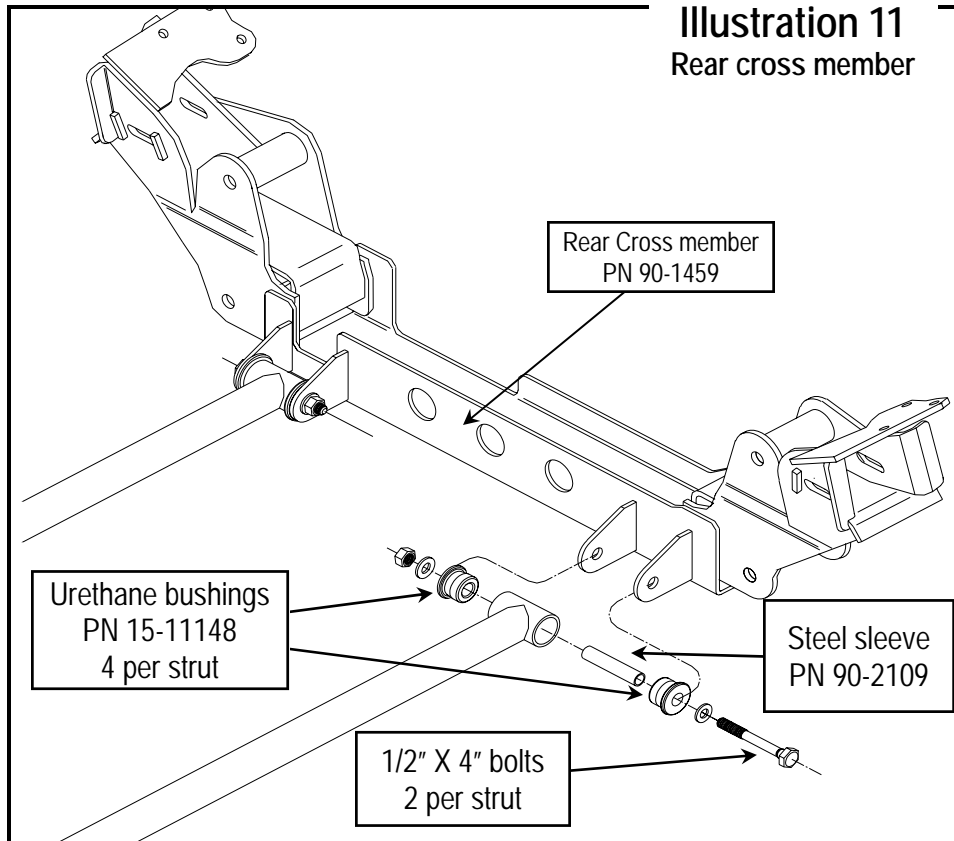


Illustration 13

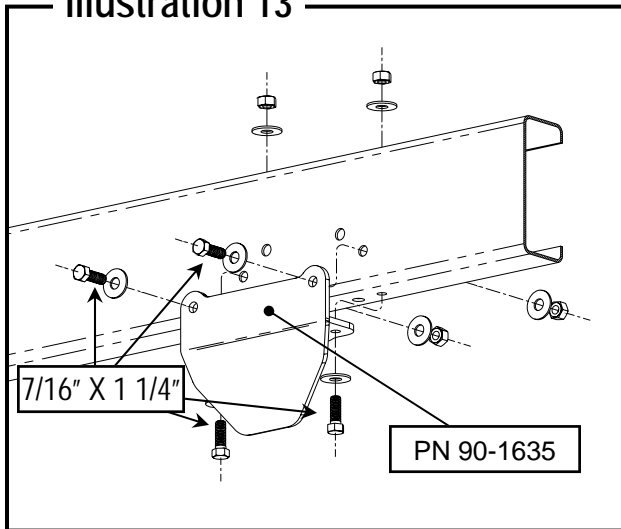


Illustration 14

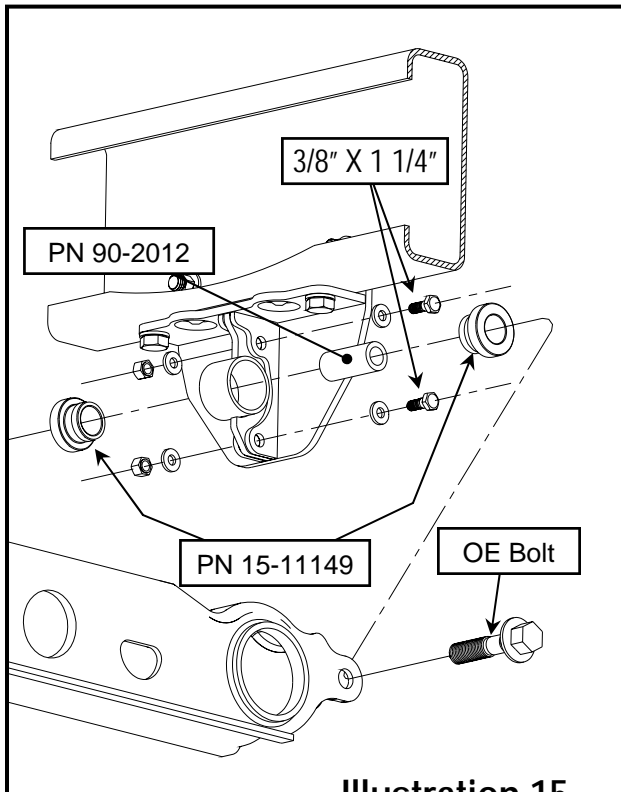
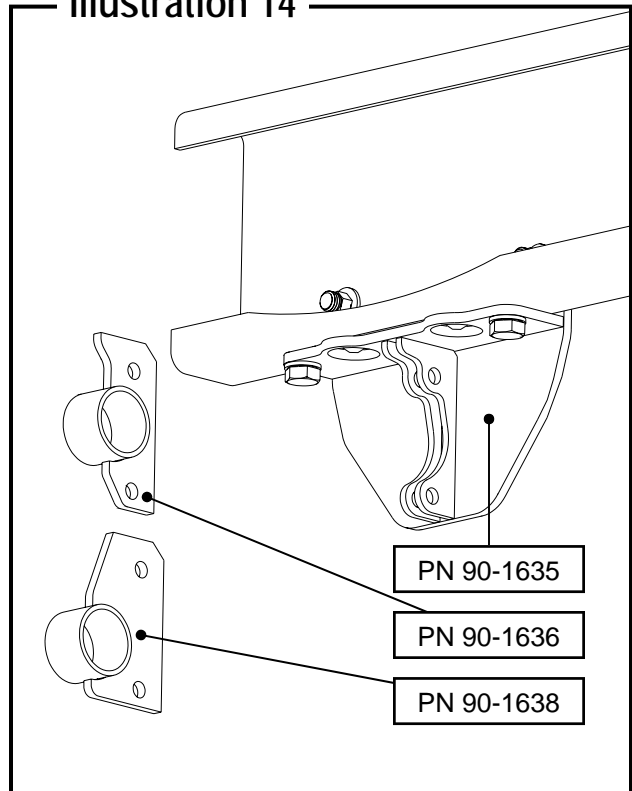


Illustration 15  
Drivers Side.

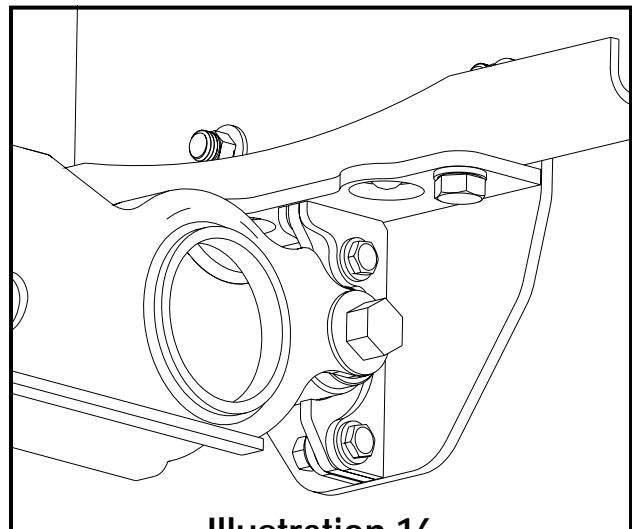


Illustration 16  
Complete, Drivers Side.

## Rear kit installation

1. Raise the rear of the truck enough for the tires to clear the ground and use jack stands on the frame to support the truck. Remove the rear tires and wheels.
2. Carefully remove the OEM shock absorbers. It may be necessary to raise the differential housing slightly to facilitate their removal.
3. One side at a time, support the differential housing on the side being modified. Remove the "U" bolts from that axle end and discard. Carefully lower the differential away from the OEM springs. Remove and discard the OEM riser block from its mount pad. Take careful note of the position of the factory spring packs.
4. **ADD-A-LEAF (13125-1) INSTALLATION NOTE: In order to properly install the add-a-leaf spring, it will be necessary to contain the elasticity in the leaf spring with "C" clamps when the center bolt is removed. Some springs have a factory helper spring consisting of one or more flat leaves installed at the bottom of the leaf pack. DO NOT install the add-a-leaf spring in or below the helper spring.**
5. Hold the spring assembly securely together with "C" clamp. If necessary remove any spring leaf alignment clamps. Remove the spring center bolt. A hammer and drift punch may be used to drive it out if necessary.
6. Carefully remove "C" clamps and lay unassembled leaves aside.  
**NOTE: Add-a-leaf will be placed in the spring assembly progressively according to length. For example, if the existing leaves are 32" long and 25" long and the add-a-leaf is 28" long, place the add-a-leaf between the existing leaves.**
7. Apply a small amount of grease to the end of the add-a-leaf, place it in the spring assembly as described in the note above, and reassemble the leaf springs using the "C" clamps also insert the new center bolt 97-380 and torque the center bolt nut to 20 ft./lbs. With a hacksaw, cut the center bolt even with the top of the nut.
8. Loosely assemble the complete spring assemblies into their respective axle mounts. As shown in **ILLUSTRATION 19**, place the **95-400** blocks in position. Make sure the pin in the block is in the hole of the axle housing spring pad. The short end of the block goes toward the front of the vehicle. Install the block so the pinion moves up.
9. If you are installing an optional traction bar kit, install the riser block as is. If you are not using the traction bars, it will be necessary to grind off approximately 1/4" of the locating dowel. Make sure after grinding that you test fit the riser block to ensure it fits the axle housing without interfering with the axle tube. Install the new 4" riser block, short end to the front, to the mount pad on the axle housing and raise the axle housing until the riser block hole fits around the new leaf spring center bolt.
10. Install the new "U" bolts over the leaf spring assembly and using the new washers and nuts supplied along with the existing spring plates, torque the U-bolt nuts to 105 ft./lbs. See **Illustration 19**.
11. Repeat these steps on the other side of the vehicle.
12. Remove the factory bump stops and install the bump stop extensions provided (**PN 90-2144**). See **Illustration 17**.
13. Before installing your new Pro Comp shock absorbers, it is necessary that you check for adequate clearance. Temporarily install your Pro Comp shocks into the shock mounts. Carefully check for clearance issues. If there are areas that come in contact with or are very close to your new shocks, carefully remove sufficient material to ensure trouble free operation. Pay particular attention to the area around the lower shock mount. When all clearance issues have been resolved, install your new Pro Comp shock absorbers and recheck all fasteners for proper installation and torque. See **Illustration 18**. You can install only the **MX6** shocks either shaft up or shaft down.
14. Install your wheels and tires and lower the vehicle to the ground.
15. After installation is complete, double check that all nuts and bolts are tight. Refer to the chart at the end of this document for torque specifications. (Do not retighten nuts and bolts where thread locking compound was used).

Illustration 17

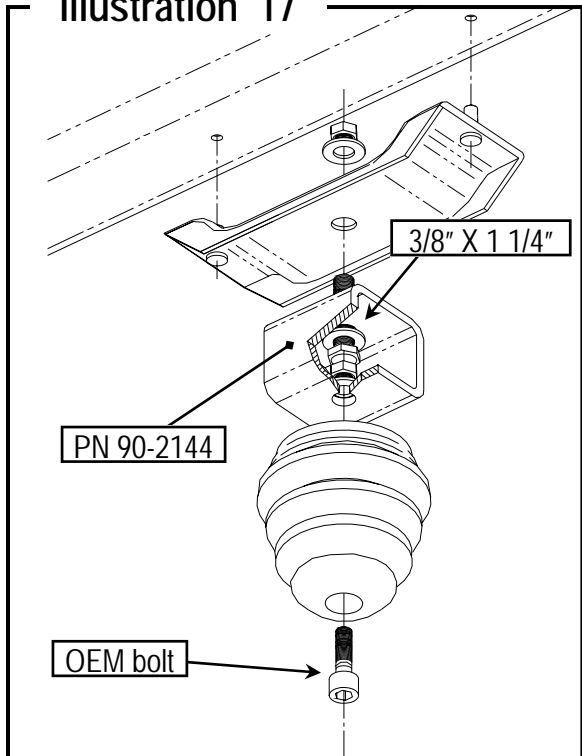


Illustration 18

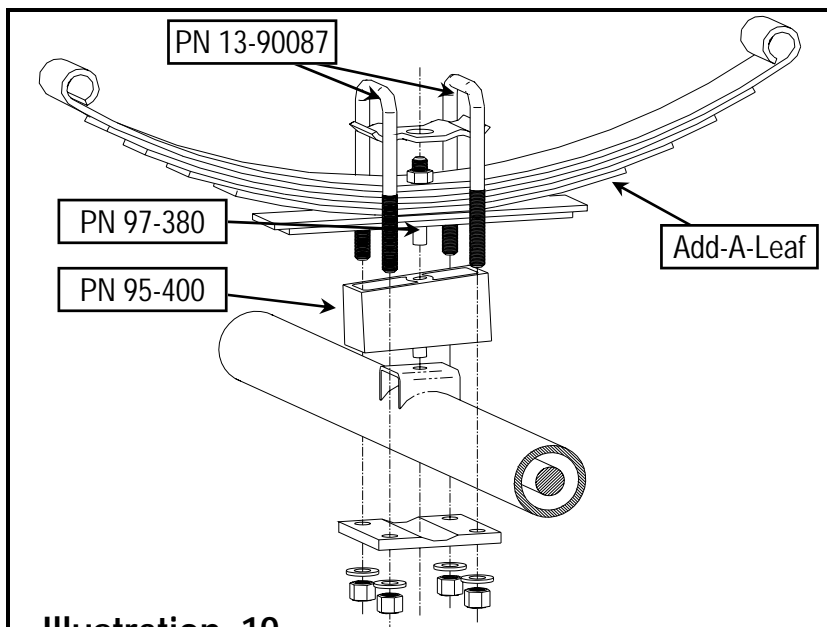
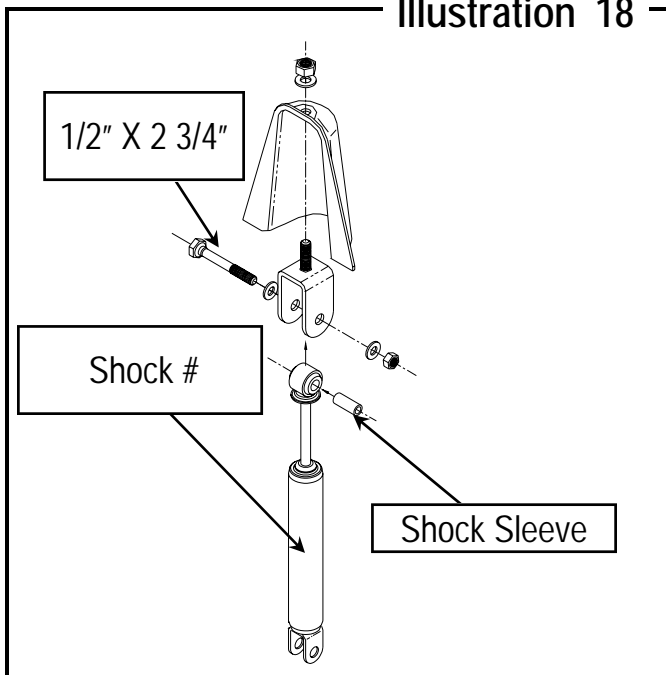


Illustration 19

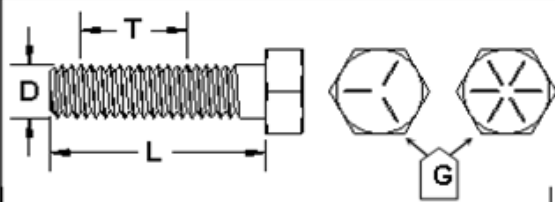
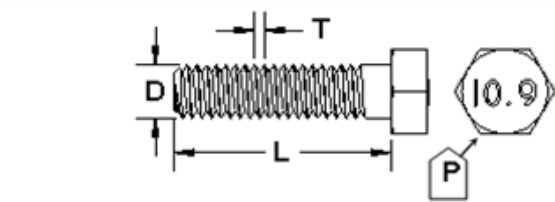
**Final notes:**

1. 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.
2. With vehicle on the floor, cycle steering from 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 are long enough for safe operation.
3. Have headlights readjusted to the proper settings.
4. Realign front end to factory specifications. Be sure vehicle is at desired ride height prior to realignment.
5. After 100 miles recheck for proper torque on all newly installed hardware.
6. Recheck all hardware for tightness after off road use.

Use this only as a guide for hardware without a called out torque specification in the instruction manual.

<b>Bolt Torque and ID</b>						
<b>Decimal System</b>			<b>Metric System</b>			
All Torques in Ft. Lbs. Maximums						
Bolt Size	Grade 5	Grade 8	Bolt Size	Class 9.8	Class 10.9	Class 12.9
5/16	15	20	M6	5	9	12
3/8	30	45	M8	18	23	27
7/16	45	60	M10	32	45	50
1/2	65	90	M12	55	75	90
9/16	95	130	M14	85	120	145
5/8	135	175	M16	130	165	210
3/4	185	280	M18	170	240	290

 <p style="text-align: center;">1/2-13x 1.75 HHCS      <b>Grade 5    Grade 8</b>              (No. of Marks + 2)</p> <p style="text-align: center;"> <span style="border: 1px solid black; padding: 2px;">D</span> <span style="border: 1px solid black; padding: 2px;">T</span> <span style="border: 1px solid black; padding: 2px;">L</span> <span style="border: 1px solid black; padding: 2px;">X</span> </p> <p>G = Grade (Bolt Strength)              D = Nominal Diameter (Inches)              T = Thread Count (Threads per Inch)              L = Length (Inches)              X = Description (Hex Head Cap Screw)</p>	 <p style="text-align: center;">M12-1.25x50 HHCS</p> <p style="text-align: center;"> <span style="border: 1px solid black; padding: 2px;">D</span> <span style="border: 1px solid black; padding: 2px;">T</span> <span style="border: 1px solid black; padding: 2px;">L</span> <span style="border: 1px solid black; padding: 2px;">X</span> </p> <p>P = Property Class (Bolt Strength)              D = Nominal Diameter (Millimeters)              T = Thread Pitch (Thread Width, mm)              L = Length (Millimeters)              X = Description (Hex Head Cap Screw)</p>
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**Notice to Owner operator, Dealer and Installer:**

Vehicles that have been enhanced for off-road performance often have unique handling characteristics due to the higher center of gravity and larger tires. This vehicle may handle, react and stop differently than many passenger cars or unmodified vehicles, both on and off-road. You must drive your vehicle safely! Extreme care should always be taken to prevent vehicle rollover or loss of control, which can result in serious injury or even death. Always avoid sudden sharp turns or abrupt maneuvers and allow more time and distance for braking! Pro Comp reminds you to fasten your seat belts at all times and reduce speed! We will gladly answer any questions concerning the design, function, maintenance and correct use of our products.

**Please make sure your Dealer/Installer explains and delivers all warning notices, warranty forms and instruction sheets included with Pro Comp product.**

Application listings in this catalog have been carefully fit checked for each model and year denoted. However, Pro Comp reserves the right to update as necessary, without notice, and will not be held responsible for misprints, changes or variations made by vehicle manufacturers. Please call when in question regarding new model year, vehicles not listed by specific body or chassis styles or vehicles not originally distributed in the USA.

**Please note that certain mechanical aspects of any suspension lift product may accelerate ordinary wear of original equipment components.** Further, installation of certain Pro Comp products may void the vehicle's factory warranty as it pertains to certain covered parts; it is the consumer's responsibility to check with their local dealer for warranty coverage before installation of the lift.

**Warranty and Return policy:**

Pro Comp warrants its full line of products to be free from defects in workmanship and materials. Pro Comp's obligation under this warranty is limited to repair or replacement, at Pro Comp's option, of the defective product. Any and all costs of removal, installation, freight or incidental or consequential damages are expressly excluded from this warranty. Pro Comp is not responsible for damages and / or warranty of other vehicle parts related or non-related to the installation of Pro Comp product. A consumer who makes the decision to modify his vehicle with aftermarket components of any kind will assume all risk and responsibility for potential damages incurred as a result of their chosen modifications. Warranty coverage does not include consumer opinions regarding ride comfort, fitment and design. Warranty claims can be made directly with Pro Comp or at any factory authorized Pro Comp dealer.

**IMPORTANT!** To validate the warranty on this purchase please be sure to mail in the warranty card.

**Claims not covered under warranty-**

- Parts subject to normal wear, this includes bushings, bump stops, ball joints, tie rod ends and heim joints
  - Discontinued products at Pro Comp's discretion
- Bent or dented product
- Finish after 90 days
- Leaf or coil springs used without proper bump stops
- Light bulbs
- Products with evident damage caused by abrasion or contact with other items
- Damage caused as a result of not following recommendations or requirements called out in the installation manuals
- Products used in applications other than listed in Pro Comp's catalog
- Components or accessories used in conjunction with other manufacturer's systems
- Tire & Wheel Warranty as per Pro Competition Tire Company policy
- Warranty claims without "Proof of Purchase"
- Pro Comp Pro Runner coil over shocks are considered a serviceable shock with a one-year warranty against leakage only. Rebuild service and replacement parts will be available and sold separately by Pro Comp. Contact Pro Comp for specific service charges.
- Pro Comp accepts no responsibility for any altered product, improper installation, lack of or improper maintenance, or improper use of our products.

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Website: [www.explorerprocomp.com](http://www.explorerprocomp.com)  
Fax: (619) 216-1474  
Ph: (619) 216-1444

<b>PLACE</b> <b>WARRANTY REGISTRATION</b> <b>NUMBER</b> <b>HERE:</b> _____
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