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off-road driven!™

PRO COMP SUSPENSION

K4143B/K4143BP
52209B/52209BP
6" 2009-2014 FORD F150 4WD LIFT KIT

K4143BMX/K4143BPS/K4143BPX
52209BMX/52209BPS/52209BPX
6" 2009-2013 FORD F150 4WD LIFT KIT

K4147BMX/K4147BPS/K4147BPX
52217BMX/52217BPS/52217BPX
6" 2014 ONLY FORD F150 4WD LIFT KIT

NOTE: This kit fits 2011-2014 vehicles equipped with an electric steering rack.

Stock 17" & 18" wheels will not work in conjunction with this kit.

***IMPORTANT!: 18" AND LARGER WHEEL, NOT TO EXCEED 9" IN WIDTH
WITH A MAXIMUM BACKSPACING OF 5 1/2" MUST BE USED IN
CONJUNCTION WITH THIS LIFT KIT! See pg. 5 for details.***

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.

Box 1 of 4-PN 52209B/52209BMX-1

Part #	Description	Qty.	Illus.	Page
91-5504	REAR CROSSMEMBER	1	3,6,8	10,11,12
91-5516	REAR CROSSMEMBER BRACE	1	6	11
90-6705	HARDWARE PACK: Brace	2	-	-
70-0501501800	1/2" X 1 1/2" HEX BOLT Gr. 8	2	6	11
72-050100816	1/2" STOVER NUT Gr. C - Not Used	2	6	11
73-05000834	1/2" SAE HARDENED FLAT WASHER - 2 Not Used	4	6	11
90-5692	NUT PLATE: Brace	1	6	11
91-5517	CROSSMEMBER SKID PLATE	1	8	12
90-6223	HARDWARE PACK: Skid Plate	1	-	-
70-0371251800	3/8" X 1 1/4" HEX BOLT Gr. 8	4	8	12
72-037100816	3/8" STOVER NUT Gr. C	4	8	12
73-03700034	3/8" HARDENED FLAT WASHER	8	8	12
91-5526	DIFFERENTIAL DROP: Front Drvr and Pass	2	2	9
90-6189	HARDWARE PACK: Differential	1	-	-
90-2217	HOSE: 5/16" ID X 3 1/2"	1	-	-
90-2216	HOSE MENDER: BRASS (5/16")	1	-	-
90-6302	HARDWARE PACK: Differential	1	-	-
70-0561251800	9/16" X 4" HEX BOLT Gr. 8- 1 Not Used	4	2,4	9,10
73-05600034	9/16" HARDENED FLAT WASHER- 2 Not Used	8	2,4	9,10
72-056100816	9/16" STOVER NUT Gr. C- 1Not Used	4	2,4	9,10
91-5539	DIFFERENTIAL DROP: Rear Drvr	1	4	10
90-6701	HARDWARE PACK: Rear Crossmember	1	-	-
71-181502501000	18mm-2.5 X 150mm HEX BOLT 10.9	1	3	10
72-01810932	18mm-2.5 STOVER NUT Gr. C	1	3	10
73-01810934	18mm USS FLAT WASHER	2	3	10
95-404F	4" LIFT BLOCK	2	15	19
90-6703	HARDWARE PACK: Leaf Spring Shim Pack	1	-	-
90-3085	FORD REAR END SHIMS	4	-	-
97-120	1/2" X 3 1/2" GR. 8 USS. HEX MACHINED HEAD	4	-	-
72-050100811	1/2" GR. 8 USS. UNPLATED HEX NUT	4	-	-
90-4248	FRONT DRIVESHAFT SPACER	1	9	13
90-6716	HARDWARE PACK: Front Driveshaft Spacer	1	-	-
71-181502501000	10mm- 1.5 X 90mm HEX BOLT 12.9	6	9	13
90-6493	HARDWARE PACK: Rear Driveshaft Spacer	1	-	-
.120C600HCS1Y	12mm- 1.75 X 60mm 10.9 HEX BOLT	4	16	20
73-01200830	12mm SAE FLAT WASHER	4	16	20
90-4338	REAR DRIVESHAFT SPACER	1	16	20

Box 2 of 4-PN 52209B/52209BMX-2

90-4624	KNUCKLE: Drvr	1	-	-
90-4625	KNUCKLE: Pass	1	-	-

Part #	Description	Qty.	Illus.	Page
91-7210	BRAKE LINE BRACKET: Front Knuckle	2	-	-
90-6299	HARDWARE PACK: Front Brake Lines	1	-	-
70-0311001500	5/16" X 1" Gr. 5 HEX BOLT	2	-	-
72-03100100512	5/16" NYLOCK NUT	2	-	-
73-03100030	5/16" SAE FLAT WASHER	4	-	-
90-6736	HARDWARE PACK: Caliper Bolt Spacers	1	-	-
62NWHDY/SAEXT	5/8" (thick) Hardened Flat Washer	4	-	-
Box 3 of 4-PN 52209B/52209BMX-3				
91-5519	FRONT CROSSMEMBER	1	3,5	10,11
91-5502	REAR BRAKE LINE DROP	1	-	-
91-7826	EMERGENCY BRAKE BRACKET	1	14	18
90-6422	HARDWARE PACK: E-Brake Bracket	1	-	-
70-0501501800	1/2" X 1 1/2 HEX BOLT Gr. 8	1	14	18
73-05000034	1/2" HARDENED FLAT WASHER	2	14	18
72-0501100816	1/2" NYLOCK NUT Gr. 8	1	14	18
90-6314	HARDWARE PACK: Brake Line Drop/ Bump Kit	1	-	-
70-0311001800	5/16" X 1" HEX BOLT Gr. 8 -Not Used	1	-	-
72-031100816	5/16" STOVER NUT Gr. C -Not Used	1	-	-
73-03100832	5/16" USS FLAT WASHER -Not Used	2	-	-
70-0371501800	3/8" X 1 1/2" HEX BOLT Gr. 8	2	14	18
72-037100816	3/8" STOVER NUT Gr. C	2	14	18
73-03700034	3/8" HARDENED FLAT WASHER	4	14	18
90-6393	HARDWARE PACK: Front Brake Line Drops	1	-	-
90-3202	F150 BRAKELINE DROP	2	-	-
90-6299	HARDWARE PACK: Front Brake Lines	1	-	-
70-0311001500	5/16" X 1" Gr. 5 HEX BOLT	2	-	-
72-03100100512	5/16" NYLOCK NUT	2	-	-
73-03100030	5/16" SAE FLAT WASHER	4	-	-
91-5518	SWAY BAR DROP: Pass	1	10	13
90-6340	HARDWARE PACK: Sway Bar Drop	1	-	-
70-0431751800	7/16" X 1 1/4" HEX BOLT Gr. 8	4	10	13
72-043100816	7/16" STOVER NUT Gr. C	4	10	13
73-04300830	7/16" SAE FLAT WASHER	8	10	13
90-6319	HARDWARE PACK: Zip Ties	1	-	-
10999	ZIP TIE, 11", BLACK	12	-	-
90-6700	HARDWARE PACK: Cam Bolts	1	-	-
90-5532	CAM ECCENTRIC: F-150 Slotted	4	7	12
90-5533	CAM BOLT- Rear: 18mm-2.5 X 150MM 10.9	2	7	12
90-5535	CAM BOLT- Front: 18mm-2.5 X 160MM 10.9	2	7	12
90-6313	HARDWARE PACK: Crossmember	1	-	-
72-01810932	18mm STOVER NUT	4	7	12
73-01810934	18mm FLAT WASHER	4	7	12

Part #	Description	Qty.	Illus.	Page
91-2126	COMPRESSION STRUT	2	14	16
90-6263	HARDWARE PACK: Compression Strut Bushings	1	-	-
15-11148	URETHANE BUSHING	8	14	16
90-2109	SLEEVE	4	14	16
90-6234	HARDWARE PACK: Compression Struts	1	-	-
70-0501251800	1/2" X 1 1/4" HEX BOLT Gr. 8	2	14	16
70-0504001800	1/2" X 4" HEX BOLT Gr. 8	4	14	16
72-050100816	1/2" STOVER NUT Gr. C	4	14	16
73-05000034	1/2" HARDENED FLAT WASHER	10	14	16
91-1435	COMPRESSION STRUT MOUNT	2	14	16
90-1915	COMPRESSION STRUT NUT PLATE	2	14	16
13-90390	U-BOLT: 9/16"-18 x 3.36" x 12.50"	4	15	19
20-65302	HARDWARE PACK: 9/16" HI-NUTS	1	15	19
90-9434	SWAY BAR MOUNT WASHER PLATE	2	10	13
	Box 4 of 4-PN 52209B-4			
932008	9000 SERIES SHOCK	2	-	-
91-2977	COIL SPACER	2	11b	14
90-6317	HARDWARE PACK: Spacer Mount	1	-	-
72-043200810	7/16" GR. 8 HEX NUT	6	11b	14
73-04300830	7/16" SAE FLAT WASHER	6	11b	14
73-04300836	7/16" SPLIT LOCK WASHER	6	11b	14
	OR Box 4 of 4-PN 52217BMX-4 (2014 Only)			
627014	COIL OVER	2	11a, 11c, 12	14
MX6166	MX6 SHOCKS	2	-	-
91-5555	COIL OVER MOUNT: Upper Bracket	2	11a	14
90-6492	HARDWARE PACK: Coil over mounting spacers	1	-	-
90-2433	MOUNTING SPACERS	4	-	-
90-6317	HARDWARE PACK: Spacer Mount	1	-	-
72-043200810	7/16" GR. 8 HEX NUT	6	11a,12	14
73-04300830	7/16" SAE FLAT WASHER	6	11a,12	14
73-04300836	7/16" SPLIT LOCK WASHER	6	11a,12	14
90-3010	COIL OVER WRENCH: Large	1	-	-
90-3011	COIL OVER WRENCH: Small	1	-	-
90-6318	HARDWARE PACK: Coil Over Mount	1	-	-
70-0502751800	1/2" X 2 3/4" BOLT	2	11a, 11c	14
73-05000830	1/2" SAE FLAT WASHER	4	11a, 11c	14
72-050100816	1/2" STOVER NUT Gr. C	2	11a, 11c	14

Part #	Description	Qty.	Illus.	Page
90-6327	HARDWARE PACK: Coil over lower Mount	1	-	-
73-04300836	7/16" X 2 1/2" HEX BOLT Gr. 8	2	-	-
73-04300830	7/16" SAE FLAT WASHER	4	-	-
72-043200810	7/16" GR. 8 HEX NUT	2	-	-
OR Box 4 of 4-PN 52209BMX-4 (2009-2013 only)				
627009	COIL OVER	2	11a,12	14
90-6334	HARDWARE PACK: Coil over mounting spacers	1	-	-
90-2433	UPPER SPACERS	4	-	-
90-2434	LOWER SPACERS	4	-	-
91-5555	COIL OVER MOUNT: Upper Bracket	2	11a,12	14
MX6166	MX6 SHOCKS	2	-	-
90-6317	HARDWARE PACK: Spacer Mount	1	-	-
72-043200810	7/16" GR. 8 HEX NUT	6	11a,12	14
73-04300830	7/16" SAE FLAT WASHER	6	11a,12	14
73-04300836	7/16" SPLIT LOCK WASHER	6	11a,12	14
90-3010	COIL OVER WRENCH: Large	1	-	-
90-3011	COIL OVER WRENCH: Small	1	-	-
90-6318	HARDWARE PACK: Coil Over Mount	1	-	-
70-0502751800	1/2" X 2 3/4" BOLT	2	11a	14
73-05000830	1/2" SAE FLAT WASHER	4	11a	14
72-050100816	1/2" STOVER NUT Gr. C	2	11a	14
Box 4 BP of 4-PN 52209BP-4				
ZX2042	PRO RUNNER MONOTUBE REAR SHOCKS	2	-	-
91-2977	STRUT SPACER	2	11b	14
90-6317	HARDWARE PACK: Spacer Mount	1	-	-
72-043200810	7/16" GR. 8 HEX NUT	6	11b	14
73-04300830	7/16" SAE FLAT WASHER	6	11b	14
73-04300836	7/16" SPLIT LOCK WASHER	6	11b	14
Box 4 BPS of 4-PN 52209BPS-4				
ZX2111	PRO RUNNER MONOTUBE FRONT SHOCKS	2	-	-
ZX2042	PRO RUNNER MONOTUBE REAR SHOCKS	2	-	-
91-2977	STRUT SPACER	2	11b	14
90-6317	HARDWARE PACK: Spacer Mount	1	-	-
72-043200810	7/16" GR. 8 HEX NUT	6	11b	14
73-04300830	7/16" SAE FLAT WASHER	6	11b	14
73-04300836	7/16" SPLIT LOCK WASHER	6	11b	14

Box 4 BPX of 4-PN 52209BPX-4

Part #	Description	Qty.	Illus.	Page
627009	COIL OVER	2	11a,12	14
90-6334	HARDWARE PACK: Coil over mounting spacers	1	-	-
90-2433	UPPER SPACERS	4	-	-
90-2434	LOWER SPACERS	4	-	-
91-5555	COIL OVER MOUNT: Upper Bracket	2	11a,12	14
ZX2042	ZINC MONOTUBE SHOCKS	2	-	-
90-6317	HARDWARE PACK: Spacer Mount	1	-	-
72-043200810	7/16" GR. 8 HEX NUT	6	11a,12	14
73-04300830	7/16" SAE FLAT WASHER	6	11a,12	14
73-04300836	7/16" SPLIT LOCK WASHER	6	11a,12	14
90-3010	COIL OVER WRENCH: Large	1	-	-
90-3011	COIL OVER WRENCH: Small	1	-	-
90-6318	HARDWARE PACK: Coil Over Mount	1	-	-
70-0502751800	1/2" X 2 3/4" BOLT	2	11a,12	14
73-05000830	1/2" SAE FLAT WASHER	4	11a,12	14
72-050100816	1/2" STOVER NUT Gr. C	2	11a,12	14

Optional Equipment Available from your Pro Comp Distributor!

52213B/52213BMX

62159

62160

52209BMX-4* (2009-2013 only)

52213BMX-4* (2009-2013 only)

52218BMX* (2014 only)

52109

Mounting kit: 72096B*, Bars: 72500B*

13137

2WD 6' Suspension Lift Kit

4WD Level Lift Kit

2WD Level Lift Kit

4WD Coil Over Upgrade Kit

2WD Coil Over Upgrade Kit

4WD Coil Over Upgrade Kit

4WD Skid Plate

Traction bars: 4wd Crew cab short bed

Add a leaf kit: (Use with Suspension lift kit)

*Install on Pro Comp lift kit equipped vehicles ONLY!

Please refer to your service manual for more information.

A special removal tool is required for safe removal of the tie rods. (PN T64P-3590-F).

These tool may be purchased at your local Ford dealer.

You may be able to rent any of these tools at your local parts store.

Tire & Wheel Information:

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 18" and larger wheel not to exceed 9" in width with a maximum backspacing of 5 1/2" is acceptable. A quality tire of radial design, not exceeding 35" tall X 13.5" wide is recommended. Please note that the use of a 35" X 13.5" 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.

IMPORTANT!: 18" OR LARGER WHEELS MUST BE USED IN CONJUNCTION WITH THIS LIFT KIT! EXCLUDING REVERSE MOUNT WHEELS.

NOTE: BMX kit will not fit 2014 models

Special Tools:

- ◆ This installation requires a professional mechanic!
- ◆ We recommend that you have access to a factory 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 use NEW cotter pins on re-assembly! (These items are NOT supplied)
- ◆ 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.
- ◆ **IT IS ADVISABLE THAT YOU HAVE HELP AVAILABLE WHEN INSTALLING THIS KIT. SOME COMPONENTS ARE HEAVY AND AWKWARD. ADDITIONAL HELP IS GOOD INSURANCE AGAINST INJURY!**
- ◆ 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 thread lock retaining compound where specified.
- ◆ **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.**
- ◆ If you use traction bars, ES9000 shocks may hit the traction bar mount, if it does a MX6 Series shock should be used.

Front Installation:

1. Prior to installing this kit, with the vehicle on the ground. Measure the height of your vehicle. This measurement can be recorded from the center of the wheel, straight up to the top of the inner fender lip. Record the measurements below.

LF: _____ RF: _____

LR: _____ RR: _____

2. Ensure that your work space is of adequate size and the work surface is level. Place the vehicle in park and set parking brake. Place blocks both in front of and behind the rear wheels. 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 remove the front wheels.
3. Remove any skid plates if necessary.
4. Work on one side of the vehicle at a time.
5. Unbolt the **OE** brake line and bracket from the side of the knuckle. Save the hardware for reinstallation.
6. Remove the front caliper and bracket assembly from the front knuckle by removing the **(2)** retaining bolts.
NOTE: Make sure you do not let the calipers hang on the brake lines or damage will occur.
7. Remove the front rotors from the front hub.
8. Remove the dust cap and the nut from the end of the CV in the hub.
9. Remove the anti-lock wiring and sensor

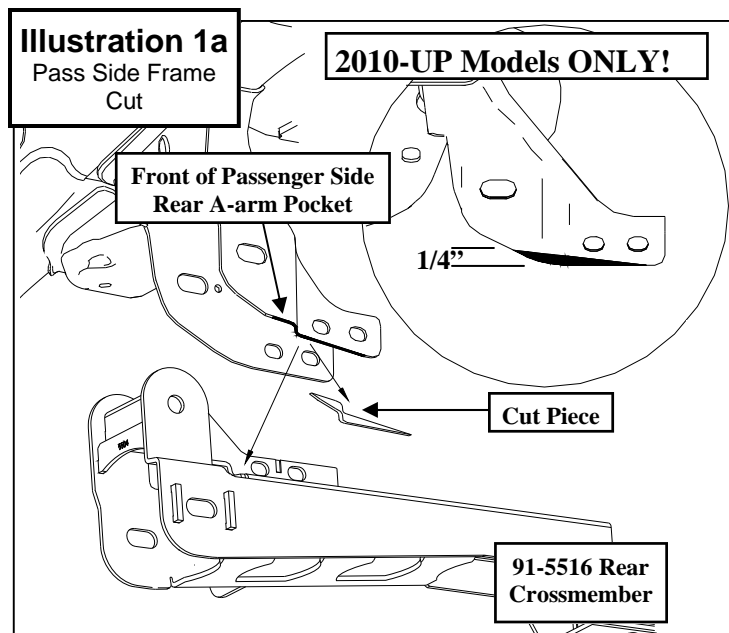
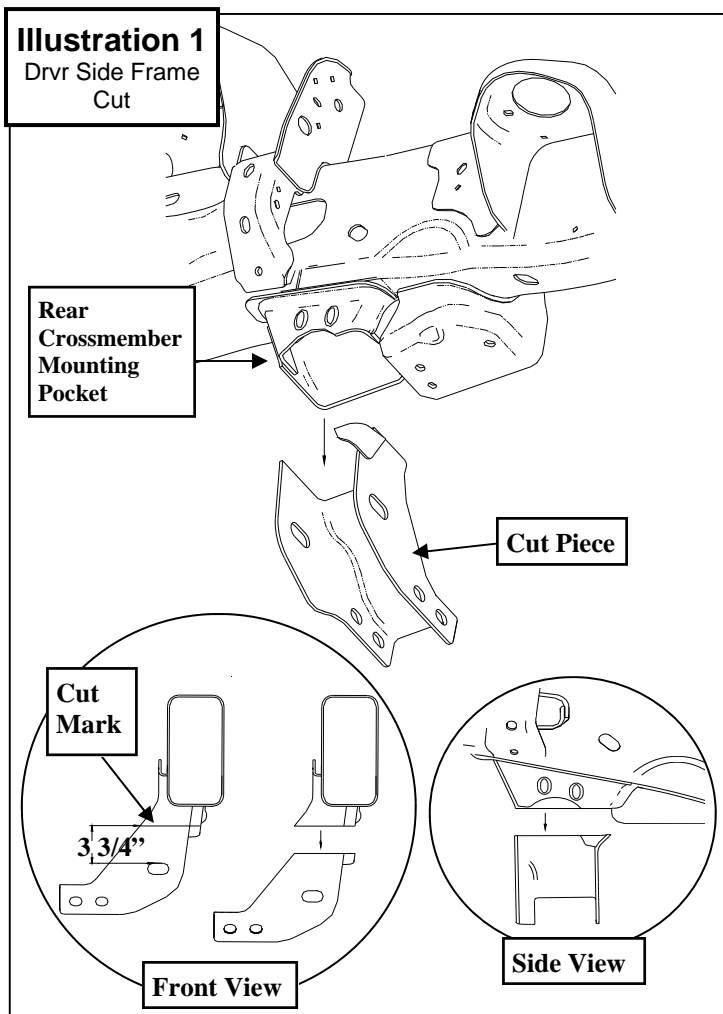
from the hub if applicable.

10. Remove the vacuum line from the rear of the hub.
11. Disconnect the sway bar end links from the sway bar. Save hardware for reinstallation.
12. Unbolt and remove the sway bar from the vehicle. Save hardware for reinstallation.
13. Remove the tie rod end nut and separate from the knuckle using the appropriate tool.
14. Remove the upper ball joint nut from the knuckle and separate using the appropriate tool.
15. Remove the lower ball joint nut, separate using the appropriate tool. Remove the knuckle from the vehicle while pulling it away from the CV and set the knuckle aside.
16. Remove the three nuts from the top of the coil over assembly and the one large nut and bolt on the bottom. Remove the coil from the vehicle. Save hardware for reinstallation.
17. Remove the two bolts that retain the lower a-arms and remove them from the truck.
18. Repeat on the other side of the vehicle.
19. Mark the driveshaft orientation and disconnect the front drive shaft from the differential. Secure the driveshaft up and out of the way of the work area.
20. Remove the rear cross member brace; retain **(2)** of the bolts and nuts for reinstallation.
NOTE: Careful heating of the OE bolts may be necessary to loosen the factory thread locker.
21. Make sure that the front differential is

well supported, remove the existing hardware from both passenger and driver side differential mounting areas. Carefully lower differential out of vehicle and set aside. Note the vent routing for reinstall. Be careful the differential is heavy.

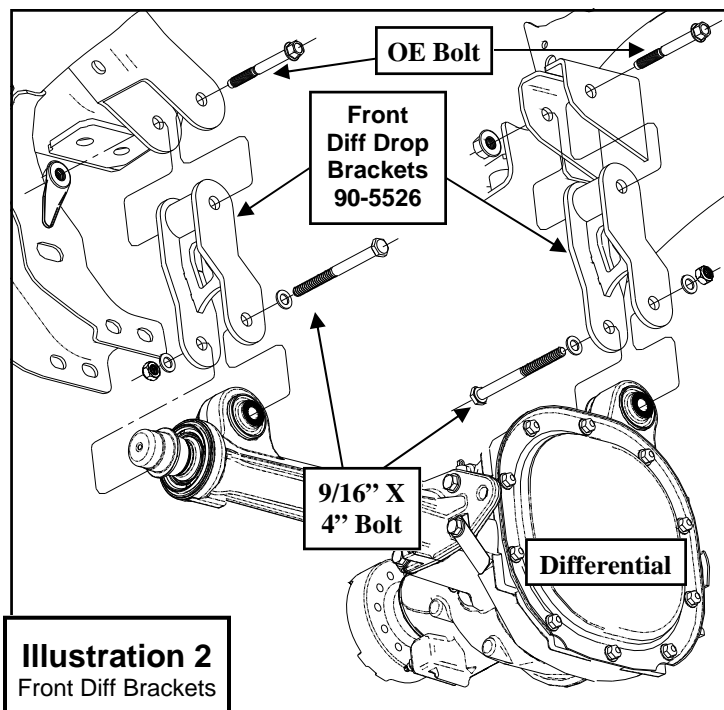
22. In order to install the rear crossmember, the driver side control arm mounting pocket needs to be removed. Measure up $3\frac{3}{4}$ " from the top of the cam bolt hole and draw a horizontal line across the entire pocket. See **Illustration 1**.

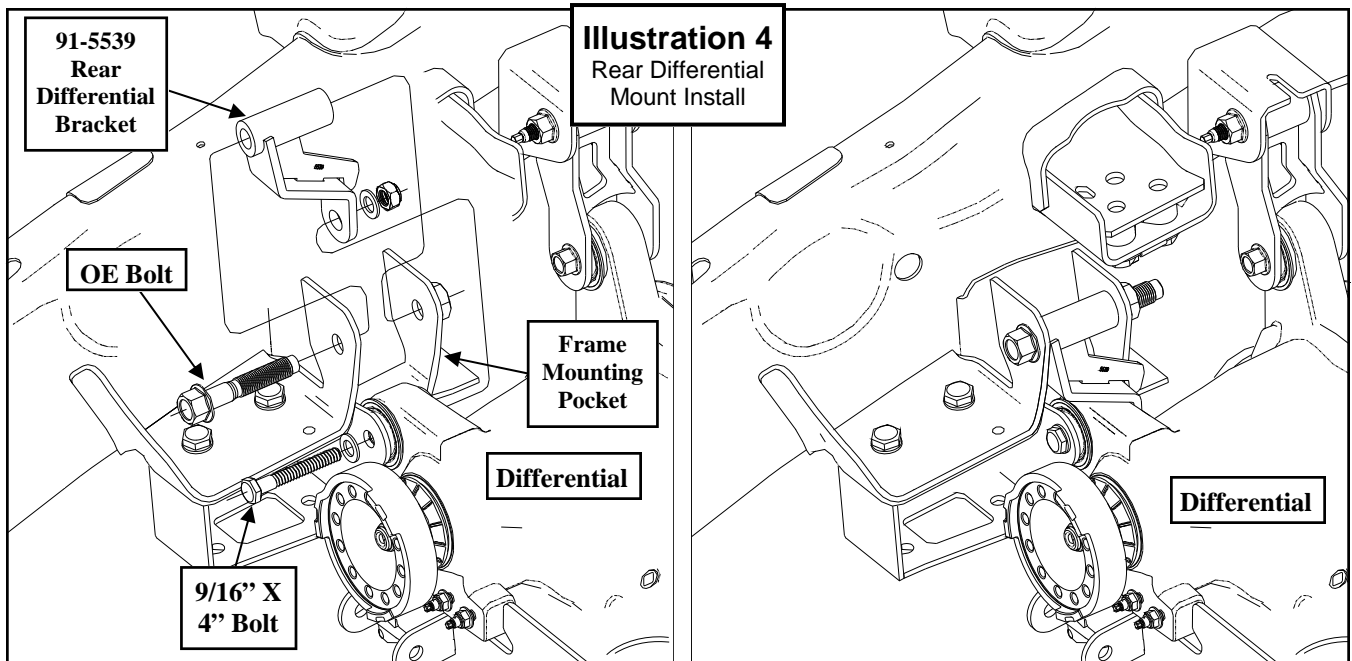
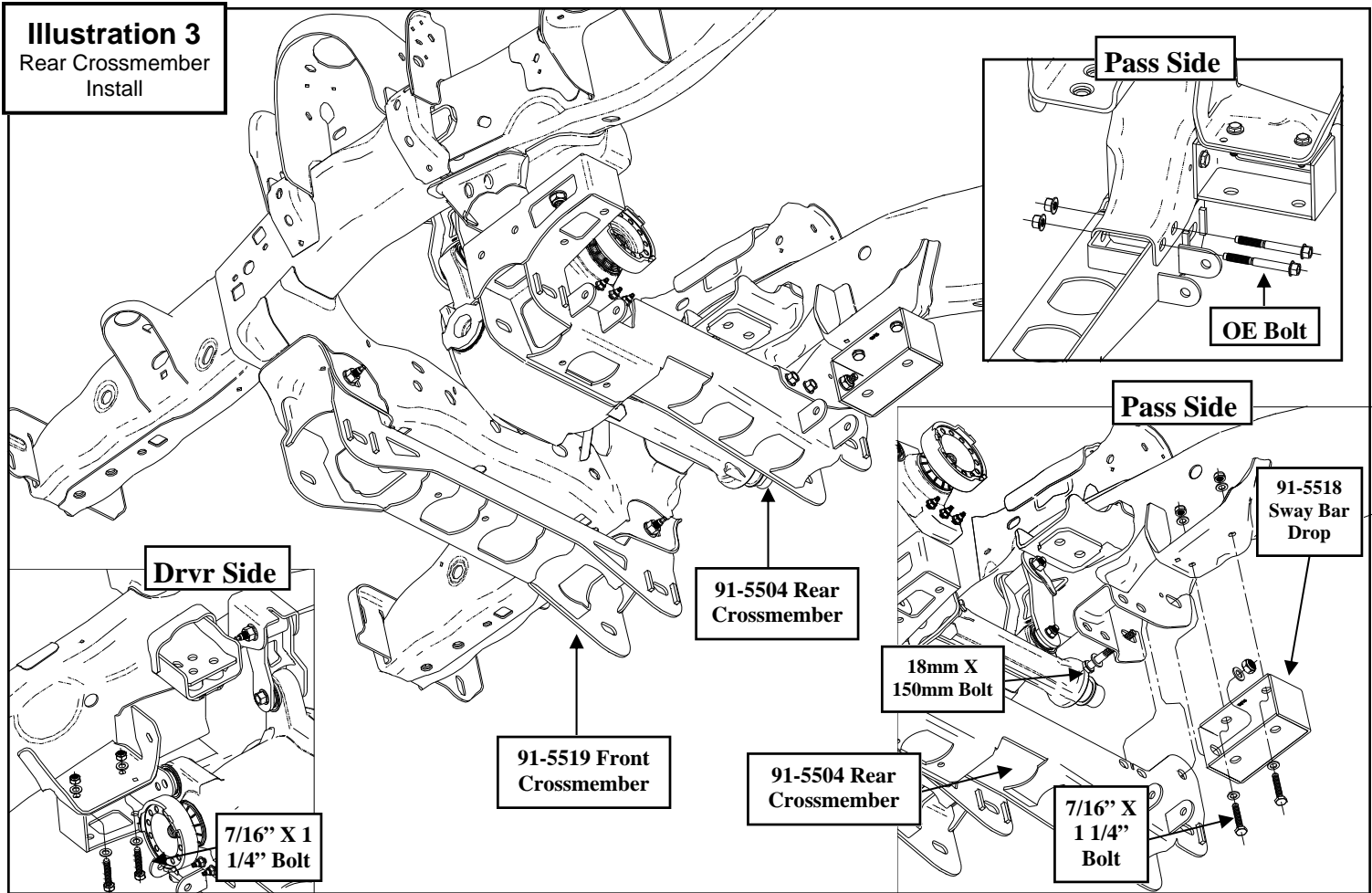
IMPORTANT!: For 2010-UP models ONLY, the front of the passenger side rear A-arm pocket will need to be trimmed approximately $\frac{1}{4}$ " in order to install the rear crossmember.

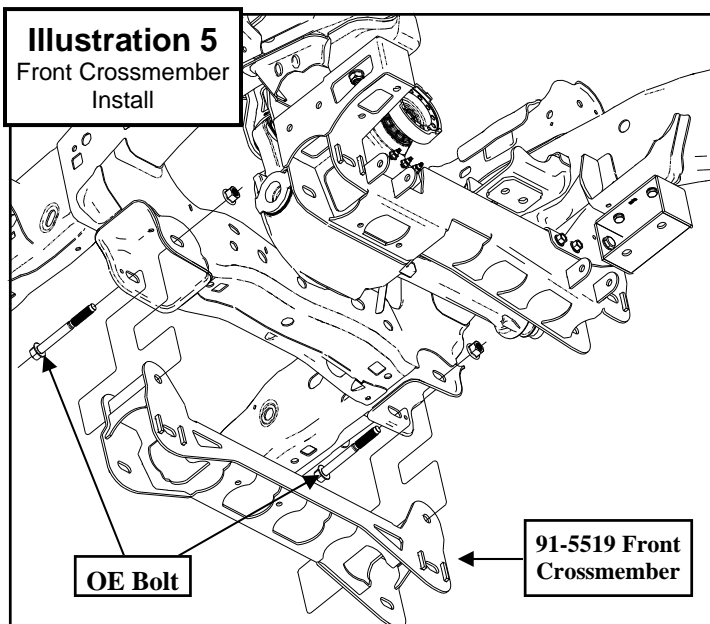


See **ILLUSTRATION 1a**.

23. Using a suitable cutting tool, (abrasive cutoff wheel, Sawz-all, etc.) cut the frame along the previously marked lines as shown in **Illustration 1 & 1a (For 2010 Models only)**. After cutting the section out of the frame, clean the area thoroughly and paint the exposed metal with a good quality paint.







24. Install the driver side and passenger side front differential drop brackets **91-5526 drv** and **pass**) to the frame with the previously removed **OE** bolts and hardware. Leave the bolts loose. See **Illustration 2**.

NOTE: The jog in the brackets will face towards the front of the truck.

25. Carefully hang the differential into the front differential drop brackets with the supplied **9/16" X 4"** bolts and hardware from pack **(90-6302)**. Leave the bolts

loose. See **Illustration 2**.

26. Using the differential drop extension pack **(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. Route the vent hose as previously noted. Use the supplied zip ties to secure the hose.

27. Raise the rear crossmember **(91-5504)** into place and install the supplied passenger side **18mm X 150mm** crossmember bolt. Install the bolt with the head to the front. Do not install the nut at this time. See **Illustration 3**.

28. Install the passenger side sway bar drop bracket **(91-5518)** onto the previously installed **18mm** crossmember bolt. Install the nut onto the crossmember bolt. Leave the bolts loose. See **Illustration 3**.

29. Secure the passenger side sway bar drop bracket **(91-5518)** to the **OE** sway bar mounting holes in the frame using the supplied **7/16" X 1 1/4"** bolts and hardware. Leave the bolts loose. See **Illustration 3**.

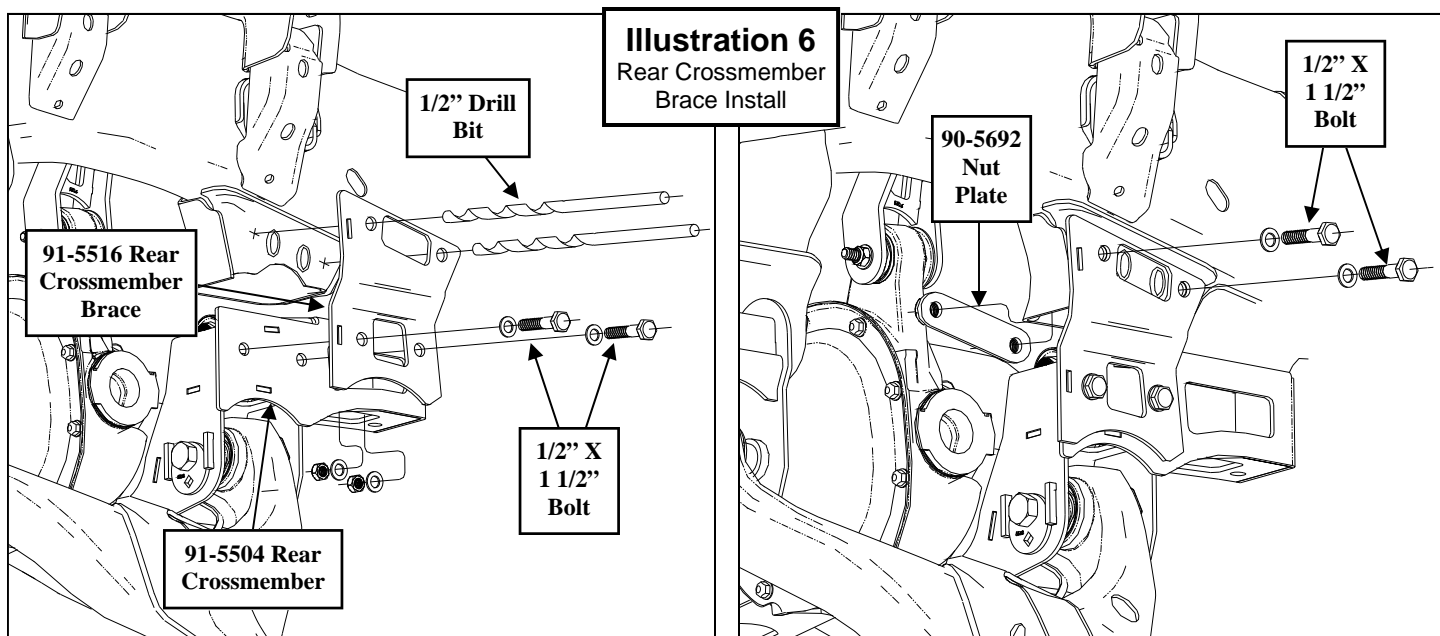
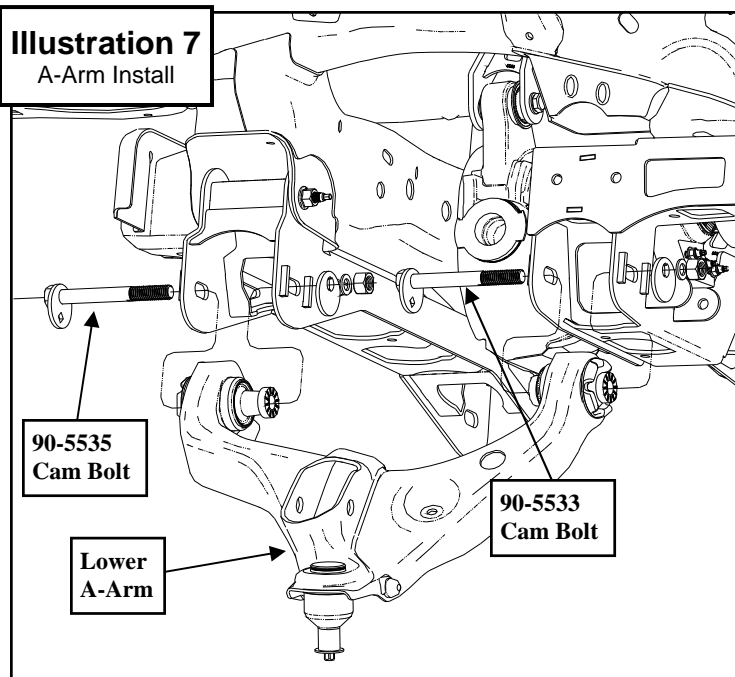
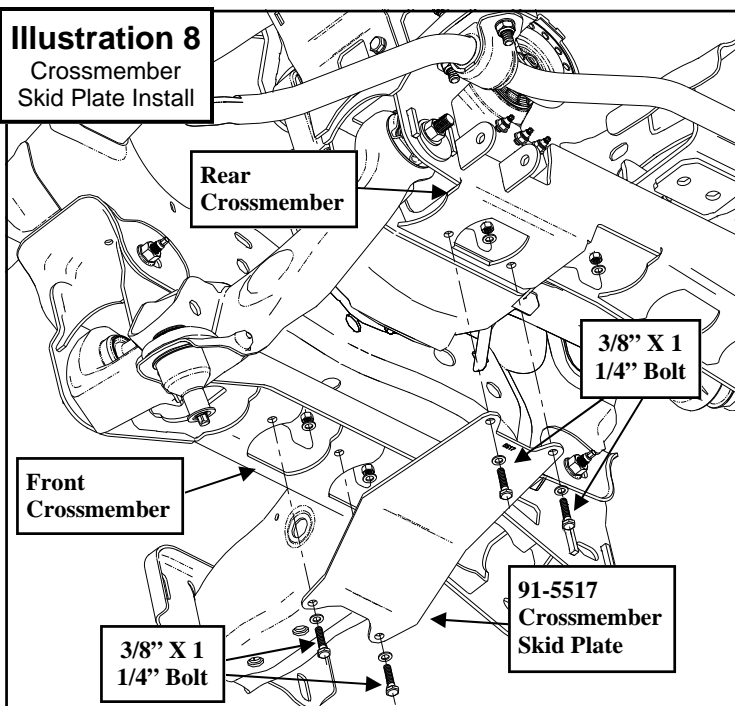


Illustration 7
A-Arm Install



30. Install the (2) OE crossmember support brace bolts into the (2) remaining holes on the pass side of the rear crossmember. Leave the bolts loose. See **Illustration 3**.
31. Secure the rear crossmember (91-5504) to the driver side OE sway bar mounting holes in the frame using the

Illustration 8
Crossmember
Skid Plate Install

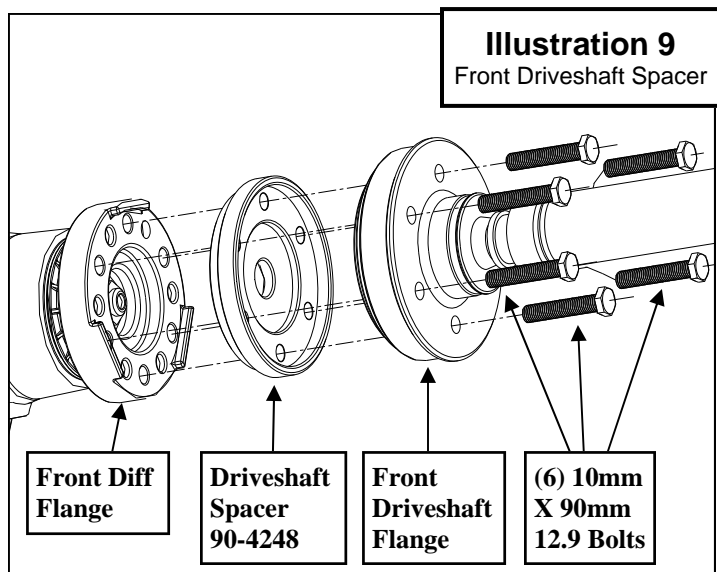


supplied 7/16" X 1 1/4" bolts. Leave the bolts loose. See **Illustration 3**.

32. Install the rear differential drop bracket (91-5539) to the differential using the supplied 9/16" X 4" bolt, through the mounting hole in the rear crossmember, with the head facing the rear of the vehicle. Leave the bolts loose. See **Illustration 4**.
33. Install the front cross member (91-5519) into original front A-arm mounting locations, using the factory bolts with the heads to the front, leave loose. See **Illustration 5**.
IMPORTANT!: 2012 –Up models, the bottom of the A-arm pocket may need to be trimmed approximately 1/4" in order to fully install the front crossmember.
34. To ensure proper rear crossmember placement, test fit the driver side A-arm in the crossmember mounting pockets. Secure using the supplied cam bolts (90-5533 rear and 90-5535 front), cam eccentric (90-5532), 18mm washers and nuts.

35. Once the A-Arm is securely in place, tighten the previously installed 7/16" hardware and the OE pass side crossmember bolts and hardware. Remove the A-Arm and cam bolts from the vehicle.

36. Install the rear crossmember brace (91-5516) to the rear crossmember using the 1/2" X 1 1/2" bolts and hardware. Tighten the bolts. See **Illustration 6**.
37. Use the upper holes in the crossmember brace as a guide for drilling through the frame. See **Illustration 6**.
38. Center punch and drill the holes using a 1/2" drill bit. See **Illustration 6**.



sible before it is tightened.

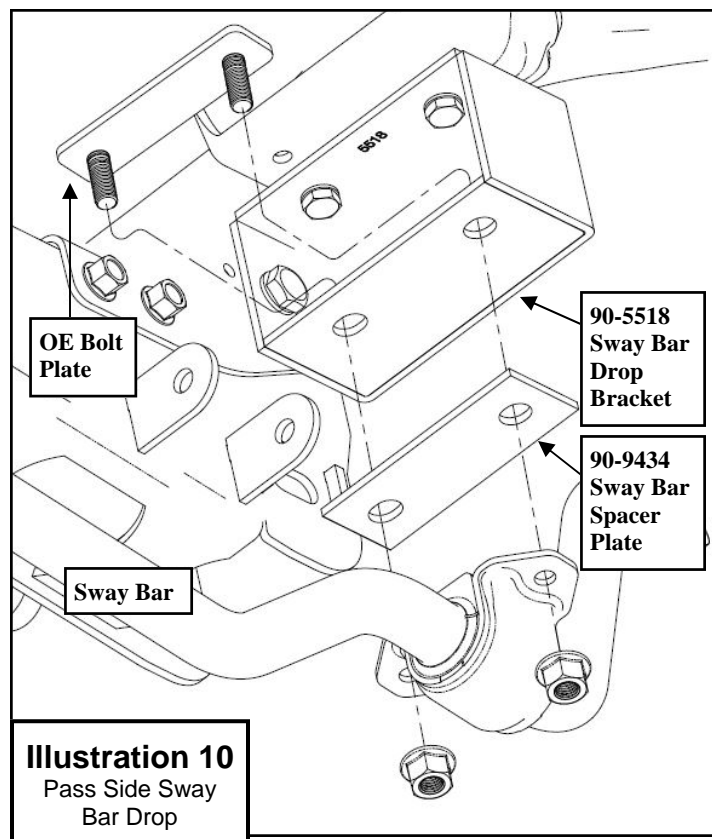
44. Reinstall the front driveshaft to the differential by slipping in the new aluminum front driveshaft spacer (90-4248) and fasten with (6) supplied 10mm– 1.5 X 90mm 12.9 bolts. Be sure to use red thread locker on these bolts. See Illustration 9. Torque the bolts according to the chart on page 23. Rotate driveshaft to check for binding. If it binds the driveshaft must be cleared by a qualified driveline shop.

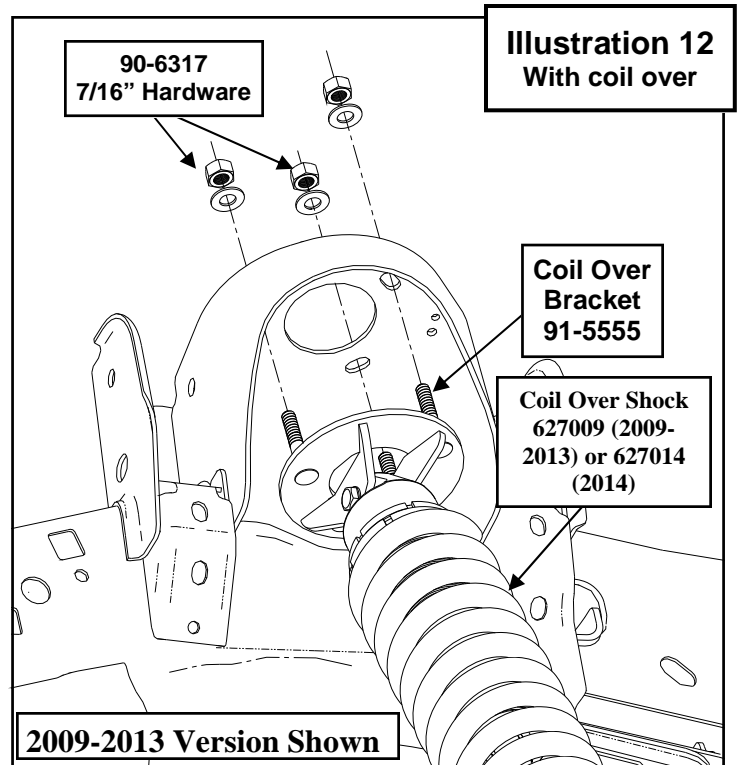
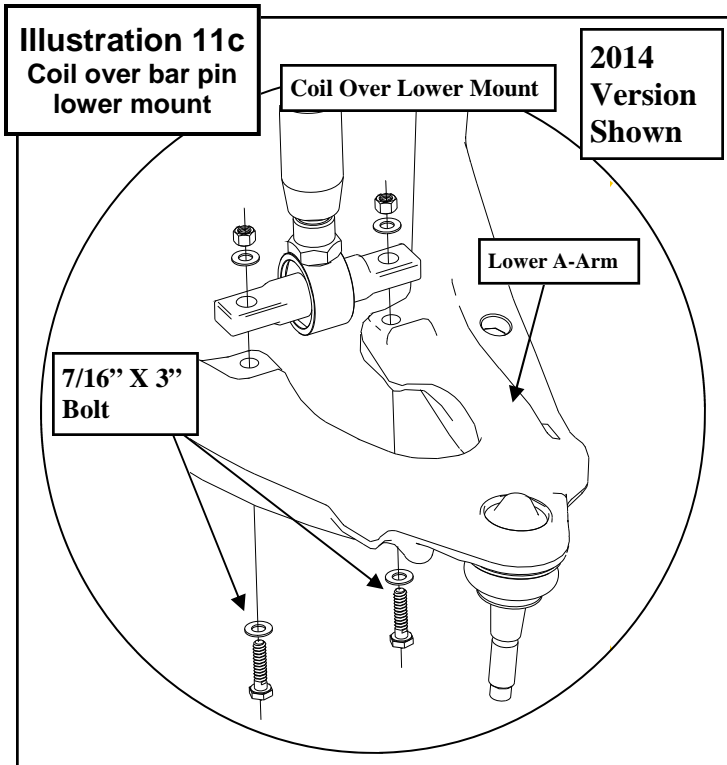
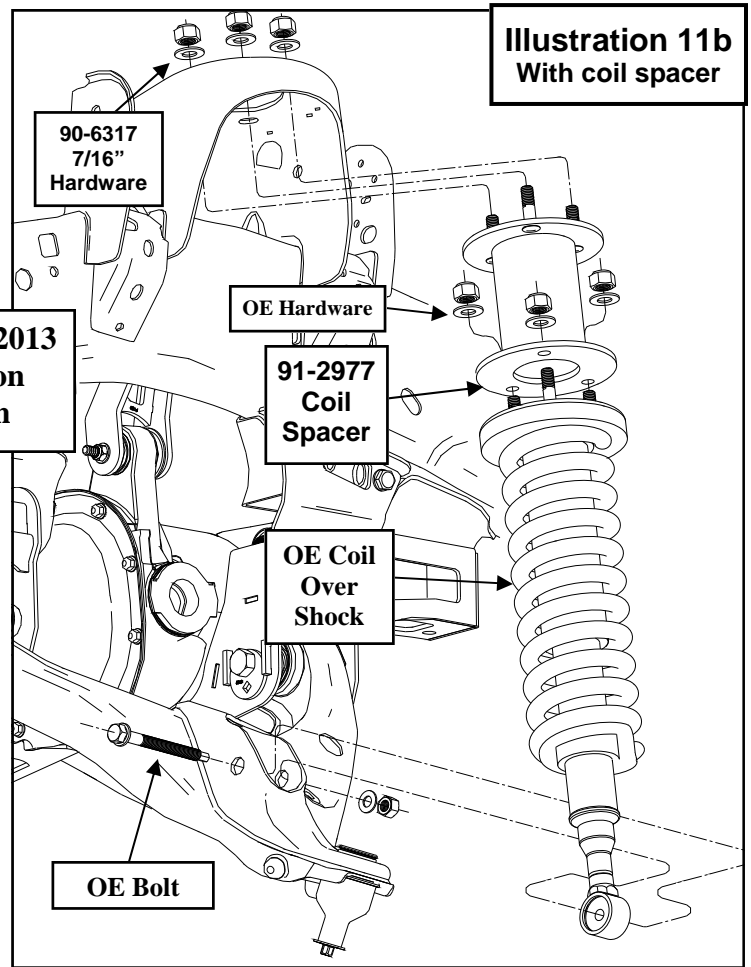
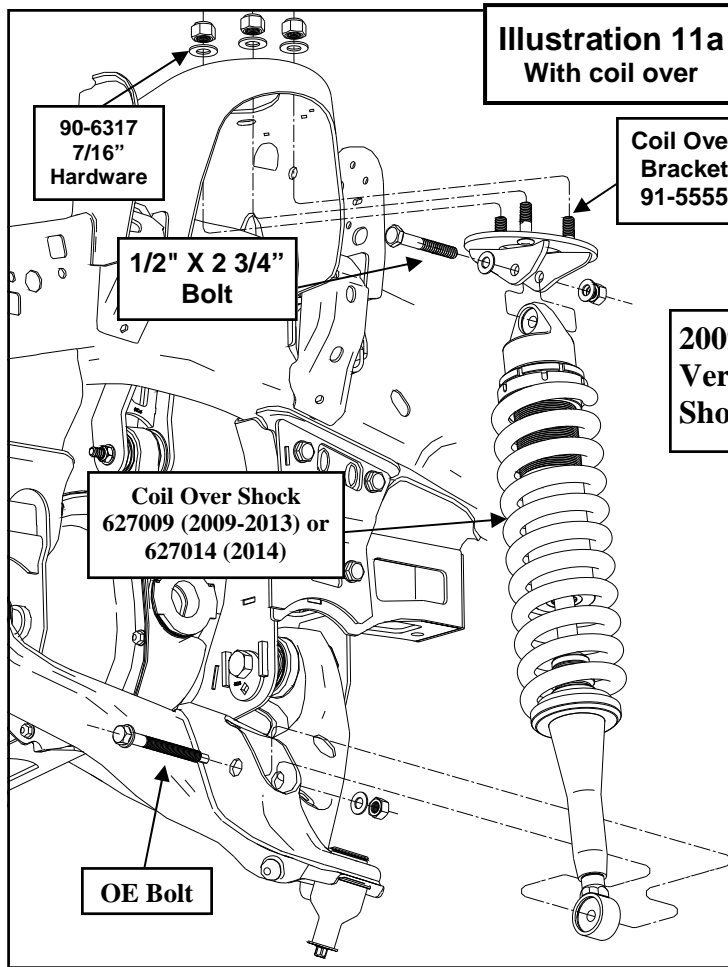
NOTE: *The use of this driveshaft spacer is intended for light usage only. If the intended usage is for high speed off road, this spacer should not be installed. The factory front driveshaft should be lengthened by a qualified driveline shop.*

Pro Comp takes NO responsibility for damage caused as a result of the installation of this spacer.

39. Secure the upper holes in the rear crossmember brace (91-5516) to the frame using the 1/2" X 1 1/2" bolts and nut plate (90-5692). See Illustration 6.
40. Secure the rear upper differential mount to the frame using the previously removed OE bolt. See Illustration 4.
41. Install the lower a-arms into the new cross members with the supplied cam bolts (90-5533 front and 90-5535 rear), cam eccentric (90-5532), 18mm washers and nuts. The cams should fit between the cam guides on the cross members. Center the cams in the guides. You will torque the bolts at the end of the install when the vehicle is on the ground. See Illustration 7.
42. Install the crossmember skid plate (91-5517) to the front and rear crossmembers using the supplied 3/8" X 1 1/4" bolts and hardware. See Illustration 8.
43. Torque all differential, sway bar and crossmember hardware according to the torque chart on page 23 or to manufacturers specifications.

NOTE: *The rear cross member is slotted, the rear cross member needs to be pushed as far to the Passenger side as pos-*





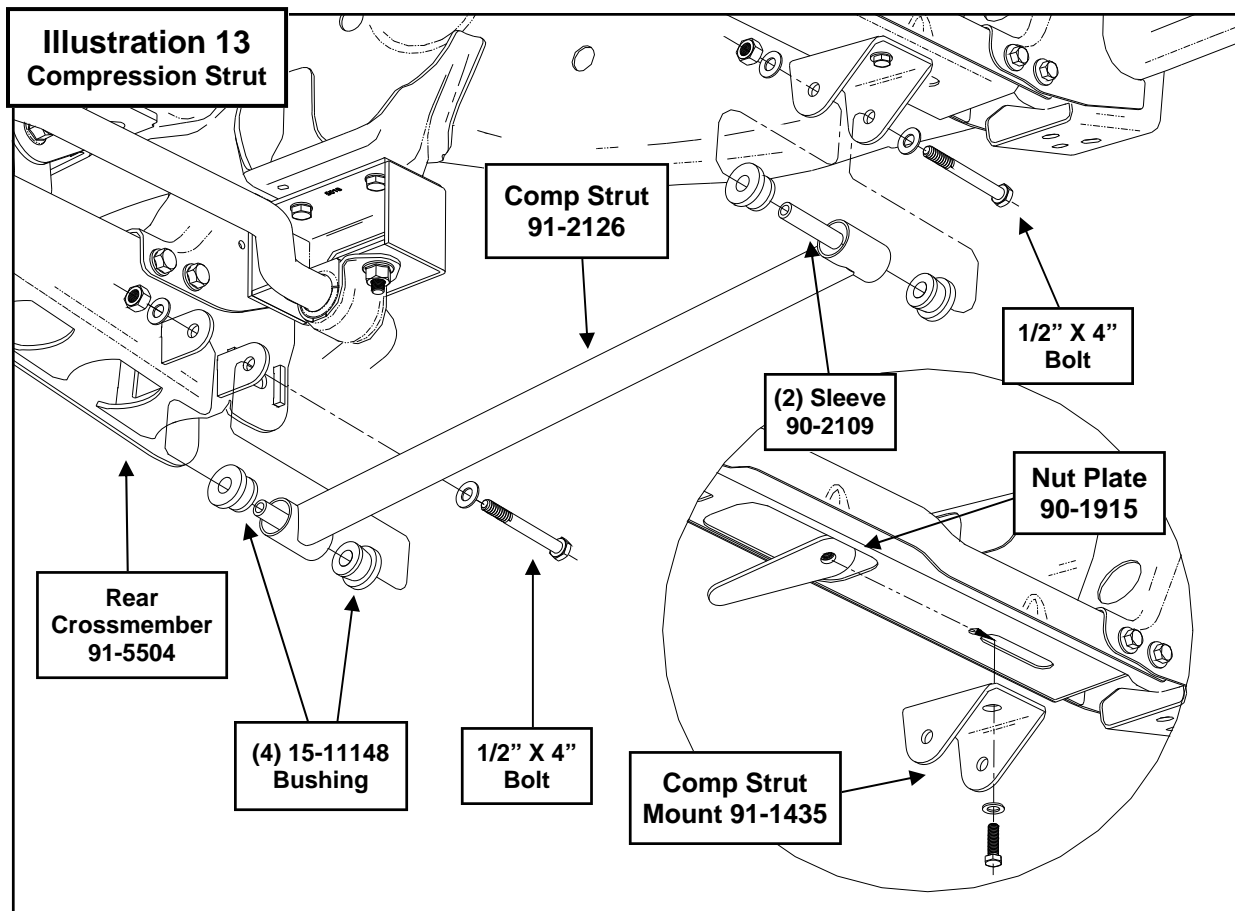
45. Install the sway bar frame mounts to the sway bar drop brackets using the previously removed **OE** bolt plates, spacer plates (**90-9434**), **OE** and hardware. See **Illustration 10**.
 46. Secure the sway bar end links to the sway bar using the previously removed **OE** hardware.
 47. Torque the sway bar mount hardware to **60** ft./lbs.
 48. Transfer all the parts from the factory knuckles to the supplied Pro Comp knuckles (**90-4624 drvr** and **90-4625pass**) except the vacuum actuator.
NOTE: Tighten all the factory hardware carefully. Be sure to follow the factory assembly procedures and torque specifications.
- IMPORTANT!:If you are installing ZX series front replacement shocks, install OE spring and OE upper mount to ZX shock at this time**
49. **WITH THE STRUT SPACERS**, attach the spacer (**91-2977**) to the top of the shock using the previously removed **OE** hardware. See **Illustration 11b**.
 50. Install the strut assembly into the strut mounting locations. Secure using the **7/16"** supplied hardware on the top from hardware pack (**90-6317**). Torque to **45-50** ft./lbs. See **Illustration 11b**.
 51. **2009-2013 models**: Install the **OE** bolt through the lower shock mount and a-arm. Torque to factory specifications. See **Illustration 11a**. **2014 models w/ ZX Shocks**: Secure the lower shock mount bar pin to the a-arm using the supplied **7/16" X 3"** bolts and hardware. Torque according to the chart on page **22**.
 52. **WITH THE COIL OVERS, 2009-2013 models**: Insert mono ball spacers (**90-**

2433) in the top of the coil over and mono ball spacers (**90-2434**) in the bottom of the coil over. See **Illustration 11a**. **2014 models**: Insert mono ball spacers (**90-2433**) in the top and bottom of the coil over.

NOTE: The spacers are a tight fit. A press might be needed to fit the spacers into the mono balls.

53. Install the new Pro Comp coil over (**627009 2009-2013 models** or **627014 2014 models**) shock to the upper bracket (**91-5555**) with the supplied **1/2" X 2 3/4"** hardware from pack (**90-6318**). See **Illustration 11a**.
54. Install the coil over assembly into the vehicle using the supplied **7/16"** hardware on the top from hardware pack (**90-6317**). Torque to **45-50** ft./lbs. See **Illustration 11a** and **12**.
55. **2009-2013 models**: Install the **OE** bolt through the lower shock mount and a-arm. See **Illustration 11a**. Torque to factory specifications. **2014 models**: Secure the lower shock mount bar pin to the a-arm using the supplied **7/16" X 3"** bolts and hardware. See **Illustration 11c**. Torque according to the chart on page **22**.
56. Repeat steps 49 through 51 (*for use with strut spacer*) or 52 through 55 (*for use with coil over*) on the remaining side of the vehicle.
NOTE: Supplemental instructions for MX coil over installation are located in box 52009BMX-4 (2009-2013) or 52217BMX-4 (2014).
57. Support the lower A-arms. Position the new front knuckles. Attach the knuckle to the lower ball joint.

NOTE: Correctly position and slide the vacuum actuator over the CV before the next step.



58. While raising the knuckle and lower control arm slide the CV through the vacuum actuator and the knuckle. Attach the nut to the end of the CV shaft. Torque to **17** ft/lbs. and attach the dust cap. Torque the small aluminum vacuum cover bolts to **11** ft/lbs.

59. Attach the knuckle to the upper ball joint. Torque to **85** ft/lbs. Torque the lower A-arms nut to **111** ft/lbs.

NOTE: Check lower control arm to CV boot clearance at full droop. The lower control arm may need to be trimmed and sanded to prevent contact.

60. Connect the anti-lock wiring harness and sensor to the hub if applicable.

61. Install the supplied brake line bracket (**91-7210**) to the trailing edge of the knuckle using the previously removed OE bolt.

62. Secure the **OE** brake line bracket on the front brake line to the new bracket (**91-7210**) using the **5/16" X 1"** bolt and hardware.

63. Attach the vacuum lines to the rear of the hub.

64. Install the front rotors on to the front hub.

65. Install the front calipers on to the front rotors by reinstalling the retaining bolts. Torque to factory specifications.

NOTE: On 2010-Up models, the installation of the caliper bolt spacers (90-6736 2 per side) will be necessary to keep the end of the bolts from contacting the brake rotor.

NOTE: For 2010-Up models, the brake caliper mounting bracket holes will need to be drilled out to 5/8". Also the casting nubs on the caliper mounting brackets (the bottom flat surface near the mounting holes)

may need to be sanded smooth for brake caliper installation.

66. Install the tie rod end to the knuckle. Torque to **111** ft/lbs.
67. Repeat the installation on the other side of the vehicle.
68. Remove stock brake line bracket from frame. Carefully remount the brackets with the supplied brake line drops (**90-3202 drv**r and **pass**) in between bracket and frame. Use factory hardware to fasten the shorter end of the bracket to the frame. Position the drops, best for your application. Use the supplied hardware from pack (**90-6299**) to fasten **OE** bracket to the new brake line drop.

WARNING!: Make sure the brake lines that you just modified are not resting against any moving parts.

69. Install the bushings (**15-11148**) and sleeves (**90-2109**) from hardware pack (**90-6263**) into the compression struts. See **Illustration 13**.
70. Install the compression struts (**91-2126**) into the mounting tabs on the rear cross member using supplied **1/2" X 4"** hardware. See **Illustration 13**.
71. Place the supplied nut plates (**90-1915**) inside the transmission cross member and attach the mounts (**91-1435**) using the supplied **1/2" X 1 1/4"** bolt and washers. See **Illustration 13**.
72. Rotate the compression struts (**91-2126**) up and secure them to the mounts using the supplied **1/2" X 4"** hardware. See **Illustration 13**.
73. Torque all compression strut hardware according to the torque chart on page **23**.
74. Reinstall the wheels and tires and lower the vehicle to the ground. Torque the factory wheels to **150** ft/lbs. If you

are using aftermarket wheels follow the manufacturers recommended specifications.

75. Recheck all hardware for proper installation and torque at this time.
76. Torque the **18MM** cam bolts to **180-200** ft/lbs.
77. On both sides of the vehicle, check the routing of the brake lines and the ABS wire harnesses. There must be no pinching, rubbing, or stretching of either component. Use zip ties to secure these items. At full droop, cycle the steering from lock to lock while observing the reaction of these components. Reposition them if needed.

IMPORTANT! BE SURE TO BRING THE VEHICLE IMMEDIATELY TO A REPUTABLE ALIGNMENT SHOP TO BE ALIGNED!

IMPORTANT!: AFTER INSTALLATION OF KIT AND BEFORE THE VEHICLE IS FIRST STARTED, BE SURE TO CENTER THE FRONT WHEELS AND THE STEERING WHEEL. IF THE FRONT WHEELS AND THE STEERING WHEEL ARE NOT CENTERED BEFORE STARTING THE VEHICLE, IT MAY TRIGGER A DIAGNOSTIC TROUBLE CODE THAT WILL HAVE TO BE RESET BY THE MANUFACTURERS SERVICE FACILITY.

NOTE: SEE PAGE 18 FOR STEERING STOP ADJUSTMENT INSTRUCTIONS.

NOTES:

- ⇒ **On completion of the installation, have the suspension and headlights re-aligned.**
- ⇒ **After 100 miles recheck for proper torque on all newly installed hardware.**
- ⇒ **Recheck all hardware for tightness after off road use.**

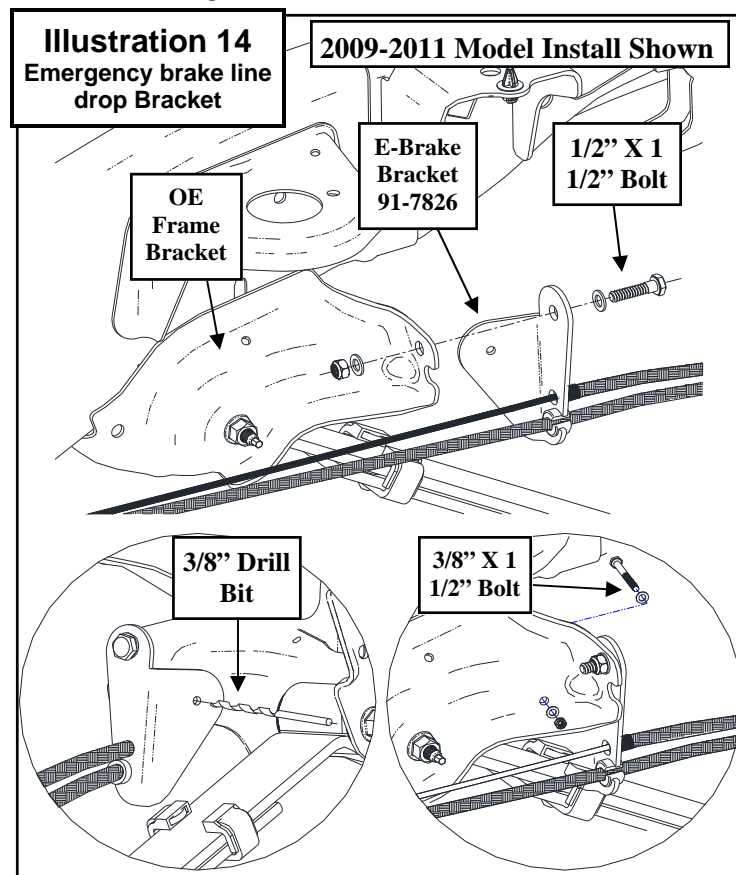
Rear Installation:

1. Block the front tires and raise the rear of the vehicle. Support the frame with jack stands forward of the rear springs.
2. Remove the rear wheels.
3. Remove the shocks on both sides of the vehicle. It may be necessary that you slightly raise the axle to unload the shocks for removal.
4. On drivers side, unbolt the existing brake line bracket from the frame.
5. Install the supplied brake line extension bracket (**90-5502**) to the frame using the previously removed **OE** hardware. Then bolt the factory bracket to the new bracket using the supplied **5/16" X 1"** hardware from hardware pack (**90-6314**).
6. Reroute rear ABS as necessary use the supplies zip ties to secure lines.
7. Unhook the emergency brake cable and remove from **OE** metal wire clip by pinching the tangs on the line.
8. Bolt the supplied emergency brake bracket (**91-7826**) to the **OE** emergency brake frame bracket using the supplied **1/2" X 1 1/2"** Bolt. See **Illustration 14**.
9. Use the inside hole in the emergency brake bracket as a guide for drilling through the frame. See **Illustration 14**.
10. Center punch and drill the holes using a **3/8"** drill bit. See **Illustration 14**.
11. Secure the emergency brake bracket (**91-7826**) to the frame using the **3/8" X 1 1/2"** bolt. See **Illustration 14**.
12. Slip the cable through new bracket (**91-7826**) and re-connect the emergency brake cable.

NOTE: 2012-Up models will reuse the previously removed OE metal wire

clip and OE bolt to secure the emergency brake cables to the new bracket.

13. Support the rear axle with a floor jack and remove the **U-bolts** on the driver side. Loosen the **U-bolts** on the passenger side.
14. Remove the factory lift block from the spring assembly. This will not be reinstalled.
15. Install the lift block (**95-404F**) onto the axle pad, making sure the pins are fitted into the holes on the spring perch. Use your floor jack to raise the axle to the spring making sure the tabs on the spring block fit into the holes on the lift block. See **Illustration 15**.
16. Secure the assembly with the U-bolts (**13-90390**) supplied in hardware pack and new high-nuts and washers from



hardware pack (20-65302). Do not tighten the U-bolts at this time. See Illustration 15.

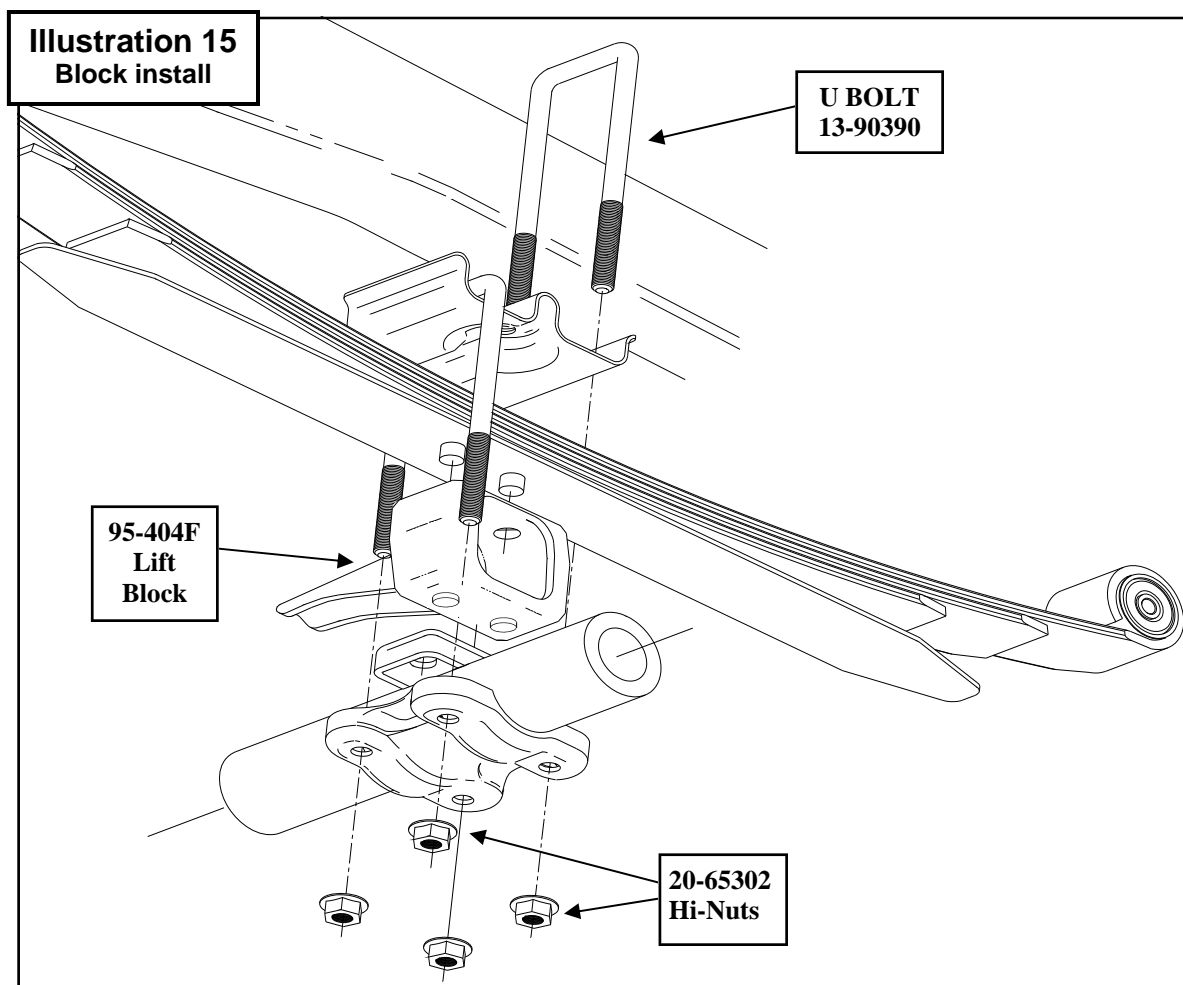
NOTE: Make sure the block sits flush on the axle perch.

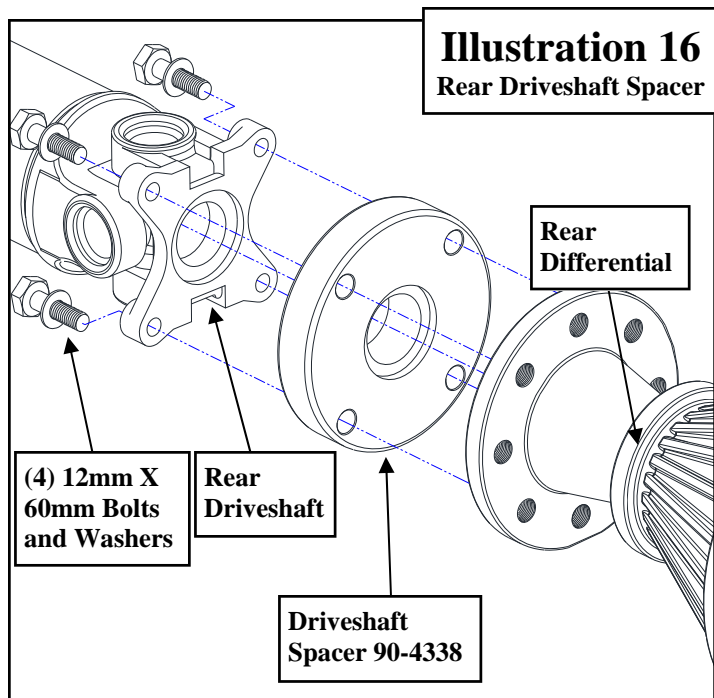
17. Repeat the installation on the other side of the vehicle.
18. When the installation of the remaining side is complete, torque the U-bolts to 105 ft. lbs.
19. Insert the supplied sleeves (60859) in both end of the shocks.
20. Install your new Pro Comp shocks (MX6166, ZX2042 or 932008 w/ shaft end up) and torque this hardware to 66 ft./lbs.
21. Unbolt the rear driveshaft from the

rear differential. Slip in new aluminum rear driveshaft spacer (90-4338) and fasten with supplied 12mm X 60mm bolts and washers from hardware pack (90-6493). Be sure to use thread locker on these bolts. See Illustration 16. Rotate the driveshaft to check for binding. If it binds the driveshaft must be cleared by a qualified driveline shop.

NOTE: The use of this driveshaft spacer is intended for light usage only. If the intended usage is for high speed off road, this spacer should not be installed. The factory rear driveshaft should be lengthened by a qualified driveline shop.

IMPORTANT!: Fully cycle the rear suspension and check for drive-





NOTES:

- ⇒ On completion of the installation, have the suspension and headlights re-aligned.
- ⇒ After 100 miles recheck for proper torque on all newly installed hardware.
- ⇒ Recheck all hardware for tightness after off road use.

shaft plunge. If the driveshaft is too long it will destroy the transfer case. Pro Comp takes NO responsibility for damage caused as a result of the installation of this kit.

22. Reinstall the wheels and tires and lower the vehicle to the ground.

23. Reinstall the wheels and tires and lower the vehicle to the ground. Torque the factory wheels to **150** ft/lbs. If you are using aftermarket wheels follow the manufacturers recommended specifications.

NOTE: If you wish to raise the ride height of the rear of the vehicle, Install the rear leaf spring shims from hardware pack (90-6703) using the enclosed instructions.

24. Recheck all hardware for proper installation and torque at this time.

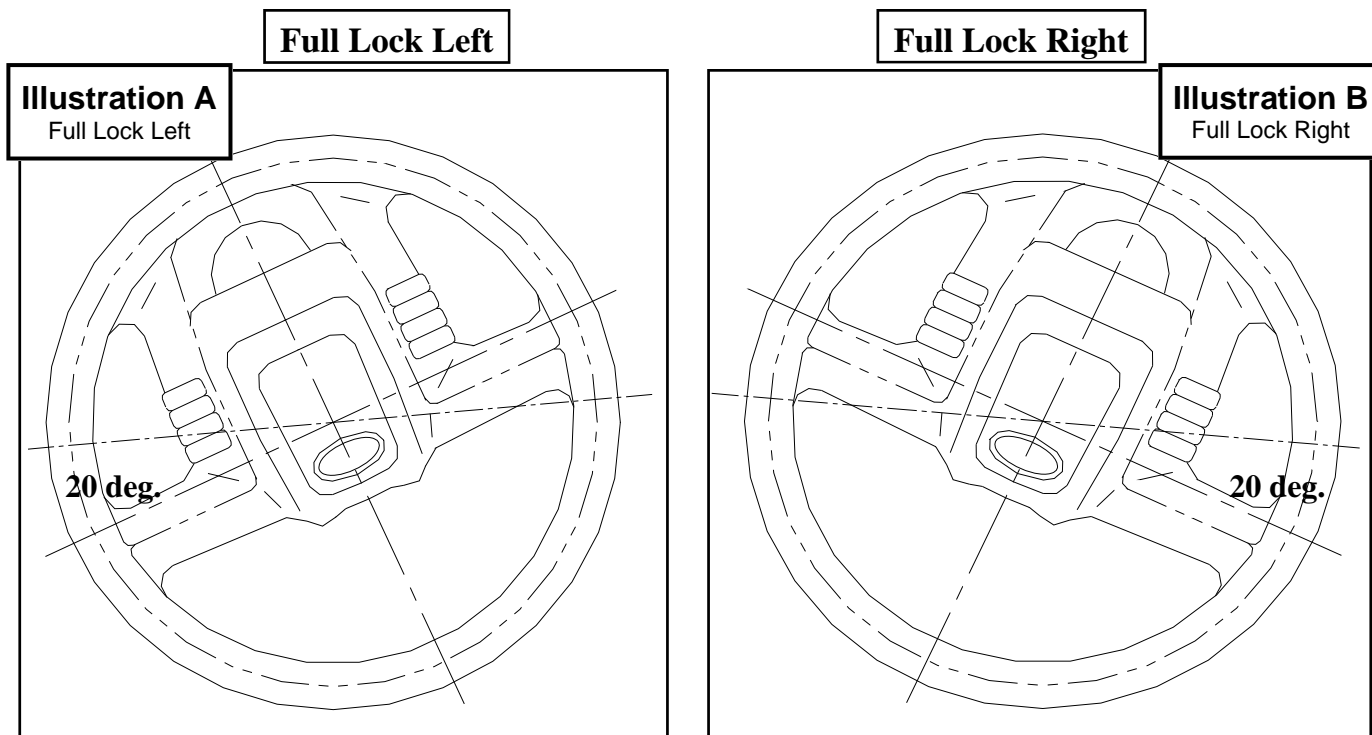


PRO COMP SUSPENSION

Suspension Systems that Work!

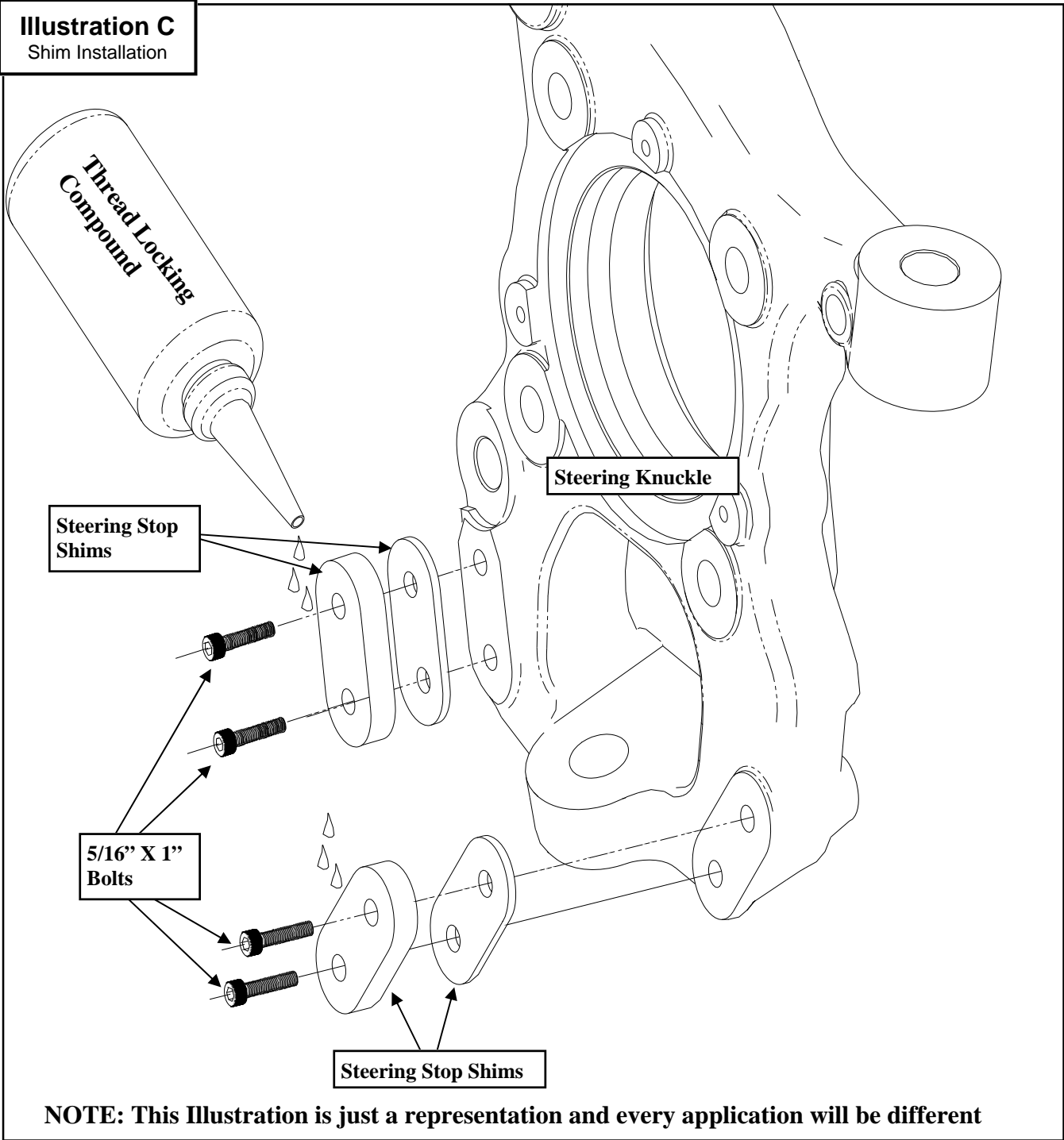
Steering Stop Shim Adjustment Instructions:

1. After having the vehicle properly aligned by a qualified alignment shop, ensure that your work space is of adequate size and the work surface is level. Place the vehicle in park and set parking brake. Place blocks both in front of and behind the rear wheels.
2. With the vehicle on the ground make sure the steering wheel and the tires are straight.
3. Turn the steering wheel to full lock left and remove the appropriate shims from the passenger side front stop and the driver side rear stop until the steering wheel at full lock is in the same position as **Illustration A**.
4. Turn the steering wheel to full lock right and remove the appropriate shims from the driver side front stop and the passenger side rear stop until the steering wheel at full lock is in the same position as **Illustration B**.
5. Be sure to use thread locking compound on the **5/16" X 1"** shim retaining bolts. See **Illustration C**.



IMPORTANT!: Any more steering angle than shown in the illustrations may result in CV failure.

Illustration C
Shim Installation



Revision Page:

6.22.2011: Added note after step #59 about checking CV and lower A-arm clearance at full droop. Trimming may be required.

7.13.2011: Added the **90-4338** rear drive shaft spacer and **90-6493** hardware pack to Box-1. Added Illustration #16 and corresponding text to rear install steps.

Removed **90-5558 (x 2)** from Box-2 and added **91-7210** added in it's place.

Added **NOTE** after step #43 about making sure to push the rear crossmember all the way to the passenger side before tightening bolts.

Changed fitment years to include 2011.

Added electric steering rack note to cover.

Added vacuum actuator installation instructions (**Note on step #58**) to text.

10.11.2011: Updated kit fitment to include 2012. Changed the text box in illustration 9 pg. 11 from transfer case flange to front differential flange. Changed the text box in illustration 16 pg. 18 from transfer case to rear differential.

12.20.2011: Removed rear emergency brake cable **90-5503** from BOM box-3 and replaced it with **91-7826**. Updated text to include 2012 model note. Changed Illustration #14 and #16.

01.31.2012: OK to trim lower a arm pockets if needed.

5.2.2012: Changed nut plate part number from 90-5693 to 90-5692.

4.10.13: Fixed text in step 61 for front brake line brackets. Added 90-9434 sway bar washer plate to BOM box-3, text and illustration 10.

1.28.14: Changed note on step 65 to 2010-UP.

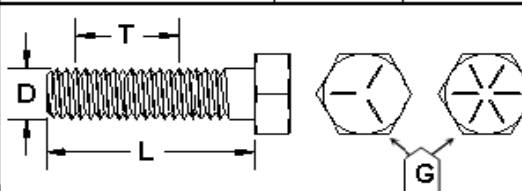
3.10.14: Changed kit fitment to include 2014. Added notes that BMX kit does not fit 2014 models. Removed reference for notch in strut spacer.

7.28.14: Added 52217B/52217BMX Box-4 and cover information. Added 2014 specific coil over install information.

9.6.14: Added BP, BPS and BPX boxes to the BOM and text. Changed knuckle PN's from 90-4253 and 90-4254 to 90-4624 and 90-4625. Added ZX shock assembly step. Added ZX shock note after step 48.

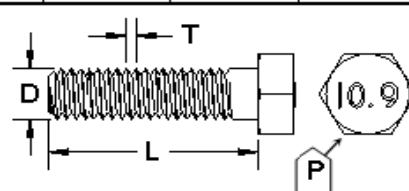
Use this only as a guide for hardware without a called out torque specification in the instruction manual.

Bolt Torque and ID						
Decimal System			Metric System			
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



1/2-13x1.75 HHCS **Grade 5 Grade 8**
(No. of Marks + 2)

D T L X



M12-1.25x50 HHCS

D T L X

G = Grade (Bolt Strength)
D = Nominal Diameter (Inches)
T = Thread Count (Threads per inch)
L = Length (Inches)
X = Description (Hex Head Cap Screw)

P = Property Class (Bolt Strength)
D = Nominal Diameter (Millimeters)
T = Thread Pitch (Thread Width, mm)
L = Length (Millimeters)
X = Description (Hex Head Cap Screw)



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Pro Comp promises that its products will last a lifetime or we will replace it free of charge. It's that simple! Because of our commitment to quality and manufacturing excellence, we are able to stand behind our products. FOREVER.

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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 that the Dealer / Installer explains and delivers all warning notices, warranty forms and instruction sheets included with Pro Comp product.

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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.

* Finish after 90 days.

* Damage caused as a result of not following recommendations or requirements called out in the installation manuals.

Pro Comp MX Series 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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<u>PLACE</u>
<u>WARRANTY REGISTRATION</u>
<u>NUMBER</u>
HERE: _____