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## PRO COMP SUSPENSION

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Suspension Systems that Work!

**Part # 52612**  
**(formerly 52602)**  
**99-2004 Super Duty**  
**2WD F250-350**

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 REQUIRES A NEW PITMAN ARM. PRODUCTION DATE PRIOR TO APRIL 1ST, 1999 USE PART# FD400. AFTER APRIL 1ST, 1999 USE PART# FD600. \*\***

**PARTS LIST:**

**BOX 1 OF 4**

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY.</u>	<u>ILLUST.</u>
90-1245	Driver I-Beam Pivot Bracket	1	3
90-1248	Passenger I-Beam Pivot Bracket	1	2
90-1240	Driver Radius Arm Drop	1	
90-1241	Passenger Radius Arm Drop	1	1
90-2120	Pivot Strut	1	3
90-6095	Spacer Packet	1	1
90-1051	Spacers	2	1
90-6150	Hardware Packet	1	
70-0563501800	9/16" x 3-1/2" USS Gr. 8 HCS Yellow	2	2, 3
70-0501251800	1/2" x 1-1/4" USS Gr. 8 HCS Yellow	3	3
70-0502751800	1/2" x 2-3/4" USS Gr. 8 HCS Yellow	1	2
73-05600034	9/16" SAE Hardened Flat Washer Yellow	4	2, 3
73-05000034	1/2" SAE Hardened Flat Washer Yellow	8	3
72-05600100516	9/16" USS Gr. 8 Stover Nut Zinc	2	2, 3
72-05000100816	1/2" USS Gr. 8 Stover Nut Zinc	4	3
90-2117	Sway Bar Support	1	5
90-6151	Hardware Packet	1	
70-0431251800	7/16" x 1-1/4" USS Gr. 8 HCS Yellow	14	2, 5
70-0311001802	5/16" x 1" USS Allen Cap Screw Black Alloy	2	4
73-04300034	7/16" SAE Hardened Flat Washer F436 Yellow	28	2, 5
73-03100030	5/16" SAE Flat Washer Zinc	4	4
72-04300100816	7/16" USS Gr. 8 Stover Lock Nut Grade C Zinc	14	2, 5
72-03100100512	5/16" USS Nyloc Nut Zinc	2	4

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY.</u>	<u>ILLUST.</u>
<b>BOX 2 OF 4</b>			
95-150F	1-1/2" Aluminum Block	2	
90-1859	Sway Bar Drop	2	5
90-2144	Bump stop Spacers	2	4
13-90256	5/8" x 3.3" x 12.6" U-Bolt	4	
20-65471	Hardware Packet - 5/8" Nut & Washers	1	
<b>BOX 3 OF 4</b>			
97-716	7/16" x 4" Center Bolt	2	
8771-1	7/16" Nut fine Gr. 8	2	
13128-1	Add-A-Leaf	2	
<b>BOX 4 OF 4</b>			
921510	ES9000 Shock Front	2	
929508	ES9000 Shock Rear	2	

**\*\* ADDITIONAL PARTS REQUIRED MUST BE PURCHASED SEPARATELY \*\***

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
24614	OR Coils Gasoline Engine	1
24615		1
FD400	OR Pitman Arm Before April 1st, 1999 Production	1
FD600		1
52480	Drive Shaft Alignment Shims	1

**STEERING STABILIZER KIT 222585 IS HIGHLY RECOMMENDED FOR THIS APPLICATION.**

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

**LIGHTS,  
SKID PLATE  
STEERING STABILIZER  
CAM BOLT KIT: #594**

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

## Introduction:

- ◆ This installation requires a professional mechanic!
- ◆ We recommend that you have access to a Ford 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 and wheel bearing preload. 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 thread locking 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.*

## Please Note:

- ⇒ Front end and head light realignment is necessary!
- ⇒ Slight modification of the exhaust is required.
- ⇒ Speedometer and ABS recalibration will be necessary if larger tires (10% more than stock diameter) are installed.
- ⇒ 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, we recommend a wheel not to exceed 8" in width with a minimum backspacing of 3.5" must be used, additionally, a quality tire of radial design, not exceeding 35" tall X 12.5" wide is also 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.
- ⇒ **IT IS ADVISABLE THAT YOU HAVE HELP AVAILABLE WHEN INSTALLING THIS KIT. SOME COMPONENTS ARE HEAVY AND AWKWARD. AN ADDITIONAL SET OF HANDS IS GOOD INSURANCE AGAINST INJURY!**

## FRONT INSTALLATION INSTRUCTIONS:

- 1) Park vehicle on a flat hard surface (I.e. asphalt or concrete). Set parking brake and block both rear wheels in front and behind tires.

2) Measure and record the distance from the center of each wheel to the top of its fender opening. Record below.

LF: \_\_\_\_\_ RF \_\_\_\_\_

LR: \_\_\_\_\_ RR: \_\_\_\_\_

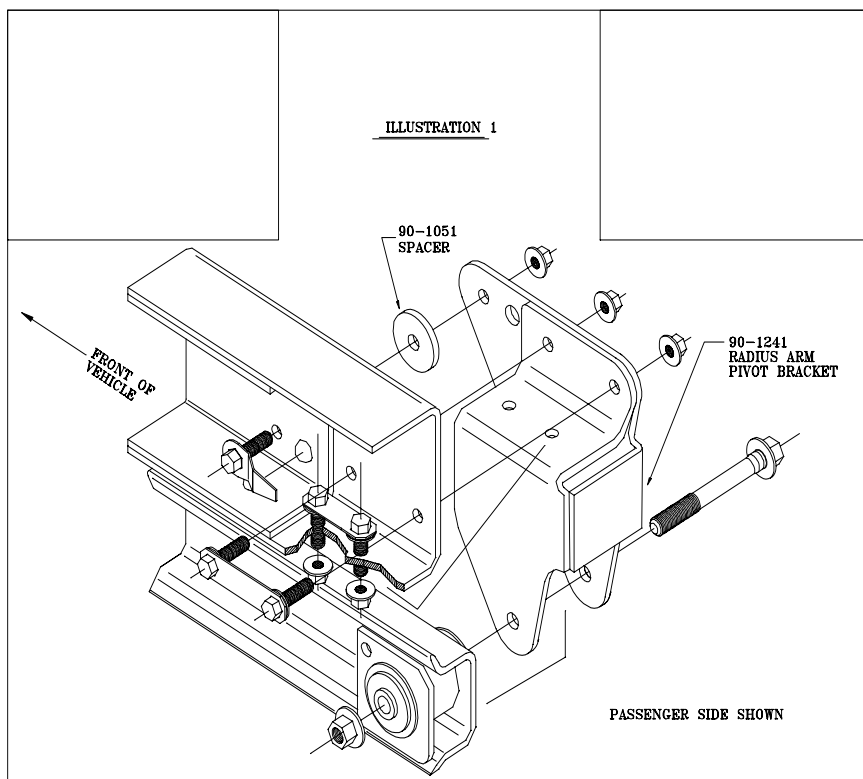
3) Raise the front of the vehicle with a floor jack and support with jack stands behind the radius arm mounts. **(Never work on a vehicle while it is on the floor jack and unsupported by jack stands).**

4) Remove front tires. Remove sway bar links at the sway bar. Retain all hardware (It will be reused).

5) Raise driver I-Beam enough to relieve tension on the shock hardware. Remove the lower shock bolt. Remove the upper coil clip and the lower coil retaining nut. Lower beam enough to remove the coil. Raise the beam and reinstall the lower shock bolt. The stock shock will limit the down travel during installation of the brackets.

**\* \* REPEAT STEP 5 ON PASSENGER SIDE \* \***

6) Remove the small draglink end with a tie rod separating tool. Use a pitman arm puller and remove pitman arm. When installing your new pitman arm you will need to first measure the sector shaft coming out of the steering box. If the diameter of the sector shaft above the splines is 1.3125 inches install the **FD 400** pitman arm. If the diameter of the sector shaft above the splines is 1.375 inches install the **FD 600** pitman arm. Install the pitman arm and hand tighten sector shaft nut then tighten only with a torque wrench. Torque sector shaft nut to 185 ft. lbs. install draglink end into pitman arm and torque draglink nut to 60 ft. lbs. Reinstall cotter pin.



7) Remove passenger radius arm pivot bolt at the bracket. Remove the hardware securing the bracket to the frame and remove bracket.

8) Install **90-1241** radius arm bracket and spacer using the factory hardware. (See **Illustration 1**) Torque mounting hardware to 65 ft. lbs.

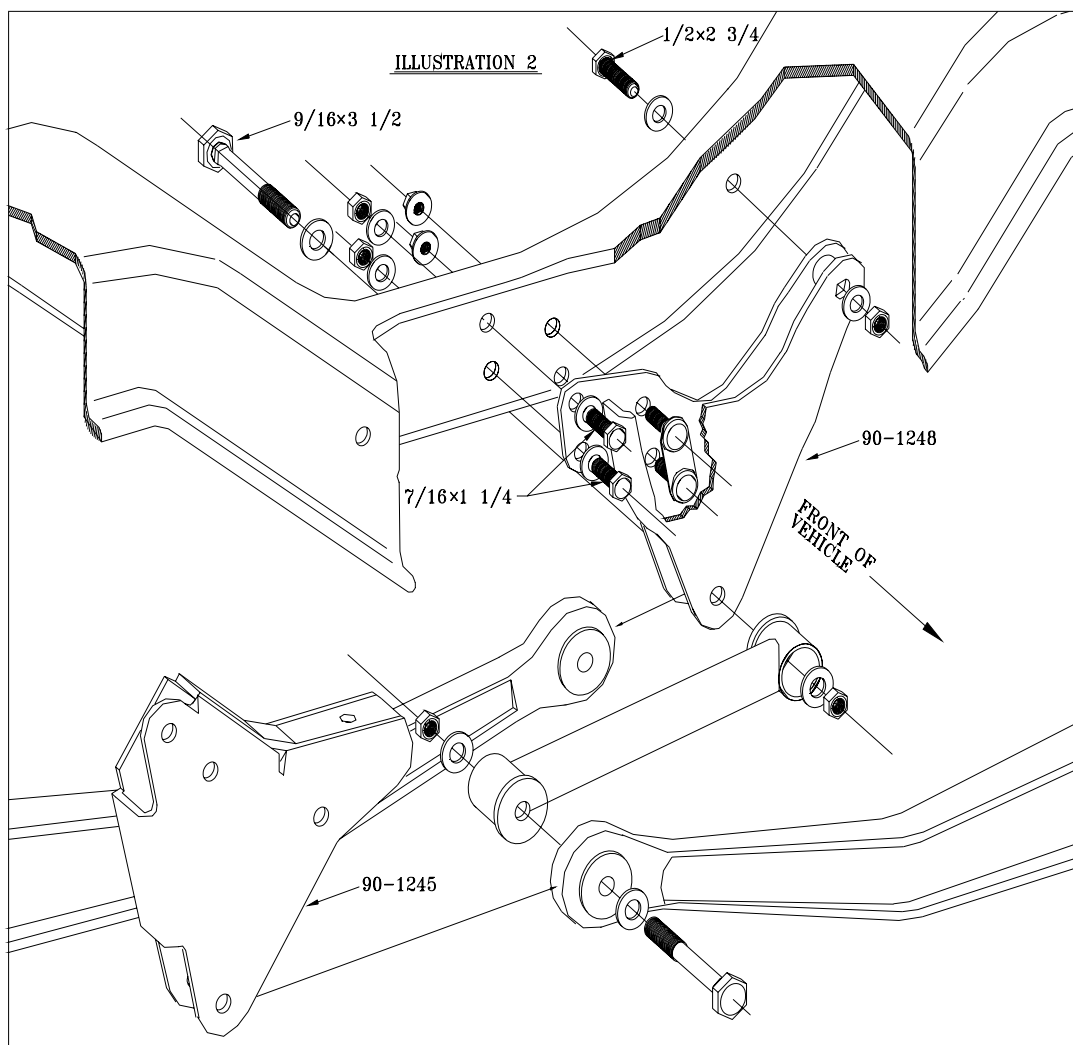
9) Install radius arm into bracket and install pivot bolt. It will be necessary to raise the I-Beam to align the bolt holes in the bracket with the radius arm sleeve. **DO NOT TIGHTEN PIVOT BOLT AT THIS TIME.**

**\* \* REPEAT STEPS 7 - 9 ON DRIVER SIDE \* \***

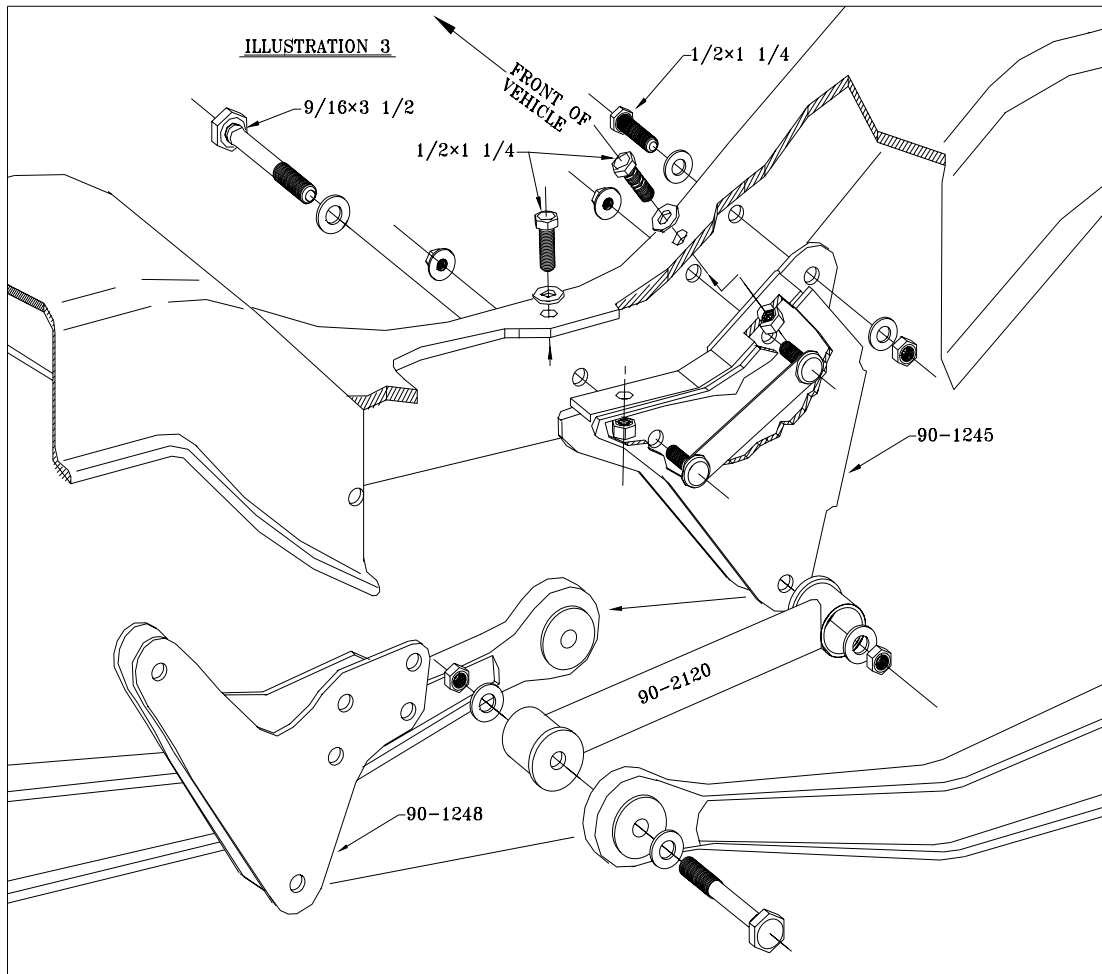
10) Remove I-Beam pivot bolts on both sides. Raise or lower the I-Beams to remove the bolts without damaging the threads.

11) Remove the I-Beam pivot brackets from the cross member. Make note of hardware location. All hardware will be reinstalled in the hole it was removed from.

12) Install the passenger I-Beam pivot bracket **90-1248** using the existing bolt plate and the **1/2" x 2-3/4"** bolt into the factory holes. **DO NOT TIGHTEN ANY HARDWARE.** (See **Illustration 2**)



13) Install the driver I-Beam pivot bracket **90-1245** using the existing hardware. **DO NOT TIGHTEN ANY HARDWARE.** (See **Illustration 3**)



14) Install the pivot strut **90-2120** between the passenger and driver pivot brackets and hold it in place with the **9/16" x 3-1/2"** bolts provided. **DO NOT TIGHTEN ANY HARDWARE.**

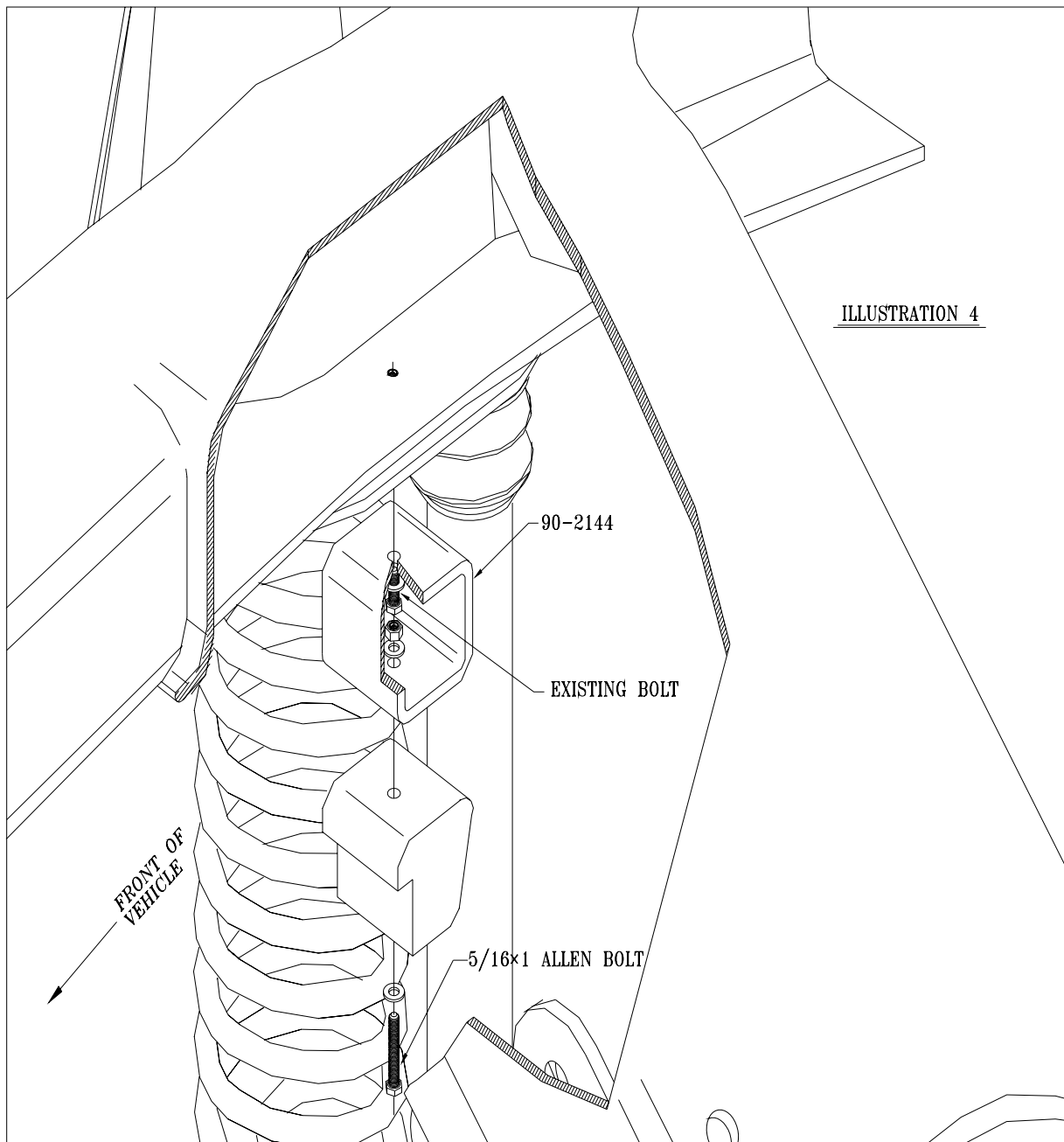
15) Begin to tighten I-Beam pivot bracket hardware. Rotate back and forth from one bracket to the other one bolt at a time. This will position the pivot brackets in the proper location. If not properly located, the I-Beam pivot bolt will be in a bind and installation of the I-Beams and pivot strut will be difficult.

16) Once the pivot bracket hardware is tight, remove the **9/16"** bolts and the pivot strut. The bolts should remove with ease. If not, repeat Step #14, paying close attention to the location of the pivot brackets.

17) Use the two holes in the passenger pivot bracket for a drill template and drill the cross member flange with a **7/16"** drill. Install the **7/16" x 1-1/4"** bolts and torque to 50 ft. lbs.

18) Install I-Beams into pivot brackets and install pivot strut between brackets. Raising and or lowering I-Beam will help align holes. Torque **9/16"** bolts to 105 ft. lbs.

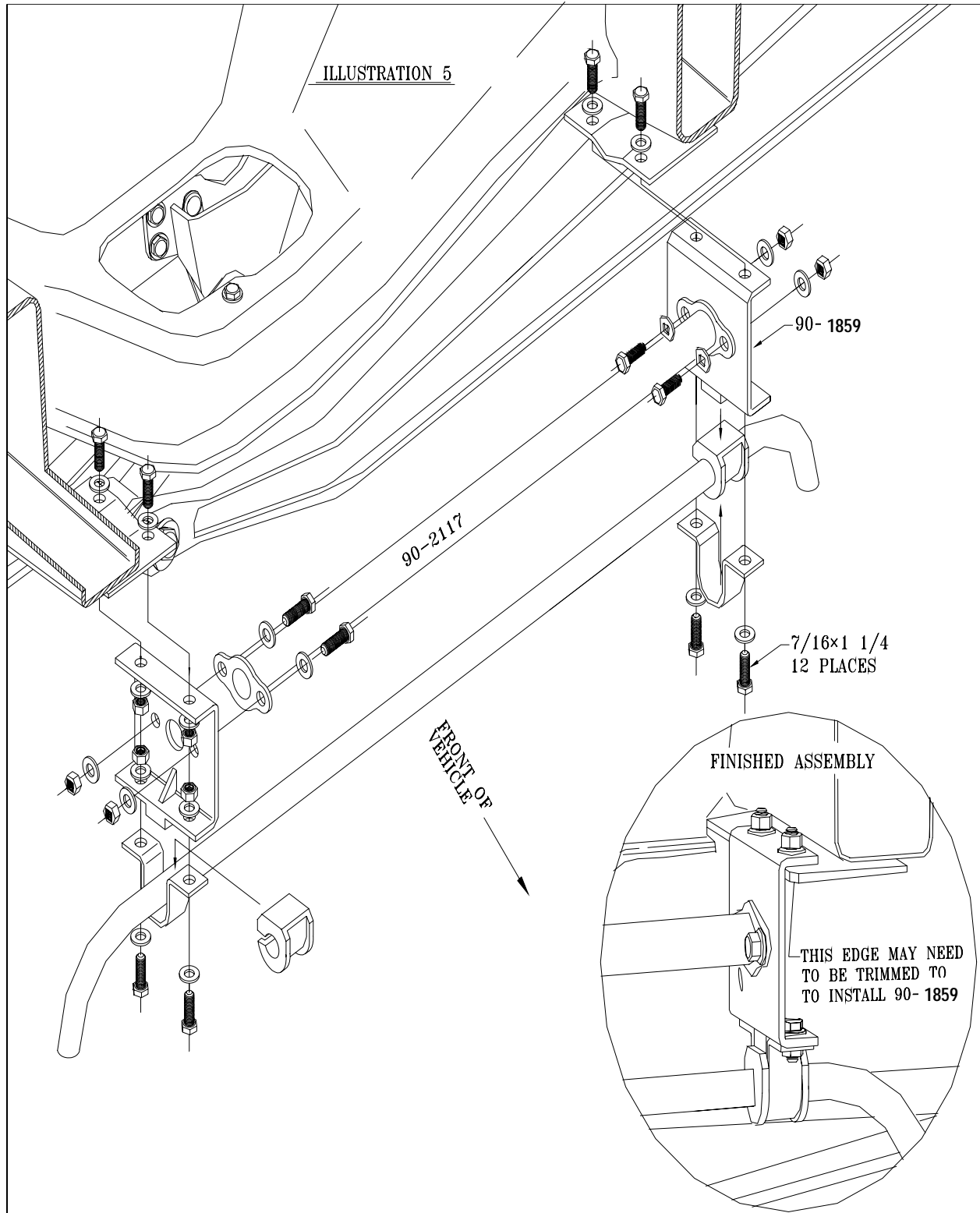
19) Remove factory bump stops and install the bump stop spacers **90-2144**. (Illustration 4) Factory bolt and **5/16"** allen bolt will be used.





20) Remove sway bar mounting bolts and lower sway bar. Remove nut clips from frame.

21) Install sway bar drop brackets **90-1859** and support tube **90-2117** as shown in **Illustration 5**. Assemble all components shown before you begin to tighten any hardware. Torque **7/16"** hardware to 50 ft. lbs.



22) Raise driver I-Beam and remove shock absorber.

23) Lower I-Beam and install new coil. Raise I-Beam until it begins to compress coil and install the coil retaining hardware top and bottom.

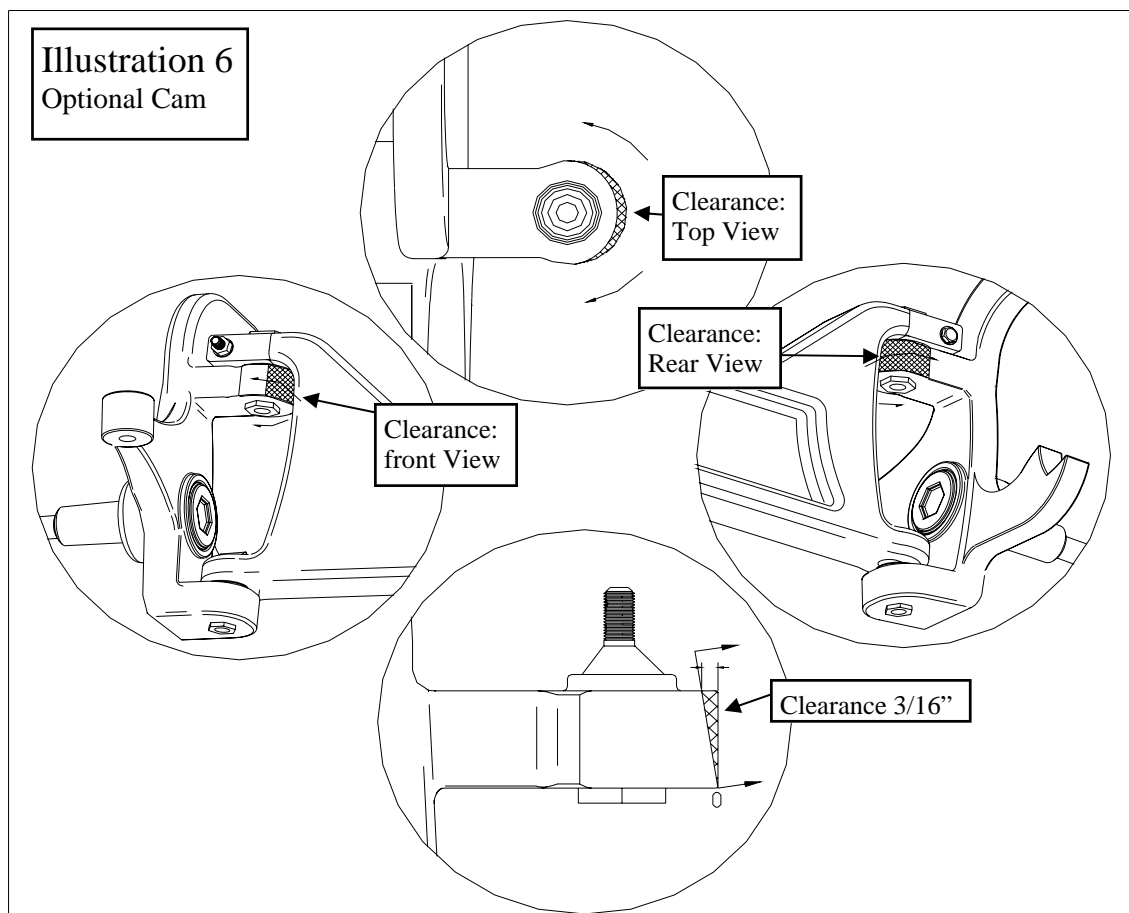
24) Install new front shock **921510** and tighten hardware.

**\*\* REPEAT STEPS 22 - 24 ON OPPOSITE SIDE \*\***

25) If installing optional cam kit (594) remove pinch bolt. Remove cam from driver side I-beam and slide in new eccentric cam. Replace pinch bolt. Do not tighten at this time. Repeat on remaining side of vehicle. Turn the wheel full lock to the left and grind the visible backs of the spindles around the ball joint removing approximately 3/16". Start at the top, tapering down to nothing at the bottom. Turn wheel to full lock the opposite way and grind the remaining, now visible, spindle area. (See **Illustration 6**)

**NOTE: After grinding adjust each side to maximum camber and turn wheel lock to lock and make sure there is adequate spindle clearance.**

26) Torque pinch bolt to factory specifications.



27) Replace front tires and set vehicle on ground. Connect sway bar links to sway bar and torque to 55 ft. lbs. Torque radius arm bolts to 105 ft. lbs.

28) Cycle steering full right to full left, checking for any steering linkage contact or brake line contact. Front brake lines should be of adequate length. However, the steel portion may need to be bent slightly to clear the larger tire.

### **REAR INSTALLATION:**

- 1) Block both front wheels in front and behind tires.
- 2) Raise rear of vehicle with a floor jack and support with jack stands forward of the front spring hanger.
- 3) Remove tires and shock absorbers.
- 4) Support the axle with floor jack and remove the U-bolts on the driver side. Lower axle until it clears the leaf springs.
- 5) Open the factory spring clips with a pry bar, only enough to disassemble the spring pack.
- 6) Use a C-clamp to hold the spring pack together and remove center bolt.
- 7) Loosen C-clamp and disassemble the spring pack.
- 8) Install the **13128** Add-A-Leaf into the spring pack. When installed, the **13128** leaf will be between the factory leaf that is longer, and the factory leaf that is shorter than the Add-A-Leaf. **DO NOT REMOVE ANY LEAVES, INCLUDING THE THICK OVERLOAD LEAF.**
- 9) Install new center pin while compressing the leaves together with a C-clamp. **DO NOT USE THE CENTER PIN TO DRAW THE LEAVES TOGETHER.** Torque center pin to 35 ft. lbs.
- 10) Position aluminum block **95-150f** on spring pad and raise axle to spring pack. Install U-bolts and torque to 25 ft. lbs. Final torque will be done after both sides are completed.

**\* \* REPEAT STEPS 4 - 10 ON OPPOSITE SIDE \* \***

- 11) Raise axle until the vehicle begins to lift off the jack stands. Torque U-bolts to 115 ft. lbs.
- 12) Install **929508** rear shock.
- 13) Install tires and lower vehicle to ground.

#### **CHECKS AND ADJUSTMENTS:**

- Have front end aligned.
- Have head lights adjusted.
- Re-torque all hardware after first 100 miles.

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

1/2-13x1.75 HHCS D T L X	Grade 5 (No. of Marks + 2)	Grade 8 (No. of Marks + 2)	M12-1.25x50 HHCS D T L X	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 = 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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**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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<b>PLACE</b>
<b>WARRANTY REGISTRATION</b>
<b>NUMBER</b>
<b>HERE:</b> _____