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PRO COMP SUSPENSION

Suspension Systems that Work!

**Part # 52416 (Formerly 52406)
2000-2004 Ford 4WD Superduty
250/Excursion**

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 3-PN 52416-1

| Part # | Description | Qty. | Illus. | Page |
|----------------|--|------|--------|------|
| 90-1114 | Sway Bar Mount Plate | 2 | | |
| 13-90190 | 5/8"x3 1/2"x14-1/2" Round U-bolt | 4 | | |
| 95-150F | 1 1/2" Alum Block | 2 | | |
| 55268 | Shock Bar Pin | 2 | | |
| 90-1091 | Track Rod Mount | 1 | | |
| MO-2168-BK-01 | Bump Stops | 2 | | |
| 13-90510 | 9/16" x 3" x 9 1/4" Oval U-Bolt | 4 | | |
| FD500-1 | Pitman Arm | 1 | | |
| 90-6034 | Hardware Pack Containing: | | | |
| 20-65302 | Hardware Pack 9/16" Highnuts & Washers | 1 | | |
| 20-65471 | Hardware Pack 5/8" Highnuts & Washers | 1 | | |
| 70-0501501800 | 1/2" x 1 1/2" Gd 8 USS Bolt | 2 | | |
| 70-0502751800 | 1/2"x2 3/4" USS Gd 8 Hex Bolt | 1 | | |
| 72-03700100512 | 3/8" USS Gd 5 Nylock Nut | 2 | | |
| 72-05000100816 | 1/2" USS Gd 8 Stover Nut | 3 | | |
| 73-03700032 | 3/8" USS Flat Washer | 2 | | |
| 73-05000042 | 1/2" USS Hardened Flat Washer | 6 | | |
| 13-90510 | U-Bolt | 4 | | |

Box 2 of 3-PN 52416-2

| | | | | |
|---------|-----------------------------|---|--|--|
| 13128-1 | 13-128 Add-a-leaf | 2 | | |
| 97-716 | 7/16" Center Bolt with Nuts | 2 | | |
| 8771-1 | 7/16" Nut Fine Gr. 8 | 2 | | |

Box 3 of 3-PN 52416-3

| | | | | |
|--------|--------------|---|--|--|
| 926508 | Front Shocks | 2 | | |
| 932008 | Rear Shocks | 2 | | |

(OR) Box 3 of 3-PN 52416MX-3

| | | | | |
|--------|------------------|---|--|--|
| MX6017 | MX6 Front Shocks | 2 | | |
| MX6018 | MX6 Rear Shocks | 2 | | |

The following parts are used in conjunction with this kit and must be purchased separately.

| | | | | |
|-------|-------------------------------------|---|--|--|
| 22410 | LEAF SPRINGS (EXCURSION AND PICKUP) | 2 | | |
| 22210 | LEAF SPRINGS (EXCURSION ONLY) | 2 | | |

Special Tools:

Pitman Puller Snap-On PN CJ1119B

Optional Equipment Available from your PRO COMP Distributor!

| | |
|--------------------------|---------------------------------|
| DRIVESHAFT ALIGNMENT KIT | PN 52480 |
| FRONT DUAL SHOCK KITS | PN 52410 |
| TRACTION BARS | PN 72400 |
| LIGHT BARS | PN 24400 (BLACK), 24400G (GREY) |
| STEERING STABILIZERS | PN 222570 |

ALSO, CHECK OUT OUR OUTSTANDING SELECTION OF PRO COMP TIRES TO 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, 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 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.***

Please Note:

- ⇒ Front suspension and head light realignment is necessary!
- ⇒ Speedometer and ABS recalibration will be necessary if larger tires (10% more than stock diameter) are installed.
- ⇒ **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!**

Important!

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 4" 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.

Before You Begin:

- ⇒ Read the instructions and study the illustrations before attempting the installation.
- ⇒ Separation the 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 parts and hardware against the parts list to assure that your kit is complete.
- ⇒ ALWAYS wear safety glasses when using power tools or working beneath your vehicle.
- ⇒ A pitman arm removal tool and tie rod separating tool are required to perform the installation. See the special tools at the bottom of page 2.
- ⇒ Always use NEW cotter pins on re-assembly! (These items are NOT supplied)

Front Installation:

⇒ **Vehicles with a 2 1/2" rear block may require an additional 1" block to level the vehicle. Part # 95-100FB must be purchased separately.**

- 1) Position vehicle on a smooth, flat, hard surface (ie. concrete or asphalt). jack stands behind front spring.
- 2) Block rear tires and set parking brake.
- 3) Measure and record the distance from the center of each wheel to the top of its fender opening. Record below.
LF: _____ **RF:** _____
LR: _____ **RR:** _____
- 4) Remove track rod bolt on driver side at the frame mount.
- 5) Raise front of vehicle and support with
- 6) Remove front tires on both sides.
- 7) Remove sway bar links on both sides arm upper mount. Save the **12mm** bolts, to be used for reassembly.
- 8) On driver side, support front axle with floor jack. Remove shock and u-bolts.
- 9) Lower axle to clear spring and remove spring. Plastic valance and protection bar will need to be removed to access bolts. (Excursion).
TECH TIP: Factory spring bolts are secured with loctite which makes removal difficult. By warming the nut with a propane torch to approx. 300 degrees Fahrenheit the loctite will release and the hardware can be removed with

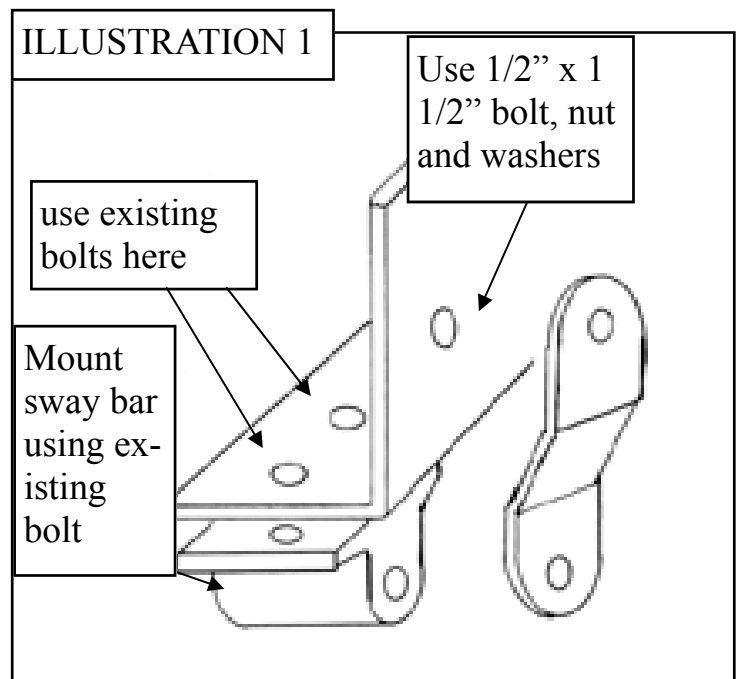
hand tools. (Have Fire Extinguisher handy whenever using a open flame on or near any vehicle).

- 10) Install new Pro Comp spring into stock mounts using existing hardware. Do not tighten.
- 11) Raise axle to spring and secure with new u-bolts and nuts supplied. Do not tighten.
- 12) Install new shock, P/N **926508**, and torque mounting hardware to 60 ft./lbs. Repeat steps 7-11 on passenger side.
- 13) Remove upper sway bar mounts from inside of frame both sides. Relocate under frame as shown in ILLUSTRATION 1. Torque **1/2"** bolt to 80 ft./lbs. Torque **12mm** bolts to 60 ft./lbs.
- 14) Remove cast track bar mount on driver side. Save the bolts and pal nuts. Some will be reused.
- 15) Use a tie rod separator and a pitman arm puller to remove the pitman arm.
- 16) 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 500** pitman arm. Install the pitman arm and hand tighten sector shaft nut then tighten only with a torque wrench. Torque sector shaft nut to 200 ft. lbs.
- 17) Install drag link to pitman arm and torque to 60 ft./lbs.
- 18) Install Pro Comp track rod mount. Use existing bolts and pal nuts on frame and use new **1/2"** bolt in cross member. Install bolt

from front of vehicle and use flat washers under head of bolt and nut. Torque bolts to 85 ft./lbs.

- 19) Install tires and set vehicle on ground.
- 20) Tighten spring mounting bolts and u-bolts. Torque **9/16"** u-bolts to 100 ft./lbs. **18mm** spring bolts to 130ft./lbs. **16mm** spring bolts to 115ft./lbs.
- 21) Install track rod into new mount. Torque to 135 ft./lbs.

TIP: Turning steering slightly will help align bolt.



REAR INSTALLATION

- 1) Block front tires and raise rear of vehicle. Support frame with jack stand forward of rear springs.
- 2) Remove tires and shocks on both sides.
- 3) Support rear axle with floor jack and remove u-bolts on driver side.
- 4) Lower rear axle and remove factory block and leaf spring. Driver side only at this time.
- 5) Open spring clips just enough to disassemble spring pack.
- 6) Use C clamp to hold leaves together and remove spring center bolt. Loosen c-clamp and disassemble spring.
- 7) Install add-a-leaf in progression and clamp together with c-clamp. Install center bolt and torque to 35 ft./lbs.
- 8) Bend spring wrap clops back to secure spring and re-install spring into vehicle. Do not torque at this time.
- 9) Install **1 1/2"** aluminum block on to spring pad on axle tube and stack existing cast block on top of aluminum block.
- 10) Raise axle to spring and secure with **5/8"** u-bolts supplied. Do not torque at this time.
REPEAT STEP 4-10 ON PASSENGER SIDE
- 11) Install shocks P/N **932008** and torque hardware to 60 ft./lbs.

- 12) Tighten spring mounting bolts and u-bolts.

Torque **5/8"** u-bolts to 115 ft./lbs.

16 mm bolts to 115 ft./lbs.

18 mm bolts to 130 ft./lbs.

NOTE: Depending on application an excessive amount of rear u-bolt may contact the floor pan or bed under full compression of rear axle. Cut off excess u-bolt to prevent body damage.

- 13) Install tires and lower vehicle to ground. Check wheel torque on all four wheels.

*** Recheck all hardware for tightness after the first 100 miles AND after any off road use.**



SUPPLEMENT TO 52416

TECHNICAL UPDATE:

ON SOME 4WD EXCURSION AND 4WD SHORT BED SUPER DUTY TRUCKS, A DRIVE SHAFT MODIFICATION MAY BE REQUIRED TO ELIMINATE A HIGH SPEED VIBRATION. THE SUSPECT VEHICLES WILL HAVE A MILD TO MODERATE VIBRATION AROUND 60 TO 70 MILES PER HOUR IN 2 WHEEL DRIVE. TO CORRECT THIS PROBLEM A CONSTANT VELOCITY JOINT MUST BE INSTALLED ON THE REAR DRIVE SHAFT. CALL THE TECH DEPARTMENT AT 1-800-776-0767 FOR ASSISTANCE.

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

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

M12-1.25x50 HHCS

P

D T L X

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

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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| |
|-------------------------------------|
| <u>PLACE</u> |
| <u>WARRANTY REGISTRATION</u> |
| <u>NUMBER</u> |
| <u>HERE:</u> _____ |