



Pro Comp Suspension, Inc. Chula Vista, CA USA

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INSTALLATION Part # 52080
INSTRUCTIONS Ford F-150 IFS
 Stage II Suspension System

PARTS LIST:

| <u>ITEM#</u> | <u>DESCRIPTION</u> | <u>QTY.</u> | <u>ILLUST.</u> |
|----------------|-------------------------------------|-------------|----------------|
| BOX 1 OF 1 | | | |
| 90-1202 | Passenger I-Beam Pivot Drop Bracket | 1 | 5 |
| 90-1203 | Driver I-Beam Pivot Drop Bracket | 1 | 4 |
| 90-6029 | Brakeline Hose Support Kit | 1 | |
| FD400 | Pitman Arm (Power Steering only) | 1 | |
| 91-1197 | Doubler Plate | 1 | 4 |
| 90-6372 | Hardware Pack Containing: | | |
| 91-2144 | Bump Stop Spacer | 2 | 8 |
| 70-031100800 | 5/16" x 1" USS Gd. 8 Hex Bolt | 2 | |
| 72-03100100512 | 5/16" USS Nyloc Nut | 2 | |
| 73-03100032 | 5/16" USS Flat Washer | 4 | |
| 90-6118 | Hardware Pack Containing: | | |
| 72-05600100816 | 9/16" USS Gd. 8 Stover Nut | 1 | 5 |
| 72-05000100816 | 1/2" USS Gd. 8 Stover Nut | 10 | 1,4,5 |
| 72-04300100816 | 7/16" USS Gd. 8 Stover Nut | 14 | 2,4,5 |
| 70-0563501800 | 9/16" x 3 1/2" USS Gd. 8 Hex Bolt | 1 | 5 |
| 70-0503501800 | 1/2" x 2 3/4" USS Gd. 8 Hex Bolt | 2 | 1 |
| 70-0501501800 | 1/2" x 1 1/2" USS Gd. 8 Hex Bolt | 8 | 4,5 |
| 70-0431001800 | 7/16" x 1" USS Gd. 8 Hex Bolt | 14 | 2,4,5 |
| 73-05600034 | 9/16" SAE Hardened Flat Washer | 2 | 5 |
| 73-05000034 | 1/2" SAE Hardened Flat Washer | 20 | 1 |
| 73-04300034 | 7/16" SAE Hardened Flat Washer | 28 | |
| | Loctite Retaining Compound | 1 | |
| 90-6117 | Hardware Pack Containing: | | |
| 90-2147 | Band Spacer, 1 1/4" x .900 x .562 | 2 | |
| 90-1311 | Shim Washer, 2" x 13/16" x .25 | 4 | |
| BOX 2 OF 2 | | | |
| 90-2150 | Radius Arm - Driver | 1 | 6 |
| 90-2151 | Radius Arm - Passenger | 1 | 6 |
| 90-6406 | Hardware Pack Containing: | | |
| 72-075100512 | 3/4" Nylock Nuts | 2 | |

NOTE: The following parts are used in conjunction with this kit, and must be ordered separately.

| <u>ITEM#</u> | <u>DESCRIPTION</u> | <u>QTY.</u> | <u>ILLUST.</u> |
|--|--|-------------|----------------|
| 13130 | Dual Add-A-Leaf (Rear Lift) | 1 | |
| 7325 OR | 3 Pc. Stainless Brake Hose Kit (90-94) | 1 | |
| 7330 | 3 Pc. Stainless Brake Hose Kit (80-89) | 1 | |
| Alignment eccentrics, see catalog for applications | | 1 | |
| 4" Kit | | | |
| 24412 OR | Standard Cab Coil Springs | 2 | 1 |
| 24413 | Extra Cab Coil Springs | 2 | |
| 24612 | Coil Springs (6" Lift) | 2 | 1 |
| 319510 | Front Shock Absorbers | 2 | 1 |
| 326500 | Rear Shock Absorber | 2 | |
| 6" Kit | | | |
| 24612 | Standard Cab Coil Springs | 2 | |
| 24613 | Extra Cab Coil Springs | 2 | |
| 321510 | Front Shock Absorber | 2 | 1 |
| 326500 | Rear Shock Absorber | 2 | |

PLEASE NOTE: Acceptable Tire and Wheel Combinations:

For the 4" 2WD applications: 31 x 10.50 x 15 on 15x 8 with 3.5 backspacing.

For the 4" 4WD applications: 33 x 12.50 x 15, 16, or 17 on 15x8, 16x8, or 17x8 with 3.5 backspacing

For the 6" 2WD applications: 33 x 12.50 x 15, 16, 17 on 15x8, 16x8, or 17x8 with 3.5 backspacing

For the 6" 4WD applications: 35 x 12.50 x 15, 16, or 17 on 15x8, 16x8, or 17x8 with 3.5 backspacing

Any other tire and wheel combinations will not be endorsed as acceptable by Pro Comp suspension and will void any and all warranties, written or implied.

PRIOR TO INSTALLATION:

PRO COMP OFFERS A COMPLETE LINE OF ALL TERRAIN AND MUD TERRAIN TIRES. SEE CATALOG FOR DETAILS.

Check the VEHICLE FRAME for any damage or severe corrosion. If there is any doubt as to the condition of the chassis, have the vehicle checked by a state approved alignment specialist. If there is any structural damage, do not install this kit.

- ❑ Read the instructions carefully and study the illustrations before attempting installation. Pro Comp Suspension is not responsible for damage, failure, or injury resulting from improper installation of this kit.
- ❑ Installation of this kit should take approximately 10-14 hours. Installation by a professional mechanic is recommended. Proper use of the appropriate power tools and the use of a shop hoist can greatly reduce installation time.
- ❑ Check the parts and hardware against the parts list to assure that your kit is complete. Report any shortages to PRO COMP at (800) 776-0767. The parts and hardware supplied are of high grade material and must not be replaced by inferior parts or failure may result. Pro Comp Suspension is not responsible for damage, failure or injury due to improper installation or part substitution.
- ❑ Separate parts according to the areas where they will be used. Placing the hardware with the brackets before you begin will save installation time.
- ❑ All components in this kit come with a protective coating. Do not plate (i.e. chrome, cadmium, zinc, etc.) or otherwise alter the finish in any way because it could weaken the structural strength of the components.
- ❑ This kit is supplied as a bolt-on assembly. Do not weld anything to the components and do not weld the components to the vehicle.
- ❑ Foot pound torque readings are listed on the Torque Specifications chart at the end of the instructions unless specifically stated in an instruction. Apply loctite retaining compound on all bolts during installation. A drop on the exposed threads of a bolt before installing the nut will provide an adequate bond. Unless otherwise specified, all bolts should be installed with a flat washer at both ends, loctite applied, then torque to specifications. **DO NOT USE AN IMPACT WRENCH TO TIGHTEN ANY OF THE BOLTS.**
- ❑ The following tools will be required for the proper installation of this kit:
 - Pitman Arm Puller
 - Right Angle Drill and Short Drill Bits
 - 1/2" Drive Ratchet and Sockets
 - 1/2" Drive Breaker Bar
 - Assorted Combination Wrenches
 - Heavy Duty Jackstands
 - Hydraulic Floor Jack
 - Centerpunch
 - File
 - Hammer
 - Wire Brush
- ❑ Always wear safety glasses when using power tools.
- ❑ It is recommended that you purchase new radius arm bushings from your Ford dealer.

❑ Steam cleaning or pressure washing the front suspension and frame of the vehicle will make the installation cleaner and more trouble free.

❑ Park the vehicle on a level concrete or asphalt surface. Set the parking brake, secure and properly block vehicle prior to beginning installation.

INSTALLATION:

1) Block the rear wheels of the vehicle in front and behind the tires. Raise the front of the vehicle with a floor jack and support the frame with jackstands. Remove the front wheels and shocks absorbers.

2) Separate the relay rod from the pitman arm. If your vehicle is equipped with a front anti-sway bar, remove the brackets that hold it to the frame.

3) Mark the front driveshaft and the front differential yoke so that the driveshaft can be reconnected in its original position. Failure to do so may result in a driveline imbalance and subsequent vibration. Disconnect the front driveshaft at the u-joint and tape the caps to prevent them from falling off.

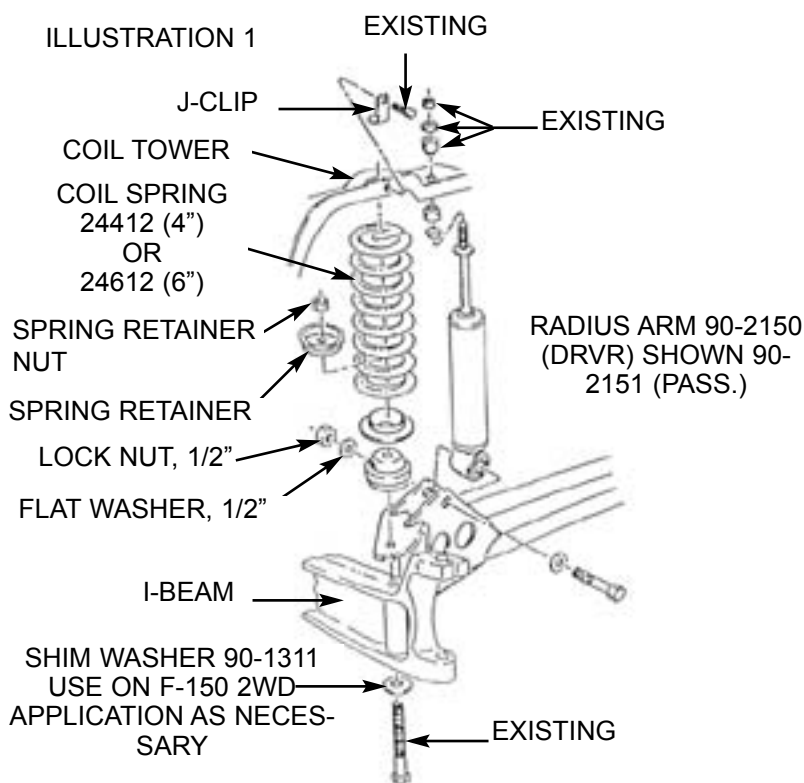
❑ Be very careful not to pull the rear end of the driveshaft forward out of its splines or damage may occur to the transfer case due to improper reinstallation. Secure the driveshaft end up and out of the way.

4) Disconnect both front brake lines at the calipers. Hang the open ends of the brake lines as high as possible to keep the fluid from draining out. Cover the open ends of the brake lines and calipers to prevent loose dirt from entering the braking system. Disconnect the vent hose from the front differential housing.

PERFORM STEPS 5 THROUGH 7 ON THE PASSENGER SIDE FIRST, THEN REPEAT THEM ON THE DRIVERS SIDE.

5) Support the beam near the spindle with the floor jack. Support the beam at several points to prevent it from tipping or falling over. The beam assemblies are very heavy. Exercise extreme caution when removing them to avoid any possibility to injury.

6) Remove the spring's lower retaining nut and washer, then remove the

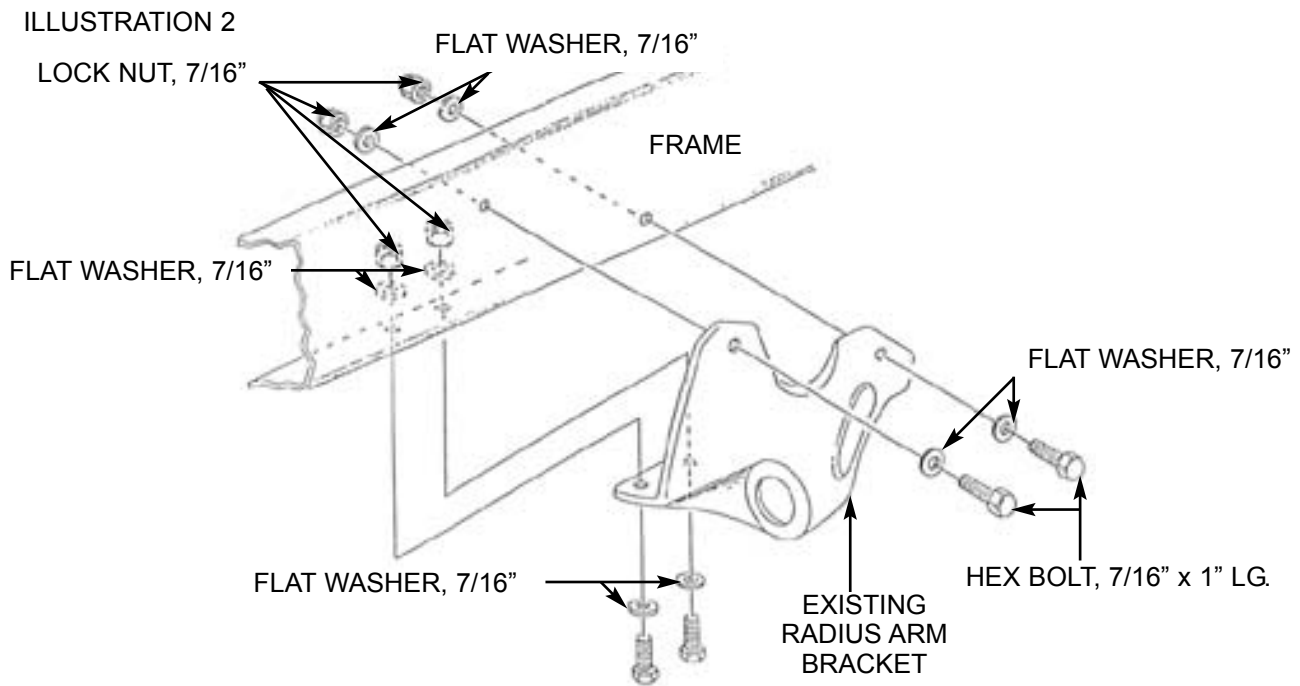


j-clip that holds the spring to the coil tower. See ILLUSTRATION 1. Lower the jack enough to remove the spring.

7) Remove the pivot bolt from the beam. Remove the nut from the end of the radius arm towards the rear of the vehicle and carefully lower the end of the beam to the floor.

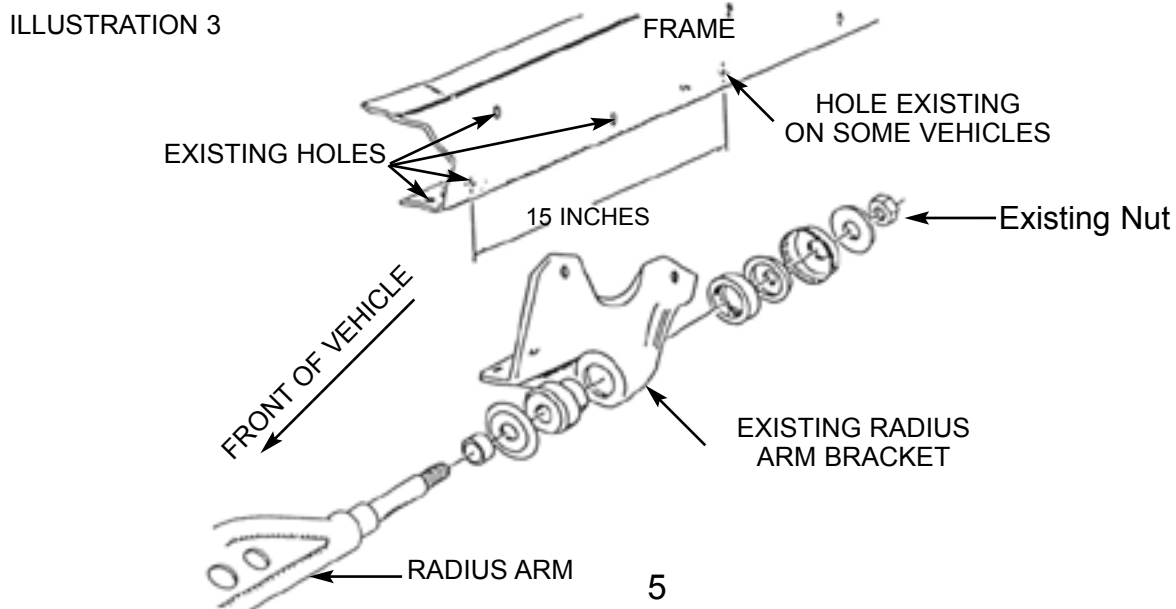
NOTE: Support the front differential with a floor jack. In order to keep the beam from tipping to one side or another, you must either chain the beam to the floor jack or use a second jack to support the beam near the spindle.

REPEAT STEPS 5 THROUGH 7 ON THE DRIVERS SIDE.



8) If the vehicle is equipped with a power steering cooler, remove the two bolts that hold it to the front of the forward crossmember. Gently move the cooler out of the way.

9) Some of the brackets that held the pivot end of the front beams to the front crossmember



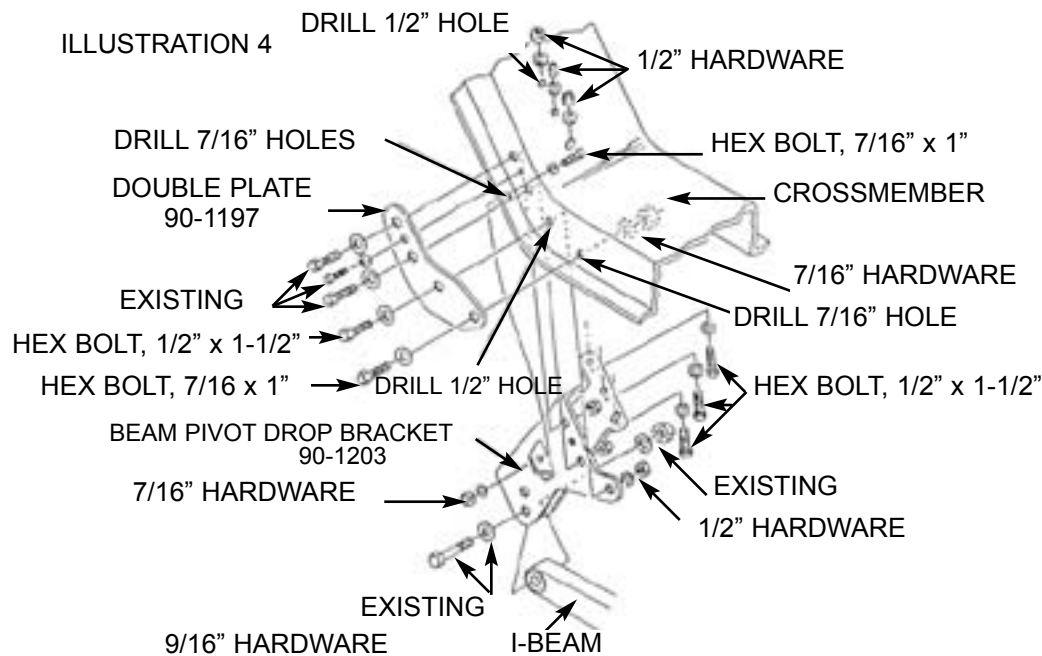
are bolted to the frame, some are riveted. These brackets must be removed from the cross-member by unbolting and drilling the rivet heads. A right angle drill may be necessary to drill some of the rivets.

Remove the rivets as follows:

- ❑ Center punch rivet head
- ❑ Drill 1/4" pilot hole in center of rivet approximately 1/4" deep
- ❑ Drill rivet head off using a 7/16" bit, being careful not to drill into frame
- ❑ Drive rivet out with a hammer and punch

10) Remove the brackets that held the radius arms to the frame. Again, any rivets will have to be drilled to be removed. Be careful not to damage the brackets because you will be reusing them, see ILLUSTRATION 2.

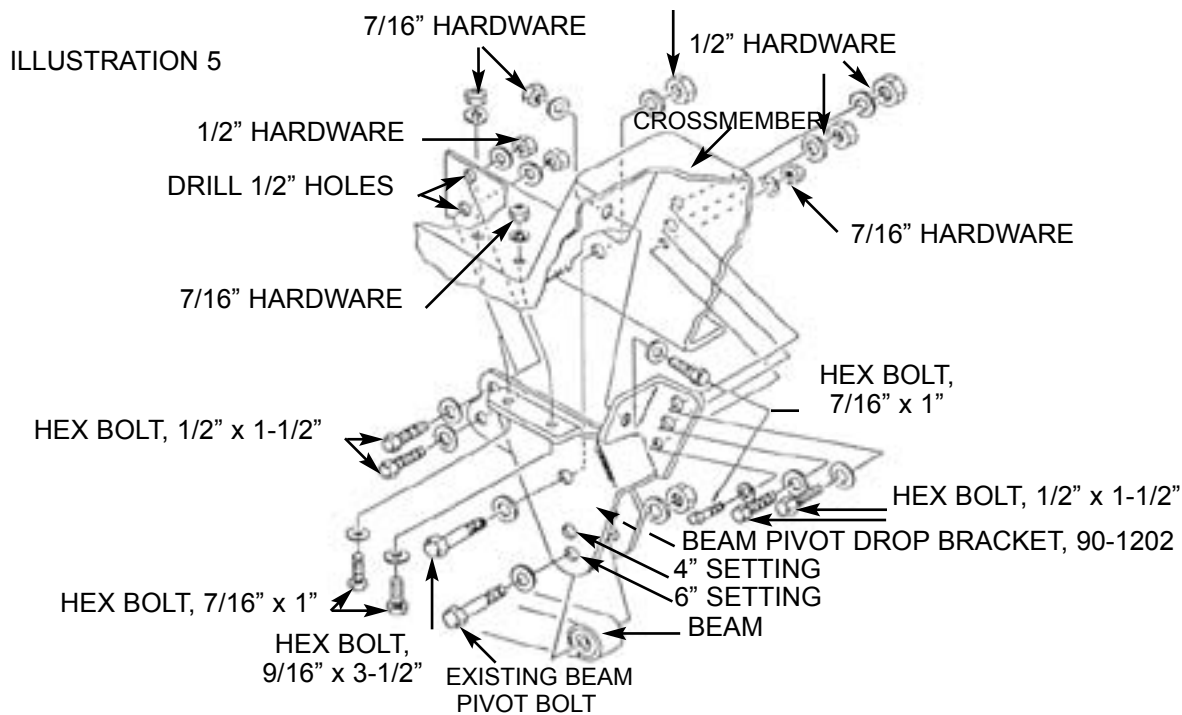
11) The radius arm brackets removed in the previous step will be relocated exactly 15.00" toward the rear of the vehicle from their original location. Some vehicles will have a small hole on the lower leg of the frame channel exactly 15.00" behind the second forward most original mounting hole, see ILLUSTRATION 3. If so, you may use this hole to relocate the brackets. Otherwise, you will have to carefully relocate the brackets exactly 15.00" behind their original location.



12) After relocating the brackets, mark the new mounting hold locations on the frame using a centerpunch, then drill the holes using a 7/16" drill bit. Use a wire brush to remove any undercoating. The bracket must be installed on a clean surface.

NOTE: It may be necessary to reroute vacuum lines on certain model vehicles if they interfere with the relocated mounting brackets.

13) Use a file to remove any raised edges around the hole caused by the drilling. Mount the



brackets using the supplied 7/16" hardware as shown in ILLUSTRATION 2. Apply loctite and torque fasteners per spec chart on the last page of the instruction sheet.

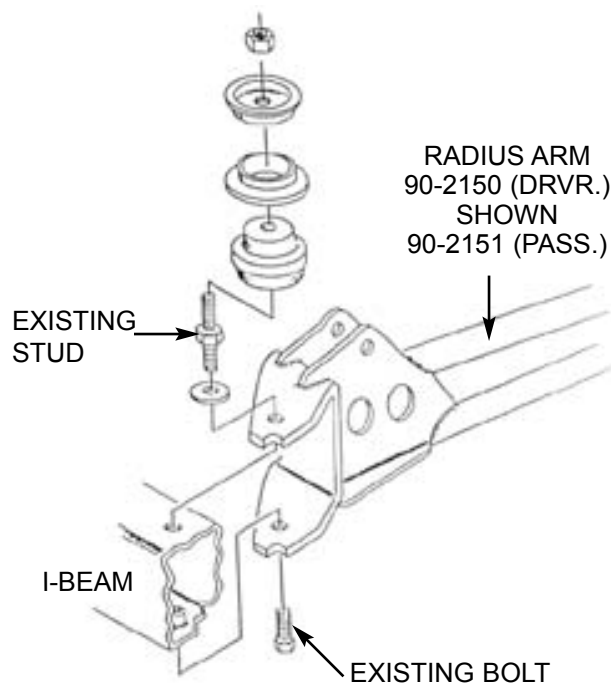
NOTE: On later model vehicles, it may be necessary to grind slight reliefs in the forward edge of the driver's side bracket to provide clearance for the fuel filter retaining bolts. Be sure to gently radius the reliefs and remove all sharp edges to prevent cracks from forming.

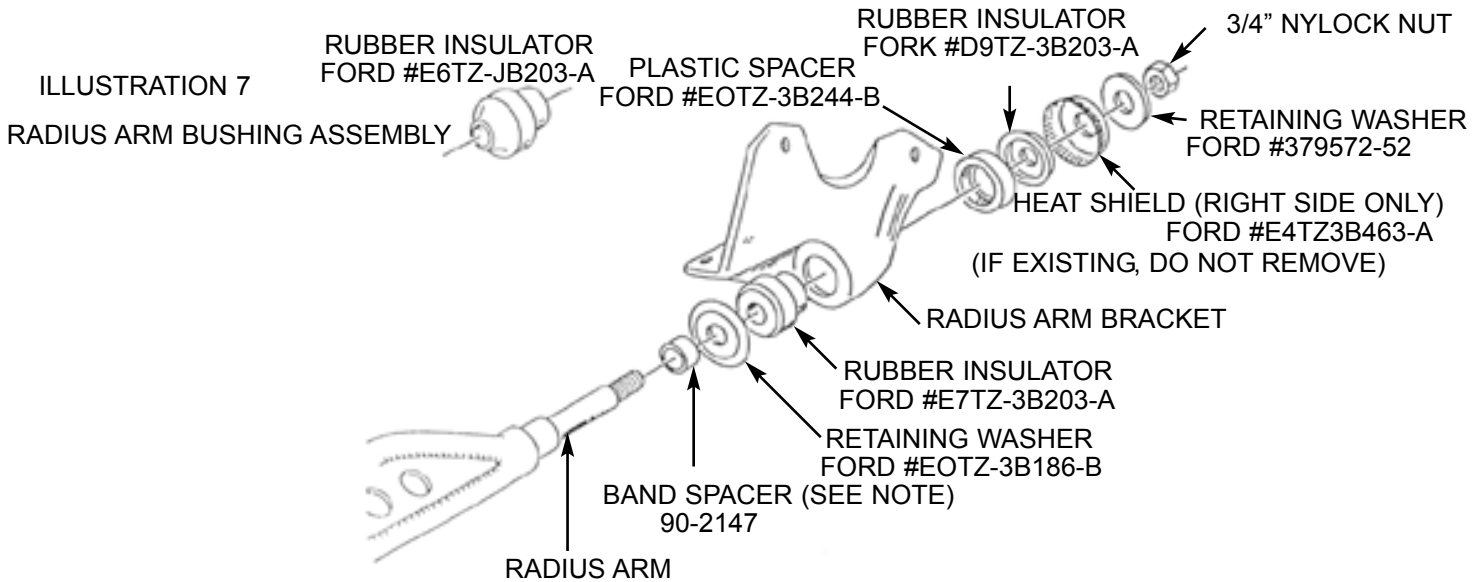
14) Install the driver I-beam pivot drop bracket 90-1203 and the doubler plate 90-1197 as shown in ILLUSTRATION 4. The doubler plate mounts on the outside of the crossmember and the I-beam pivot drop bracket mounts on the inside of the crossmember. Locate the bracket and plate onto the crossmember using the existing holes and hold them in place with some of the existing hardware, but do not tighten.

15) Still referring to ILLUSTRATION 4, mark the four (4) new holes that are needed with a centerpunch. Remove the bracket and plate and drill the necessary size holes. File any raised edges. Clean the surface of any undercoating, loose paint, etc. Install the doubler plate and the beam pivot bracket with the specified hardware using loctite and torque per the Torque Specification Chart.

16) Install the passenger I-beam pivot drop bracket 90-1202. Locate the drop bracket onto the crossmember, as shown in ILLUSTRATION 5,

ILLUSTRATION 6





using existing holes and hardware, but do not tighten.

17) Still referring to ILLUSTRATION 5, mark the two (2) new holes that are needed with a centerpunch. Remove the drop bracket and drill the necessary size holes. File any raised edges. Clean the mounting surface and install the bracket with the specified hardware using loctite and torque per Torque Spec Chart.

18) Remove the original radius arms from the front beams by removing the studs from the top of the beams and the bolts from the bottom of the beams, see ILLUSTRATION 6. Install the new radius arms 90-2150 (Drvr.) and 90-2151 (Pass.). Make sure the notches in the new radius arms line up with the notches in the beam brackets. If the new radius arms do not line up properly, make sure you are installing the arms on the correct side, with the correct end up. Reinstall the existing studs and bolt using loctite and torque per the Torque Specification Chart.

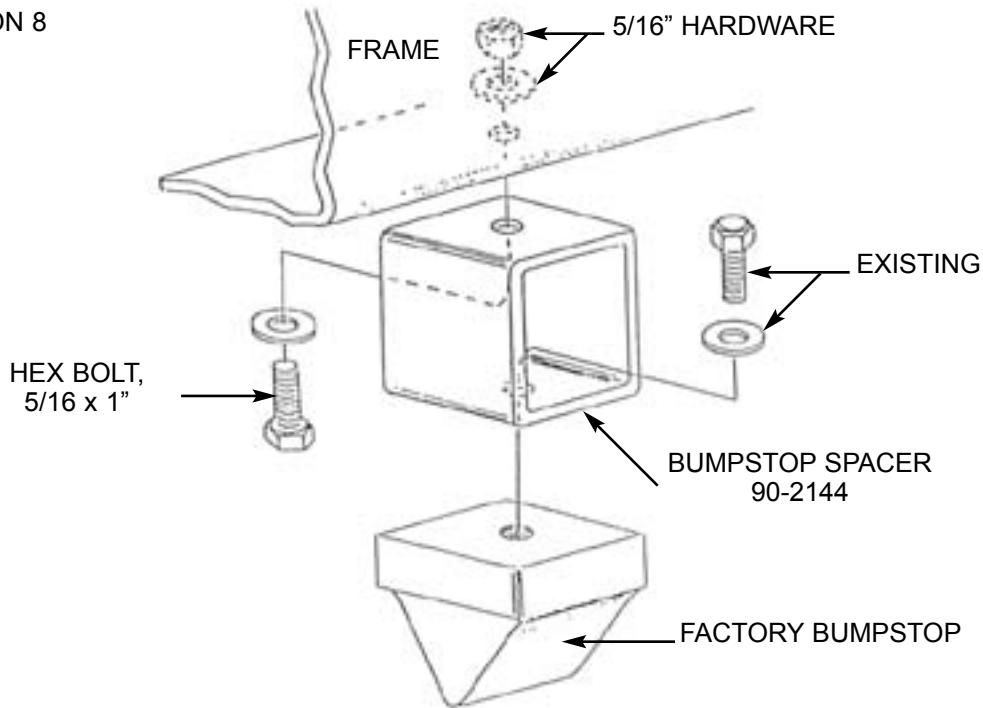
19) Remove the original pitman arm from the steering box using a pitman arm puller. Failure to use the proper tool could result in damage to the steering mechanism. Install supplied pitman arm #FD400 into position, noting any indexing marks. Torque the nut per the Torque Specification chart. (NOTE: pitman arm #FD400 for vehicles with power steering only).

20) Referring the ILLUSTRATION 7, assemble the threaded end of the radius arms. If you have the short style radius arm bushings install the spacers from your old radius arms.

NOTE: Some rare models will have the short style radius arm bushings, (part #E7TZ-3B203-A) but will not have the band spacers. We have included two (2) band spacers #90-2147 in this kit for those models. Use them if necessary. If you have the long style, do not use spacers. Now install the bushings.

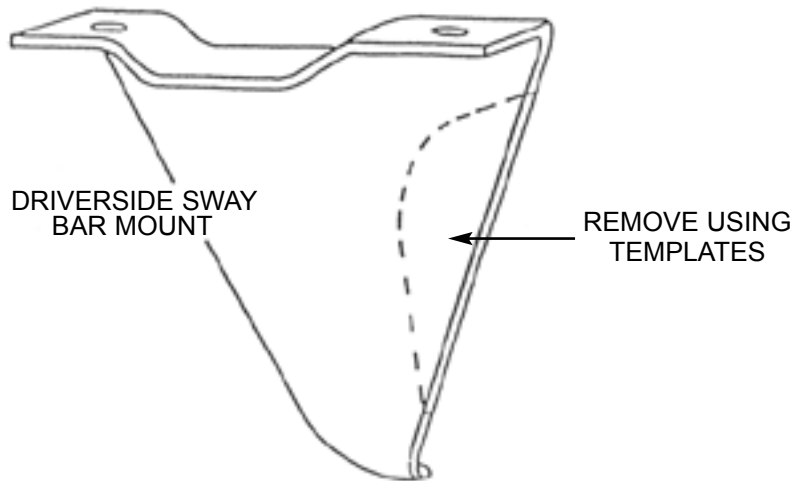
As recommended previously, use new Ford replacement radius arm bushings when installing this kit. The required bushings are normally stock parts at authorized Ford dealers. Use ONLY genuine Ford replacement parts, as these bushings affect vehicle ride and handling charac-

ILLUSTRATION 8



teristics. F150/F250 2WD/4WD trucks have been built with various bushing components. Use components recommended for your year, make and model.

ILLUSTRATION 9



21) Position the ends of the radius arms into the relocated brackets. Reinstall the rest of the bushings and washers and install the nuts as shown in ILLUSTRATION 7. Do not fully tighten yet.

22) Using the floor jack, raise and position one of the beams into the new bracket. Insert the existing pivot bolt through the bracket and beam and install the supplied 3/4" nylock nut. Refer back to ILLUSTRATION 4. Do not tighten yet. Repeat this procedure on the other beam.

23) Check again, to make sure that all radius arm bushings and spacers are installed as in ILLUSTRATION 7. Apply loctite and torque the radius arm nuts and the beam pivot bolts per the Torque Specification chart.

24) Reinstall the front driveshaft and torque the u-bolts to 12-15 ft./lbs.

RECHECK THE TORQUE VALUES OF ALL THE NUTS AND BOLTS THAT HAVE BEEN INSTALLED.

25) If applicable, reinstall the power steering cooler. Make sure that the cooler lines do not rub or contact any metal surfaces that may damage them (bolts, bracket edges, etc.). If necessary, bend the lines slightly to clear any obstructions.

26) Remove the factory bump stop from the frame. Install the bump stop onto the bump stop spacer 90-2144 using the existing hardware as shown in ILLUSTRATION 8. Mount the bump stop assembly onto the frame in the original location using the supplied 5/16" hardware. Repeat this procedure on the other side.

27) Install the appropriate length brake lines. Refer to the parts list (brake line hose support kit 90-6029 included with this kit). Bleed the brakes to remove any air from the lines according to factory recommendations.

28) If the anti-sway bar is mounted to a crossmember instead of the frame rails on your vehicle, it will be necessary to trim the cross member slightly. Full scale templates are included on page 11 of these instructions. Cut the templates out and trace them onto the crossmember as shown in ILLUSTRATION 9. Remove the crossmembers from the anti-sway bar and trim using a scroll saw or die grinder. File any sharp or raised edges and reinstall crossmembers.

29) Re-install the anti-sway bar and reconnect the relay rod to the pitman arm. Install the shock absorbers using the supplied 1/2" hardware through the radius arm hole (see ILLUSTRATION 1). Re-install the wheels.

RE-CHECK ALL NUTS AND BOLTS TO BE SURE THEY ARE TIGHT LOWER THE VEHICLE.

30) Cycle the steering from lock to lock to check for any binding or interference. There should be a minimum of 1.0" of clearance between the tires and the radius arms at lock. If there is less than 1.0", check to make sure you have the proper wheel offset and size. If necessary, the steering stop bolts may be adjusted out to 1.25", maximum.

31) Before driving the vehicle, check to make sure the brakes are operating properly and need no further bleeding.

32) Inspect the components for tightness and for any damage periodically, especially after off-road use.

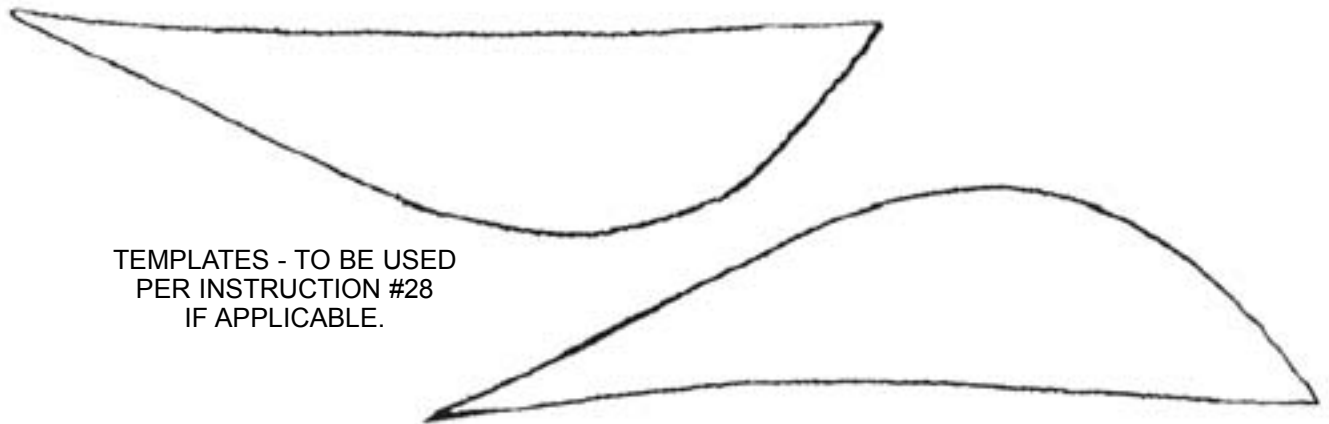
TORQUE SPECIFICATION CHART:

| | |
|---|------------------|
| 1/2" Bolts..... | 70 ft./lbs. |
| 5/16" Bolts..... | 3 ft./lbs. |
| 7/16" Bolts..... | 9 ft./lbs. |
| 9/16" Bolts..... | 15 ft./lbs. |
| Radius Arm-Frame Bracket..... | 80-120 ft./lbs. |
| Spring Retainer-upper spring seat..... | 3-19 ft./lbs. |
| Radius Arm-axle beam (stud & bolts).... | 180-220 ft./lbs. |
| Lower Spring Retainer-radius arm..... | 30-70 ft./lbs. |
| Pitman Arm-steering gear nut..... | 170-228 ft./lbs. |

DUAL ADD-A-LEAF INSTALLATION:

NOTE: In order to properly install this kit, it will be necessary to contain the elasticity in the leaf spring with "c" clamps when the center bolt is removed.

- 1) Place the floor jack under the rear axle and raise the vehicle. Place jack stands under the frame to support the vehicle and remove the rear wheels.
- 2) Raise the rear axle enough to relieve tension on the shock absorbers and remove them.



TEMPLATES - TO BE USED
PER INSTRUCTION #28
IF APPLICABLE.

Disconnect the axle vent hose from the axle housing.

3) Remove the axle u-bolts. Remove the spring eye bolts and/or shackles and remove the springs from the vehicle.

4) Hold the spring assembly securely together with "C" clamps. 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.

5) Carefully remove "C" clamps and lay the unassembled spring aside.

NOTE: The 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.

FORD: Remove the factory leaf #2. The long add-a-leaf will be installed in place of the factory leaf #2. The shorter add-a-leaf will be installed in the #3 position.

6) Apply a small amount of grease to the end of the add-a-leaf, place it in the spring assembly as described in the FORD note above and re-assemble the leaf springs using the "c" clamps.

7) Insert the new center bolts and torque as follows

| | |
|------------------|----------------|
| 3/8" Bolts..... | 35-40 ft./lbs. |
| 7/16" Bolts..... | 40-45 ft./lbs. |

If applicable, install new leaf alignment clamps. Cut off excess center bolt, leaving 2 to 3 threads showing.

8) Loosely assemble the completed spring assemblies into their respective axle mounts. Reinstall the u-bolts, nuts and washers and torque to 75-90 ft./lbs. Reinstall spring eye bolts and/or shackles and torque to 75-80 ft./lbs.

9) Reconnect the axle vent hose and install the shock absorbers.

10) Lower the vehicle and test drive.

PERIODICALLY INSPECT THE ASSEMBLY FOR TIGHTNESS.

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 warranties 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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Ph: (619) 216-1444

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| <u>P L A C E</u> <u>W A R R A N T Y</u> <u>R E G I S T R A T I O N</u> <u>N U M B E R</u> H E R E : _____ |
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