



1/7/02

*'99-'01 F350 Super Duty 4WD  
6" Suspension Lift  
P/N 10-42600*

*INSTALLATION INSTRUCTIONS*

**NOTE:** Each Lift Kit, and options to Lift Kits, are packaged separately. Therefore installation procedures are covered in separate instructions. Familiarize yourself with each specific set of instructions before beginning. Typical options are: Trac-Link, Dual Shock Kits, Light Bar, and Skidplates.

**Parts List**

<b><u>Item</u></b>	<b><u>Description</u></b>	<b><u>Qty</u></b>	<b><u>Illus.</u></b>
<b><u>Box 1 of 4</u></b>			
20-52400-5	Front Track Bar Drop	1	7
20-52400-6	Front Sway Bar Link 6"	2	13
20-833024-1D	Block, Rear With Bumpstop Mount Drvr.	2	14
20-833024-2P	Block, Rear With Bumpstop Mount Pass.	2	14
15-11512	Bumpstop, Front Super Duty	2	9
13-90789	U-Bolt, 9/16"-18 x 11" Semi-Round	4	10
13-90776	U-Bolt, 5/8"-18 x 15" Round	4	14
20-68188	Hardware Pack Containing: (9/16" U-Bolt Hardware)		
13-30330	Flat Washer, 9/16" Hrdn., Plain	8	
13-10423	High Nut, 9/16"-18 Fine, Plain	8	
20-65471	Hardware Pack Containing: (5/8" U-Bolt Hardware)		
13-30369	Flat Washer, 5/8" Hrdn., Plain	8	14
13-10488	High Nut, 5/8"-18 Fine, Plain	8	14
20-68825	Hardware Pack Containing: (Front Track Bar)		
13-21976-Z	Hex Bolt, 1/2"-13 x 3-3/4" Gr. 8	1	7
13-30382-Z	Washer, 1/2" Hrdn.	2	7
13-10514-Z	Top Lock Nut, 1/2"-13 Gr. C	1	7
20-69046	Hardware Pack Containing: (Cotter Pin)		
13-90724	Cotter Pin, 7/16" x 1-1/2"	1	8
20-68838	Hardware Pack Containing: (Sway Bar Link)		
13-22990-Z	Hex Bolt, 12mm-1.75 x 80mm 10.9	2	13
13-30694-Z	Flat Washer, 1-1/4" x 1/2" x 14 Ga.	4	13
13-10696-Z	Top Lock Nut, 12m-1.75 Gr. 10.9	2	13
13-831451	Sleeve, .62 x 12mm x 1.48"	4	13
15-11083	Bushing, Hour Glass	4	13
50-083403	Pitman Arm, Ford F250 99-UP	1	6,8
<b><u>Box 2 of 4</u></b>			
BE5-6245	Front Shock	2	
BE5-6246	Rear Shock	2	
<b><u>Box 3 of 4</u></b>			
13-70078-0	Leaf Pack	1	
<b><u>Box 4 of 4</u></b>			
13-70078-0	Leaf Pack	1	

## **BEFORE YOU BEGIN**

- Installation by a professional mechanic is recommended. Use of the appropriate power tools, a Ford service manual and a shop hoist can greatly reduce installation time.
- Prior to installation, carefully inspect the vehicle's steering and drive train systems, paying close attention to the tie rod ends, Pitman and Idler Arms, Ball Joints and wheel bearing preload. Also 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 worn parts.
- Read instructions carefully and study the illustrations before attempting installation. *Race Car Dynamics* is not responsible for damage, failure or injury resulting from improper installation or parts substitution of this kit.
- Check parts and hardware against parts list to assure that your kit is complete. Report any shortages to *Race Car Dynamics* at (1-619-588-4723). Do not replace the supplied high-grade parts and hardware with inferior parts or failure may result.
- Separate parts according to the areas they will be used. Putting hardware with 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. This could weaken the structural strength of the components.
- Secure and properly block vehicle prior to beginning installation.
- Always wear safety glasses when using power tools.
- Foot-pound torque readings are listed on the Torque Specifications chart at the end of the instructions unless specifically stated in an instruction. **DO NOT USE AN IMPACT WRENCH TO TIGHTEN ANY OF THE BOLTS.**

**PLEASE NOTE**

- o **WARNING: DO NOT USE WHEEL SPACERS**
- o Front end realignment is necessary.
- o Speedometer recalibration is necessary if bigger tires ( 10% more than stock diameter ) are installed.
- o Clears 35" x 12.50" tires.
- o Minor fender/bumper trimming may be required based upon wheel width and offset/ backspacing.
- o Heavy Duty .375" Thick Plate Steel Front Leveling Bracket Kit only.
- o Includes four (4) Bilstein 5100 Series shocks.
- o Not recommended for vehicles with dual rear wheels.
- o Vehicles equipped with 2-piece rear drive shaft may require #20-68747 drive shaft support drop down bracket for the rear driveline.
- o Excursion vehicles may require front and/or rear driveline modifications.
- o System will not fit on vehicles manufactured before 4/1/1999 or with 14mm trac-bar bolt.
- o Headlights will have to be adjusted after install.

**\*\*The following special tools will be required for the proper removal and/or installation of this kit. The tools are available at your local Ford dealer.**

**Pitman Arm Puller T64P-3590-F**

## INSTALLATION

1) Raise the vehicle. If working without a shop hoist, put vehicle in gear, set emergency brake and block rear wheels, in front and behind tires. Loosen Lug nuts. Lift vehicle with floor jack and place safety jack stands under frame rails, behind front wheel wells, and lower frame onto stands. Remove the front tire/wheel assemblies.

2) Using a suitable floor jack, raise the jack just enough to support front axle's weight and remove shocks.

3) Remove nut, washer and bolt to separate sway bar link from both ends of the sway bar (**Illustration 1**). Remove sway bar link nut, washer and bolt securing sway bar link to each frame rail (**Illustration 2**).

4) Remove cotter pin and nut from tie rod end attached to Pitman Arm. A new cotter pin is provided for assembly. Use Pitman Arm Puller (T64P-3590-F) to separate tie rod end from Pitman Arm (**Illustration 3**).

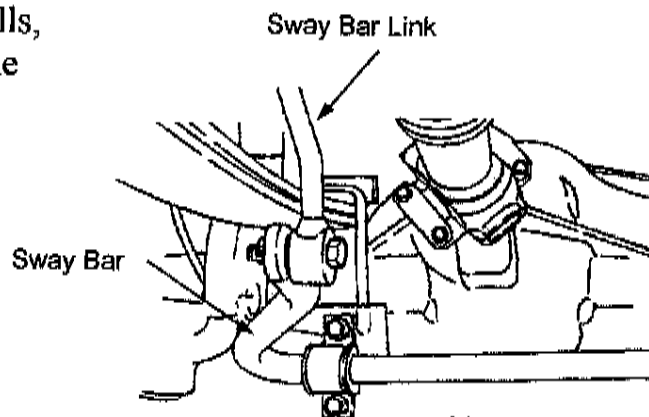


Illustration 1

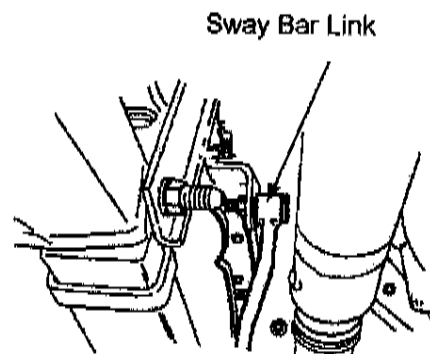


Illustration 2

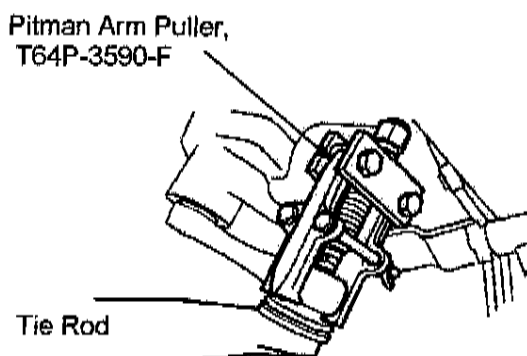
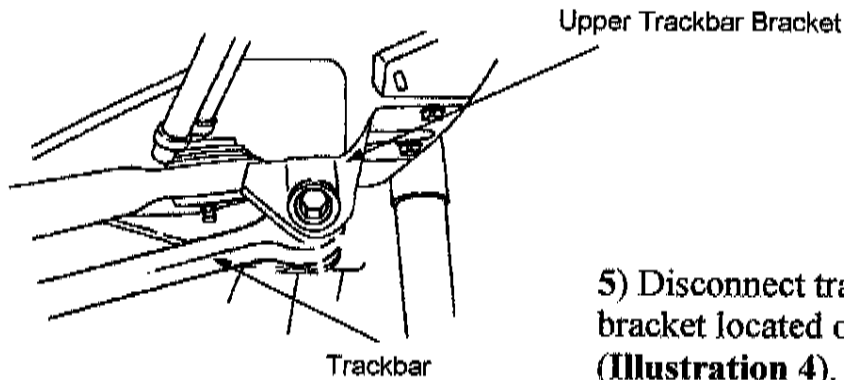


Illustration 3



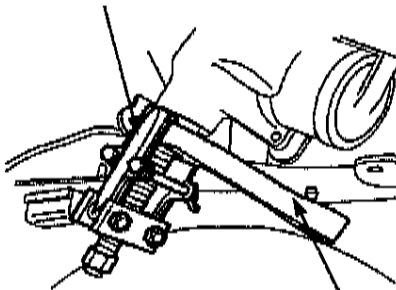
5) Disconnect trackbar from upper mounting bracket located on driver's side frame (**Illustration 4**).

## Illustration 4

**NOTE:** Use suitable jack stands to support front axle's weight to prevent the front suspension from shifting once trackbar is removed.

6) Refer to **Illustration 4** and remove bolts securing upper trackbar mounting bracket to frame.

Pitman Arm Puller,  
T64P-3590-F

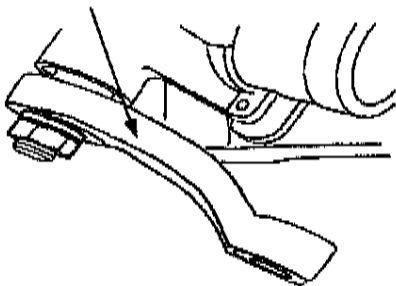


7) Remove Pitman Arm by removing nut and lock washer from steering gear shaft. First, scribe an index mark across the center of the steering gear shaft to align new Pitman Arm. Use puller T64P-3590-F to remove Pitman Arm from steering gear (**Illustration 5**).

## Illustration 5

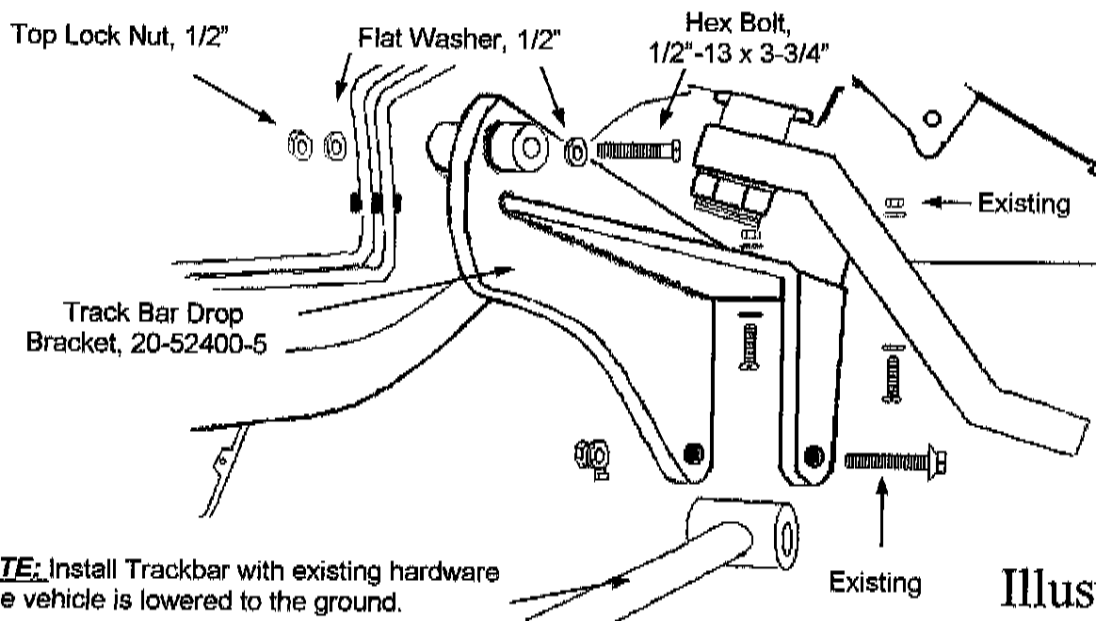
Pitman Arm

Pitman Arm, 50-083403



8) Center new Pitman Arm (50-083403) on steering gear shaft (**Illustration 6**). Install lock washer and torque existing nut to 200 ft. lbs.

## Illustration 6



**NOTE:** Install Trackbar with existing hardware once vehicle is lowered to the ground.

Illustration 7

**10)** Install new upper Track Bar Drop Bracket (20-52400-5) (**Illustration 7**). Tighten 1/2" Bracket mounting nut to 90 ft. lbs. Torque existing 12mm hardware to 75 ft. lbs. Do not install trackbar at this time.

**11)** Install tie rod into new Pitman Arm (50-083403), (**Illustration 8**). Torque existing nut to 67 ft. lbs. and install new Cotter Pin (13-90724).

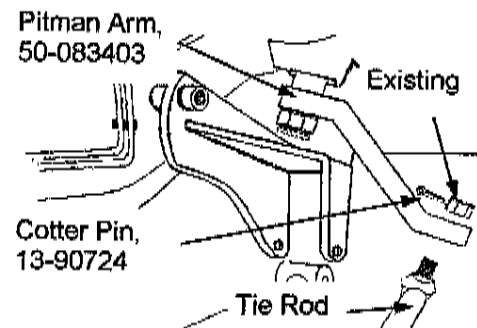


Illustration 8

**12)** Remove stock bumpstops and replace with new Bumpstop (15-11512) using original hardware (**Illustration 9**). Torque nuts to 30 ft. lbs.

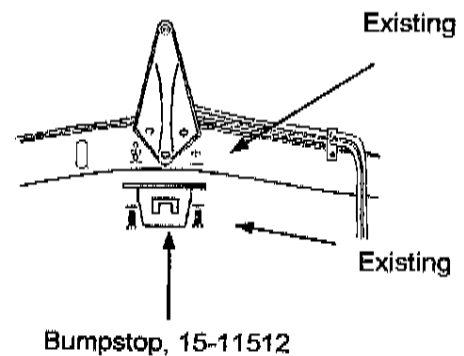


Illustration 9

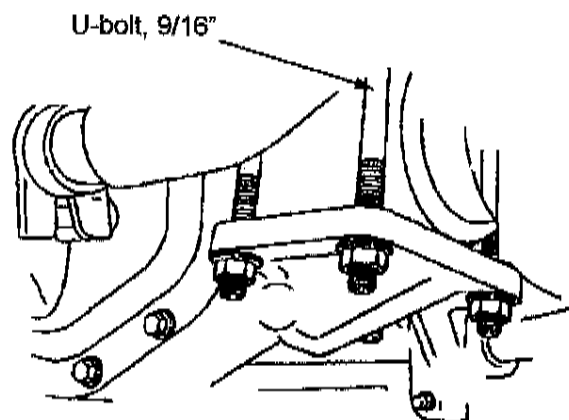


Illustration 10

13) With the axle supported by safety jack stands loosen and remove spring U-bolts and spacer (**Illustration 10**).

**CAUTION:** Do not allow axle to hang by any hoses or cables.

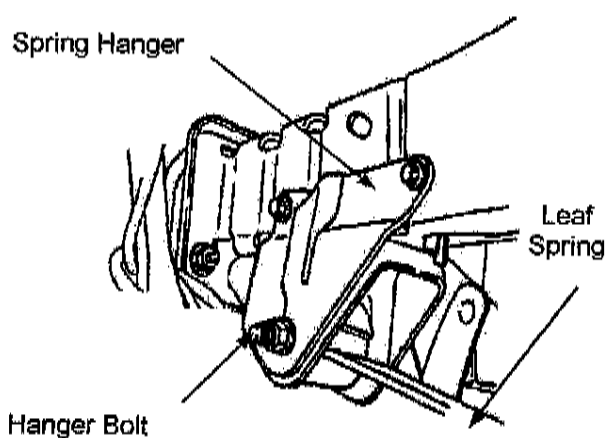


Illustration 11

14) Remove leaf spring to hanger bolt (**Illustration 11**). Then remove leaf spring to shackle bolt and remove leaf spring (**Illustration 12**).

15) Refer to **Illustration 11 & 12** and install new Front Spring (13-70078-0). Install with existing hardware, and with bolt installed from inside to outside. Torque both spring nuts once vehicle is supporting its own weight.

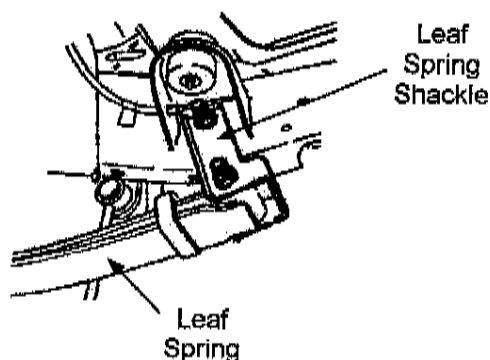


Illustration 12

16) Install new longer 9/16" spring U-Bolts (13-90789). Install new Flat Washers and Hi-Nuts provided. Tighten but do not torque U-bolt nuts until suspension is supporting the weight of the vehicle then torque nuts to 99 ft. lbs. Tighten U-bolts evenly in a criss-cross sequence.

17) Repeat steps 12 through 16 on opposite side.



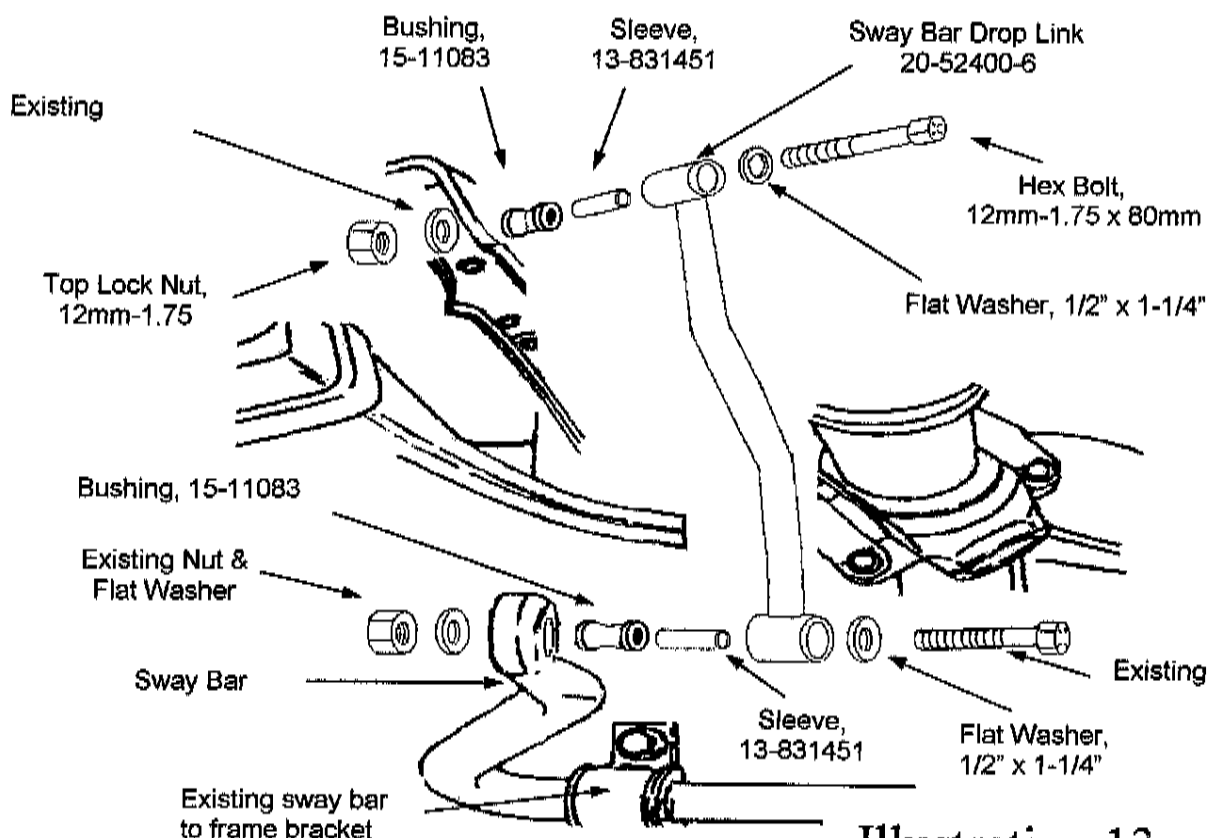


Illustration 13

**18)** Install new front Shocks (BE5-6245). Torque nuts to 76 ft. lbs.

**19)** Replace tire/wheel assemblies and lower vehicle.

**20)** Install new Sway Bar Drop Links (20-52400-6) with Bushing (15-11083) and Sleeve (13-831451) at each end of Link. Use new 12mm-1.75 x 80mm Hex Bolt to frame and existing hardware at Link to bar connection (**Illustration 13**). Torque 12mm nuts to 75 ft. lbs. Torque existing sway bar to link nut to 60 ft. lbs.

**21)** Place end of Track Bar into new Bracket and install using existing hardware. If necessary, turn steering wheel right-left, or left-right, to align bolt hole. Torque Trackbar nut to 129 ft. lbs.

**22)** Torque Spring to shackle/hanger nuts to 185 ft. lbs. Torque spring U-bolt nuts to 99 ft. lbs.

## **REAR INSTALLATION**

- 1) Raise the vehicle. If working without a shop hoist, support vehicle with suitable safety stands. Put vehicle in gear, block front wheels, both in front and behind tires, then disengage emergency brake. Place floor jack underneath rear axle and raise vehicle. Place suitable safety stands under frame to support vehicle and lower vehicle onto safety stands.
- 2) Remove rear tire/wheel assemblies.
- 3) Using suitable floor jack, raise rear axle enough to relieve tension on the shock absorbers and remove them.
- 4) With axle properly supported, remove rear spring U-bolts attaching rear axle to driver side leaf spring. Remove spring plate and existing riser block. Carefully lower rear axle.

**CAUTION:** Do not allow axle to hang by any hoses or cables.

- 5) Insert new riser Block (20-833024-1D Drvr., 20-833024-2P Pass.) on axle pad (Illustration 14). Make sure the locator pin in the block indexes into the hole of the axle housing spring pad. Carefully raise rear axle until block makes contact with leaf spring. Make sure center bolt is aligned with hole in block.

**NOTE:** If installing Trac-Link system, refer to separate instructions.

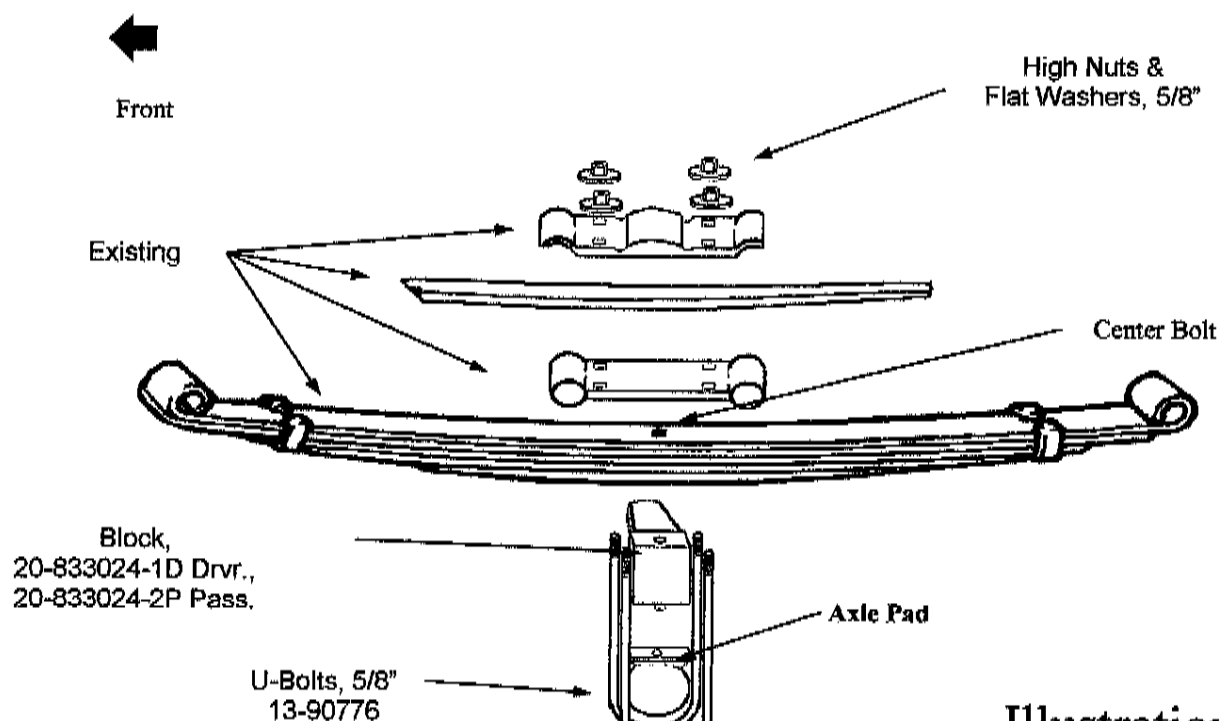


Illustration 14

**6) Re-mount axle to spring using the existing spring upper plate with new 5/8" U-Bolts (13-90776), Washers, and Nuts. Torque nuts to 99 ft. lbs. Tighten U-bolts evenly in a criss-cross sequence.**

**7) Repeat steps 4 through 6 on opposite side.**

**8) Install new longer Shock Absorbers (BE5-6246). Use the existing hardware to attach shock to the lower axle mount. Torque nuts to 35 ft. lbs. Attach shock to upper frame mount and torque nuts to 46 ft. lbs.**

**9) Install rear tire/wheel assemblies and lower the vehicle.**

### **SOME FINAL NOTES**

- ❑ After completing installation, double check that all nuts and bolts are tight. Refer to torque specifications chart on last page.
- ❑ If new tires were installed that are more than 10% taller than original tires, the speedometer must be recalibrated. Contact an Authorized Ford dealer for details on recalibration.
- ❑ Once vehicle is on the floor, cycle steering lock to lock and inspect steering, suspension and driveline systems for proper operation, tightness and adequate clearance. Recheck brake/hose fitting for leaks. Be sure all hoses are long enough.
- ❑ Have headlights readjusted to meet factory specifications.
- ❑ Have front end aligned to factory specifications. Be sure vehicle is at desired ride height prior to realignment.

### **TORQUE SPECIFICATIONS** *(Grade 8 & Class 10.9)*

5/16" NUTS	20 ft. lbs.	M6	9 ft. lbs.
3/8" NUTS	35 ft. lbs.	M8	23 ft. lbs.
7/16" NUTS	60 ft. lbs.	M10	45 ft. lbs.
1/2" NUTS	90 ft. lbs.	M12	75 ft. lbs.
9/16" NUTS	160 ft. lbs.	M14	120 ft. lbs.
5/8" NUTS	175 ft. lbs.	M16	165 ft. lbs.

### **EXISTING HARWARE TORQUE SPECIFICATIONS**

#### **Front**

Jounce bumper-to-frame bolts	30 ft. lbs.
Shackle bracket assembly-to-frame bolts	65 ft. lbs.
Spring-to-axle U-bolts	99 ft. lbs.
Spring-to-axle shackle nut	185 ft. lbs.
Spring-to-spring hanger nut	259 ft. lbs.
Spring hanger-to-frame bolts	76 ft. lbs.
Spring shackle-to-frame nut	185 ft. lbs.
Stabilizer bar-to-front spring spacer bolts	35 ft. lbs.
Stabilizer bar-to-link nut	60 ft. lbs.
Shock lower nut	76 ft. lbs.
Shock upper nut	76 ft. lbs.
Shock absorber upper mounting bracket-to-frame bolts	76 ft. lbs.
Stabilizer bar bracket-to-frame bolts	35 ft. lbs.
Trackbar-to-upper mounting bracket nut	129 ft. lbs.

#### **Rear**

Leaf spring-to-rear shackle nut	185 ft. lbs.
Leaf spring-to-front hanger nut	185 ft. lbs.
Shock absorber-to-axle bracket nut	35 ft. lbs.
Shock absorber-to-frame mounted bracket nut & bolt	46 ft. lbs.
U-Bolt nuts	99 ft. lbs.