

" THIS ARTICLE IS INTENDED FOR YOUR REFERENCE ONLY.

ACTUAL PARTS, YEARS AND BODY STYLES CONTAINED

IN THIS ARTICLE MAY DIFFER SLIGHTLY FROM YOUR APPLICATION. "

Not everyone is converting their Tri-Fives to power steering. Often, there is no room for a power steering pump, but you can order a simple kit from CCI that will replace the 2 bushings on the idler arm with 2 bearings. These bearings allow the idle arm to work more freely making it feel as if the car is equipped with power steering, hence the nick name, Poor Man's Power Steering.

In Part I of this Tech Article we will show you how to remove the steering wheel, mast jacket, and steering box. The steering on our '55 hard top has gotten very sloppy, so this is a perfect time to tighten everything up.

You will first need to remove the steering wheel and mast jacket in order to remove the steering gear box. First remove the horn ring cap. It is held to the wheel with a clutch head screw. (See photo #1.)

Next remove the horn ring. Once the cap has been removed you will be able to see the three screws that hold the horn ring to the steering wheel. (See photo #2.)

Under the horn ring you will find a flat disc and a belleville washer. These are just lifted off. (See photo #3.)

Next using a puller, remove the steering wheel. (See photo #4.)

When the steering wheel is removed, you will find a spring that holds pressure down on the upper column bearing, #53-21. (See photo #5.)

On the left and right sides of the steering column at the dash board, you will find 2 half-inch nuts. These hold the top of the mast jacket to the dash board. (See photo #6.)

The lower half of the clamp that holds the mast jacket to the dash has a tab that keeps the column in place. (See photo #7.)



Tools Needed:

- Clutch head screwdriver
- Wheel puller
- Tie rod end splitter
- 11/16" wrench
- 3/4" wrench
- 1 5/16" wrench
- 1/2" wrench

Parts We Talk About:

| Part # | Description | Member |
|--------|-------------------------------|--------|
| 21-77 | Idler arm bearing kit | |
| 53-47 | Felt kit | |
| 53-21 | Upper steering column bearing | |

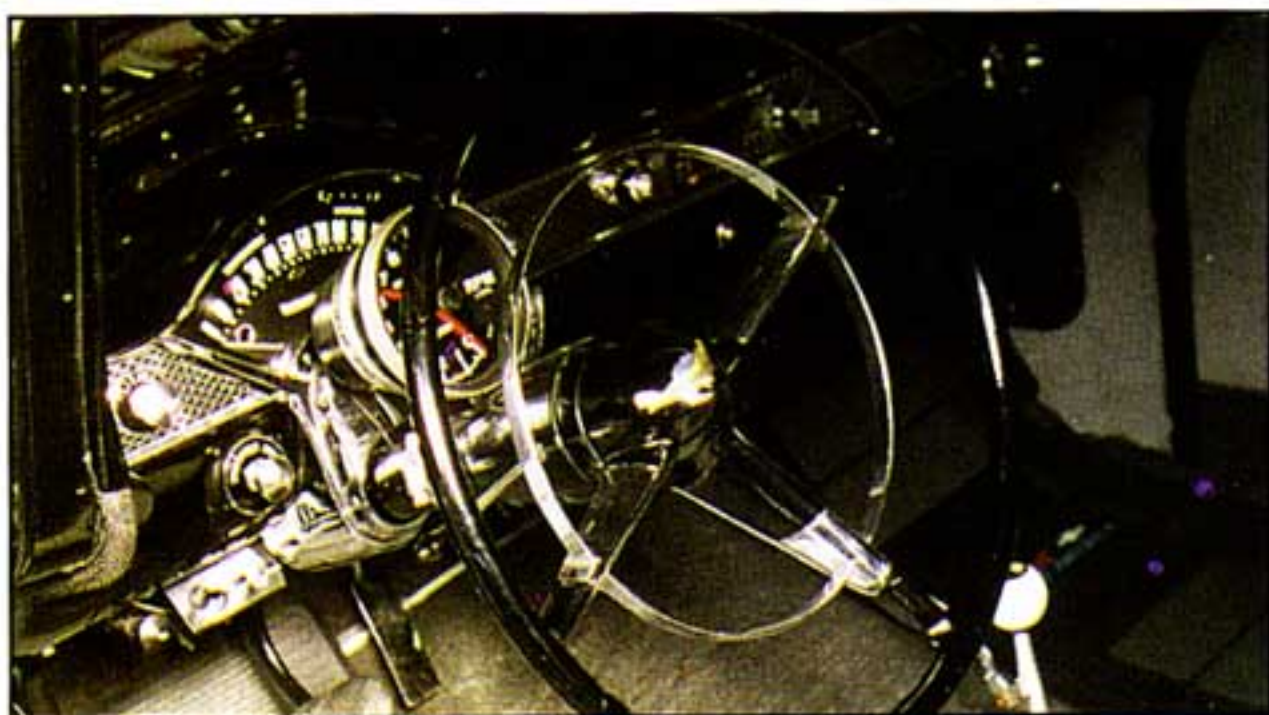


Photo #1

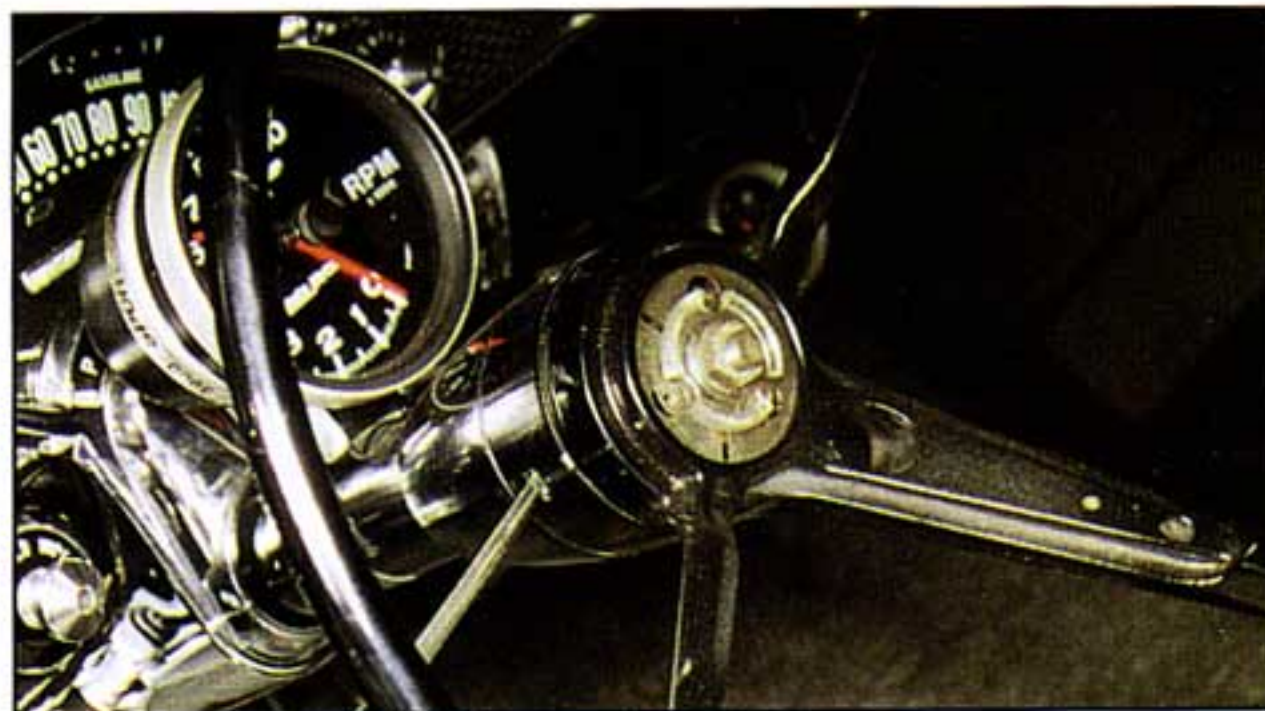


Photo #3

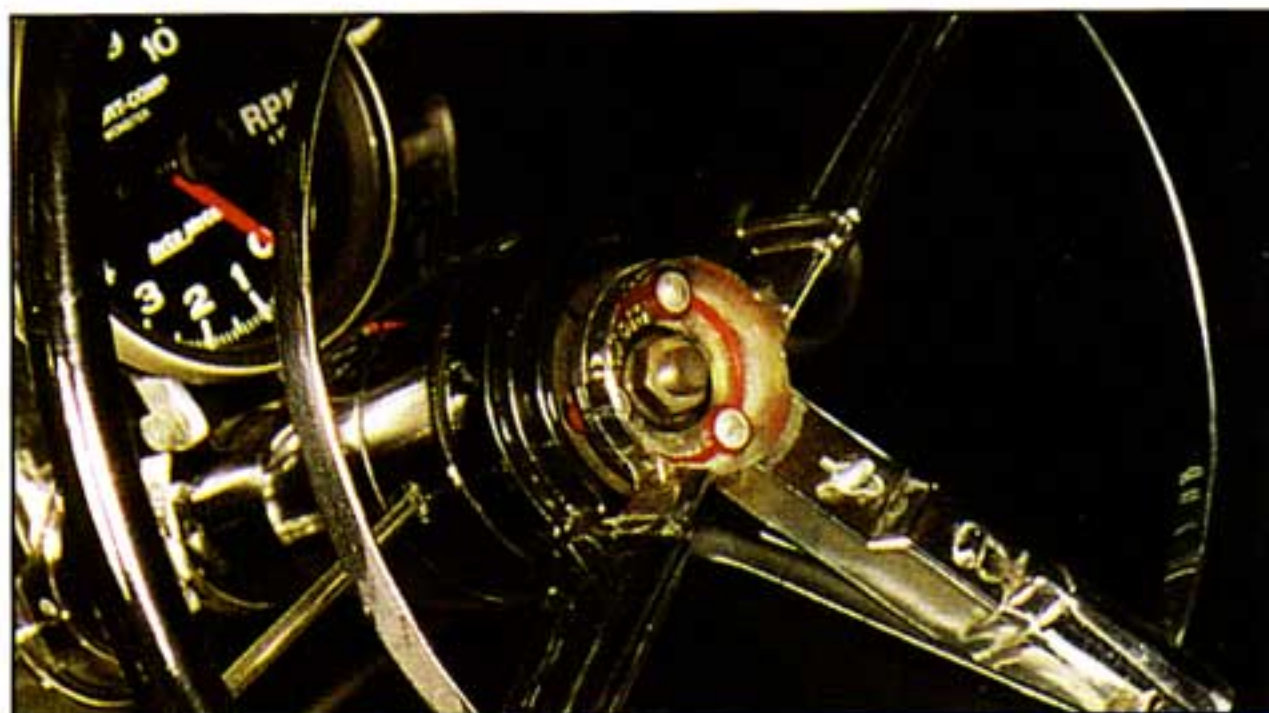


Photo #2

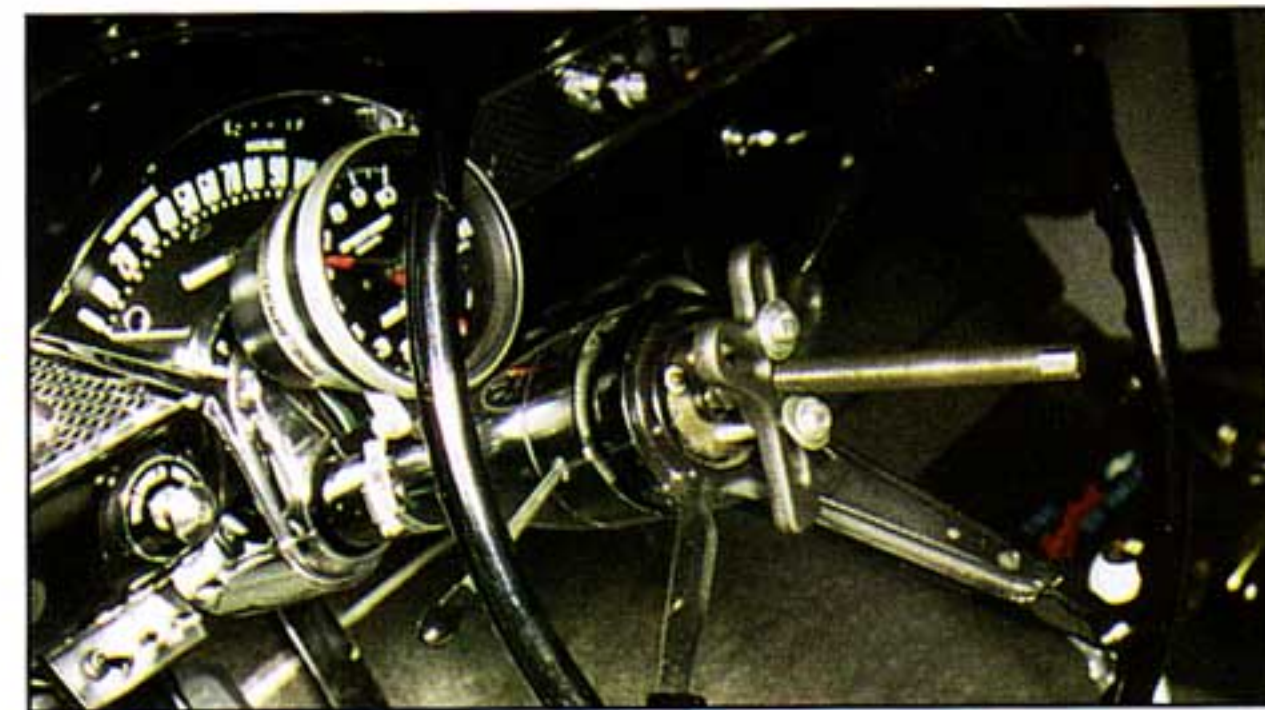


Photo #4

The Poor Man's Power Steering, Part I

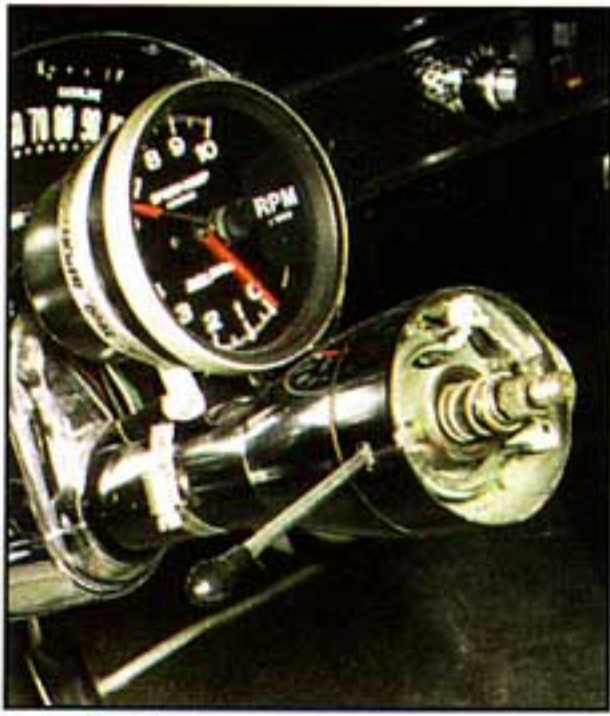


Photo #5



Photo #6



Photo #7



Photo #8

At the firewall, you will find a clamp that holds the bottom of the mast jacket in place. The clamp is bolted to the firewall with two bolts. The clamp has one bolt that squeezes the clamp to the mast jacket. Once this bolt has been removed, the clamp will slide off of the end of the mast jacket. (See photo #8.)

The pitman arm is located at the bottom of the steering box. It is held to the pitman shaft with a $1 \frac{5}{16}$ " nut and lock washer. Once you have removed the nut and lock washer, remove the pitman arm using a pitman arm puller. (See photo #9.)


Once all of the clamps have been removed and you have unplugged the wires from the turn signal to the under dash harness, the mast jacket can slide up away from the dash board. (See photo #10.)

Next, remove the 3 nuts that hold the steering box to the frame. Now the box can be removed from the top of the engine compartment. (See photo #11.)

Now you are ready to install the restored steering box. Chevrolet changed over to grease in late 1957, so the box will be filled with grease, not gear lube. First install **#53-47 (Lower mast jacket felt seals and retainer spring kit)** on the shaft from the box. This felt seal and spring kit will keep the trash out of the bottom of the steering column. (See photo #12.)

Now you can slide the restored steering box back into place. (See photo #13.)

Once the box is mounted back to the frame, reinstall the pitman arm and torque the nut to 75 lbs. (See photo #14.)

Next month we will show you how to finish up this job with installing the new bearing kit for the idler arm and rebuilding the end of the drag link at the pitman arm. 

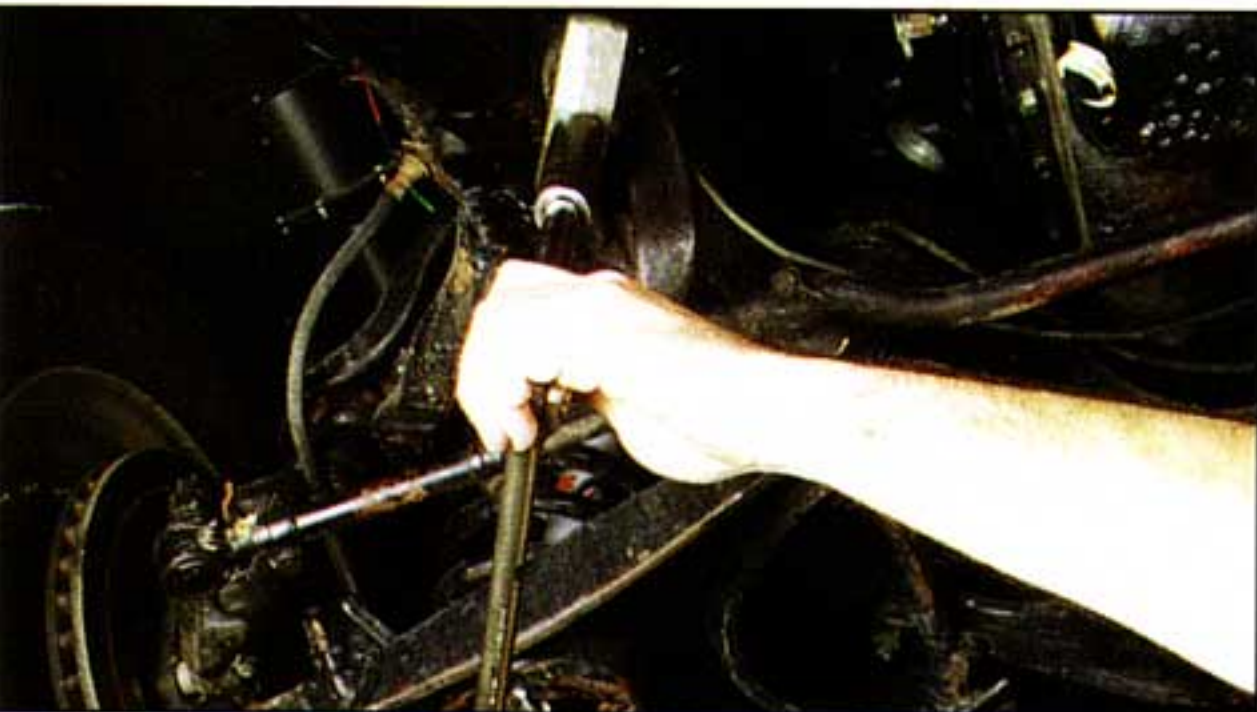


Photo #9



Photo #11



Photo #12



Photo #10



Photo #13



Photo #14

In the second part of this tech article you will install the new bearing kit, **part #22-77**, in the idler arm and rebuild the end of the drag link at the pitman arm.

First, remove the drag link and idler arm so that you can rebuild the ball and socket on the pitman arm and install the bearing kit on the idler arm. Remove the $\frac{1}{8}$ " cotter pin from the end of the drag link. (See photo #1.)

Next unscrew the cap on the end of the drag link. This cap has right hand threads. (See photo #2.)

Now with a pair of needle nose pliers remove the spring from the end of the drag link. (See photo #3.)

Once you have removed the spring and cap you can lift the drag link off the ball on the pitman arm. (See photo #4.)

You will find two cups in the end of the drag link that seat up to the ball on the pitman arm. (See photo #5.)

Next disconnect the inner tie rod ends from the drag link. (See photo #6.)

The idler arm bolts to the passenger side of the frame with two bolts. (See photo #7.)

Now the drag link and idler arm can be removed from the frame. (See photo #8.)

There are two bushings on the idler arm—one on the end of the drag link and one on the frame bracket. These will be replaced with our **part #21-77** bearing kit. (See photo #9.)

First remove the cotter pin and nut from the idler arm. (See photo #10.)



Tools Needed:

- Clutch head screwdriver
- Wheel puller
- Tie rod end splitter
- Grease
- Pitman arm puller
- $\frac{11}{16}$ " wrench
- $\frac{3}{4}$ " wrench
- $1\frac{5}{16}$ " wrench
- $\frac{1}{2}$ " wrench

Parts We Talk About:

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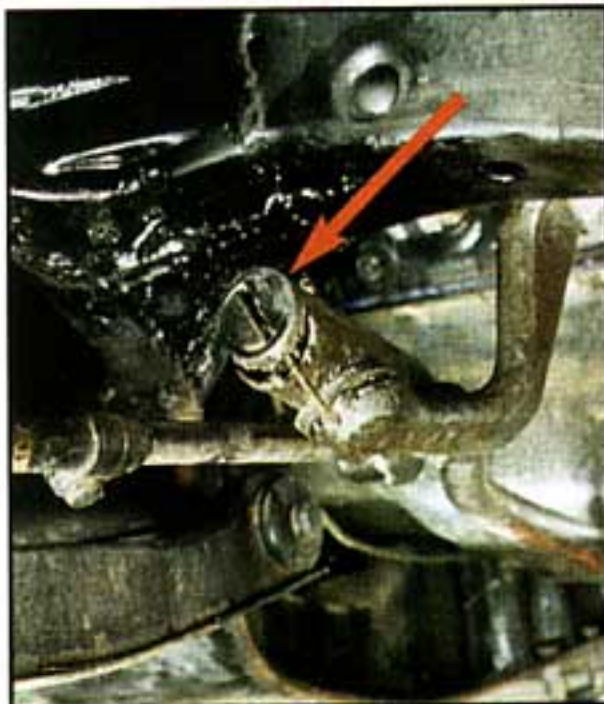


Photo #1



Photo #2



Photo #5



Photo #3



Photo #4



Photo #6

The Poor Man's Power Steering, Part 2



Photo #7



Photo #8

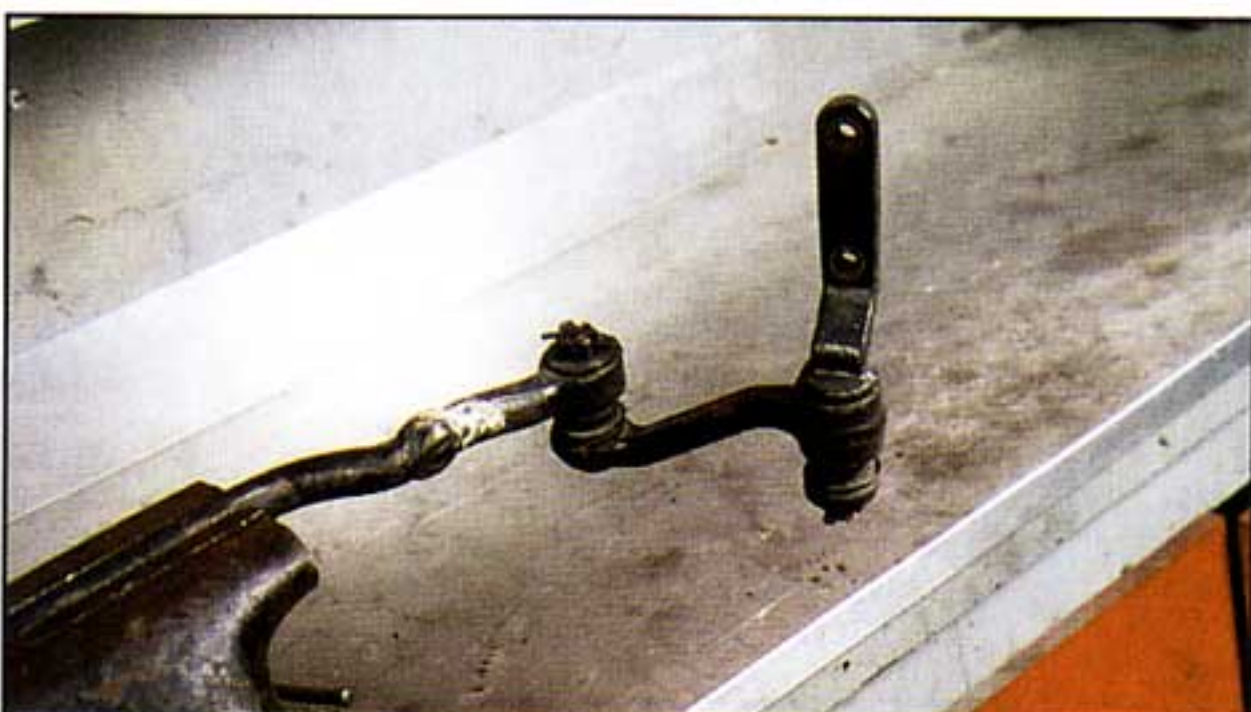


Photo #9



Photo #10



Photo #11



Photo #12

Then with a brass punch and a hammer separate the idler arm from the drag link. (See photo #11.)

Next do the same thing with the idler arm to frame bracket. (See photo #12.)

You may use a press to press the bushing out or use an air hammer. Be sure not to damage the bore where the bushing presses in. (See photo #13.)

With a vise or press install the steel bushings with the collar flush with the side that you are pressing in. (See photo #14.)

Now with the bushings in place, install the steel cap on the idler arm. (See photo #15a.) Next install the rubber washer. (See photo #15b.)

Make sure to pack the bearings with a good quantity of grease. (See photo #16.)

Next install the bearing on the shaft, making sure the open end of the bearing is facing towards the bushing. (See photo #17.)

Make sure to put plenty of grease on the bushings. (See photo #18.)

Now fit the shaft at the idler arm through the bushings and install the other bearing. (See photo #19.)

Next install the top cap, rubber washer and steel washer. (See photo #20.)

Now install the castluted nut, torque to 14 pounds. (See photo #21.)

This is how the idler arm and drag link assembly should look. You will find that you will need to use one of the old washers from the idler arm to get the nut on the frame bracket in the correct position. (See photo #22.)



Photo #13



Photo #14



Photo #15a



Photo #15Bb

The Poor Man's Power Steering, Part 2

Next install the springs, seats and cups into the drag link. Make sure to clean all parts before installation. (See photos #23a & #23b.)

First install the spring and then the seat. Make sure to use plenty of grease. (See photo #24.)

Next the cup—make sure the open end of the cup is to bottom. (See photo #25a & 25b.)

With the ball on the pitman clean install **part #53-56**. This is the disc cover and felt washer for the pitman arm. (See photo #26.)

Now with plenty of grease mount the drag link back to the pitman arm. (See photo #27.)

Next install the cup. Make sure the open end is toward the bottom. (See photo #28.)



Photo #22



Photo #16



Photo #17

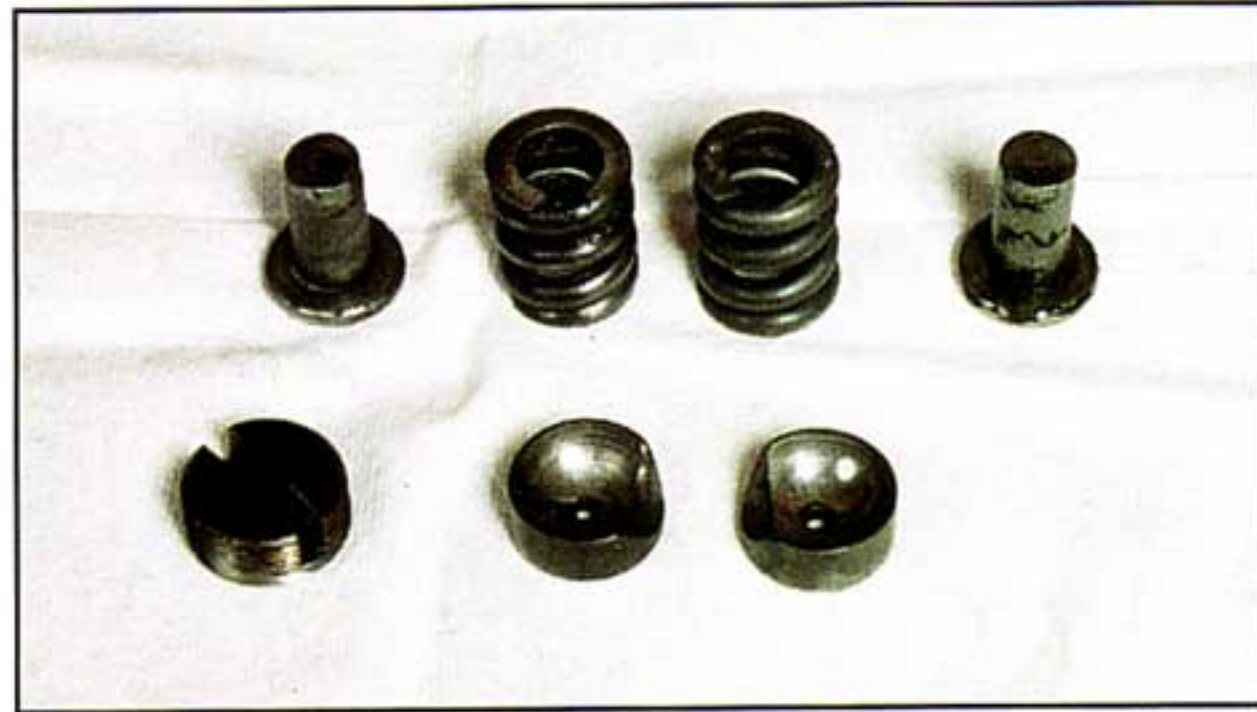


Photo #23a



Photo #18



Photo #19

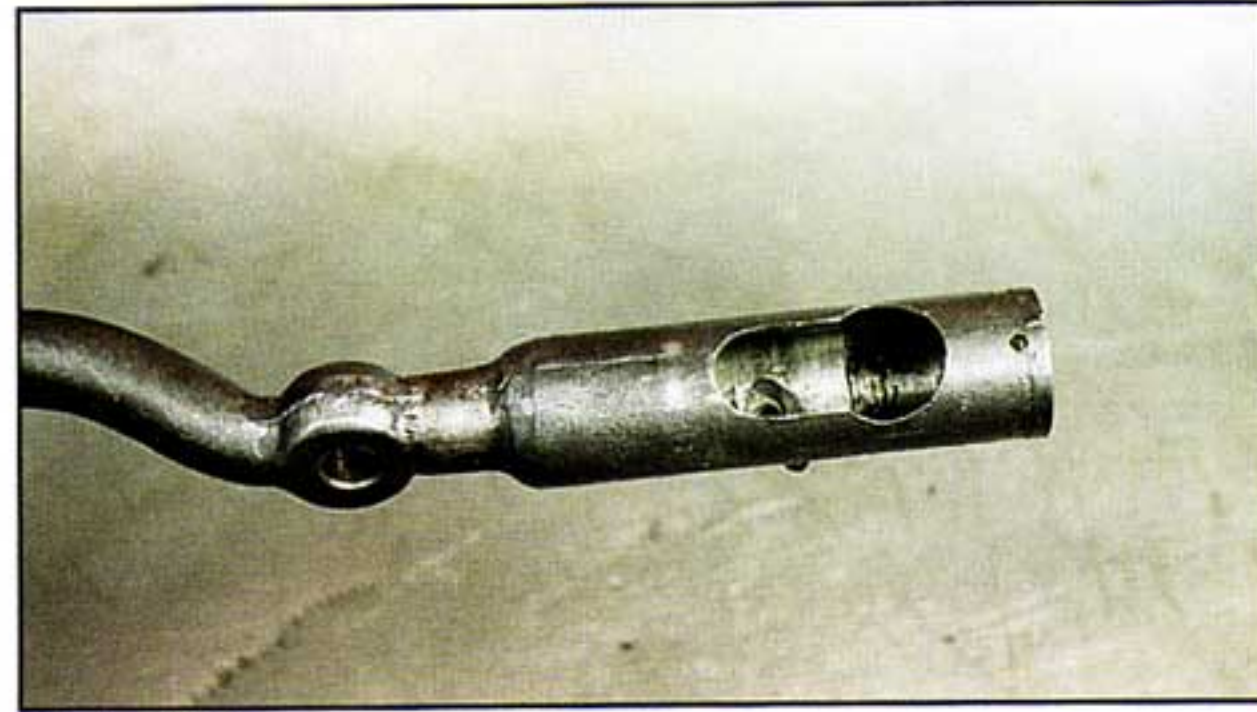


Photo #23b



Photo #20



Photo #21



Photo #24

The Poor Man's Power Steering, Part 2

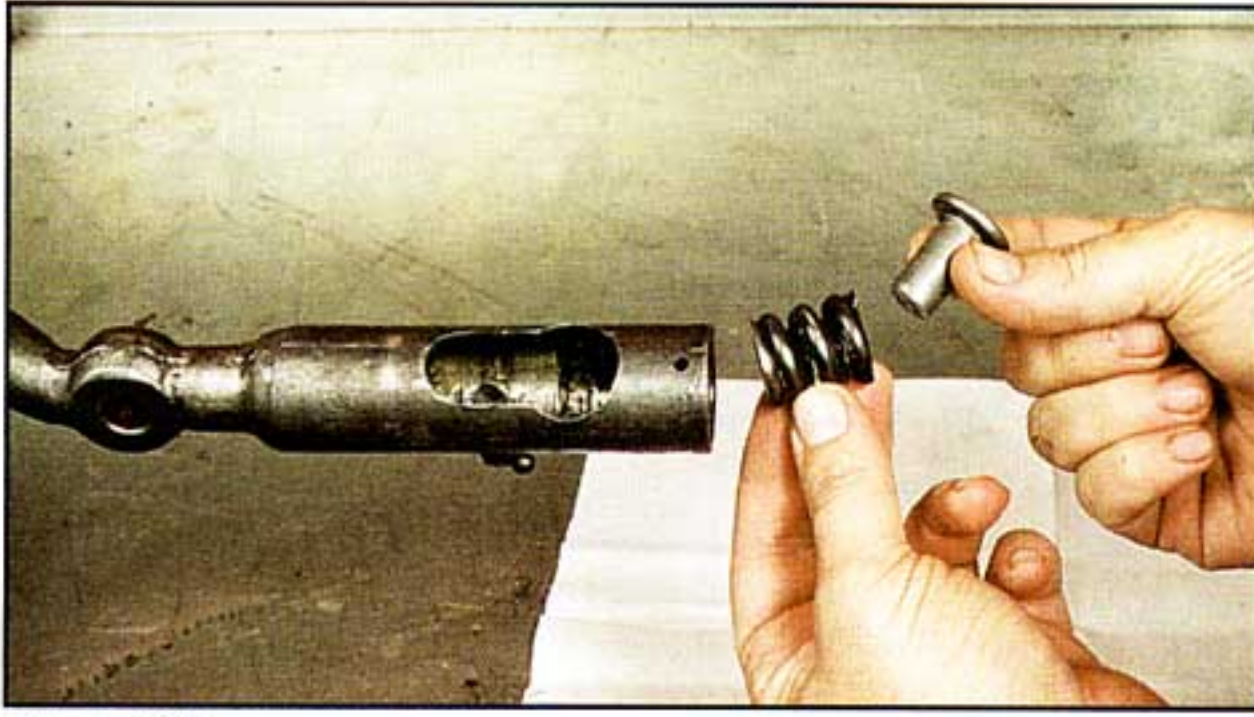


Photo #25a



Photo #25b

Now install the seat and spring. The seat will sit against the back of the seat. (See photo #29.)

Next screw in the end cap until the top of the cap is flush with the end of the drag link. (See photo #30.)

Last, install a $\frac{1}{8}$ " cottler pin so that it runs through the groove in the cap. Now reattach the inner tie rod ends back to the drag link. Make sure that you have greased all parts. (See photo #31.)

Good luck. ✓



Photo #28



Photo #29

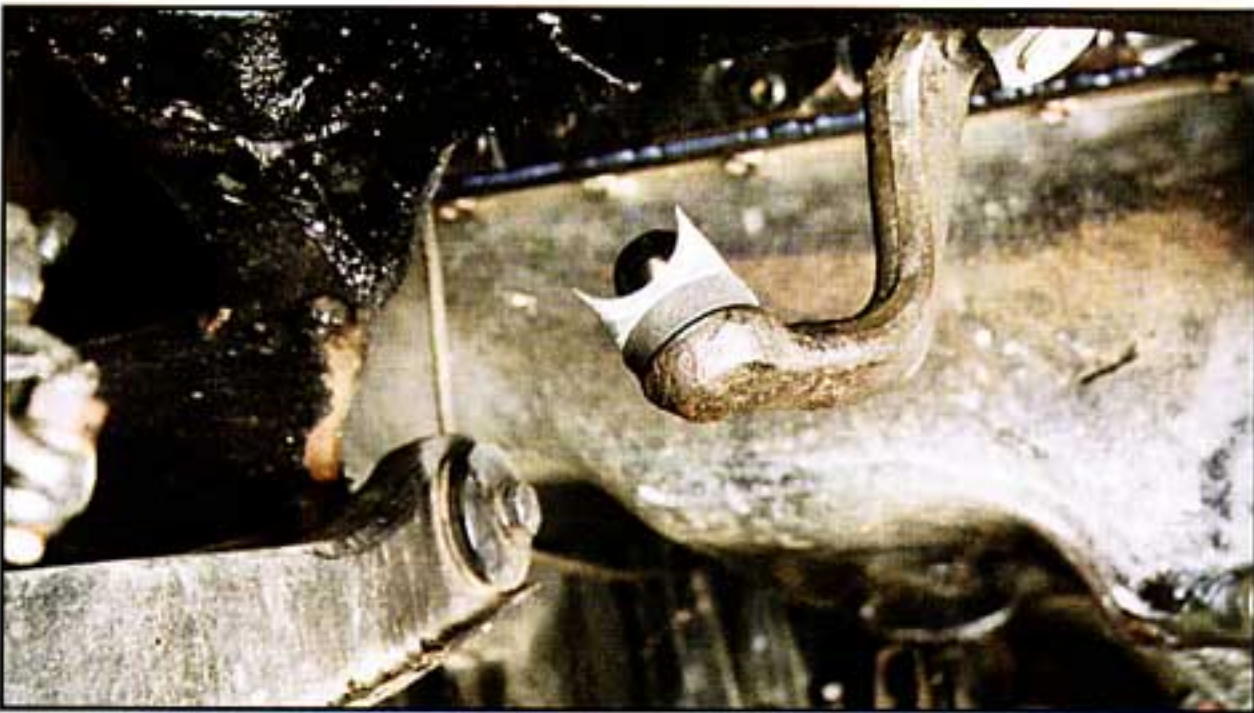


Photo #26



Photo #30



Photo #27



Photo #31