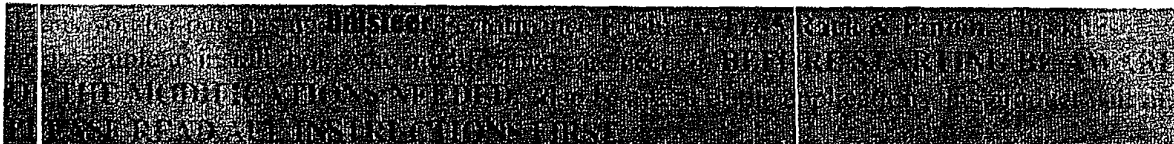
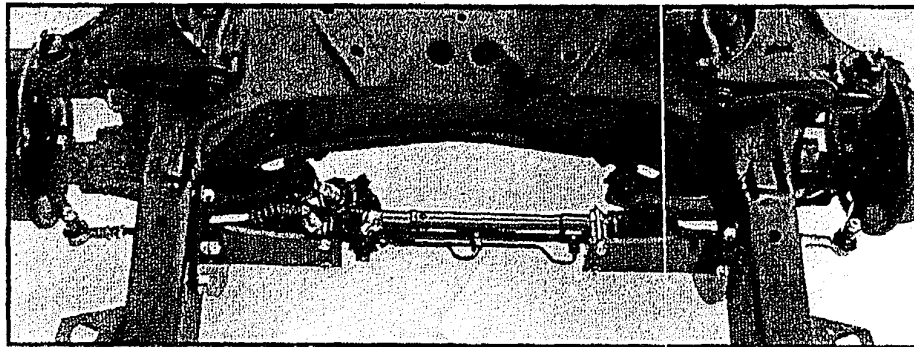
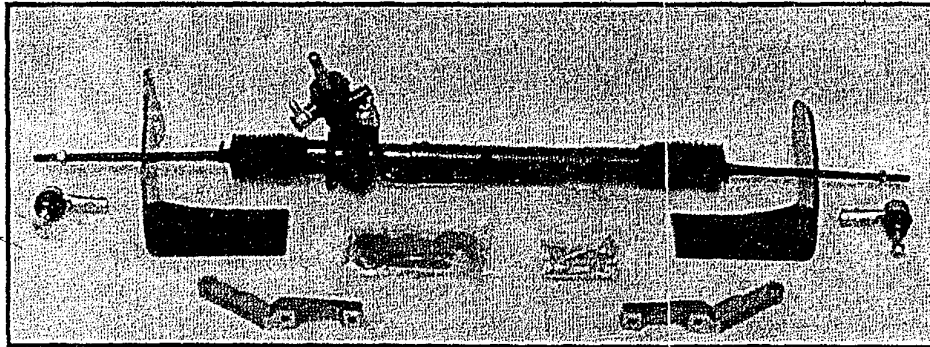


Installation Instruction Sheet for

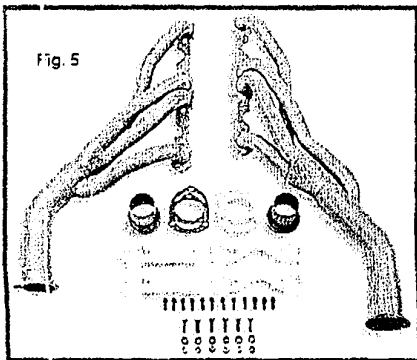
UNISTEER Performance Products'

55-57 Chevy Rack and Pinion

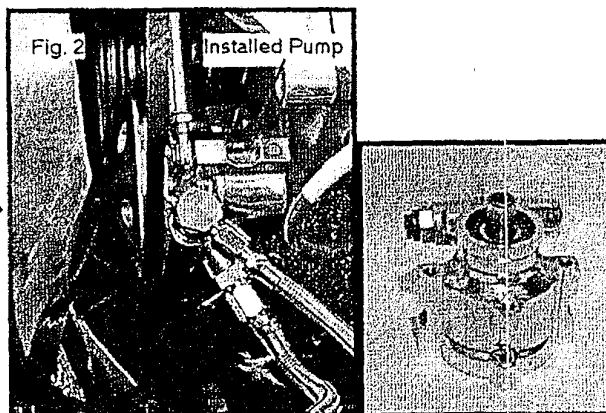


1) Applications/Provisions

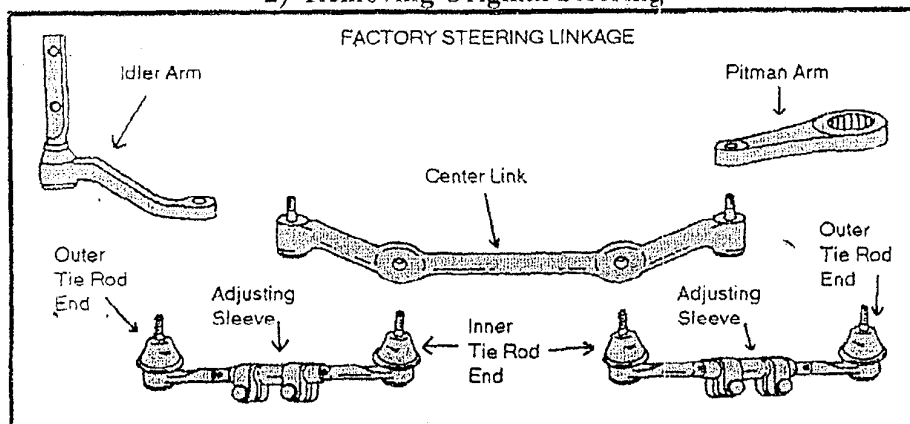
This kit is designed for 55-57 Chevy cars, with small block motors, and use side mount motor mounts. Certain headers may be used with this kit to build the steering linkage with just two u-joints and a section of shaft. The headers we found to work well with this kit, are the Flow Tech Afterburner headers part # 49100FLT (Fig. 5). It is not mandatory that this specific brand be used, but a similar shape is suggested. As a result to using these headers, the factory transmission mounts must be cut from the frame. In most instances these mounts are not being used, but if they are a different style must be used, or custom headers will be required. If you do not wish to change your headers, you should be able to use a series of U-joints and a support



bearing, to attach the column and rack & pinion. If you are using a big block motor, past customers have used a combination of single and double U-Joints to get the linkage to the column. A power steering pump will be needed. These require a mounting bracket, pulley, reservoir, and hoses. We recommend a pump rated at 1100 P.S.I., and has a .5 gallon per minute flow rate. **Unisteer** Performance Products offers a pump(Fig.2) with this rating (call for details). The rack and pinion includes two #6 male A.N. fittings. This kit requires a steering shaft with mis-phased u-joints. Smooth or splined shafting allows you to do this, but double D shafts do not.



2) Removing Original Steering



(Please review to understand all terminology)

a) Remove steering linkage

Remove nuts and cotter pins from the outer tie rod ends. Remove the outer tie rods from the steering arms (a pickle fork may be needed). Unbolt the steering arms from the spindles, and save the bolts. Unbolt idler arm. Remove the steering box nut below the pitman arm. Using a puller remove the pitman arm. This will allow the entire stock steering linkage to be removed.

b) Remove steering box, and steering column

(This step is for cars with factory steering boxes, and columns)

Remove steering wheel nut, and steering wheel. The steering column shaft is part of the steering box and can not disconnect from the steering box. You may want to remove the existing headers first to gain space. Unbolt the steering box from the frame and remove (pull down and forward). When you remove the steering box, the column shaft is will be removed as well. Set the entire

steering box assembly aside. Unbolt the column from the dash, and floor. Disconnect the electrical connections from the column. Remove the steer column.

3) Installing the Rack And Pinion

a) Bolt rack and pinion onto mounting brackets

Using the rack install kit #620330 attach the rack and pinion to the two black brackets. There is a driver's side bracket and a passenger side bracket. The driver side has three 1/2 "holes that mount to the frame, and the passenger side has two. The rack and pinion attaches to the



Fig. 4

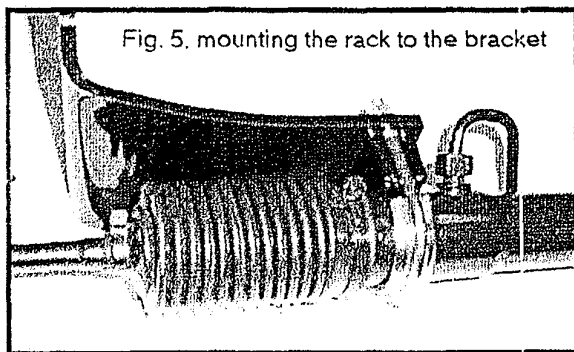
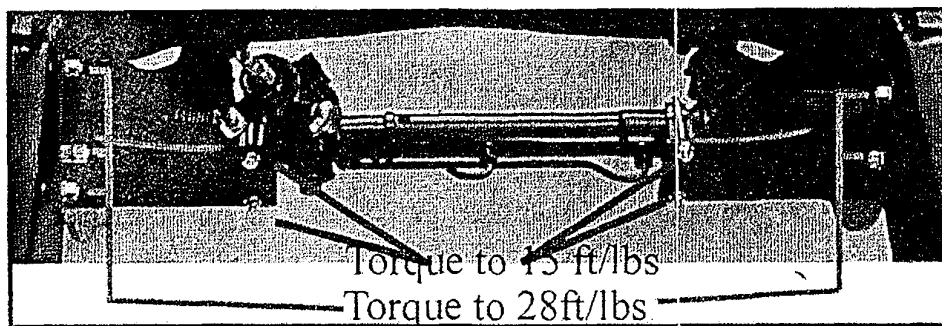


Fig. 5. mounting the rack to the bracket

mounting brackets by sandwiching the housing between, the u-bolt, saddle, and mounting block (Fig. 4 & 5). Insert the u-bolts, that are around the rack housing into the two smaller holes on the mounting bracket and use flat washer, lock washer, and

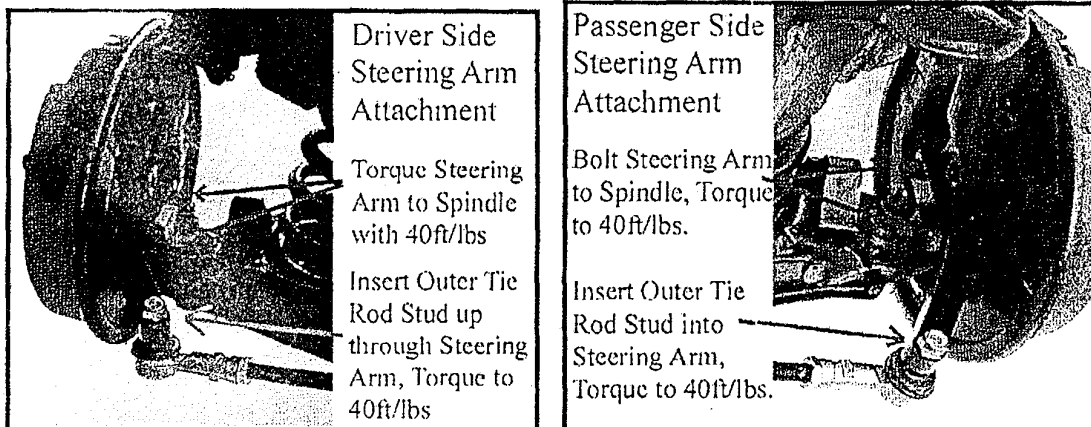
nut to retain, but do not over tighten. Torque the nuts down to about 15 ft/lbs (illustrated below).



b) Mounting rack and pinion

Line up the holes in the mounting brackets to the holes in the frame, where the steering box and idler arm were. Bolt brackets onto the frame, using mounting hardware kit #620340. Nuts to the inside of the frame. Bolt the brackets into the frame with 28 ft/lbs. of Torque(Illustrated Above).

Bolt new steering arms on the spindles with 40 ft/lbs. Note, for different combinations of spindles with different brake kits, you may have to machine some material out of the steering arms. Be sure you use the drivers side arm on the driver's side, and the passenger side arm on the passenger side. Remember that the outer tie rods will point up, so make sure the steering arms are tapered up and that the ears of the steering arms will point in towards the center of the car. (See Illustration on following page) Check that the rack and pinion is in its center. A mark on the pinion will indicate the center. Thread the new outer tie rod ends equally onto each side of the rack and pinion. Try to position wheels so that the tow-in is correct. Screw the outer tie rod ends on until the stud lines up with the steering arm holes. Insert the outer end stud into the steering arm hole, and thread lock nut on until tight to 40 ft/lbs. (See Illustration on following page)



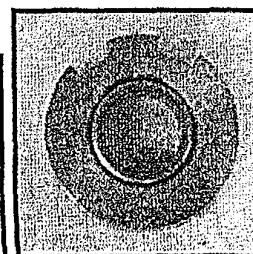
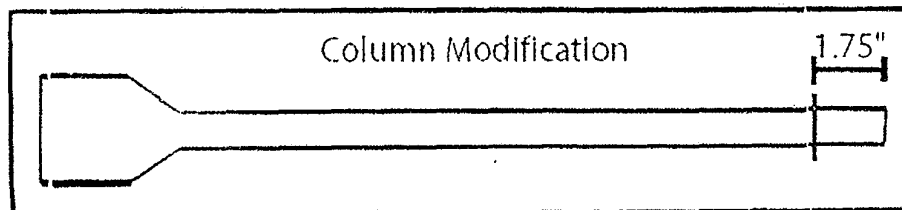
4) Column Modification

The following step is meant only for cars using the stock steering column. The procedure is specifically for customers using **Unisteer's** Column Bushing #8020490 (pictured below), if you choose not to use our bushing, a bushing will have to be made.

This bushing kit is for stock, non-shift steering columns.

Remove the horn ring cap and horn ring by removing the three Phillips head screws that secure it. You want to note the position of the pieces for reassembly later. The horn ring cap is retained either by a clutch head style screw, which is removed from the underside of the steering wheel, or clips. Using a ratchet, extension, and a 3/4" socket remove the retaining nut that secures the steering wheel. Using a steering wheel puller remove the steering wheel. Remove the tension spring, and seat from the shaft. Disconnect, and remove the neutral safety switch. Disconnect the horn, and turn signal wiring from underneath the dash. Disconnect the upper column clamp, and the floor mount. Remove the detent from the lower column tube. The column should now be able to be removed from the car. Cut the shaft of the steering box as close to the housing as possible. Disassemble the upper half of the steering column by removing the 3 Phillips head screws from the lock plate. Remove the turn signal housing carefully. Do not damage the wires. Disassemble the lower portion of the column by removing the 3 hex screws on the tube. Remove lower bearing and the inner column shift tube.

Measure from the bottom of the column up 1.75", and cut very straight. There will be 2 existing holes in the tube, that line up with the new column bushing. The third hole will need to be drilled. Place the column shaft along side the column and calculate the length needed, so that 1-1.5" of shaft will extend out the bottom of the column. Measure carefully. Clean and sand the shaft until it fits the new bushing snugly. Reassemble the column completely. And insert the new bushing last. Fasten the new bushing with the screws provided.

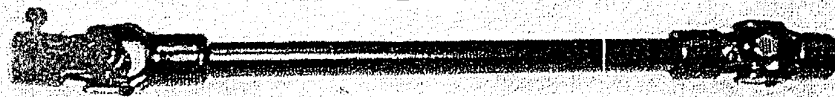


5) Steering Shaft installation

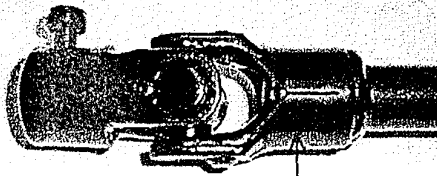
This rack and pinion kit should only require two steering joints, and one intermediate shaft. The steering column has to be a specific length, in order for the shaft angle to be correct. If the steering column is too long or too short, the steering joints will bind. The pinion shaft can rotate in the rack mounts to help reduce the shaft angle. The pinion size of our rack is 17 millimeters double D.

Measure the distance between the rack and pinion and the steering column. Refer to the u-joint manufacturer as to the formula to determining shaft lengths. If you are using our shaft, loosely fit the lower assembly, and determine how much of the shaft will have to be trimmed. Trim shaft. Put the shaft into u-joint, so that the u-joints are 90 degrees out of phase (fig.9). Drill and pin shaft to u-joint (or weld). Install steering shaft on the column and the rack and pinion. Drill and pin the u-joint to the steering column. Tighten the nuts on the u-bolts. (*Note DD u-joints can not be phased. Splined, or smooth shafting is required)

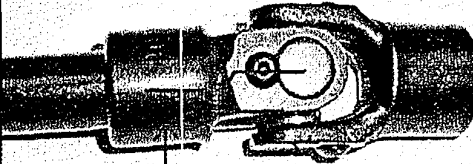
Fig. 9



The U-Joints of the Shaft must be aligned, phased out, meaning that the forks of the joints on the shaft face out in opposite planes.



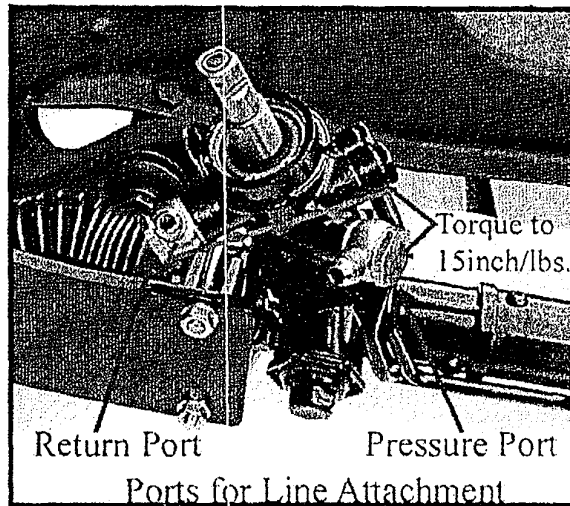
This left hand side fork is in a vertical plane



This right side fork is in horizontal plane

6) Pump connection

Since there are many different pump and bracket manufacturers it is impossible to cover all the installation steps. Here are general things to follow. The pump you use should have a pressure rating of 1100 P.S.I., and a .5 gallon per minute flow rate. Keep in mind that this low flow, low pressure pump will give the driver of the car the ease of power steering but there will still be road feel. **Unisteer** can provide this low flow, low pressure pump if you need. Once the banjo fittings on the rack are in the position that you want tighten to **15 inch/Lbs.** Note which port is the pressure and which port is the flow (illustrated) when attaching lines to and pump.



If you have any questions or problems regarding this product please contact:

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