



**UNISTEER** *Performance Products*

**1955-57 Chevy Rack & Pinion Kit  
8010400-01 & 8010400-02**



**\*ALTHOUGH THIS KIT IS FAIRLY SIMPLE TO INSTALL, SOME MODIFICATIONS ARE NECESSARY.**

**\*BEFORE STARTING INSTALLATION, PLEASE BE AWARE OF THE MODIFICATIONS THAT ARE NEEDED TO INSTALL.**

**\*BE AWARE OF THE SPECIFIC APPLICATIONS THAT THIS KIT WILL FIT AS OUTLINED IN SECTION #1.**

**DUE TO VARIABLES OUTSIDE OUR CONTROL THESE KITS MAY NOT FIT ALL APPLICATIONS. ALSO, PLEASE VERIFY KIT WILL FIT YOUR APPLICATION BEFORE ALTERING VEHICLE.**

**Full refund will NOT be granted to any kits that are damaged, scratched, or altered in any fashion.**

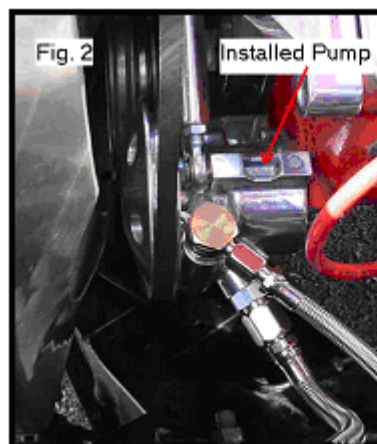
## **1) Applications/Provisions**

This kit is designed specifically for 1955-57 "Tri-Five" Chevy cars with **SMALL BLOCK CHEVY** motors and 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. We found one header that works well with this kit. We sell a coated "shortie" style header from Sanderson (shown below) that works great. You can order these from us under part **#8021830** for \$445.00.

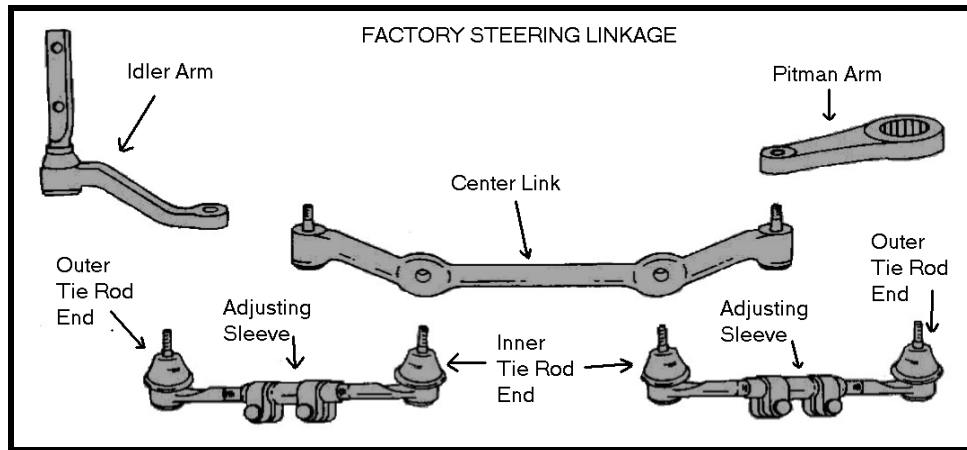


**8021830**

It is not mandatory that this specific brand be used, but we have used them and we know they work. Headers with a similar shape may work. 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. You can also visit [www.555657.net](http://www.555657.net) or call Tri-5 R&D at 253-278-7475 for information on their header options that must be used in conjunction with the TCI side motor mounts. A power steering pump will be needed. These require a mounting bracket, pulley, reservoir, and hoses. Unisteer Performance Products offers a pump (see fig.2), call for pricing & ordering details. The rack and pinion kit includes two #6 male AN fittings. This kit requires a mis-phasing of the u-joints in the steering shaft. Smooth or splined shafting allows you to do this, but double D shafts do not.



## 2) Removing Original Steering



(Please review the illustration to help understand terminology below)

### 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)

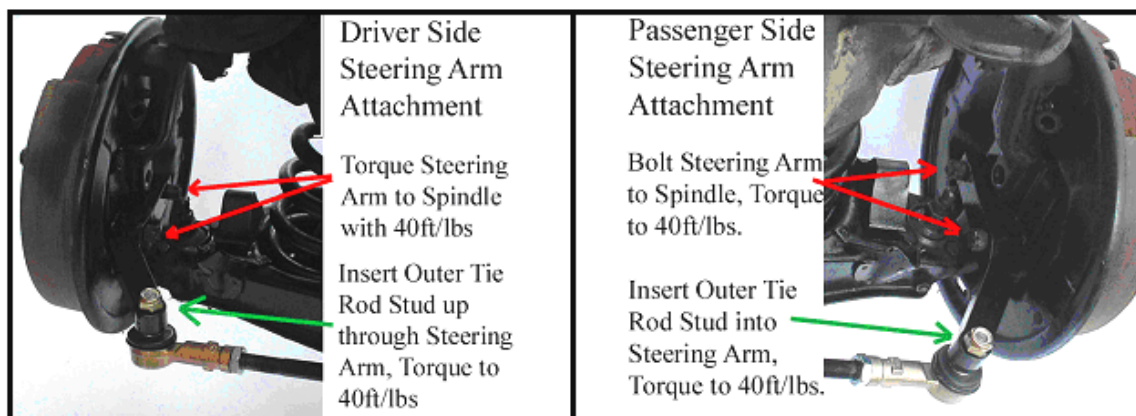
Remove steering wheel nut, and steering wheel. The steering column shaft is part of the steering box and cannot disconnect from the steering box. You may want to remove the existing headers first to gain space. Unbolt the steering box from the frame and remove (pull down and forward). When you remove the steering box, the column shaft 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 steering column.

## 3) Installing the 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(see illustration 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 driver's 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 next 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 at 40 ft/lbs. (see illustration on next 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.

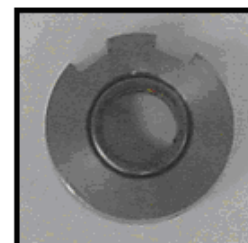
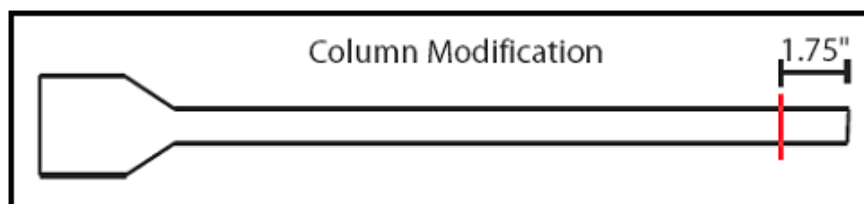
**If you are using an aftermarket column, you must duplicate the length of column below. This most likely means extending the column. This can either be done using a straight coupler and a shaft, or if your column is hollow 1-DD, simply slide a 3/4 DD solid into the column for the desired length and pin or bolt it.**

**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 make this cut as straight as possible. 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 between 1"-1.5" of the shaft will extend out of 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) Tri-Five Steering Shaft Kit Instructions

### 8050050 & 8050060



*The steering shafts for the Tri-Fives require some assembly and some trimming. Please follow these instructions carefully and read completely before starting.*

### 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 16 millimeters double D.

1. Measure the distance between the rack and pinion and the steering column to determine shaft lengths. Loosely fit the upper assembly, and determine how much of the shaft will have to be trimmed.
2. Trim shaft and machine or grind notch to accommodate u-joint pinch bolt.
3. Put the shaft into u-joint, so that the u-joints are 90 degrees out of phase (fig1) this can be done by repositioning the upper joint onto the splined shaft (fig 2).
4. Torque the allen-head bolts holding u-joints onto shaft to 30ft/lb.

#### Stock Column (KIT # 8050050):

1. Install steering shaft on the column and the rack and pinion. Drill and pin the u-joint to the steering column.
2. Tighten the nuts on the u-bolts.

#### Aftermarket Column (KIT # 8050060)

1. Determine if the column being used has a 1-DD hollow column shaft or a  $\frac{3}{4}$ -36 splined shaft. Both these columns need to be extended to get around headers, and is done by using either an 8" DD shaft alone or with a  $\frac{3}{4}$ -36 coupler. (Note: 1-DD columns will only need the 8" shaft)
2. When using the 1-DD column; slide the 8" shaft into the hollow column shaft (De-burring may be necessary). Adjust the depth so that the lower shaft assembly (see top of the page) has the least amount of angle. Once the set up is turning without binding drill and pin the 8" shaft to the 1-DD shaft.
3. When using the  $\frac{3}{4}$ -36 column install the splined coupling on the column shaft. This is best accomplished by dimpling the shaft with a drill so the setscrew will bite in.
4. Insert the 8" DD shaft into the smooth side of the coupler.
5. Install the lower shaft assembly and determine how much of the column shaft will need to be trimmed to have the least amount of u-joint angle.
6. Trim the 8" DD shaft to the correct length, and re-insert into the coupler. Drill and pin the coupler and shaft, and reinstall lower shaft assembly.





FIG 1



FIG 2

## 6) Pump connection



Since there are many different pump and bracket manufacturers it is virtually impossible for us to cover all the installation steps.

Here are a few general things to follow. The pump you use should have a pressure rating of 800-1,000 PSI, and a flow rating of 1.5-2 GPM (gallons 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 and maintain good "road feel".

Unisteer can provide a low-flow, low-pressure pump made specifically for your car (call for pricing & details). Once the banjo fittings on the rack are in the position that you want, tighten them to **20 ft/lbs**. The banjos can only be trusted not to leak after one time of tightening.

Make a mental note as to which port is the pressure & which port is the return (see illustration) when attaching the steering lines & pump.

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

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(01/15/07)

revised on 02/15/12

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