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55-57 Chevy Power Rack & Pinion Cradle System

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Note: Before beginning you must first measure the width of your front end from LEFT outer tie rod end zerk fitting to the RIGHT outer tie rod end zerk fitting to determine the overall width of you front end.

Write dimension here for further reference. _____

Note: A front end alignment is necessary after installation.

Note: Hoses (FR1625) and Hazard Wiring Kits are sold separately and are not included in this kit.

Note: **** The use of Flaming River Headers maybe necessary with use of the Power Rack and Pinion System. ****
Part No. FR50001 (Uncoated) or FR50001C (Coated)

Note: Flaming River Recommends that you use Dextron or high grade power steering fluid.

<u>Hazard Kit Part Numbers:</u>	FR20115	1955 Chevy
	FR20116	1956 Chevy
	FR20117	1957 Chevy

Note: Part number **ES381RL** 68-69 Camaro Outer Tie Rod Ends must be used with this kit.

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For technical support please contact:

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WARRANTY DISCLAIMER: Flaming River's® Limited Warranty

Flaming River® warrants its products to be free from defects in material and workmanship for a period of one (1) year after the date of purchase, except that: All steering columns are warranted for a period of three (3) years from the date of purchase. Flaming River's® warranty liability is limited to the replacement of defective products. Flaming River® is not liable for any labor costs associated with any warranty claim, or for any incidental or consequential damages. Improper installation, abuse, racing, and/or modification of the products voids this warranty. No warranty of merchantability or fitness for a particular purpose is made by Flaming River® with respect to any of its products. Warnings and Recommendations It is the customer's responsibility to determine the suitability of a given Flaming River® product for the customer's uses. Likewise, it is the customer's responsibility to install a Flaming River® product. Contact the vehicle manufacturer whenever installing a switch to confirm the appropriateness of using such a switch and the recommended placement of the switch on the vehicle. Use qualified chassis specialists for the installation of all steering related components. Be aware that the installation of certain Flaming River® products may adversely impact a manufacturer's warranty with respect to certain vehicles and other manufactured goods. Flaming River will repair or replace any product found to be defective in material or workmanship. Improper installation, abuse, racing and/or modification VOID WARRANTY. Flaming River® is not responsible for any labor costs associated with any warranty.

Inventory

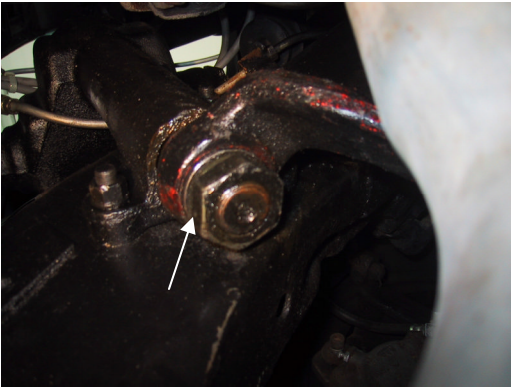
Qty	Part Number	Description
5	C-BOLT-3/8-16X4	3/8"-16 X 4" Carriage Bolt
5	WASH-3/8	3/8" Flat Washers
5	NYLOCK-3/8-16	3/8" -16 Nylock nuts
3	WASH-1/2"	1/2" Flat Washers
2	NUT-5/8-18	5/8"-18 Jam Nuts
1	TRIPMPB1	Power Steering Pump Bracket
1	FR1614	Reservoir
1	FRPMPVB-V	P/S Pump V-Belt
1	FR20101-57	Column Floor Mount
1	FR20118	Wiring Adapter
1	FR1934	1"DD X 3/4DD Chrome MolyU-Joint
1	FR1920	3/4DD X 3/4DD Chrome Moly U-Joint
1	FR1789P	3/4DD X FR Power Billet U-Joint
1	FR1810	Support Bearing
1	BK10400	Support Bearing Bracket
1	FR1850	18" DD Shaft
1	100482	Power Rack & Pinion Cradle Assembly
1	FR20005-57	Floor Shift Column or
1	FR20023-57	Column Shift Column

Removal of Original Steering System

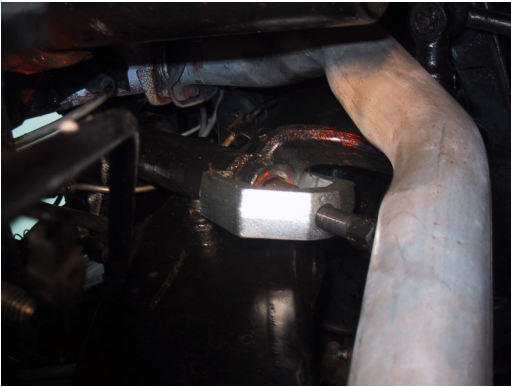
- 1) Begin by removing the outer tie rod ends from the spindles. This is done by removing the cotter pin and castle nut and separating the tie rod end from the spindle using a pickle fork.



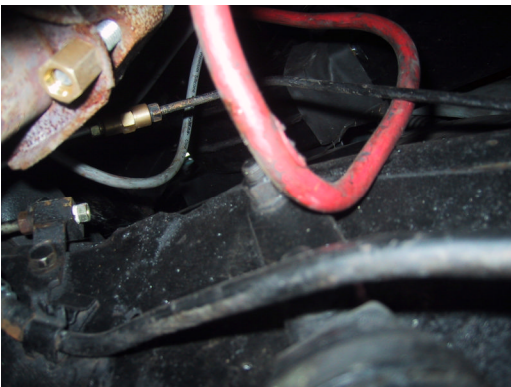
- 2) Remove the nut that retains the pitman arm to the sector shaft of the steering gear box.



- 3) Using a pitman arm puller, remove the pitman arm from the steering gear box.



- 4) Remove the two (2) bolts that hold the idler arm to the frame rail.

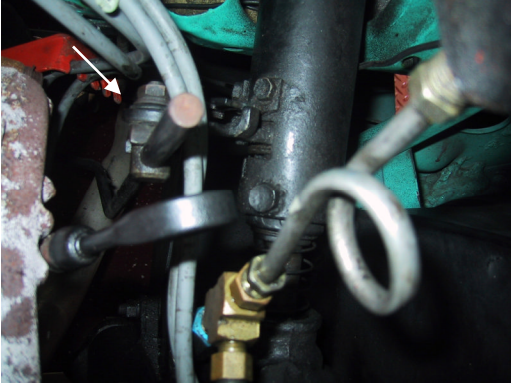


Removal of Original Steering System Con't

5) Remove the entire steering linkage assembly from the car.



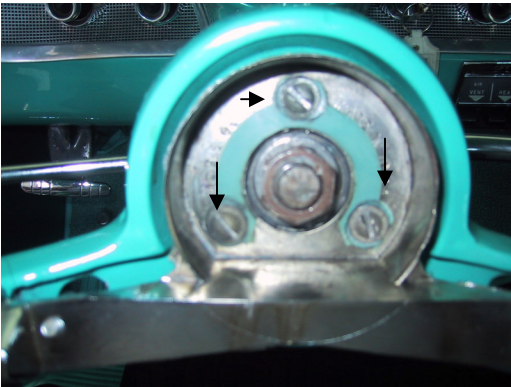
6) On column shift columns, disconnect the shift linkage from the column.



7) Remove the two (2) screws from the back side of the steering wheel.

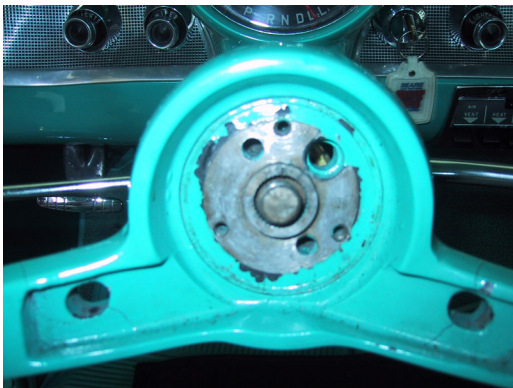


8) Remove the three screws that hold the horn ring to the steering wheel and the wheel retaining nut.

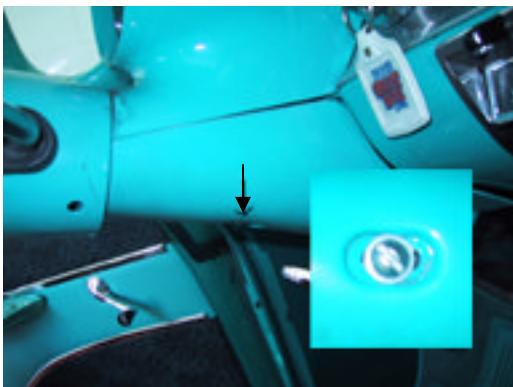


Removal of Original Steering System Con't

9) Using the two holes and a steering wheel puller, remove the wheel from the column.



10) Remove the lower dash shroud by removing the one (1) screw in the middle.



11) Remove the two (2) screws that hold the lower dash shroud mount in place, and then remove the mount.



Removal of Original Steering System Con't

12) Remove the column wiring for the turn signal switch and the neutral safety switch (column shift only) from under the dash.



Color Verification to be completed before disassembly

- Brake Light Switch : _____
- RR Turn Signal : _____
- LR Turn Signal : _____
- Turn Signal Power : _____
- Hazard Power : _____
- RF Turn Signal : _____
- LF Turn Signal : _____
- Horn : _____

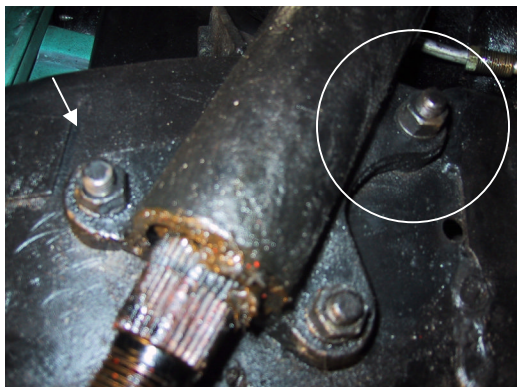
13) Remove the two bolts that retain the column mount to the dash.



14) Remove the factory floor seal.



15) Remove the bolts with the arrows and loosen the bolt that is circled



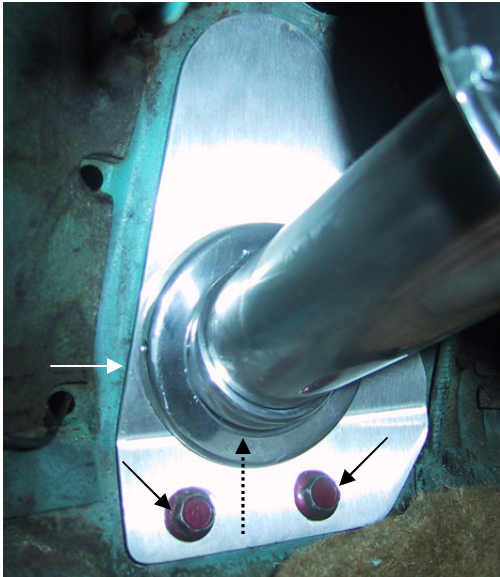
Removal of Original Steering System Con't

16) Pivot the column downward and remove the column from the box shaft. Then remove the box from the car.

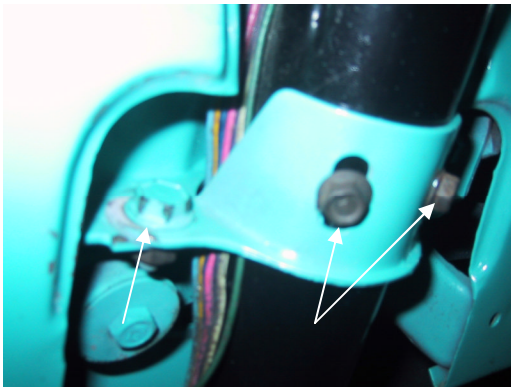


Installation of Flaming River Steering Column

1) Remove pivot ball (**black arrow with dotted line**) from assembly by removing the two socket head screws seen in picture with the white arrow. Next slide the pivot ball over the column tube and then place the main body of the assembly over the pivot ball and lightly snug the two socket head screws (**white arrow**). Attach the entire assembly to the floor as shown with the original mounting bolts. (**Black arrows with solid line**)

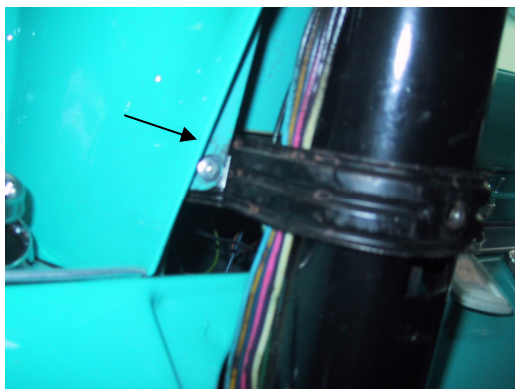


2) Place the factory dash mount onto the new column and install it in the factory position. Then tighten the two socket head screws (**white arrow**) from step 6.

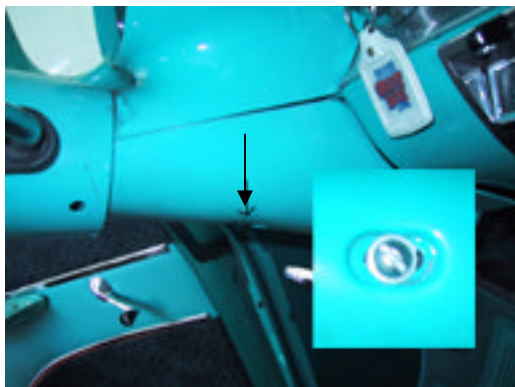


Installation of Flaming River Steering Column Con't

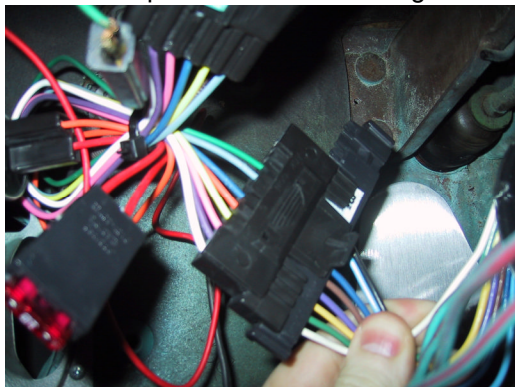
3) Replace the lower dash shroud mounting bracket using the screws that were removed earlier.



4) Replace the lower dash shroud using the screw that was removed earlier.



5) Install the jumper harness by plugging the corresponding ends to the column and to the factory harness according to the instructions provided with the wiring kit.



FLAMING RIVER COLUMN WIRING

**P-WHITE-BRAKELIGHT SWITCH
N-DK GREEN-RR TURN SIGNAL
M-YELLOW-LR TURN SIGNAL
L-PURPLE-TURN SIGNAL POWER**

**K-BROWN-HAZARD POWER
J-DK BLUE-RF TURN SIGNAL
H-LT BLUE-LF TURN SIGNAL
G-BLACK-HORN**

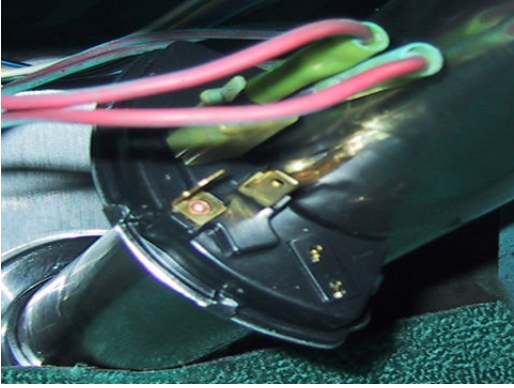
Color Verification to be completed before disassembly (FROM PG 5)

- Brake Light Switch : _____
- RR Turn Signal : _____
- LR Turn Signal : _____
- Turn Signal Power : _____

- Hazard Power : _____
- RF Turn Signal : _____
- LF Turn Signal : _____
- Horn : _____

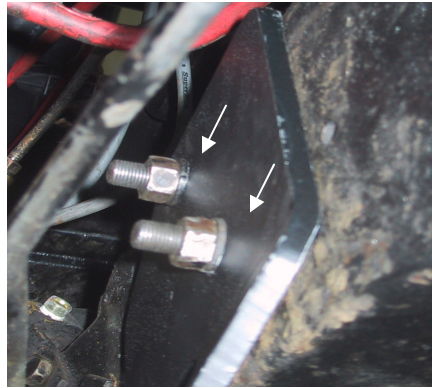
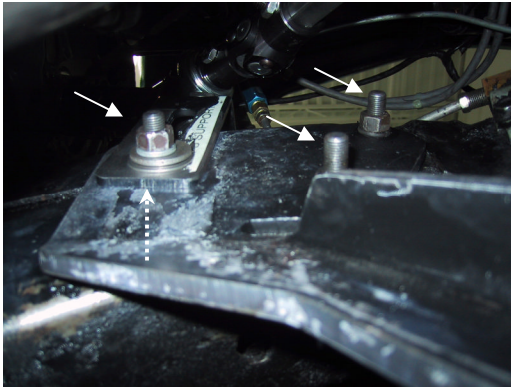
Installation of Flaming River Steering Column Con't

- 6) Column Shift Only: Plug in the neutral safety switch



Installation of the Power Rack and Pinion Cradle System

- 1) Slide the Rack and Pinion Cradle Assembly in-between the frame rails and insert the (3) mounting bolts on the driver's side and the (2) on the passenger side. Install support bearing and bracket on the rear bolt (**white arrow with dotted line**). Tighten mounting hardware to 40- 45ft lbs.



Power Rack & Pinion Universal Joint System

- 1) The Flaming River Power Rack and Pinion Cradle Assembly comes preassembled from the factory, however you may need to adjust the pinion angle for proper u-joint alignment. – First loosen the set screws on the pillow block clamps, next loosen the (4) four pillow block clamp mounting bolts, then adjust your pinion angle. Once your pinion angle is set tighten the (4) four pillow block mounting clamp bolts and then the set screws.

Pillow Block Clamp Mounting Bolts



Set Screws

Rotating The Pinion Shaft

Power Rack & Pinion Universal Joint System Con't

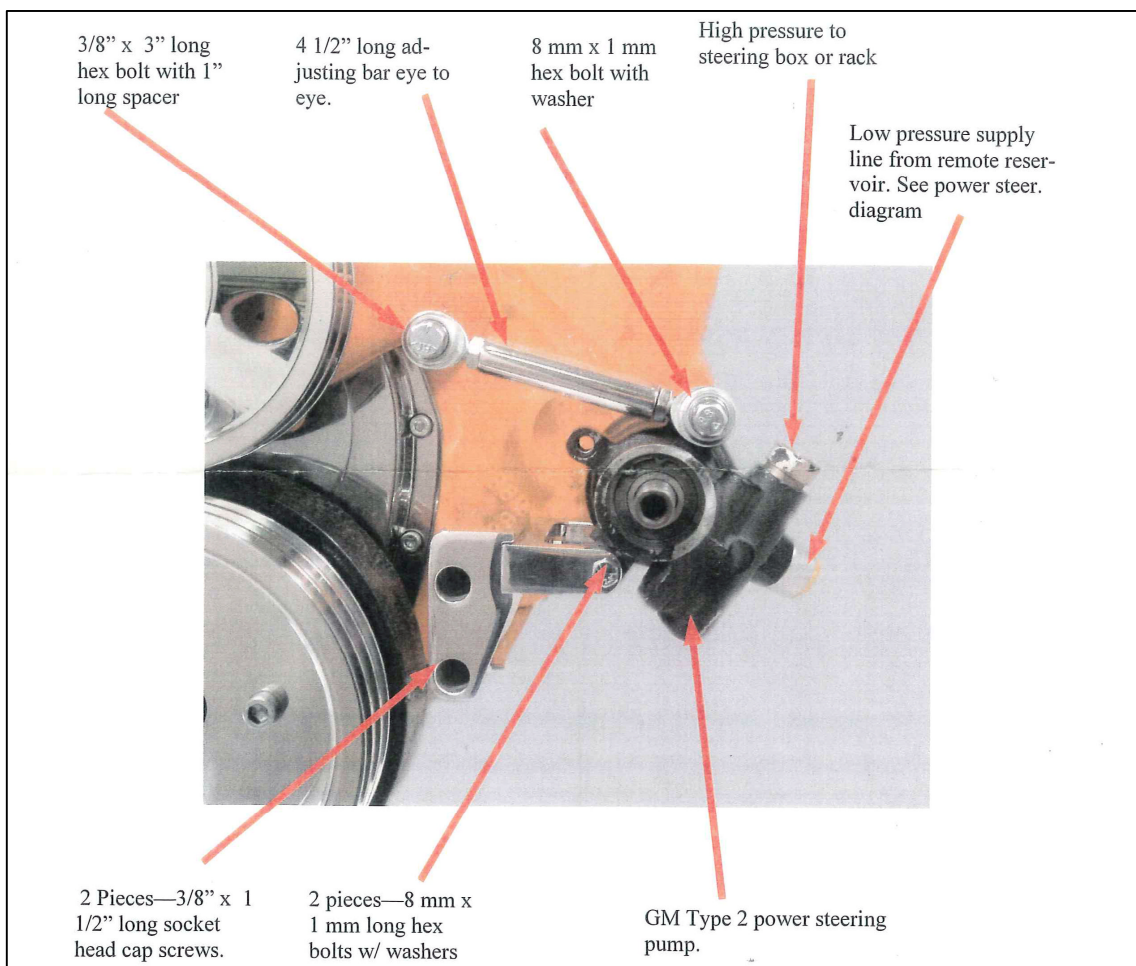
Note: The angle of the support bearing mount is set for most applications. Some adjustment may be necessary for the correct angle and u-joint alignment

2). We recommend the use of $\frac{3}{4}$ " dowel rod to mock up the steering shaft to obtain the correct length of the shafts. Install your shaft kit and snug each set screw so that it will leave a mark in the shafts.

3) Remove shaft and dimple each setscrew mark using a $\frac{1}{4}$ " drill bit. (As shown above.) Re-install the shafts using **red loc-tite thread locker** on the set screw threads. Tighten each setscrew to 25 ft. lbs. Tighten all lock nuts securely. We recommend that you inspect setscrews periodically for tightness.



Power Steering Pump Installation

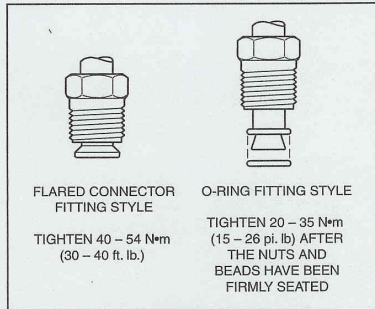


Bleeding the System

- 1) Raise the front wheels off the ground and support vehicle on jack stands.
- 2) Turn the wheel to the left lock and fill the reservoir with high-quality power steering fluid and allow vehicle to sit for 2 minutes.
- 3) With the engine off and someone checking the fluid level rotate the steering wheel lock to lock 20 times filling with fluid as necessary.
- 4) With the engine running, rotate the steering wheel back and forth from lock-to-lock. Repeat several times. Check fluid level and add fluid if necessary.
- 5) Lower the vehicle on the ground and with the engine running, repeat step 4. Check fluid level and add if necessary.

Thread Size	English	Metric
7/16 - 14 UNC Thd.	59 - 74 ft. lb.	80 - 100 N•m
1/2 - 13 UNC Thd.	89 - 110 ft. lb.	120 - 150 N•m
9/16 - 12 UNC Thd.	89 - 110 ft. lb.	120 - 150 N•m
14mm x 2 - 6H Thd.	89 - 110 ft. lb.	120 - 150 N•m

Figure 2 Table of Torques for Attaching Gears to Frame



Install your power steering lines to the correct pressure or return ports.

See picture to the right.



If using a stainless line kit follow the instructions that are included in your kit.

FR1610 Power Steering Line Kit is Available Separately

Always consult your factory manual for proper torque settings for your vehicle.

NOTE: If the fluid is extremely foamy, let the vehicle sit for a few minutes and repeat steps 1-5.

NOTE: Trapped air in the system will cause a milky appearance in the fluid. Trapped air will also cause the fluid level to rise in the reservoir when the engine is not running.

Torque Specs

Cradle to Frame Mounting Bolts	40-45 ft lbs
Outer Tie Rod Ends to Spindle	30-40 ft lbs
Universal Joint Set Screws	25 ft-lbs