

" THIS ARTICLE IS INTENDED FOR YOUR REFERENCE ONLY.

ACTUAL PARTS, YEARS AND BODY STYLES CONTAINED

IN THIS ARTICLE MAY DIFFER SLIGHTLY FROM YOUR APPLICATION. "

Tech Help

BIG BLOCK/FOUR SPEED INSTALLATION

Text and Photography by Joe Whitaker



When we first introduced our big block installation kit, Part #18-200, it was designed for use with Turbo transmissions only. The installation of a Borg-Warner or Muncie four speed required quite a lot of modifications to our kit. Due to overwhelming demand, we have redesigned a kit just for four speed installations! Our kit requires that you use a 1964 or newer GM V-8 standard shift bell-housing and any of the popular four speed transmissions. The four speed kit, Part #18-209, is made using the highest quality zinc plated steel and includes all installation hardware. (See Photo #1.)

In addition to the installation kit, we have designed a cross shaft and relay rod system that is compatible with a '57 style clutch fork, Part #08-15. Though this fork was originally used in 1957's only, it can be used in '55 and '56's also. The big block cross shaft, cross shaft bracket and relay rod are shown in Photo #2. This new kit and all related items are completely compatible with all of our other Big Block components and accessories [See July and August 1991 Classic Chevy World (CCW)] Below is a parts list covering the items that will be installed.

Part #	Description	Price
18-209	Big Block/4-spd. Installation Kit	
08-40	Big Block/4-spd. Cross Shaft Bracket	
08-41	Big Block/4-spd. Cross Shaft	
08-42	Big Block/4-spd. Relay Rod	
08-15	Clutch Fork	
08-34	Pedal Rod	
08-10	Frame Bracket w/stud (for Cross shaft)	
19-03	Rear Cross Member	

Although we have made all of these clutch pieces available, our kit is designed to allow the use of most types of other aftermarket clutch fork and cross shaft setups. This article is designed to supplement the information published in June, July, and August 1991 CCW, so it will be necessary to refer to these issues to complete the installation. Additional clutch parts you may need for your car are listed in our latest Parts Catalog.

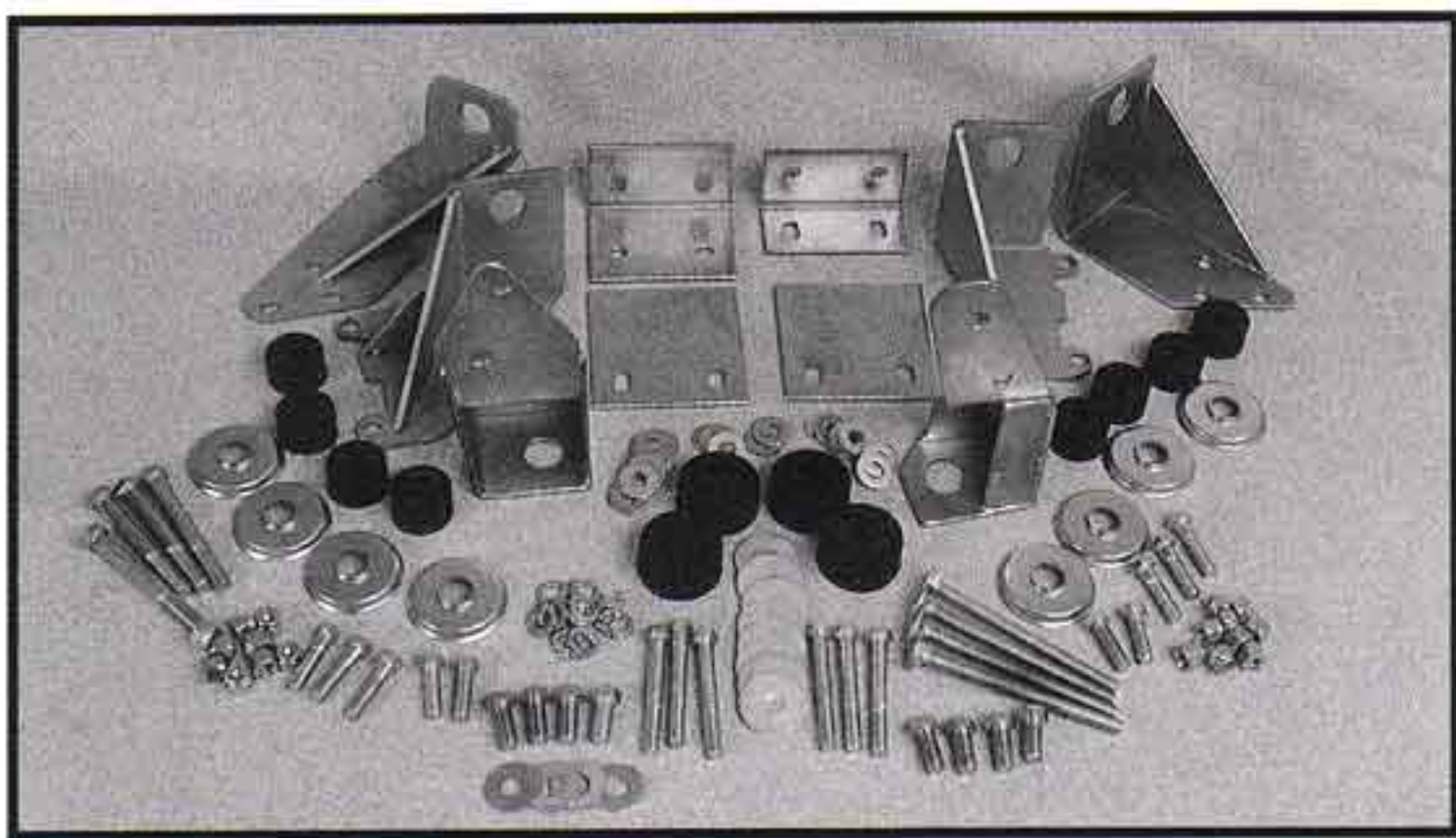


Photo #1



Photo #2

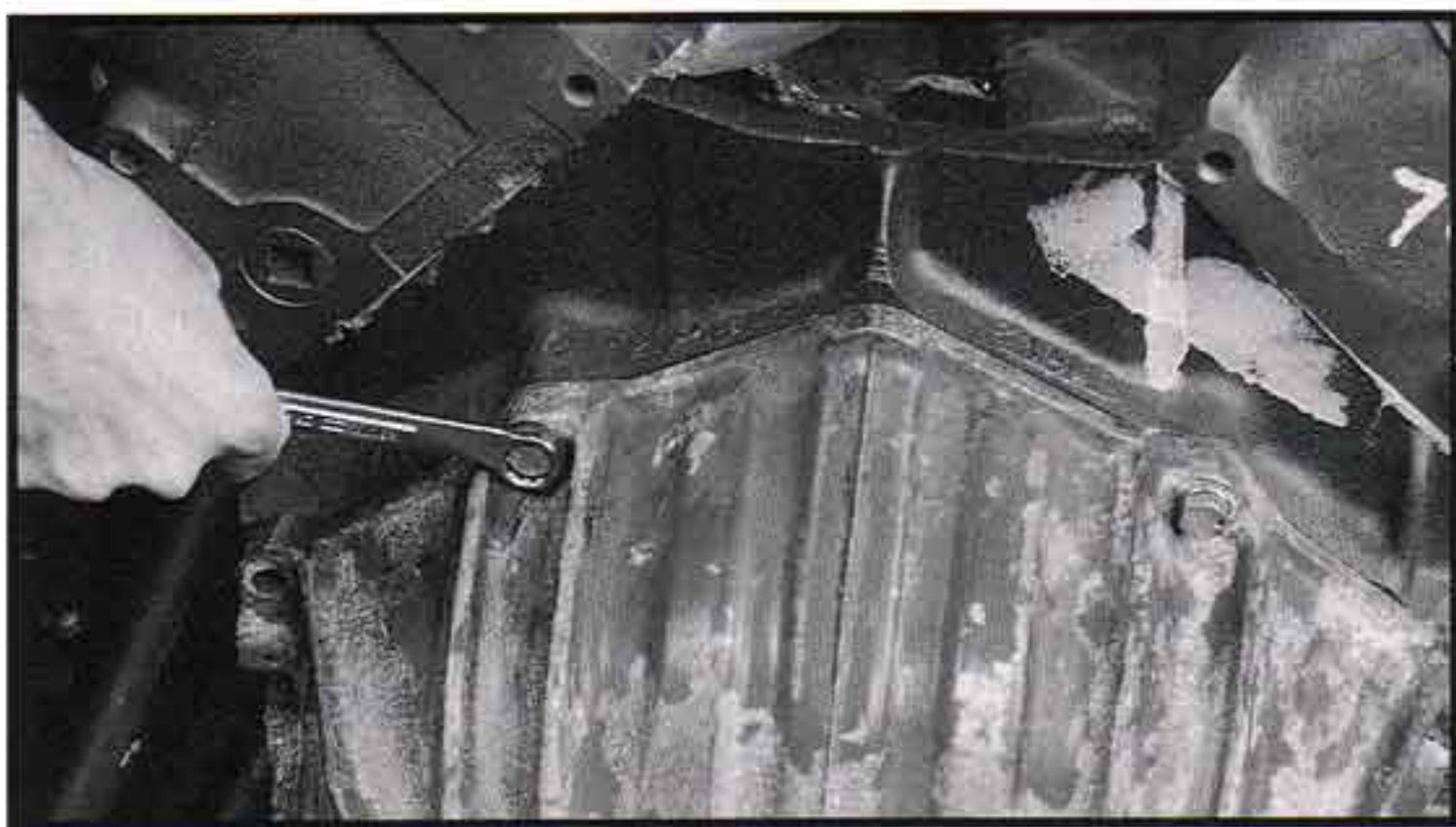


Photo #3

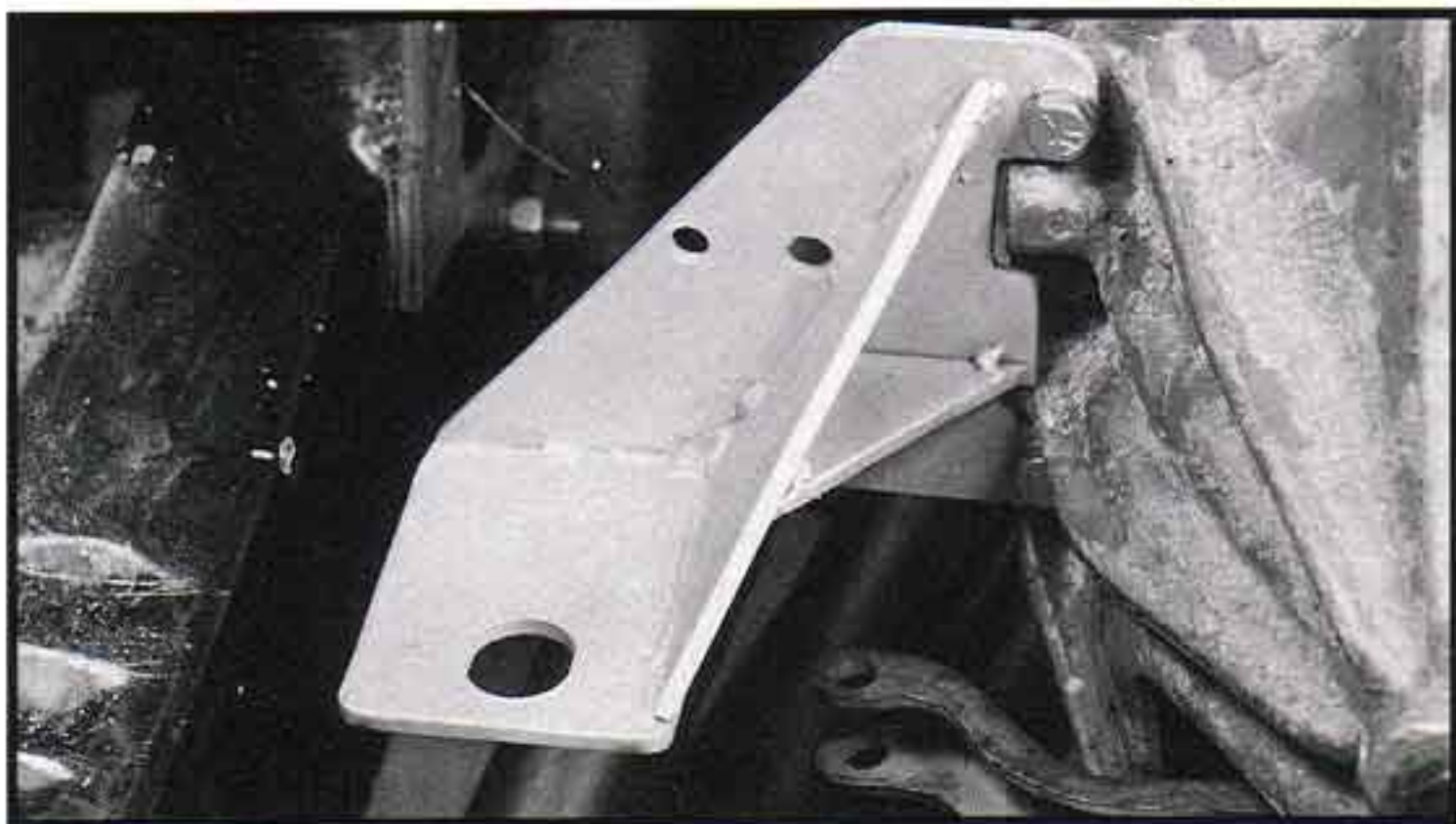


Photo #4

1. After selecting the clutch, pressure plate, and throw out bearing assembly you wish to use, install the clutch fork Part # 08-15 into the bellhousing. Install the bellhousing on the engine using two of the 3/8 x 1 1/2-inch coarse thread bolts and lock washers provided. Install these bolts in the upper two bellhousing to block holes. (See Photo #3.) Install the left (driver's side) transmission mount bracket on the left side of the engine/transmission assembly using two 3/8 x 1 1/2-inch coarse thread bolts and lock washers. Note that the left transmission bracket is double gusseted and includes two holes in the face plate for the cross shaft bracket. (See Photo # 4.) Repeat for the right hand transmission mount. (See Photo # 5.) Tighten all bolts. The cut-outs in the transmission brackets are designed to clear the strengthening ribs in the cast aluminum bellhousing. If your brackets bind against the bellhousing, lightly radius the brackets or bellhousing to obtain proper fit. Install the transmission onto the bellhousing. (See Photo #6.)

2. Install the left transmission frame bracket on the original left hand frame horn using three of the 3/8 x 3-inch coarse bolts, flat washers, and lock nuts provided. (See Photo # 7.) Repeat for the right transmission frame bracket. (See Photo # 8.) Tighten all bolts.

3. Install the front engine mounts, lower the engine into the frame and secure, following steps #3 through #7 as outlined in June 1991 CCW. (See Photos #9 and #10.)



Photo #5

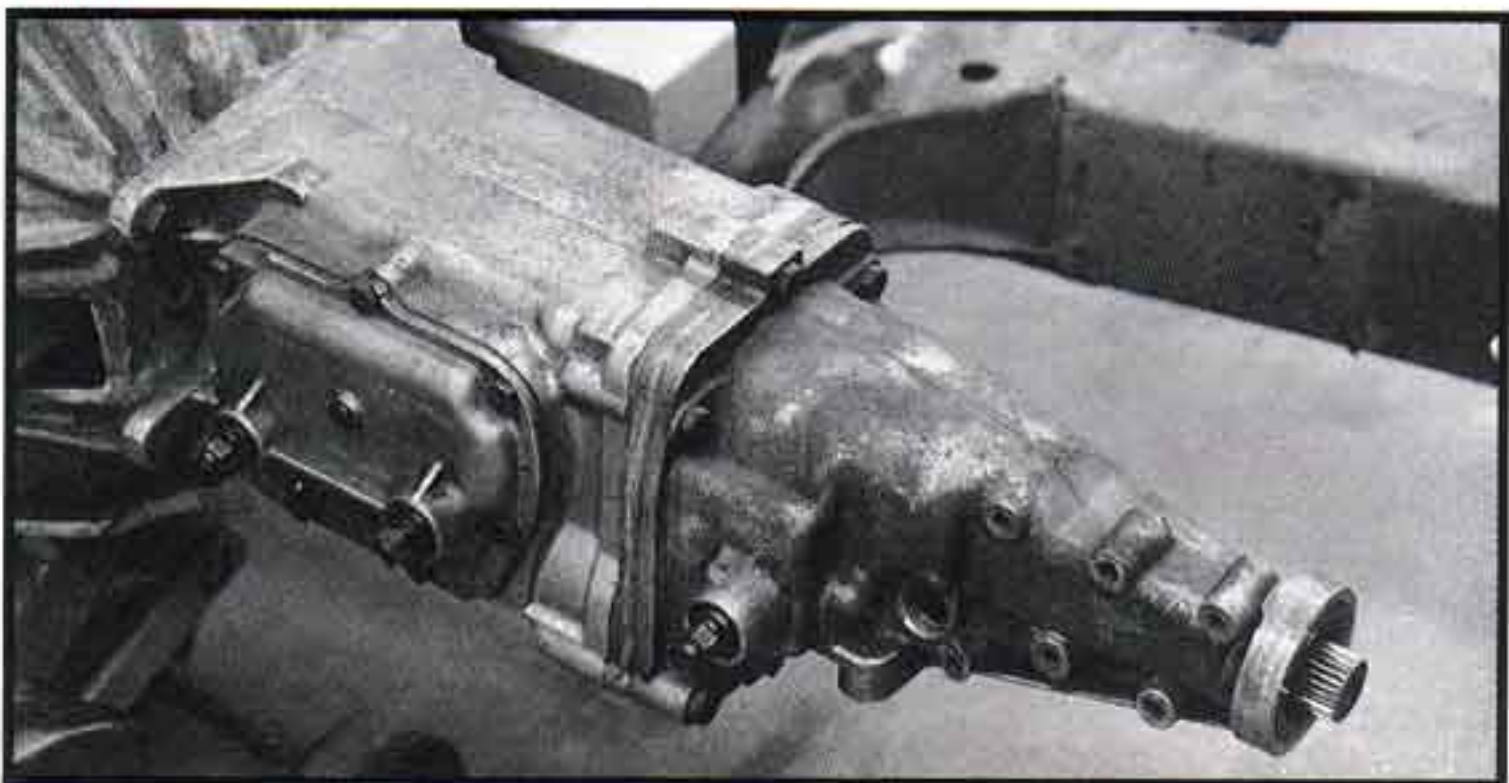


Photo #6

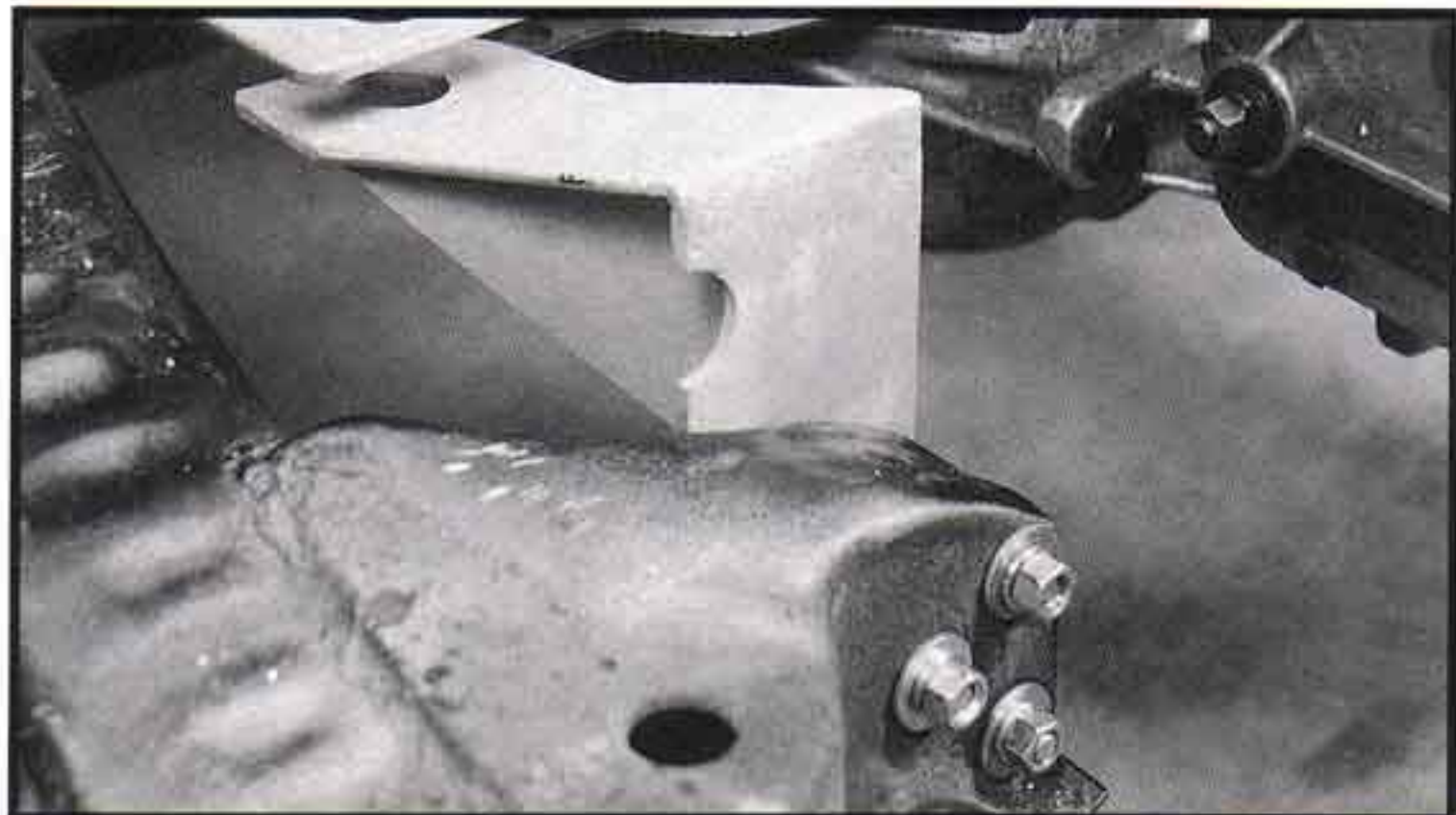


Photo #7

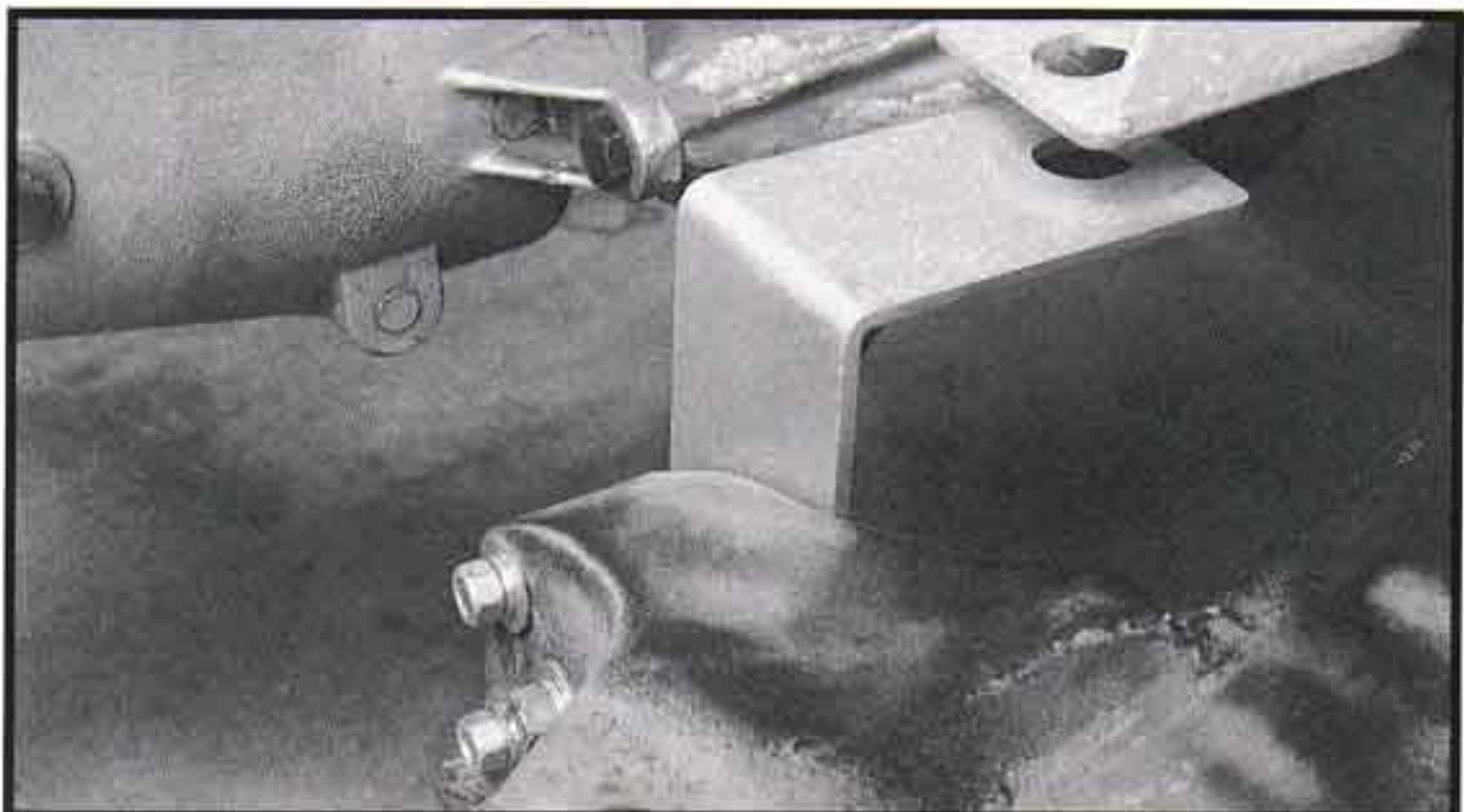


Photo #8

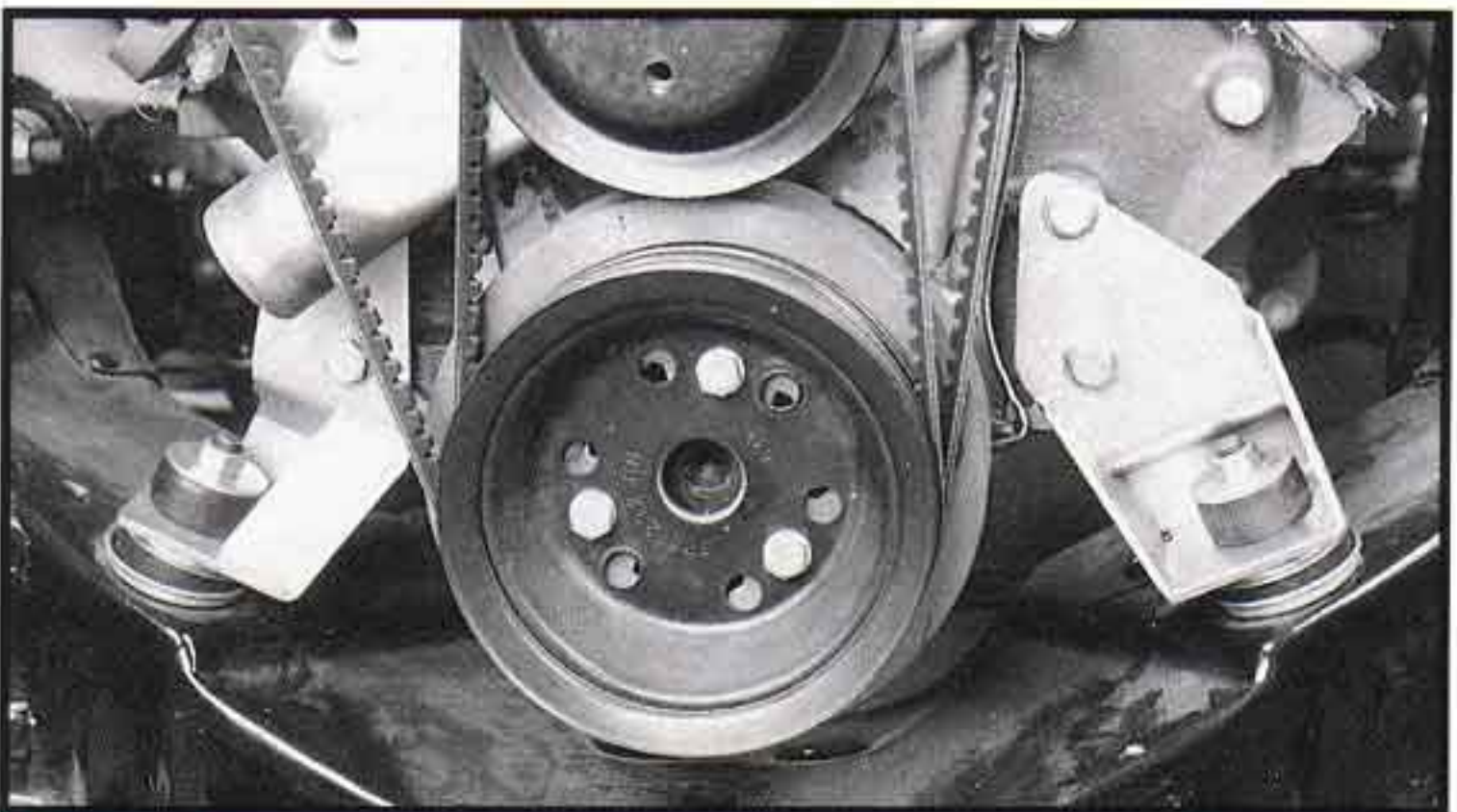


Photo #9

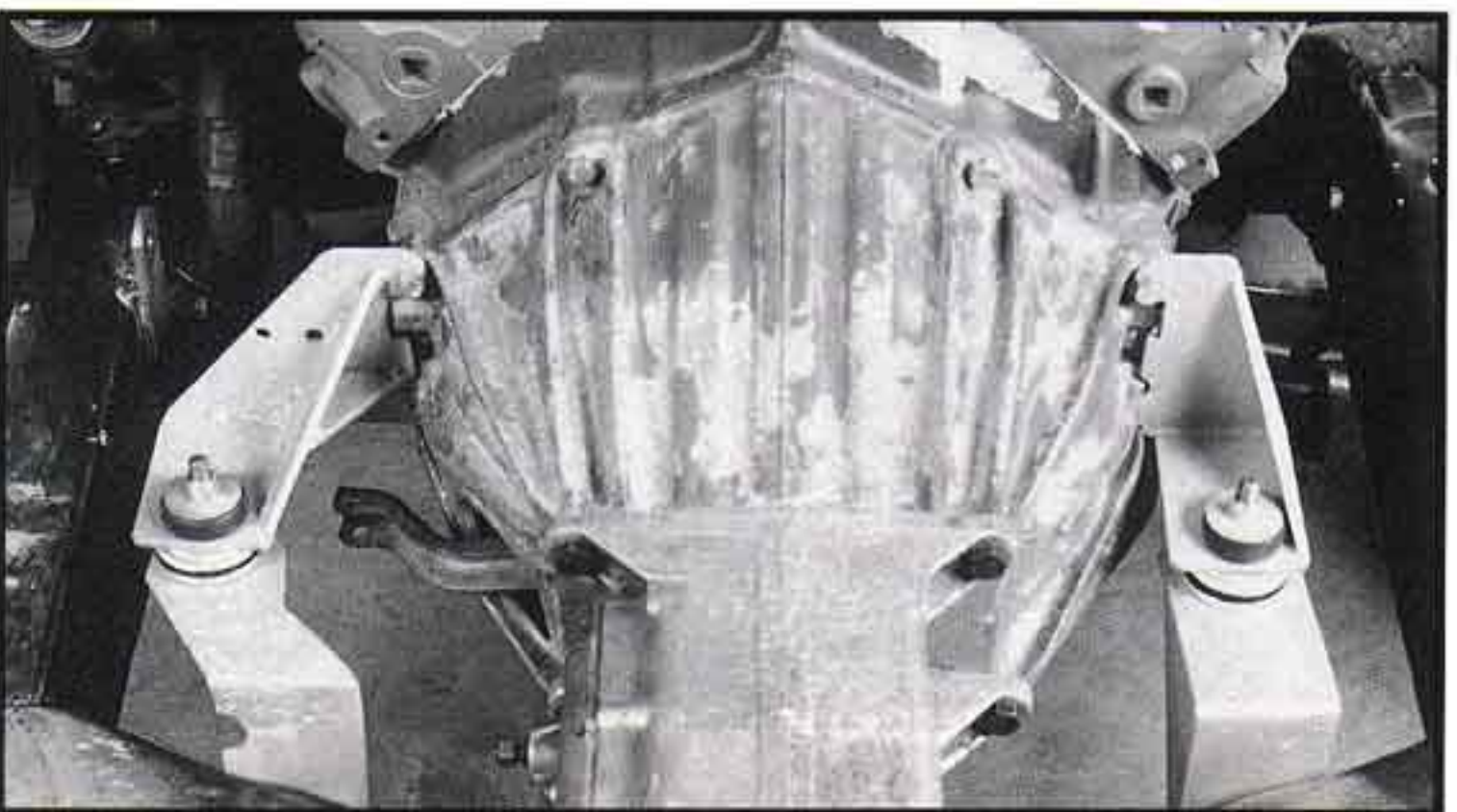


Photo #10

4. Attach the rear transmission mount, Part #19-18 using two 7/16 x 1-inch coarse thread bolts, lock washers and washers provided. Install the cross member, Part #19-03 using the procedures outlined in steps #9 through #14 in June 1991 CCW. The cross member and brackets will be much closer to the front of the frame when installing a four speed. Ours ended up about 10 3/4-inches away from the rear edge of the original frame horns. (See Photo #11).

5. If your transmission has a fine spline output shaft (27 teeth), install drive shaft yoke Part #19-36 in the tailshaft. For coarse spline output shafts (16 teeth), use the original type yoke Part #19-05. Install the yoke, leaving at least 1-inch of end play before the yoke bottoms against the output shaft. Measure from the yoke to the rear end companion flange. This will be your driveshaft length. (See Photo #12.) Since the engine is shifted forward, the original driveshaft will be too short. The original driveshaft is 55 1/4-inches. Our installation required a 56 7/8-inch driveshaft. You can either look through your local junkyards' driveshaft pile to find the proper length shaft or simply have a longer tube installed in your original driveshaft.

6. If your car was originally a standard shift, then retain the original cross shaft frame bracket on the left hand frame rail. On both automatic and standard shift frames it will be necessary to remove the original frame bell crank bracket. On 1955 cars, it will be necessary to remove the original cross shaft ball from the frame bracket and replace with Part #08-08 pivot stud. If your frame has no cross shaft frame bracket, you will need Part #08-10 to complete the installation. (See Photo #13.) For the following steps, clamp this bracket in place until proper cross shaft alignment is certain, then weld the bracket to the frame.

7. Install the big block cross shaft, Part #08-41, on the frame bracket and stud. (See Photo #14.) Lightly grease the ball and shaft before final assembly. If your engine uses a large square head oil galley plug just above the oil filter, it needs to be replaced with an Allen style plug for proper inner cross shaft clearance.

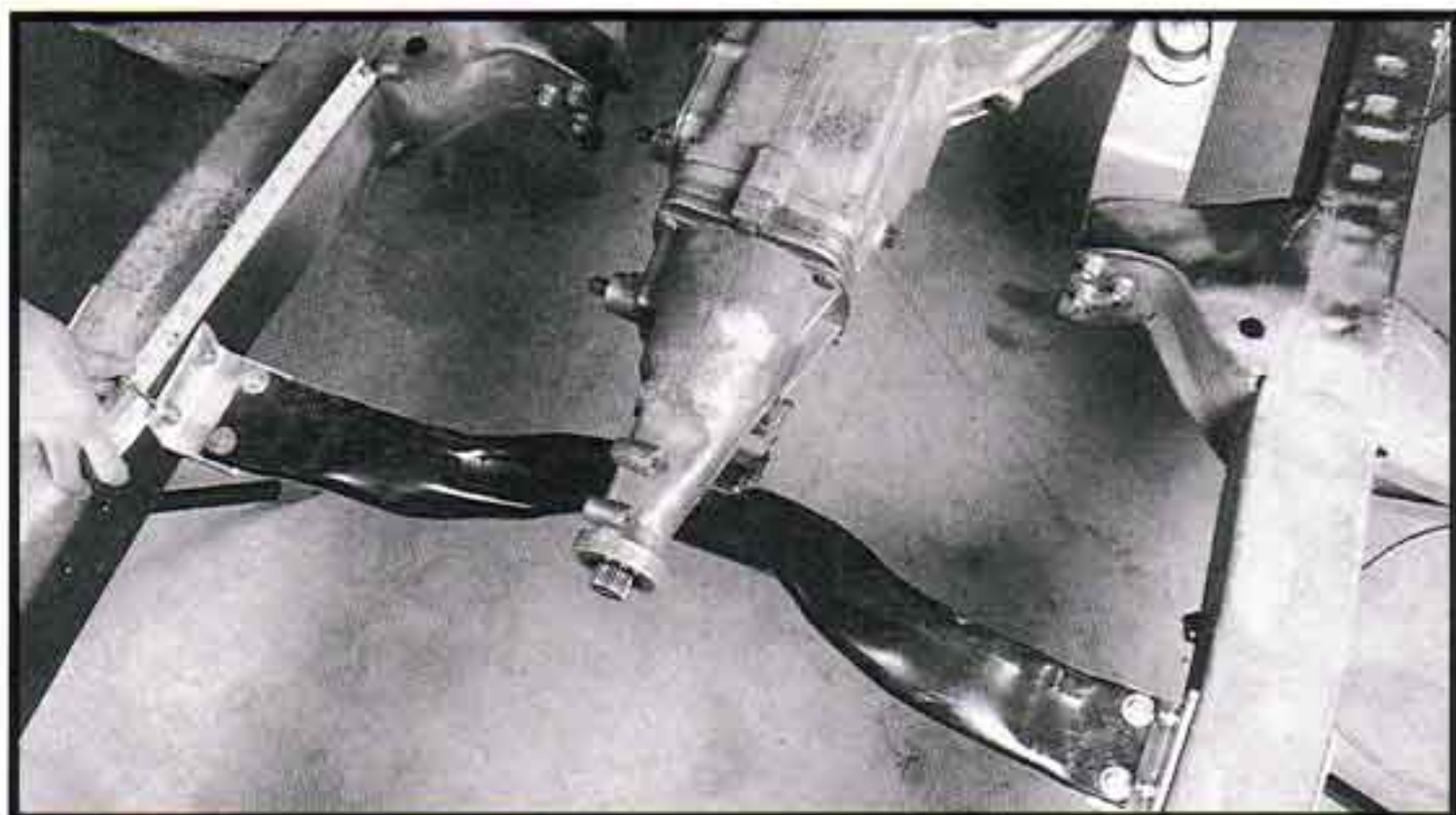


Photo #11

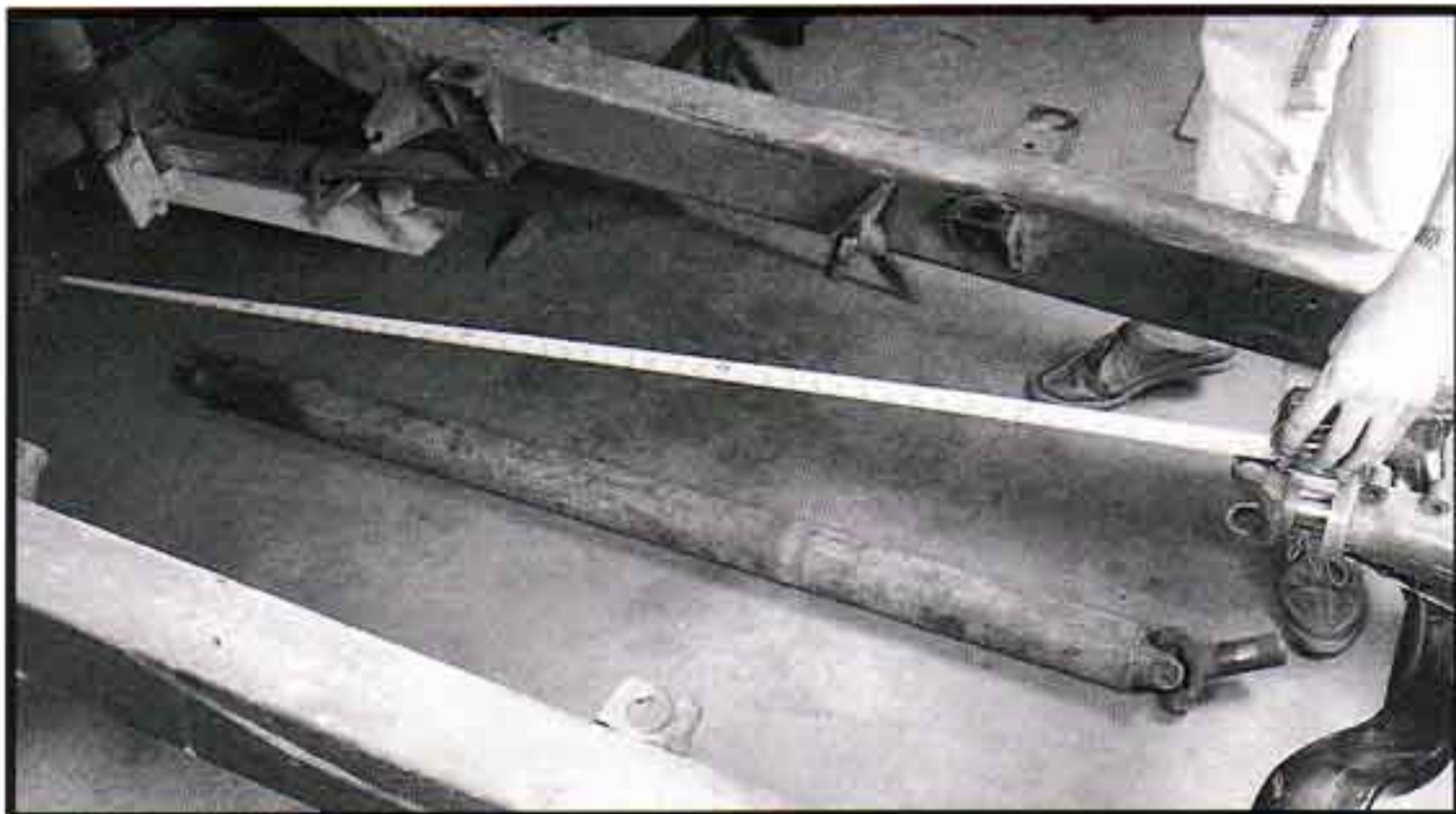


Photo #12

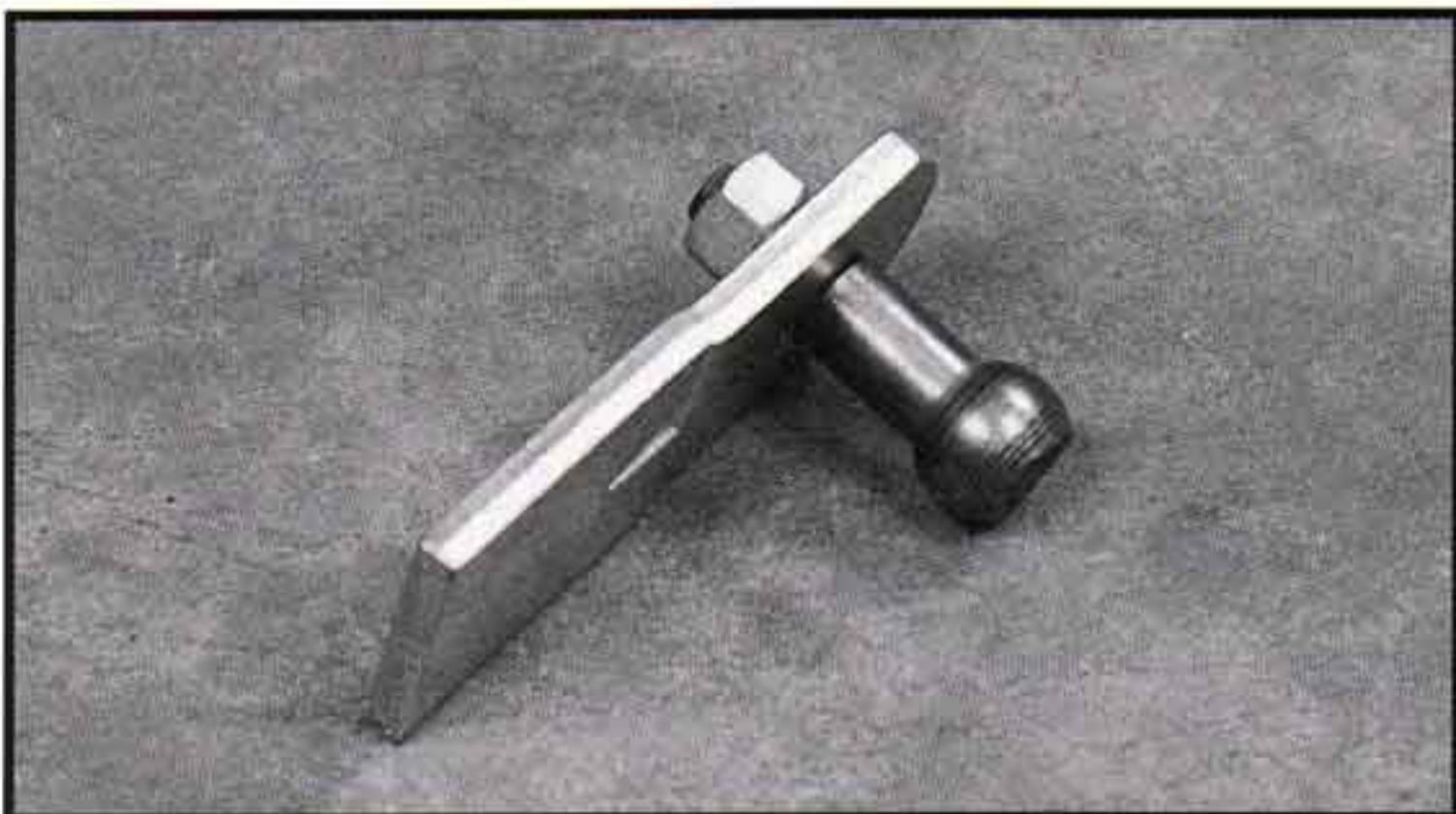


Photo #13

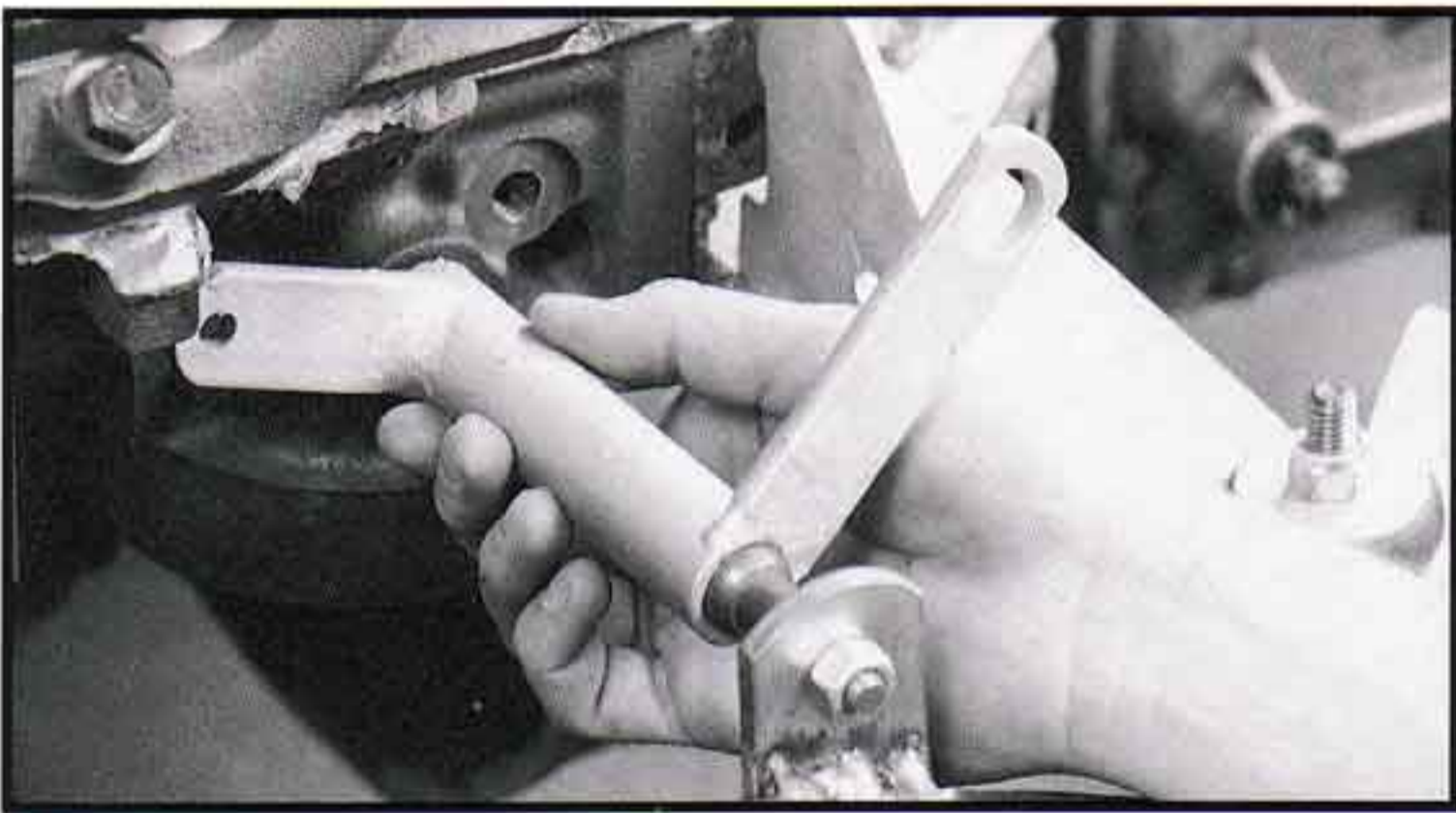


Photo #14



Photo #15

8. Remove the ball stud from the big block cross shaft bracket, Part #08-40 and slip into the end of the cross shaft. (See Photo #15.) Install the bracket by threading the ball into the threaded hole and holding the bracket in position. (See Photo #16.) Once the stud is installed, secure from behind with the 3/8-inch nut and lock washer provided. Attach the cross shaft bracket to the transmission mount face plate using the 3/8 x 3/4-inch coarse thread bolts, washers, and lock nuts provided (See Photo #17.) Check for smooth rotation of the cross shaft.

9. Attach the adjustable end of the big block relay rod, Part #08-42, to the cross shaft and secure with a cotter pin. (See Photo #18.) Install the clutch pedal rod, Part #08-34, from inside the car and attach to the inner clutch pedal arm and cross shaft. At the cross shaft end, use Part #08-14 sleeve assembly or Part #08-19 pedal bushing. (See Photo #19.) Making sure the clutch swing pedal is in its uppermost position, adjust the relay rod and attach to the clutch fork using the clevis pin and cotter pin provided. (See Photo #20.) Check for proper clutch operation and make adjustments as needed. If the pedal rod interferes with the firewall, bend the rod slightly until proper clearance is obtained.

10. Complete your installation by installing the shifter and linkage assemblies. If you find that bench seat to shifter interference is a problem, use Hurst #391-3780 Competition Plus. It utilizes a special curved handle to clear bench seats in original cars. (See Photo #21.)❖



Photo #16

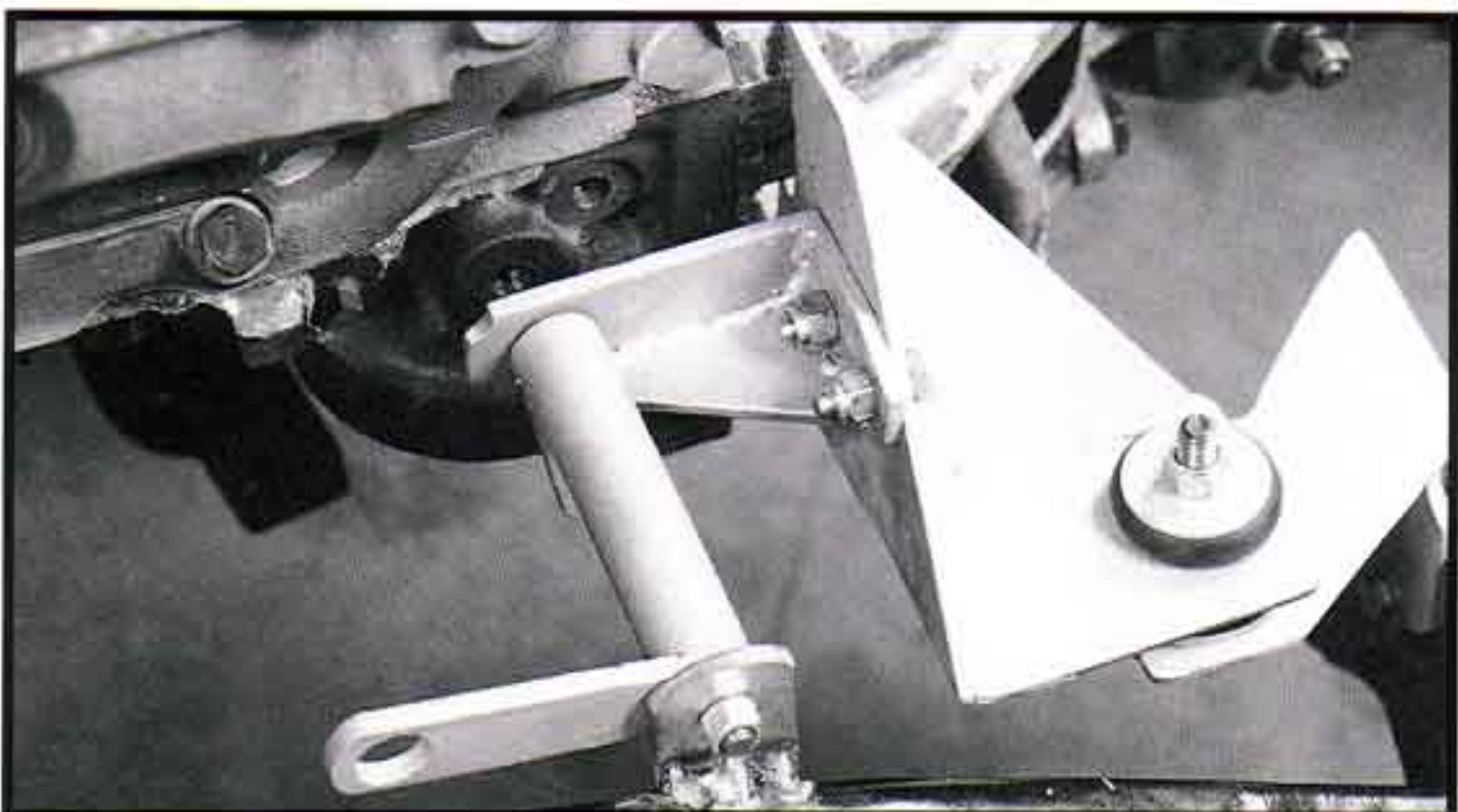


Photo #17

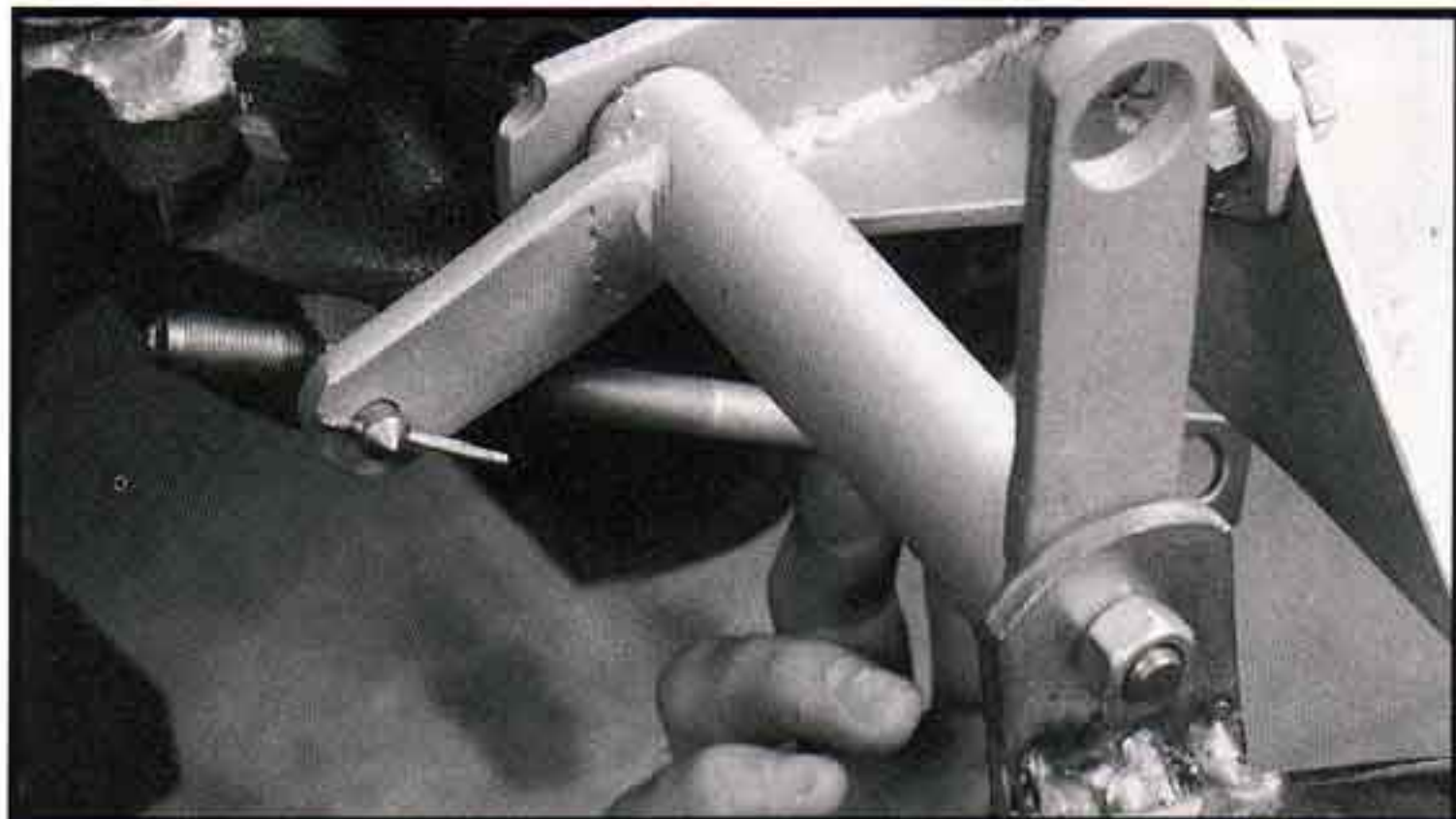


Photo #18

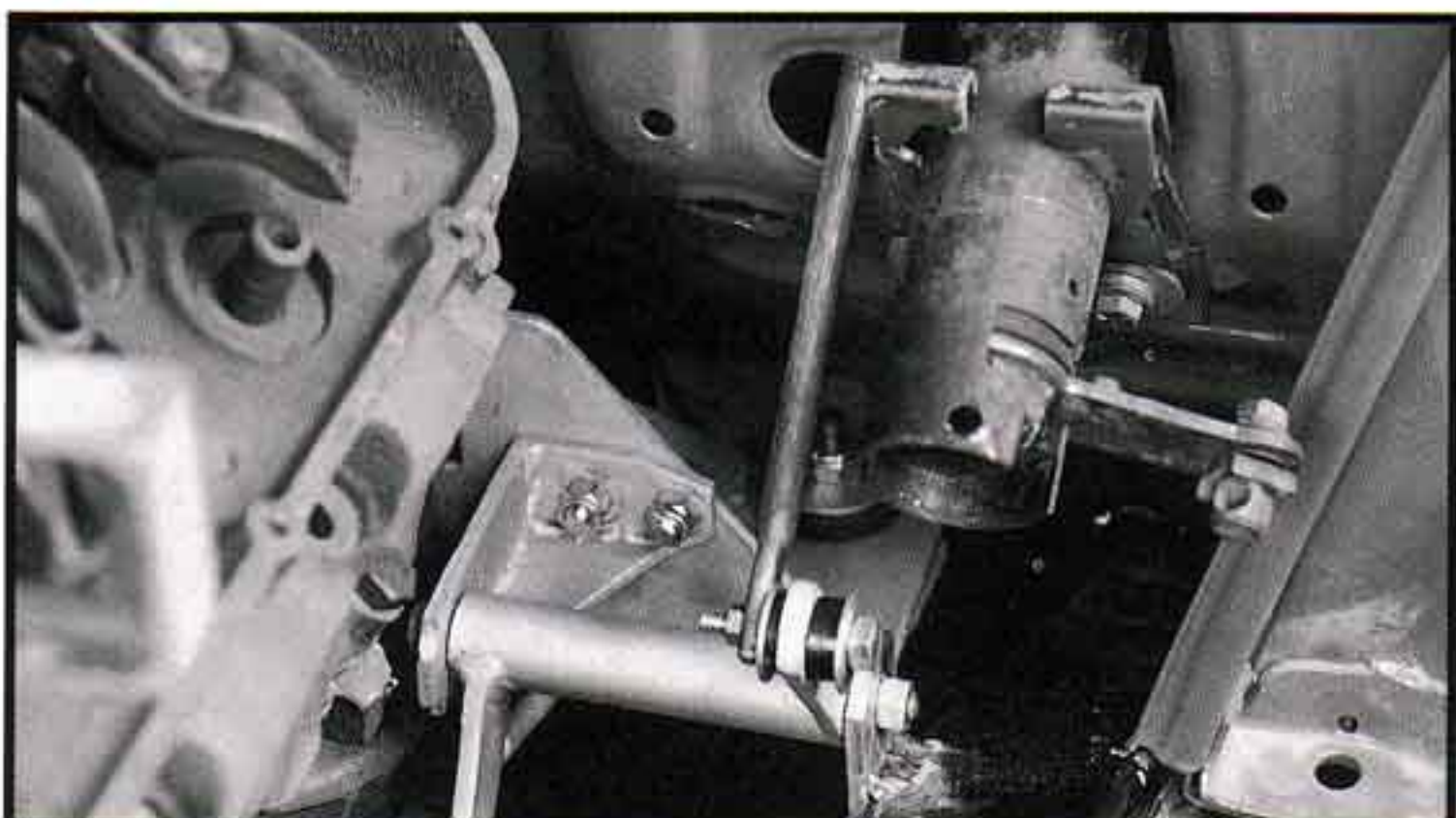


Photo #19



Photo #20



Photo #21