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ACTUAL PARTS, YEARS AND BODY STYLES CONTAINED

IN THIS ARTICLE MAY DIFFER SLIGHTLY FROM YOUR APPLICATION. "

700-R4 Installation, 1955-57 Convertible

by Randy Irwin

In the past, the convertibles and hardtops were considered by many to be sacred cars, only restored back to original and never modified. Well, now they too are having some wild stuff done to make them stand-out and fun to drive. At the 2003 South Central National in Oklahoma City, there was a super slick 1957 convertible with 2" drop, Torque Thrust wheels and a full custom engine. After the car came through tech check we discovered that the transmission had been updated too, but not to a TH350 like it has always been done, but to a 700-R4 overdrive transmission...Wow, it was thought that to put a 700-R4 in a convertible you had to be a magician, or at least really cut the car up. After returning from the show we got one of our convertible frames out the junk yard and went to work. We have now developed a new tubular bolt in 700-R4 transmission crossmember for convertibles. The transmission crossmember can be used with front or side engine mounts and requires only four holes to be drilled into the chassis. By installing the 700-R4 transmission the 4th gear gives you a reduction of 700 RPMs and by hooking up the lock-up torque, you gain another 200 RPMs in reduction. No matter if you have a convertible, hardtop, or sedan, follow along as we install the 700-R4 transmission, the cooler lines, driveshaft, and install and adjust TVI/detent cable.

The 1955, 1956 an 1957 convertible frames have a large I-beam "X" in the frame to give the frame strength. This is where the trouble comes in for mounting a 700-R4 transmission. A crossmember for a TH350/400 has always been available, but not for the 700-R4 overdrive (**photo #1**). Our new 700-R4 crossmember for convertibles, included in the transmission installation kit, **part #19-157**, will fit all the way to the rear of the front of the "V" in the frame. The crossmember is a bolt-in unit, with four holes for mounts that will be drilled once the transmission is in place (**photo #2**).

The torque converter bolt pattern is the same on a 700-R4 as a TH350 or TH400. The flywheel for an internally balanced engine is **part #19-30** and for an externally balanced engine, like a small block 400 c.i. or a big block 454 c.i., is **part #19-31**. The flywheel is held to crankshaft with six 7/16" x 5/8" fine thread



Photo #1

Transmission Kits
Now on SALE!
 see page 6



Parts Needed:

- 19-157 55-57 700-R4 Transmission installation kit, conv
- 19-155 55-57 TH350 Transmission installation kit, conv
- 19-156 55-57 TH400 Transmission installation kit, conv
- § Kit includes bellhousing area mounts, rear crossmember & brackets, rear transmission mount, column shift linkage and installation hardware.
- 19-158 55-57 TH 700-R4 crossmember kit, convertible
- 18-06 55-57 Front mounting kit, V8 & 6-cylinder
- 18-08 55-57 Front angle mounts, V8, bolts to engine
- 19-30 55-57 Flywheel (all small blocks, except 400 c.i.)
- 19-31 55-57 Flywheel/400/454, small blocks
- 19-62 55-57 Automatic transmission flywheel bolts (6)
- 19-18 55-72 Rear transmission mount / 350, 700-4R
- 19-36 55-72 Yoke Turbo / 350, 700-4R
- 19-67 55-57 TH 700-4R dipstick & tube
- 19-23 55-57 TVI/detent cable assembly bracket / 350
- 19-66 55-57 TVI/detent cable carburetor pin
- 19-02 55-57 Speedo cable assembly
- 19-19 55-57 Shift linkage assembly for column shift (all turbos)
- 19-69 55-57 700-4R Transmission cooling lines

Time Frame:

8 Hours

Tools Needed:

- | | |
|----------------|---------------|
| 9/16" Wrench | 15mm Wrench |
| 3/4" Wrench | C-clamps |
| Drill | Cutters |
| 3/8" Drill bit | Thread locker |



Photo #2



Photo #3a

bolts with lock washers, **part #19-62**. Even though the bolts come with lock washers, a drop of thread locker is always a good idea. Torque the bolts to 65 lbs. (**photos #3a & #3b**). When installing a torque converter make sure it is slipped all the way into the transmission. The front snout of the converter should be about 1" in from the front face of the transmission (**photo #4**).

The 700-R4 transmission crossmember installation kit, **part #19-157**, comes with all bolts necessary to install the transmission. The bellhousing is held to the back of the engine with six 3/8" x 1 1/4" bolts with lock washers. There is a left and right bracket that is also bolted to the back of the engine to support the bellhousing to the frame. These brackets are held to the bellhousing with the two lower bellhousing bolts on each side of the engine (**photo #5**). The torque converter is held to the flywheel with three metric bolts supplied with the kit. These bolts come with a drop of thread locker on them (**photo #6**). Next, bolt the lower half of the bellhousing mounts to the front side of the frame brackets, leaving the bolts loose at this time. The left hand bracket has a cut out for the emergency cable (**photos #7a & #7b**).

Of course you don't have to remove the engine to install the transmission, but the engine was gone from this frame when we went out to the junk yard. **Part #18-06** are the front mounts to be used when front mounting a small block in a tri-five frame. The two rear holes in the engine crossmember are for the V-8 engines (**photo #8**). The rear transmission mount, **part #19-18**, is mounted to the transmission case just behind the transmission oil



Photo #3b



Photo #4



Photo #5



Photo #6



Photo #7a

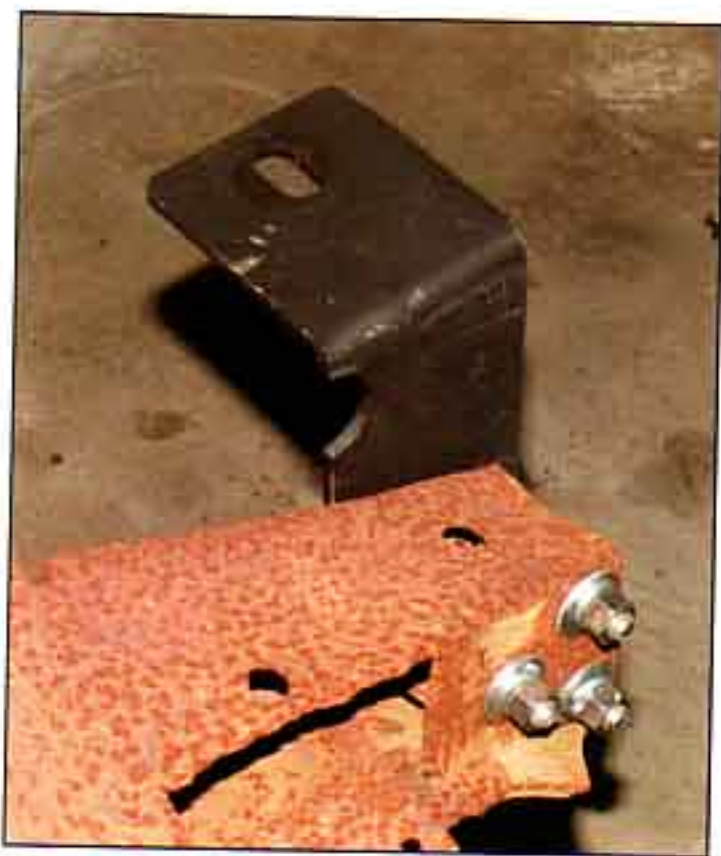


Photo #7b



Photo #8



Photo #9



Photo #10



Photo #11a



Photo #11b



Photo #11c



Photo #12



Photo #13a



Photo #13b

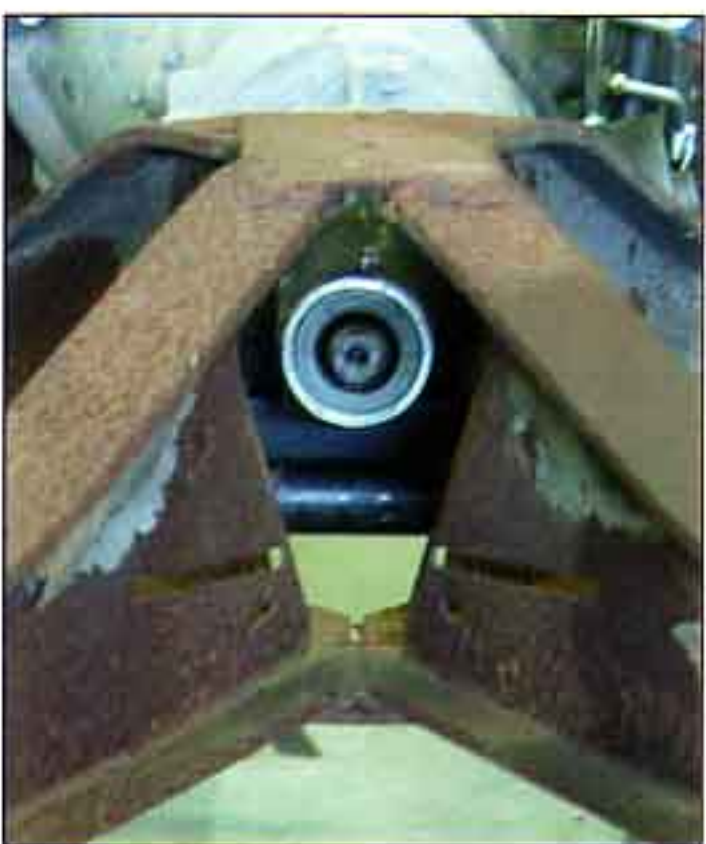


Photo #14



Photo #15



Photo #16

pan. The two metric bolts that hold the mount to the case are included in the bolt kit with the installation kit (**photo #9**). The front engine angle mounts, **part #18-08**, bolt to the two lower 3/8" holes on each side of the timing cover (**photo #10**). The upper and lower bellhousing brackets have a rubber grommet top and bottom, and two grommets between the upper and lower brackets. There is a 1/2" x 3" bolt with a flat washer top and bottom, and a nut with a cotter pin that holds the upper and lower brackets together. Snug the bolt until there is just a small amount of squeeze on the rubber grommets and then install the cotter pin (**photos #11a, #11b & #11c**).

Next bolt the crossmember to the transmission mount and mark the frame where the four 3/8" holes will need to be drilled (**photo #12**). Once the frame has been marked, remove the crossmember and drill the four 3/8" holes. The crossmember kit comes with four 3/8" x 1" bolts with flat washer, lock washers and nuts. The bolts will pass through the outside of the X-frame and have a nut and lock washer on the side (**photo #13a & #13b**). The crossmember will center the output shaft in the "X" of the frame (**photo #14**).

Part #19-36 is the front yoke for the driveshaft. This yoke is the same for a TH350. Install the yoke on the stock driveshaft, sliding the yoke into the transmission until it bottoms out. Then pull the driveshaft out 1" and mark the driveshaft to be shortened. The driveshaft will need to be shortened by a driveshaft shop (**photo #15**).

The dip stick and tube, **part #19-67**, will fit into the case on the passenger side and has a tab that is bolted to the one bellhousing bolt (**photo #16**). The TVI/detent cable will attach to a hook in the transmission on the passenger side also. This cable will control the shift points of the transmission (**photo #17**). The cable is held to the transmission case with a small metric bolt (**photo #18**). The TVI/detent cable bracket, **part #19-23**, will bolt to the two rear intake bolts on the driver's side of the engine (**photo #19**). The end of the cable has a square block that will clip into the cable bracket (**photo #20**). The cable will attach to the lower part of the throttle arm on the carburetor with a threaded pin, **part #19-66**. This pin is held to the arm with a 1/4" nut and lock washer (**photo #21**). There is a plastic clip on the cable that will



Photo #17



Photo #18



Photo #19



Photo #20

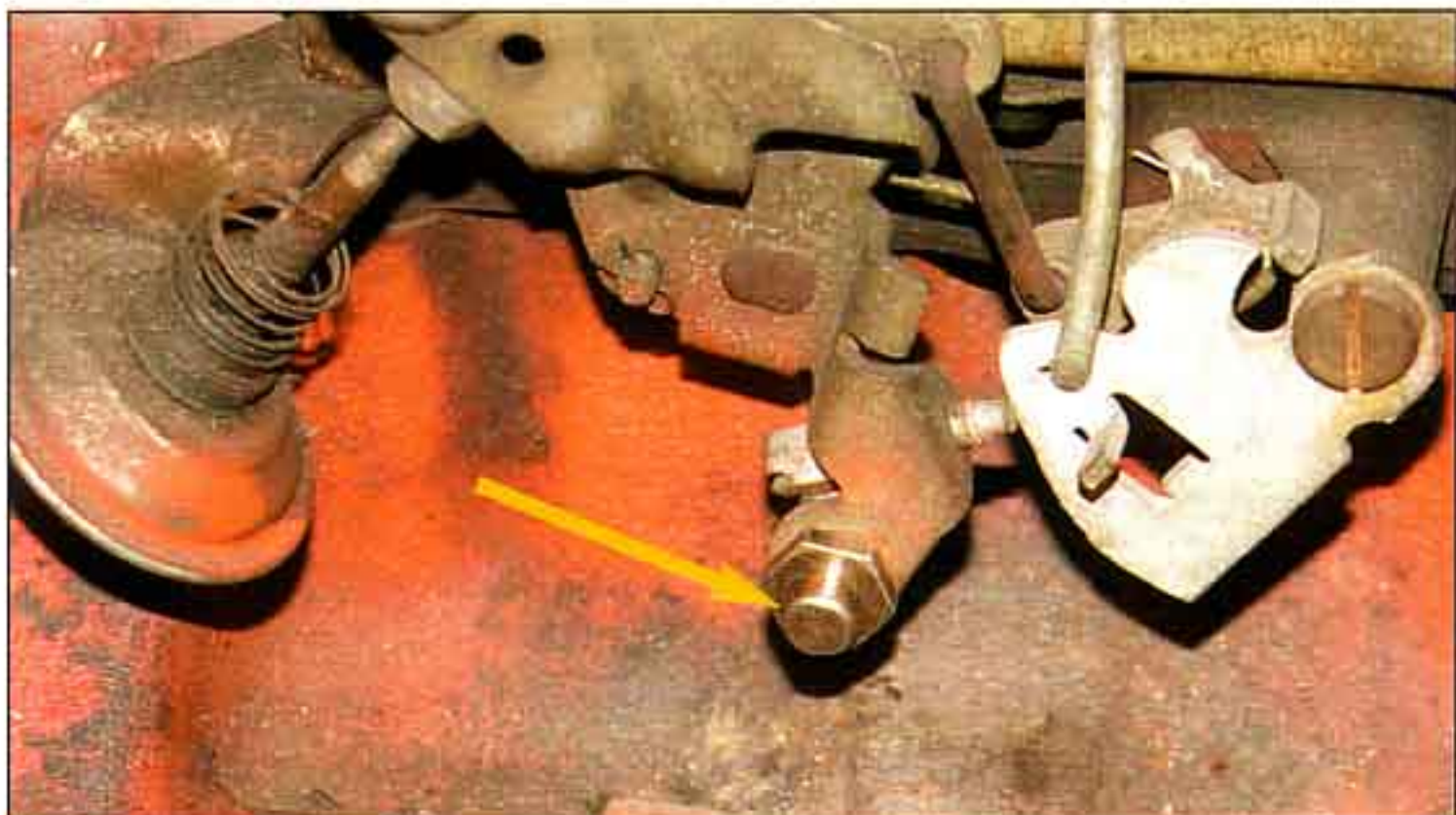


Photo #21



Photo #22

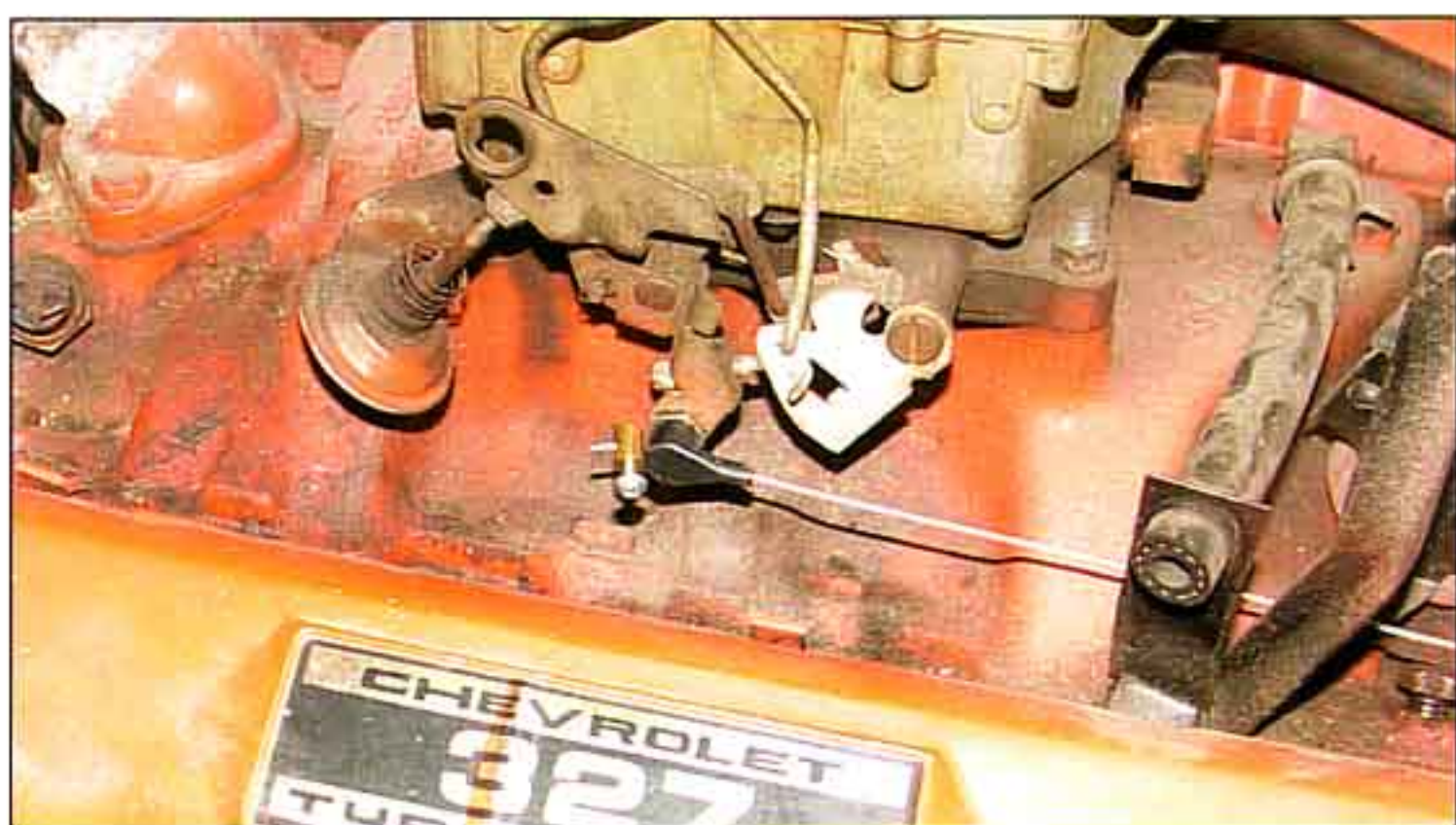


Photo #23



Photo #24



Photo #25

hook to the new pin on the carburetor (**photo #22**). With the engine OFF hold the carburetor linkage wide open and pull the TVI/detent cable tight. There is a barrel clamp with a set screw. Slide the barrel clamp up to the plastic clip and tighten the set screw. Now let the throttle close, there should be slight tension on the cable (**photo #23**).

The speedometer cable, **part #19-02**, will attach to the tailshaft housing on the driver's side of the transmission and is the proper length to attach to the instrument cluster (**photo #24**).

The 700-R4 transmission installation kit includes the shift linkage, **part #19-19**, that will connect the column to the transmission (**photo #25**).

The prebent cooler lines for the 700-R4, **part #19-69**, will connect to the transmission, tuck up close to the engine, and then connect to the radiator (**photo #26a & #26b**).

Now fill the transmission with fluid and start the engine. With the car on jack stands, run the car in forward and reverse and recheck the fluid filling if necessary. Now take the car for a test drive, if the car shifts to soon, loosen the TVI/detent cable. If it shifts to late, tighten the cable up a bit.

We are sure you will enjoy having a modern four-speed automatic overdrive in your Classic convertible.

Good Luck! 



Photo #26a

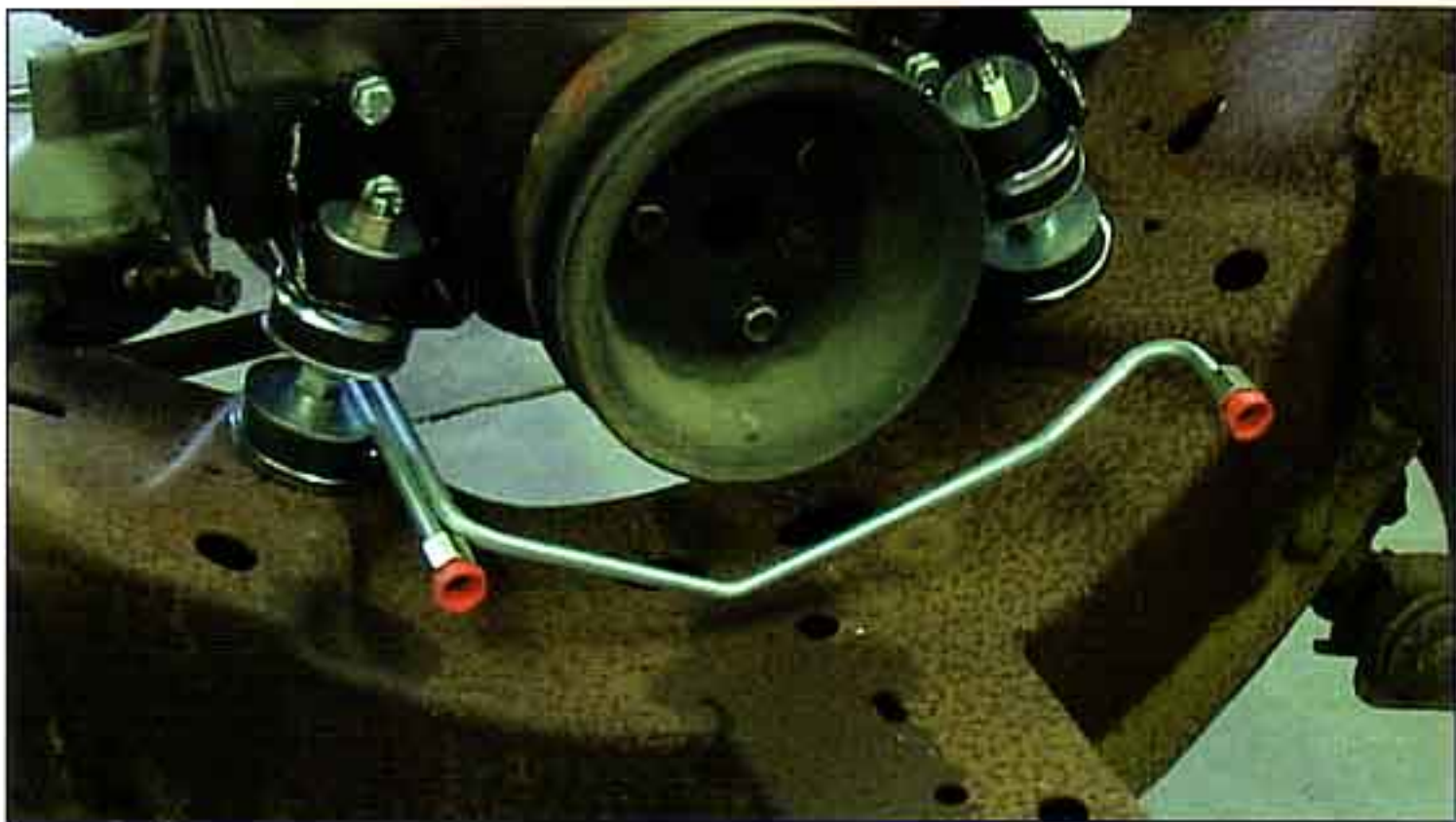


Photo #26b