

Aus FORSCHUNG UND TECHNIK



Opel GT: Conversion to 5-Speed-Getrag-Transmission

Part II: Installation of the Transmission

In the last issue, I described the rebuilding of the shift linkage on GT-dimensions, or at least how I rebuilt it. It probably works for other applications. At first I thought about just moving the opening for the shifter, but that's not likely to be the most surgically correct method and doesn't help to keep the value of the car. It is not necessary, if you, as described in Part I, rebuild the shift linkage. It fits! That was my goal.



Installing the gearbox

The question was: Will the 5-speed bell-housing and transmission-unit, mate to the engine? In a section of the workshop literature it is represented that the GT engine and transmission must be removed as a unit. "Do you have to remove the engine to get the transmission installed?". Maybe? I couldn't figure it out, so I asked around.

That now comes also into brooding,:

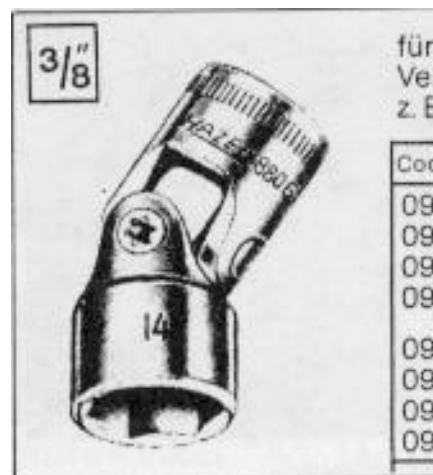
Z. B. Starters, mechanisms etc
Five-speed gearbox in the GT

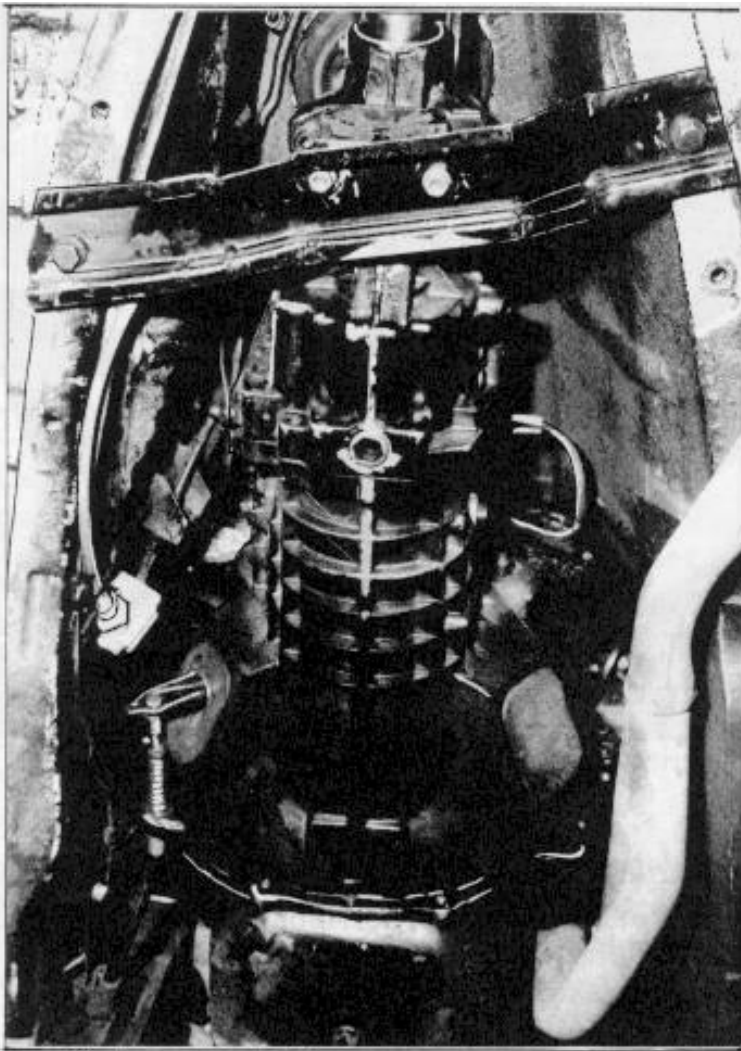
Now with a bit of serious thought:

IT IS POSSIBEL! I haven't had any problems removing the original 4-speed and replacing it with the 5-speed.

First I had to remove the radiator. Then raise the GT off the ground approximately 60 cm (2 ft.) in the front and rear at the jack points. Not who over the suitable Decreed aids, should itself to this stable, high bucks and a hydraulic car - lifters lend.

Drive shaft and gearshift levers develop, Speedometer-wave and reverse light-counters clamps. If the rear transmission cross-member is unbolted the transmission comes down in one piece. The problem is un-bolting the bell-housing. I used a super long extension with a universal joint for badly accessible bolted connections, starter mechanisms, etc





Getrag 240 transmission in the GT

Instead of the big extension you can also use three short extensions together. Loosening of the bolts on the bottom is easy. After the transmission is bolted on, the motor is easily lifted in front using a jack with wood inserted to prevent damage to the oil pump cover. The pump is exposed and can easily be damaged. At this point the engine is at a steep angle, and care should be taken not to strike other parts of the engine compartment.

With injection engines the cold start-valve at the suction tube area is a tight fit. Therefore, a helper must watch that the cold - start-valve doesn't hit the windshield wiper posts. With a carbureted motor the throttle linkage should be protected so that it is not bent. The exhaust moves some with the movement of the engine and should be disconnected at two mounting points. You should take this opportunity to inspect the condition of the clutch, if necessary replace the clutch, pressure plate and throw-out bearing.

It's also necessary to check the oil level in the 5-speed transmission before installation. The inspection plug is a 17 mm Hex head socket screw. The Getrag 240 holds 1.5 liters (apprx. 3 pints) of gear oil. My transmission was a missing about 1 liter (2 pints). That would be embarrassing when trying to test drive.

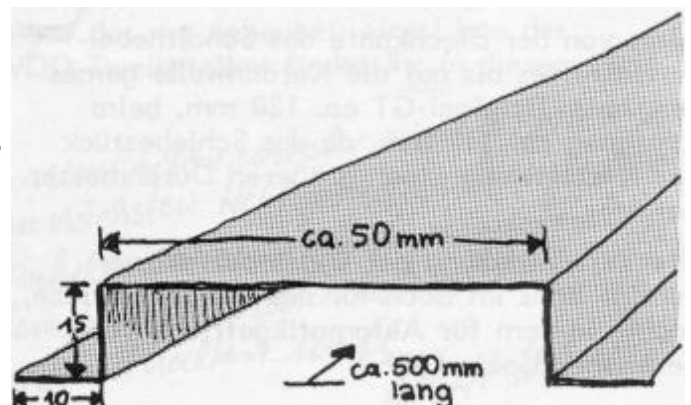
Before bolting the Getrag in place, you must install the original 4-speed clutch release arm. The lever is identical, except in the mounting of the clutch cable, the GT has a ball-piece, the Getrag, a threaded screw and ball. An alternative is to swap the clutch cable. Then, the comfortable adjusts slips however - possibility the clutch above in the motor - area.

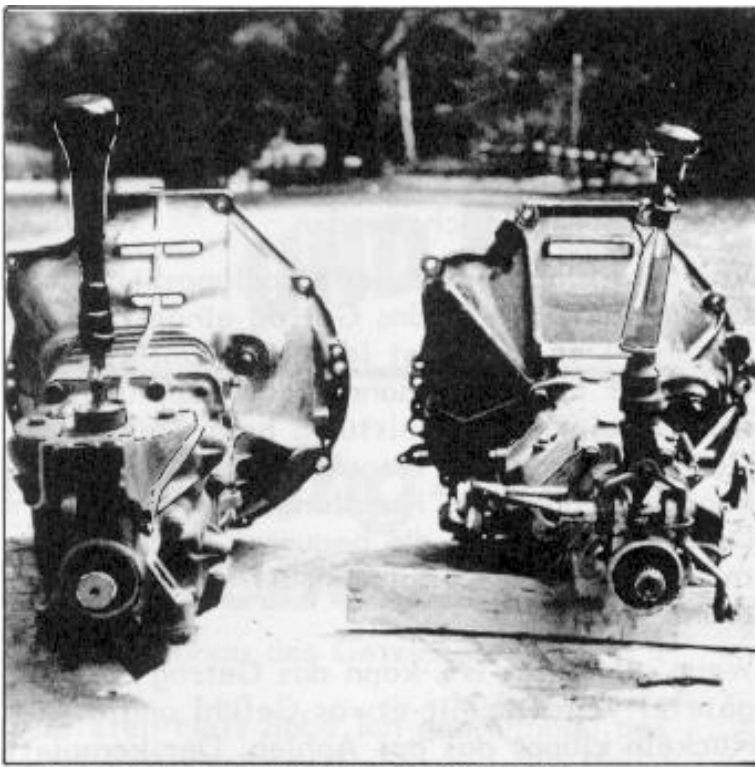
Now you can start to fit in the Getrag. With some feeling and something That works out jerk-in straight away. The completed gearshift-assembly (hold-angles " B ") see part I, remains dismantled during installation. After the installation of the transmission complete the installation of the shift linkage. Now, check the position of the shift pattern in the vehicle. If it is incorrect it can be repositioned and corrected, see Part I.

The wires for the reverse light switch must be extended, since switch on the other side of the transmission. Also the transmission cross-member on the Getrag 240 sits 9 cm further to the rear than the original cross-member. The rear transmission mount must be used from the Getrag,

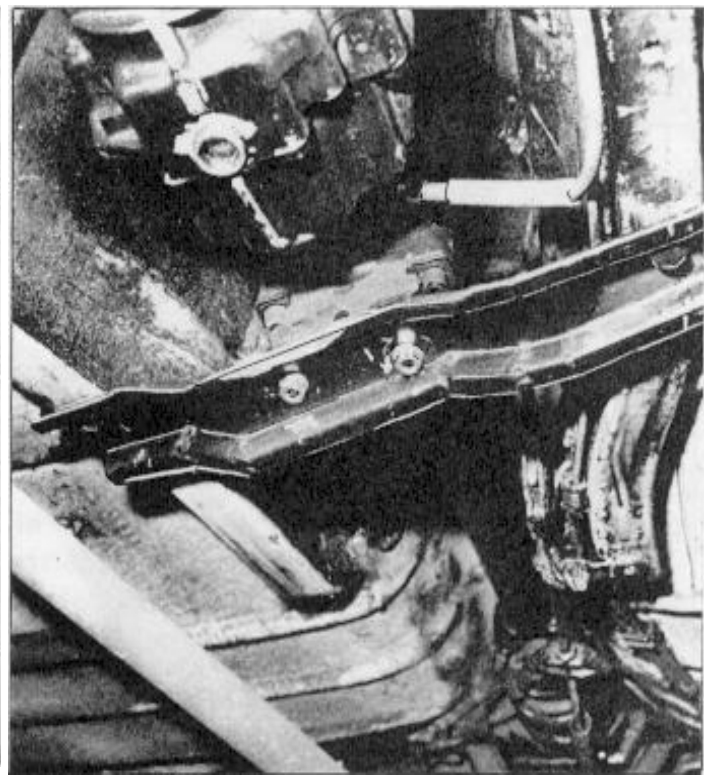
Opel Part- No. Q6Q 2515, price 41,36 DM + VAT (\$20 USD + Tax).

I didn't want to cut the original GT transmission rear cross-member. I have duplicated the corresponding tilted profile out of zinc-coated sheet metal, see sketch.





LH Getrag, RH original transmission

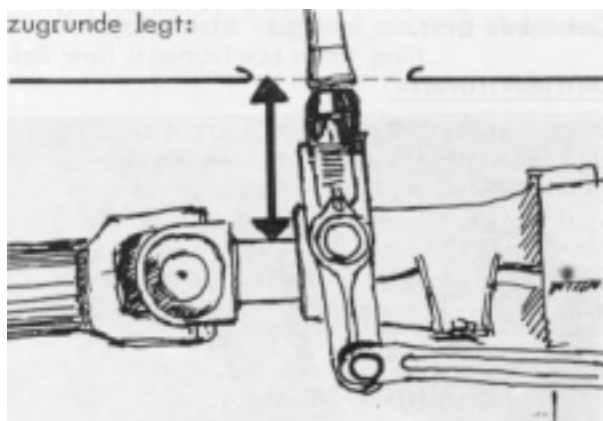


Transmission rear cross member

This sheet metal strip was installed after being cut, bent in to a vee-eight re-welded. When this cross-member was ready, it still appeared the mechanism sat too low. Therefore, I put another 8 mm thick aluminum-block between the cross-member and rubber. If not done, the drive shaft would bend at too severe an angle. You can control the height of the transmission based on a comparison measurement from the stock-GT.

Drive shaft

The tail-shaft of the 5-speed transmission is larger at the rear than the original manual transmission. It closely matches the Opel automatic transmission tail-shaft. Unfortunately, the GT's available automatic transmission drive shaft doesn't fit either. It's too short for the Getrag. Therefore, the Automatic drive shaft must be lengthened and the flange mated for a U-joint. At a salvage yard a drive shaft from an Ascona (1900) cost 30-40 DM (\$12-15 USD).

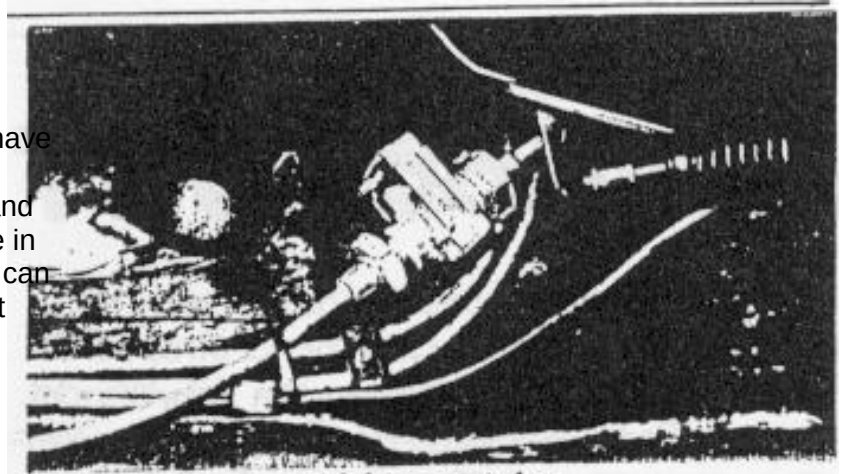


This drive shaft must be properly shortened to the correct length and re-welded. Here, do-it-yourself is absolutely prohibited. You can improperly weld the seam and structurally alter the material that may ultimately lead to failure of the drive shaft. For safety reasons, the re-welds must be thoroughly inspected for hairline cracks. Also the balancing can only be done on specialized equipment. Balancing is no problem, if he has a fitting for an Opel drive shaft.

Remove material from the sheet metal edge of the gearshift hole. Remove material until on the driving shaft with the Original-GT approximately 120 mm, beim Five-speed approximately 117 mm, tail-piece on the drive shaft has a larger diameter. The bolt-up of the Getrag connection of the transmission cross-member takes place in the holes for the for the automatic transmissions. Fig.,

If this service is not available, you could go to one of the GT mail order suppliers. There you get a drive shaft that has already been shortened and re-balanced. Prices range from 200-300,- DM (\$90-140 USD), time of delivery approximately 2-3 weeks, they also do custom orders. The use of the automatic transmission drive shaft is somewhat less expensive.

However; it is more important in my opinion to have the guarantee that the drive shaft is expertly welded and balanced. Improperly constructed and unbalanced drive shafts could break a nice hole in the floor board or other consequences that you can imagine. Additionally, an unbalanced drive shaft considerably reduces the joy of driving. Ask specifically, before you buy it.



Speedometer-adjustment

Speedometers adjustment gearbox

The connection of the speedometer cable to the 5-speed transmission is no problem, only the speedometer will register 40 km/h (25 mph) too slow. This can be remedied by calling the VDO Factory. The branch office in Hanover has been very cooperative and friendly in the past.

Since one something similar, particularly as GT-drivers, not at all more know, I like to mention it. A test of relationship between the numbers of rotation and the distance the wheels roll of the rolling length brollversuch first became through - led, i.e. a marked route became departed and with help an on them/her/it Speedometer-wave of pretentious gauge the register was determined. The register indicates the number of turns the speedometer gear must make to register one kilometer. With my car with 205/60 tires, original 3.44 rear axle and the 5-speed with a blue pinion in the speedometer. The register was W = 685. VDO can re-calibrate a speedometer, in principle however, not this speedometer. That leaves for this reason Legislators only one deviation of 4%

from the real value. Otherwise a later buyer of the car could believe the car has less mileage. The GT had two different speedometers installed. The older models with W = 557, the newer with W = 660. The difference can be compensated for in the W 685 and W 660 at the speedometer. My speedometer; however, is a W = 557. For this VDO has a new speedometer replacement mechanism. The new mechanism is the size of a matchbox, sees fig. Speed and distance are exactly indicated. Incidentally, variances in the speedometer, faster or slower, can be adjusted. The cost for this without VAT (Tax) and with the use of your original speedometer mechanism is:

Labor, 18-DM (\$7.00 USD)
Differentials, 46-DM (\$21.00 USD)
2-speedometer gears, 50-DM (\$22.75 USD)

The speedometer mechanism should not be lubricated by any means. It is already permanently lubricated, despite the fact that it has a provision for lubrication. An excessive amount of lubricant on the mechanism will completely ruin it.

Albert Heinel