Transmission Conversions

Like the interior color, it seems that GT owners always figure the "grass is greener" for the other guy who drives another GT transmission type. While most conversions are from the 4-speed manual to the GETRAG 5-speed manual (which was well-covered in the August 1995 OMC Blitz issue), there are still numerous inquiries from those who inquire about swapping among the stock Opel transmission types.

Frequently, inquiries for automatic installations are for city-drivers (or their non-shifter spouses), while the higher-performance crowd appreciates the 4-speed manual. Most of the time, it's a good idea to acquire all the parts (including some smaller, but critical, hardware components) from a wrecked "donor" GT, as time and costs can add up (if you try to do this from more than one GT parts supplier).

For reference, a summary from the Feb 1995 OMC Blitz list of the parts you'll need, is reprinted below.

### Converting GT to 4-Speed Manual Transmission

**Important:** New Clutch Pilot Bearing, must be installed into engine crankshaft journal
(Consider also changing rear seal and shifter shaft seal(s) on transmission prior to install)

- Transmission with GT Shifter Linkage (different linkage than Kadett or Manta)
- Transmission bolts (3 are 1 5/8” long, and 1 is short 1 1/4” long) to the Bellhousing
- Drive Shaft and internal thrust spring (shaft is thinner than the automatic shaft)
- Transmission Mount Bracket (longer than automatic trans bracket) & 2x (13mm bolts)

**Transmission Shifter, and smooth metal connector pin with "C" clip**

- Shift Boot
- Brake Pedal (narrower than automatic transmission type) with Rubber Cover
- Clutch Pedal
- Pedal Attaching Bolt to interior firewall (longer than automatic transmission bolt)
- Pedal Bolt Support Bracket (found on 1972-1973 GT's, attaches to engine firewall).
- Throttle Linkage Rod to Accelerator Pedal (doesn't have external spring)
- Bellhousing and 6x (15mm head) bolts to engine block
- Bellhousing to Transmission Paper Gasket (a critical part)
- Bellhousing lower dirt shield metal plate, with 6 13mm bolts
- Bellhousing Ball Stud
- Bellhousing Front Cup Seal
- Clutch Arm
- Clutch Arm Rubber Boot
- Clutch Release ("Throw Out") Bearing
- Clutch Bearing Release Sleeve
- Clutch Disc
- Clutch Pressure Plate, with 4x 13mm head bolts to flywheel)
- Clutch Cable Hardware at Firewall: Metal Sleeve (size varies with GT vs. Manta),
  Clutch Arm Spring (4 1/2" long on 1969-70 GT's, 10 1/2" long on later GT's)
- Metal Washers, Rubber Bushings, E-Clip
- (Note: Add a 1” diameter hose clamp, on clutch cable behind the E-Clip, for extra support)
- Flywheel, with 6 17mm bolts
- Gear Oil (suggest 85-90W, 2 1/2 pints; Can use 140W if transmission is worn or noisy)
- Speedometer W=897 (If transmission is "early style" 1968-70 GT) or W=1062 (later GT)
- Transmission Reverse Switch (Early style on driver's side, Later style on rear of trans.)
- Rubber Cap on Vacuum Fitting (cap port on intake manifold for automatic trans vacuum)

**Option: Higher-Performance Clutches**

Opels with a higher-performance engines (over 110HP, such as an Opel 2.2L, 2.4L, or an engine converted to 2.4L), a clutch larger than the stock 8.0” is needed.

To do this, some use European Opel 9” wide clutches, as an easy bolt-on upgrade. Others machine the flywheel flat & re-drill it for a later-model Chevy S-10 clutch. Advantages of the S-10 are initial replacement part price and availability, but disadvantages offset this with higher machining costs (such as re-machining a longer clutch arm pivot bolt).

Long-term S-10 durability has also been questioned, due to asymmetrical clutch bearing to pressure plate contact angle.
Opel GT 4-Speed Transmission: “Early” Style 1968-1970:

Speedometer face reads \( W=897 \) in lower center, on 1969-1970 GT's
(Note: Some early 1968-1969 speedometers, are marked on the rear only. Speedometers marked “\( W=1020 \)” are calibrated for the 1.1 engine in the GT).

Driver's Side linkage pivot point is bolted to the transmission case
Clutch Return Spring is 4 1/2” long (connects around the reverse switch bracket)

Opel GT 4-Speed Transmission: “Later” Style 1971-1973:

Speedometer face on 1971-1973 GT's reads \( W=1062 \) calibration
(Note: The “\( W=1062 \)” calibrated speedometer was also originally installed on all 1968-1973 GT’s with automatic transmissions, and adapts for the 5-speed GETRAG)

Driver's Side linkage pivot point is part of the transmission case
Clutch Return Spring is 10 1/2” long (from clutch arm, to hole in trans mount bracket)

Speedometer Gear: Early Model (details above)

Located on passenger side of transmission
Speedometer Gear is plastic, and brown in color
(Note: Metal gear housing is held in with a metal pin.
To remove, use a flat screwdriver blade to lever the head of that pin slowly straight away from casing, as the fragile head snaps off when twisted. Once the body is exposed, use smooth pliers to pull the rest of the body out. If stuck, use penetrating oil like WD40).

Speedometer cable attaches to gear via a metal “angle drive,” which has a short internal cable piece (that can break).
The angle drive end can also loosen, causing the speedometer needle to “jump” up and down at speed on the road.
Replace inner seal & outer o-ring, when cable or “angle drive” leaks gear oil.

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Speedometer Gear: Late Model

Located on Driver’s Side of Transmission
Speedometer Gear is Plastic, blue in color

Metal gear housing is retained by a Shim held with a 10mm bolt.
Cable attaches to end of gear.

Reverse Switch
Screws into the rear of the transmission
Replace if gear oil leaks from switch.
(Use a 22mm wrench to remove this switch, to easily drain gear oil out of transmission)

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Converting GT to Automatic Transmission

Most common reasons for converting to an automatic, are for stop-and-go city driving, or for operation by a family member (who doesn’t want a clutch). But the GT automatic transmission is bulky, heavy, and difficult to install without a lift. It produces a slower vehicle with less acceleration, runs coolant 10 to 20 degrees hotter, and some replacement parts (like a flex plate with undamaged teeth) can be pricey when you find them in good condition. Known problems are fluid leaks, and inability to shift out of 1st gear (caused by disconnection of vacuum line from the intake manifold fitting to the vacuum modulator).

List of Parts needed:

- Automatic Transmission from an Opel GT (GM Turbo-Hydromatic 180)
  
  Note: GT is unique, as it has linkage on the passenger side
  
  (Other Opel automatic transmissions, have linkage on the driver’s side)
- Automatic Transmission Drive Shaft and Thrust Spring (short GT length)
- Automatic Transmission Rubber Mount and 2x (13mm head) nuts
- Automatic Transmission Mount Bracket (shorter than the 4 speed)
- Automatic Transmission Flex Plate (with all teeth intact and undamaged)
- Flex Plate Bolts 3x 15mm (to the Torque Converter)
- Automatic Transmission Shifter with Neutral Safety switch and linkage
- Automatic Transmission Interior Plastic Shifter Console with PRND21 Plate
- Automatic Transmission Metal Hoses for fluid (from the transmission)
- Automatic Transmission Rubber Hoses for fluid (to the radiator)
- Automatic Transmission Radiator for a GT (has trans cooler ports at bottom)
- Metal hose, from vacuum modulator to intake manifold vacuum fitting
- Rubber connector hoses, for long metal vacuum hose
- Intake Manifold port fitting, with extra vacuum outlet, for A/T vacuum hose
- Detent Cable (a.k.a. "kickdown" cable)
- Automatic Transmission Brake Pedal (wider than 4 speed pedal) and cover
- Pedal Bolt (shorter than 4 speed bolt)
- Automatic Transmission Wire Harness (from neutral safety switch to starter)
- Automatic Transmission Throttle Linkage (has external spring near pedal)

Important: Fluid Retention Areas:

Opel Auto Transmission Fluid leaks are common, but if they are not dealt with, not only cause poor drivability (sluggish shifting, slipping out of gears) but can cause total failure (if transmission gets too hot). It’s easiest to replace all seals, when the transmission is out of the car.

Detent “Kickdown” Cable:
Handle carefully: Brittle plastic housing cracks (causing continual). Replace cable, replace o-ring seal, and adjust to pedal (per service manual procedures) when needed.

Pan Gasket (install with a new filter):
Overtorqued bolts deform metal around holes (which cuts gaskets). Flatten flanges with soft hammer on a wood board. Install gasket dry, and use tacky sealer sparingly (if needed)

Dipstick Tube Seal:
A critical transmission fluid leakage location, is where the dipstick tube enters the transmission case. This is best fixed when the trans and engine are out of the car. Install a new o-ring seal and apply a thin ring of RTV/Silicone gasket sealer above the o-ring on the dipstick tube. Bolt the tube to the engine, and let cure 24 hours. Lift engine and transmission as an attached unit, into GT.

Flex Hoses:
attach to threaded ports in unique GT A/T radiators (with bottom fluid tank)

Separation: Loosen where metal hoses meet rubber flex hoses

Many internal replacement components are available, because the Opel “TH180” model automatic shared parts with other 1970’s small-sized GM cars (Monzas, etc.)

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OPEL MOTORSPORTS CLUB

OMC is an independent US-based auto club, that specializes in German-made 1968-1975 Opels.

OMC was founded in 1980 by Opel enthusiasts who wanted to share information and promote their marque in motorsports. A newsletter was established to promote Opel events, report Opel-related news, provide technical tips, discuss vehicle upgrades, and give members a free place to advertise.

New “Full Memberships” receive:
A year of bi-monthly print issues of OMC newsletter “The Blitz,” a roster of club members, an OMC decal and a window emblem. Members can also participate in local OMC chapter activities, held all over the USA.

OMC Newsletters: “THE BLITZ”
(Print version black/white; Online in color)

OMC Activities & Annual Meeting

Opel Motorsport Club is the longest-established Opel club in the U.S.A. Members travel great distances to attend the OMC Annual Meeting, a mid-Summer gathering and display of classic and restored Opels. Benefits of membership also include information from other Opel owners on the maintenance and improvement of their Opel(s), and the ability to contact fellow members on their common interests.

Opel Motorsport Club funds help maintain our website (with helpful Opel information) at: www.opelclub.com

OMC’s peer-reviewed technical information helps owners avoid common and costly errors on Opel repair jobs! OMC is officially recognized by the Opel factory of Russelsheim, Germany, and OMC “SOLO II” racing activities are also sanctioned by the SCCA (Sports Car Club of America) for racing nationwide in the USA.

“Full” U.S. Membership: $45.00 (Includes bi-monthly b/w print issues of The Blitz, postage & benefits listed above)
“Online-Only” Member: $20.00 (Includes downloadable Acrobat .pdf version of The Blitz, for home color printing)

To Join: Send your name & address, with check/money order payable to “Opel Motorsports Club” by mail to:
OMC Treasurer, 3824 Franklin Street, La Crescenta CA 91214-1607

OR: Send $47 for Full US Membership or $22 for Online Membership, via PayPal to: JoinOMC@opelclub.com

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