# MG YB 5 Speed Conversion

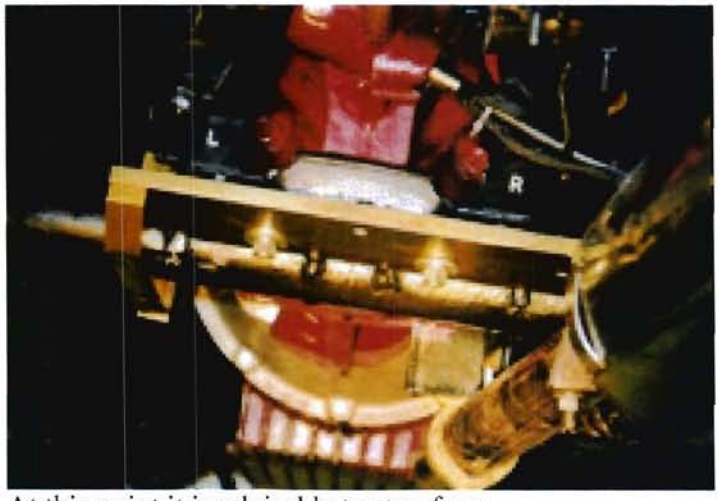
**By Tony Vernall**

When you change into top gear on your Y type, have you ever wished that you had another gear? Well this is now possible with the Hi Gear 5 Speed Conversion kit. When fitted this kit enables the car to be driven in today's traffic with ease, and allows the XPAG engine to reach its full potential without any strain. It can be fitted by anyone with moderate mechanical knowledge and should take no more than a weekend, once the preparation has been done.

The kit consists of the following parts: new bell housing, propshaft, engine stabiliser, engine mount, Gearbox mounting plate, gearstick, new floor rail brackets, clutch plate, all nuts and bolts and a new Gearbox cover. You will also need to source a Ford Sierra Type 9 gearbox; these can be had for about £65.00. For the purists it is good to know that you do not have to cut the chassis when fitting the box, only trim small amounts from the original gearbox mounting plate, the car can be returned to original at any time in the future.

So how do you set about the conversion? Preparation of the Sierra gearbox consists of filing off a portion of the rear of the casing, this can be done with a large half round file, also cutting back the thrust bearing tube. It is prudent to drain the fluid from the Ford box at this time. Remove the Sierra gear lever, remove the cross shaft and operating fork from the MG bell housing and install n the new housing, then bolt the housing to the Ford box. The gearbox is now ready to install.

Now the preparation of the car. Remove the seats, floorboards, propshaft, propshaft cover and gearbox cover. Disconnect clutch linkage and separate gearbox from engine and remove from the car. Don't forget to drain the MG gearbox before you start. Drain the radiator and remove, complete with grille, from the car.



At this point it is advisable to stop for a cup of tea and contemplate the work that has to be done.

To accommodate the new box the engine must be moved forward approximately 10mm. To enable you to do this the kit has a new engine mounting and an extension to the engine stabilising bar. With the engine on a jack (and a large piece of wood) it is easy to move it forward and fit the new mounting and extension. Make sure there is no strain on cables etc. The clutch cover can now be removed from the flywheel. Inspect the clutch cover and thrust bearing and replace as required. Refit the clutch cover using the new Ford clutch plate provided, Bolt the rubber mounting to the rear of the gearbox and install the gearbox in the car. This may take some time as the box s a tight fit against the cross member. Use a little patience here! When the box is bolted up to the engine it is time to fit the mounting plate to the cross member, this is quite easy. The gearbox mounting can now be bolted to this plate and adjusted as required. Time for another cup of tea.

Re-attach the clutch operating mechanism and adjust the clutch. At this point make sure that the rear of the gearbox does not touch the cross member; if it does adjust the plate to gain clearance. You will now find that with the new gearbox installed the handbrake fouls the gear lever, to rectify this the handbrake and cable plinth will have to be moved 5" back on the propshaft tunnel, this means you will have to drill out the spot welds on the cable plinth. Move the plinth 5" to the rear and secure with bolts. The handbrake lever fixing holes must also be re-drilled 5" to their rear and the hand brake bolted into the new position. The handbrake cables must be re-routed through the rear bulkhead, instead of entering via the floor.

Refit all the parts you have removed, fill the gearbox with oil (use only Ford oil) and you are ready for a test run. The first run with the new box installed is a revelation. The box is quiet in all gears; you no longer have to double de-clutch. The car cruises at 70mph with ease and the engine revs are about 4000, lovely!

You will now have to re-calibrate the speedometer; instructions on how to do this are included in the kit. In conclusion, this modification is very worthwhile, it

allows the car to be used on modern roads and in modern traffic. It has the added bonus of being able to convert back to original at anytime. I strongly recommend it to all Y Type owners.

This article only gives you a general idea of the work involved and how to set about it. A complete step-by-step set of instructions is issued with the kit that are well written and easy to follow.

The kit is provided by Hi Gear Engineering, 82 Chestnut Avenue, Mickleover, Derby DE2 SFS, Tel/fax: 01332 514503. Any owner who would like any advice, I would be only too happy to assist them. Any owner in the South East who would like the conversion carried out for them should contact J W Adams Vehicle Engineers, Tel: 01303 254258, without whose help I would have been lost.

Also my thanks to Peter Gamble of Hi Gear Engineering for his help and advice.

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P.S. Must now think about an upgrade of the brakes!!!

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Note by Neil Cairns.

I picked up a Hi-Gear Engineering leaflet at Silverstone, and they do the conversion kit for literally any M.G. The five speed gearbox used is that of the Ford Type 9, as fitted to the Ford Sierra saloon. The correct version of this gearbox can be found on the 1982-87 1.6L, 1.8L and 2.OL, as well as the 1982-91 16L and 1.8L. This gearbox has the shorter primary motion shaft, (the one fitting into the clutch,) so DO NOT use the almost identical gearbox from the 2.3L and 2.8L Sierra, or any Capri, XR4, Transit van, or the 2.3 diesel. These gearboxes have a primary shaft that is too long. Again, there are four-speed versions of this gearbox about, and these can be identified by NOT having a 'sandwich' extension plate between the gearbox casing and the rear extension casing. The fifth-speed lives inside this 'plate'. The four-speed gearbox does not have this sandwich-extension. The primary shaft on the correct five-speed gearbox is 145mm long. To make life easy for you the company can supply a correct gearbox with their kit, including a heavy duty one for competition work. The standard Sierra five-speed gearbox has ratios of first - 3.65; second - 1.97; third - 1.37; top - 1.0; fifth - 0.82. (Note, these are the gearbox ratios, not those after the rear axle.) A standard 'YA' has gearbox ratios of first - 3.49; second - 2.07; third - 1.38; top - 1.0. 'YBs are almost the same.

For the technically uninitiated, please remember that with such a five-speed conversion, fourth gear is actually top-gear, (i.e. direct-drive of 1.0 to 1.0.) The fifth-gear is an 'overdrive'. Normal motoring will still need you to use fourth most of the time, but you can relax the engine by using lower revolutions on long fast roads. Unless you improve the engines performance by increasing its torque, you will still need to use third gear on many hills, and top, (fourth,) for shallow hills. To improve an XPAG's torque by a large amount you need to either fit a super-charger, or bore it out to 1466cc and fit cylinder liners. However, firms like Brown & Gammons could come to your aid if you buy their improved camshaft conversion kit, along with TF inlet and exhaust valves fitted to your cylinder-head, and a bit of gas-flowing to the ports, and a slight rise in the compression ratio.