

## MGA 5-Speed Gearbox Conversion Kit

### G816 – G816Q

The MGA is an excellent road car and a drivers delight. One of the very few criticisms of this car on modern roads is its original gearbox and low overall gearing.



The standard axle ratio of 4.3/1 gives 17 mph per 1000 rpm in 4th gear. These characteristics give a very lively performance right up to maximum speed. The major drawback is apparent when cruising on motorways at 70mph for long periods.

The engine rpm at this speed is 4118 rpm which is high compared to modern vehicles with 5 gears.

This continuous high rpm causes increased engine wear and vibration with passenger and driver fatigue.

The conversion adapts a Ford Sierra Type 9 gearbox (5 speed, 1.6L & 1.8L: 1982-91, & 2.0L: 1982-87) to the MGA 1500, 1600 MkI, MkII and twin cam engines. MGB 1800 engines can be installed with additional parts, which we can supply.

The conversion is supplied as a kit complete with all parts, nuts and bolts, fitting instructions for the competent owner to fit.

The Type 9 Sierra gearbox is not part of the kit but is either supplied by the owner or can be supplied from Hi-Gear Engineering Ltd. Various alternative gear ratios can be provided including a close ratio gearbox and a standard ratio gearbox with a higher first gear ratio of 2.98:1.

The vehicle speedometer will need calibrating. Several companies are able to do this. Instructions on how to measure the vehicle speedometer characteristics for re-calibration are included.

## The Kit Comprises

1. Cast aluminium Bell Housing
2. Clutch release lever pivot & bolt
3. Gasket, Bell Housing to gearbox
4. Extended spigot bush
5. Rear mounting bracket/distance pieces
6. Rear rubber mounting
7. Rear mounting crossmember
8. Crossmember spacers (2)
9. Crossmember tapped securing plates
10. Modified gear lever assembly
11. Clutch plate (driven)
12. New propshaft assembly
13. Speedo cable/circlip
14. All bolts & fasteners
15. Detailed fitting instructions
16. Loctite (2 types)

| Gear Ratios        | MGA Standard | Standard Ford | Modified Ford | Closer Ratio |
|--------------------|--------------|---------------|---------------|--------------|
| First              | 3.65         | 3.65          | 2.98          | 3.36         |
| Second             | 2.214        | 1.97          | 1.97          | 1.81         |
| Third              | 1.374        | 1.37          | 1.37          | 1.26         |
| Fourth             | 1.0          | 1.0           | 1.0           | 1.0          |
| Over-Drive/Fifth - |              | 0.82          | 0.82          | 0.825        |



The Bell Housing is cast in high-strength LM25TF heat treated aluminium alloy and is robustly constructed. The standard MGA clutch cover, release lever and clutch operating hydraulic cylinder are all re-used. A suitable clutch driven plate is provided.

A modified Sierra gear change mechanism is supplied with replica MGA gear lever which is situated in exactly the right place in the car so the conversion is undetectable.

A quickshift gear lever is supplied as standard giving a precision gear shift with reduced gear lever movement.

The propeller shaft provided in the kit is to the original manufacturer's specification:

Torque: 570 Nm, 422lbft (short duration) MAXIMUM

Speed: 7000 Rpm MAXIMUM

This corresponds to 5740 engine rpm in fifth gear (ratio 0.82:1) and 7000 engine rpm in fourth gear (ratio 1:1). For any higher values of torque or speed, Hi-Gear Engineering Ltd can refer the customer to the manufacturer.

The results are dramatic, relaxed cruising at 70mph and 3376 rpm in 5th gear (20.73 mph per 1000 rpm). Better acceleration due to the higher second gear of 1.97:1 (MGA 2.214:1) and synchromesh on all forward gears. Improved fuel economy is an added bonus.