Post War M.G. Saloon Cars.
1947-1990

By Neil Cairns.

Forword.

M.G. began as Morris Garages in a side street in Oxford. The initials were the idea of the Manager, Cecil Kimber. That name will always be associated with those initials, and the Octagon they invariably appear in. First, ordinary Morris saloons were modified in the 1920's, (the Bull Nose Morris Cowley and Oxford.) Then the firm grew to take delivery of Morris Chassis, upon which M.G. put their own two seater bodies in the 1930's (Morris Minor's with Wolseley ohc engines.). Then in the 1930's they went into motor racing and were a force to be contested with, (using a six cylinder ohc engine from the Wolseley Hornet.) By the late 1930's Kimber had not only a good spread of two seater sports cars for sale, but a very up market selection of large saloons, (the VA, SA and then the WA.) WW2 put an end to all this, and after WW2 this is where this book takes up the M.G. saloon models.

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Another similar book by me on MG Engines is available as a free download on :
< www.mgcars.org.uk/engine/mgenginehistory.rtf >

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Introduction.

The cover photograph is that of two 1950's M.G. ZB Varitone Magnettes, rusting away quietly in a Welsh village on the banks of the river Conway. In the photo it is an early 1990's springtime and the subject quite emotive. If you look at this picture, and feel you want to save those two old ladies from their inevitable end, then you are a M.G. Saloon Car Enthusiast, and this book is for you.

There are books enough on M.G. sports cars and racing cars, enough to fill a library. On the subject of M.G. saloon cars the books can be counted upon one hand. This reflects the view many enthusiasts have on the saloons, causing the four-seater M.G's to be shoved into the background. Since WW2 the production of M.G's has been a 66% to 34% split, the majority being of sports cars. But note that one third of M.G's built were saloon cars. That figure also goes for all M.G's ever built. It is poignant to point out that M.G's began as modified saloons, and in the 21st century are currently again in production with sporting saloons!

I have been a saloon enthusiast for many years. Unless I win the Lottery the high prices of the so-called 'affordable sports car' currently putting me off investing in one. Anyway, few have heaters, or four seats. My 1952 M.G. One and a Quarter Litre 'YB' four door, six light, saloon has seats enough for four people, a heater, a sun roof, and opening windscreen, with wind down windows. I can enjoy wind in my hair motoring in summer, and comfort in the rain, and in winter. The 1964 M.G. Farina Magnette I owned could carry huge amounts in its boot, and cruise at 70mph all day, all on leather seats, thick carpets, in comfort. Again it had four doors and four seats. The currently owned 1989 M.G. Metro 1300 was for a time the fastest production saloon M.G. had made, especially in Turbo form. It could also carry four people, had excellent road manners, and was fun to drive. The 'Z' Magnettes and Wolseley 4/44 and 15/50's of years ago, once owned by me, were solid reliable cars. The 'ZA' Magnette was the fastest 1500cc saloon in production upon its introduction in 1953. The same could not be said of the very similar Wolseley 4/44 with its 'M.G. YB' running gear.

YA, YB, YT, ZA, ZB, ZBF, Mk3, Farina Mk4, 1100, 1300, Metro 1300 & Turbo, Maestro and Montego are the M.G. models we cover. Read on.

Neil Cairns.

Post War M.G. Saloon Cars. 1947-1990

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To my son Graham, 1972-1995.

The M.G. One and a Quarter Litre.

The M.G. YA, YB, & YT four door, six light, saloon.

Chapter One.
The 'YA' & 'YT'.

In 1937 the General Motors owned subsidiary Vauxhall Motors of Luton introduced their first monocoque built car. This meant it had no chassis as such, but the whole structure took the stress of the engine, suspension, steering, and braking. They were not a true monocoque, as there was a residual front subframe. The Vauxhall 10 horse-power, (10hp,) Model 'H' four door saloon also had independent front suspension by torsion bar, (ifs) and an efficient overhead valve engine, (ohv.) It was the first mass produced monocoque family car built in the UK. This was closely followed late in 1938 by Morris Motors of Cowley introducing their Morris Ten Series 'M' four door saloon, also sporting a 10hp ohv XPJM engine of 1140cc and a monocoque hull. How ever, this Morris had at first been destined to have ifs as well, and a much better system than that of Vauxhall's, (which initially suffered repeated breakages of the very short torsion bar.) Also, whilst the Vauxhall continued with the popular, but very woolly worm & peg steering, the Morris had initially been intended to get rack & pinion steering. Neither the ifs nor the rack and pinion steering made it into production on the Morris. It was decided it was far too expensive for a mundane family saloon. In compensation, the Morris Ten Series 'M' did get a front anti-roll-bar cleverly designed to cancel out braking torque that often twisted the front leaf springs, winding them up. There was a 1938 Wolseley Ten/40 Series 3 saloon, that looked very similar to the Series 'M', but oddly though this used the same engine, (XPJW,) suspension, brakes, etc of the Morris, its body sat on a heavy, cross braced chassis. For the uninitiated the Nuffield Organisation consisted of Morris Motors, Wolseley Motors, Riley, M.G., and numerous smaller suppliers.

Whilst the Morris and Vauxhall went off in full production, eventually in their tens of thousands, the Morris ifs system along with its very neat and accurate rack and pinion steering was not shelved. Both Alex Issigonis along with Gerald Palmer, had been involved with the design of this Series 'M' Morris with its chassis-less construction and ifs. Alex in its suspension, Gerald in its structure and styling, no doubt assisted by Cecil Kimber. Claud Bailey had updated the old 1935 MPJM/MPJW ohv engine, also used in the M.G. TA as the MPJG, now designated as the 'X' series of Morris engine. It was this engine at 1140cc that went into the Morris Ten 'M' and Wolseley Ten/40 s3. The Morris Design Office at Cowley decided there was enough for a basis of a new smaller M.G.10hp saloon model, to complement the two larger M.G. saloons then in production, the VA and SA/WA. It had long been an aim of Cecil Kimber to get into the profitable-luxury fast saloon car market.

By 1938 and ready for the 1939 London Motor Show, a new M.G. Ten six light saloon stood ready for display. It sat very low and sportingly on its under-slung rigid chassis. It had been designed and styled in the Morris Cowley office, and it incorporated some engineering that would last out M.G. until the 1990's. The foundation of the car was a brand new fully boxed chassis by Gerald Palmer, with the

double-wishbone Morris ifs and rack and pinion steering at the front by Alex Issigonis. Sitting aft of the ifs was a beefed up single carburetter version of the'X' series engine of 1250cc from the M.G. TB, and a Morris Series 'M' gearbox and rear axle. Astride the very rigid but light 14swg steel chassis was a modified Morris Eight Series 'E' body. The Morris 8hp range had also gained a monocoque hull in 1939, but retained the 918cc side valve (sv,) engine and semi-elliptic leaf suspension. The first version of the M.G. Ten had a leaf sprung front axle, as used on the production Morris Ten series 'M'. All Morris cars were fitted with Lockheed hydraulic braking systems since 1935, this too was fitted to the new M.G. Ten.

The body was of a very pleasing and flowing style, very popular for the late 1930's. The car looked very 'right', and no doubt would have sold well in pre-war Britain. The basic Morris Eight hull had a much longer bonnet added, fronted with a M.G. chromed brass radiator grill. The two front wings fully enclosed the front wheels, and flowed down to vestiges of side running boards. These running board bolted to what had been the tumble-home styled sills of the Morris Eight series 'E'. Wheels were 16" pressed steel with chromed knave caps, (hub caps.) The rear wings also flowed out to the rear behind the car in a bustle, with an added on boot and rear wheel storage cupboard. Whilst the centre section of the car was definitely of Morris Eight origin, only the windscreen, sun-roof and front doors were interchangeable. The rear doors had a slightly different rear closing edge shape. The body was mounted onto the chassis at eight points. It was braced against moving fore and aft by triangular struts on the front end of the dash. Its specification for the 1930's was very good, with leather seats, wood faced dash and door cappings with octagonal looking instruments, (though initially the dash was painted steel and bakelite with standard round Morris gauges,) woollen headlining, fully carpeted, four speed gearbox, ohv engine, synchromesh on 2nd ,3rd & 4th gears, hydraulic brakes, automatic control of battery charging, reversing lights, electric wipers, opening windscreen, sun roof, adjustable steering column, adjustable front seats, interior light, a rear Panhard rod to locate the rear axle sideways, parallel wishbone independent front suspension, thermostatically controlled engine cooling with water pump assisted thermo-syphon flow, hydraulic Luvax dampers with the one at the front also acting as the top suspension wishbone, electrical semaphore direction indicators and a heater and a wireless if you wanted to pay extra. Whilst the 'Y' had a speedometer with an odometer mileage trip indicator, a petrol contents gauge, ammeter, and oil pressure gauge, there was no water temperature gauge.

The car looked as if it was traditionally coach-built with wooden framing and steel overlay, but it was very modern underneath as the whole car was a pressed steel, spot welded structure. The floor of the car was plywood. The chassis was particularly strong and rigid running under the rear axle being termed under-slung. This same chassis with seven inches cut out of the wheelbase and modified to over-slung would later find itself under the more sporting T Series M.G's of the late 1940's and 50's. As a sporting family saloon of the pre-war period, it was very well appointed, in the 'fast-hatch' style of today's cars. Included in the spec was an item that was then automatically fitted to all M.G, Wolseley, and other up-market cars, a full Jackall system. This enabled the driver to jack up the car to change a wheel without getting dirty, which shows just how often one got a puncture in those cross-ply tyres of the day. The pump and control for the system was on the front near side of the dash, under the bonnet. This system could be had on Morris models, but as an extra. On

Morris and Wolseley models the pump was under the front passenger floor. The front doors of the Y opened forward, today known as suicide doors as they can be snatched out of your hand by the wind if opened whilst the car is moving. Once mastered, they are far easier to enter and exit than current rearward opening doors.

The car was entirely designed by the Morris Design Office, though no doubt M.G. in the form of Cecil Kimber visited their office often to ensure the car was up to the exacting standards of the Abingdon company. Alas, the second World War intervened and the 1939 Motor Show was cancelled and the car put on the back burner. It was to be eight years later before it saw the light of day again as a production model, and the only M.G. saloon. In 1947 virtually the same car was announced by M.G. This time it was called the M.G. One & a Quarter Litre saloon, Series 'Y'. The designation 'M.G. Ten' was dropped, as the horse power taxation system finished with the war. The cars luck was not really good as it was overshadowed by the 'export or die' system, where the little M.G. sports cars were selling well overseas. The model had not been designed in left-hand-drive (lhd,) form anyway. There was a battery box in the way of any left hand side steering column, and a few oil pipes on the engine. The 'Y' ran from 1947 to 1952, with only 6,158 being built. There had been 80,000 of the Morris Ten series 'M' made by then. By 1948 there was an open tourer version, using the engine from the twin carburetter TC Midget and a different body. This was called the YT and only 877 were built as it was not the prettiest of open cars. It did how ever bequeath a lhd version to the range, by having the battery box moved to the centre of the firewall/dash area to accommodate that left hand steering column, and new oil pump piping to clear it. The YT was the first ever production lhd M.G. (and NOT the TD as so many books incorrectly state.) The first lhd M.G. was a YT built in October 1948, the first lhd TD Midget waited until early 1949. The lhd TD used the parts from the YT to be able to have a lhd version, such as the steering rack, column, oil pipes, etc. The vast majority of YT's went overseas, it was not meant for the UK market.

The 'YT' used much of the hull of the 'Y', but it was only a two door model. The doors were of traditional wood frame with a steel outer panel. The outer body panels were those of the 'Y' but the interior and dash were specific to that model. The windscreen could fold flat and the hood and side frames be stowed behind the rear seats. Though the car used the 1945 TC Midget 54 brake horse power, (bhp,) engine, it did not have any greater performance than the 'Y' with its lower 46bhp single carburetter engine. The shape of the car induced a very high drag with its upright styling. There were a lot of minor mechanical differences between the 'Y' and 'YT', put there to catch out the future restorer. The slip-rings on the steering column sat further down the shaft on the YT, to clear the twin carburetter for instance. The windscreen was totally different, as was the instrument layout on the dash, which included an rpm indicator, (tachometer.) The YT did not normally have any direction indicators, though a few for the USA were so fitted. By 1950 the model had quietly been dropped due to its very low sales. Today it is the most sought after model 'Y' and commands a very high price, due to its rarity.

The Y was available in two-tone paint schemes. This was actually quite easy to do as only the wings and running boards were painted a different colour, and as these were bolt on items, it was possible to have a huge variation of contrasts in theory. It was common practice in Morris Motors to have black wings with everything, and the body another colour. The M.G. colour scheme followed this but gave a choice of colours

for the wings. Today you will see two-tone Y's with the colour line on the crease running just under the waist-line of the car. This has been done by its owner, and is non-standard. If done tastefully it makes a very pleasing colour scheme, but would have taken far too long on a production line with all the masking necessary. (This would have been called 'Duo-Tone' in the 1950's.) Had the 'Y' type not been introduced, then there would never have been a TD or TF Midget, or that ifs on the MGA/MGB. An MGB fitted with Austin Cambridge ifs would not have been popular. One wonders if the TD came about by someone placing a TC body tub onto a bare Y chassis and thinking to themselves, " I wonder…"

The M.G. YB.

M.G. like many other car builders just after WW2, were in a hurry to get into production and profitability, as fast as possible. Hence the 1945 TC Midget which was all but identical to the pre-war 1939 TB, with minor modifications such as Silentblock rubber bushes on suspension joints, and a timing chain tensioner on the engine. The 'Y' arrived in 1947, but it was really the same car as the pre-war M.G. Ten, again with some improvements such as the better specification interior with leather and wood. In 1951 it was decided up update the pre-war running equipment of the range. The introduction and superb success of the 1949 M.G. TD Midget, which used a modified 'Y' chassis, steering and ifs gave this impetus. The TD was squarely aimed at exporting as well as the UK market. It used parts from the less successful YT tourer to do this. In the TD M.G. had incorporated the improved corporate parts available from the Nuffield empire. It used the latest version of the Nuffield rear axle with its up to the minute hypoid differential, (the Y and the TC used the spiral-bevel Morris rear axle.) There were Lockheed twin-leading-shoe (tls,) front brakes, a more modern Lucas RB106 control box and regulator for the dynamo, and the braking system master and slave cylinders were of a more modern design. All these items were to be fitted to the M.G. 'Y' and it was to be given the title of the 'YB'. This immediately gave the earlier model the post-dated title of 'YA'. The brake drums were integral with the wheel hub on the TD's Lockheed system, unlike the separate removable drum of the YA/TC. The later tls Lockheed brakes require a puller to disassemble them.

Early in 1952 the YB was introduced to the public, sitting on 15" diameter pressed steel wheels of the TD. These were one inch smaller than those of the YA, and the new rear axle ratio was slightly different to accommodate this. The hub caps of the YB are smaller than those on the bigger 16" YA wheels, and have a M.G. motif at the centre. The XPAG engine was also updated, to a SC/2 spec. This merely meant the oil filter was now part of the oil pump casting, no more external pipes, (except for the rocker shaft feed and a bigger clutch.) To cover the smaller wheels the rear wings were deeper. As with any production system, not all the updates were added on the same day or model. As current production items were used up, then the new bit was fitted. The engine for instance, was actually fitted to quite a few YA's prior to the arrival of the YB. The engines update included a hidden trap for the restorer, that of a thicker first motion shaft in the clutch, and the clutch itself growing from 7.25" to an

8” diameter. This meant the nose bearing of the gearbox also differed as well as the clutch and its securing bolt holes to the flywheel.

The YB ran from chassis number ‘YB251’, but the new rear axle, braking system, and master cylinder were not fitted until chassis YB0286. The new voltage control regulator, replacing the earlier RF95/2 was not fitted until YB0326. If you have a separate fuse box, you have the later unit. Twin tone horns were not fitted until YB0460. The YB was supposed to have just body-colour headlamp shells, unlike the chromed ones on the YA. The YB used the now standard UK 7” diameter headlamp so they are one inch smaller than on the YA. YA’s were fitted with headlamp rims so the later, smaller units could be fitted. But by YB1240 chrome ones were re-introduced. Today owners fit halogen kits sold for the Mini. To accommodate the smaller wheels, fitted with thicker tyres, (5.00” on the YA, 5.50” on the YB,) the rear spare wheel cupboard cover is deeper.

To improve road holding the rear Panhard rod was deleted on the YB, and the geometry of the ifs was altered slightly. The inner lower wishbone fulcrum was lowered one inch. Fitted to the front suspension was an anti-roll-bar, (anti-sway-bar.) The rear dampers were of a heavier duty type. Body trim did not change, but the TD-4/44 over-riders were often fitted by owners. Externally the YA and YB looked almost identical, but the keen eye would spot the deeper rear wing valance, and the smaller 15” wheels. YB’s were sold only in one colour, where as the YA had been available with two colours, where the wings and running boards contrasted with the body.

The YB like other M.G’s could be had with special specifications, upon the customers order. There are YA’s and YB’s fitted with TC and TD engines, even TD2 units, (a higher power TD factory engine,) by the factory. The YB’s running equipment continued in the 1952 Wolseley 4/44 until 1956, where as the YB only ran until 1953 being replaced by the M.G. ‘Z’ Magnette. (The 4/44 and ‘Z’ were very closely related structurally, being designed by Gerald Palmer.) Whilst only 1301 YB’s were built, 30,000 Wolseley 4/44’s were sold. The 4/44 was later to be a source of parts for ‘T’ series M.G. restorers as well as ‘Y’ types.

The 1953 ‘ZA’ as the Magnette became known as later was a very different car to the ‘YB’, and virtually nothing was carried over between models. The ‘Z’ saloons used many Austin parts as M.G. was now part of the British Motor Corporation, or BMC.

Production Information.

There are no records of MG ‘Y’ series held by Austin Rover, Rover, BMHIT, or M.G. They were either lost or destroyed in the late 1950’s, so writing to BMHIT to get a certificate is a waste of time. The ‘Y’ is the only Nuffield/BMC model where all those built are affected by lack of any records. However, there is the Ledger of the cars as they left the factory and this is held by John Lawson, of the ‘Y’ Register. John wrote the book ‘ MG ‘Y’ Type Saloons and Tourers’, ISBN 0 947981 31 4, but now only available from the MGCC regalia secretary, David Hague. The ledger is not a complete list either, as there are gaps and many ‘YA’s are missing.

Interesting to see that compared to today's thousands of cars built each shift on a production line, MG turned out between none and 31 Y's per day, (201152.) Total figures for the 'YA' were 6,158; for the 'YT' 877; for the 'YB' 1,301. Production by year was:-

'YA'

1947	Y/0251 – Y/1150	900
1948	Y/1151 –Y/2208	1058
1949	Y/2209 – Y/4239	2031
1950	Y/4240 – Y/6284	2045
1951	Y/6285 – Y/7285	1001

(YT's were part of the YA sequence).

'YB'

1952	YB/0251 – YB/0929	679
1953	YB/0930 – YB/1551	622

Total production of all versions was 8,336. (Of the Wolseley 4/44, made from 1952-1956, using the SC2 engine, there were 31,000.)

The Ledger data has the cars chassis number, the engine number and the date it left the factory. The 'Y' built between 1947 and 1951 carries a prefix of 'Y'. This model was later called the 'YA' once the next series was in production, the 1952-1953 'YB'.

The YB has a prefix of 'YB'. The open model, the 'YT ' tourer, 1948-1950, has 'YT' as a prefix.'YT' chassis numbers were prefixed with more information. See following list for an explanation of this prefix;-

'Y'	YA
'YB'	YB
'YT'	YT tourer, RHD for home UK
'YT/EXL'	LHD for export, speedometer in KPH
'YT/EXR'	RHD for export, speedometer in MPH
'YT/EXR/K'	RHD for export, speedometer in KPH
'YT/EXL/M'	LHD for export, speedometer in MPH
'YT/EX/U'	LHD for USA, speedometer in MPH

The engine fitted to the 'YA' is prefixed XPAG/SC, the SC standing for single carburetter. That fitted to late YA's and all YB's was prefixed XPAG/SC2. This SC2 engine has a bigger clutch of 8" diameter, not the 7.25" one. The left hand drive YT has an engine prefix of XPAG/TL, (tourer, lhd.) The right hand drive YT has XPAG/ TR (tourer, rhd.) More detail can be found in Anders Clausager's book, ' MG Saloon Cars', ISBN 1 901432 06 8.

Chassis number is stamped on the brass plate on the battery box, and repeated on the outer left-hand chassis member. This is a bolt on extension, that holds on the bumper. Do not confuse the Nuffield Body Number with the chassis number. The body number is on another brass plate at the front near-side of the bulkhead, outboard of the coil.

‘Y’ Type Production Records, What they hide?

Many of you will be aware that there are no actual records as such, just a list of final despatch dates of most of the ‘YB’s on a factory ledger. There is virtually nothing on the ‘YA’, and a little on the ‘YT’. How ever, even a simple list of chassis numbers, engine numbers, and dates can hide a story. This is very true when it comes to the engines, as in some cases there must have been real problems with certain units. Is this Friday afternoon-tea-break engine now fitted to your car? It might be, as so many years have passed and lots of engines have moved about, been reconditioned, and re-used. Those records that do exists have been issued by John Lawson over the last few years, as part of the newsletter John puts out to ‘Y’ owners. It is from these I draw the stories. Obviously this has been selective, not all are included.

We take as our first ‘YB’ chassis number YB0454. This car was finished on 29.04.52. But upon running its engine SC2-17382 there were serious problems, as the engine was pulled out of the car again and sent back to the works. It may well have been a problem from the new owner, as another engine number SC2-17380 was fitted on the 07.05.52. But engine number SC2-17382 was successfully rebuilt, as it was subsequently fitted to YB0488 on 16.05.52. My guess is it ran its bearings, and a new crankshaft was fitted.

YB0651 suffered a similar engine problem on its build date of 20.08.52. It had its engine SC2-17506 swapped for SC2-17562 on 25.08.52. By 04.09.52 the engine 17506 had been repaired, and was fitted to chassis YB0706, but again it had problems. My guess is it was seizing pistons, and on the second time was sent back to be re-bored. Eventually YB706 had SC2-17626 fitted on the 23.09.52. 17506 had a full strip down and rebuild, as it was a month before it re-appears again. Then on the 16.10.52 YB0798 had it fitted. So for two months that engine had been going back and forth to Morris Engines to be fixed. In today’s competitive markets with tiny profit margins, it would have been scrapped. Is it still about? Check under your bonnet for SC2-17506. If you have a reconditioned engine, look hard on the cylinder block just above the old engine plate. The ‘original’ engines number can sometimes be read stamped directly into the cast iron. But the problem is the prefix will be missing, so one from a Wolseley 4/44 or M.G. TD will also have ‘17506’ but be completely innocent.

It is apparent from the records that engines were not fitted to cars in any order. Motorcycle enthusiasts will be aware that often an engine number matches the bikes frame number. Car manufacturers were not so fussy, but many were within a few numbers each way and often roughly followed each other to the cars. But the odd one seems miles out of synch, SC2-17660 and 17661 for instance. Did they get lost? Or was it a problem at Morris Motors? Did they have to strip and build them a few times before it was suitable for delivery? Whilst the mid 17650 to 65’s were being used up by Abingdon in mid October 1952, 17660 and 17661 took till the end of November to arrive and be used.

Who Purchased a New 'Y'?

When the 'Y' Type was first shown to the public it must be remembered that rationing was still in full force, and would continue till 1954 on certain goods. You simply could not go out and buy the model. You had to order it, and then wait to see if your job was important enough to get you near to the front of the waiting lists. The car was also well up the pecking order of saloon models available, and was classed as a luxury/sports model. It cost nearly three times that of the cheapest small side valve, cart spring sprung basic saloons on the market. So the 'Y' Type was more often than not purchased by doctors, solicitors, middle level civil servants or successful men running their own small company. The upper-middle-class is the group that today's advertising people would claim the car was aimed at. Cars went to celebrities, but to the more conservative characters. In The Motor car magazine of 23rd September 1953 University Motors have a picture of the delivery of a YB 'YMG231' to a famous jockey of the day, one Sir Gordon Richards.

In The Autocar magazine of the 20th March 1953 is another letter on the difficulty of getting hold of a new M.G. Y series.

> **"*Fruits of Tantalus*"**. I am a regular reader of the Autocar, which is normally eagerly awaited. During the last twelve months there have been many interesting touring articles both at home and abroad. In approximately 75 per cent of these articles the camera has been busy and portrayed the 1 ¼ Litre M.G. saloons. One week there were two 1 ¼ Litre saloons in the same article. As one ***who has had this model on order for nearly five years*** I find The Autocar increasingly provocative to read.
> Edwin White, Truro"

And nothing better shows just how hard it was to get a new car in those early post-war days.

'YA' or 'YB'? That is the Question.
The Differences.

It is not hard to pick up a copy of a motoring article on the 'New' M.G. One and a Quarter Litre Saloon. The press have always printed full road tests and technically detailed articles on new models. So if you want to find out about your 'YA', today you can buy booklets from Brooklands Books entitled " M.G. 'Y' Types & Magnette ZA/ZB", (ISBN 1-85520-347-2.) YA's, YT's and ZA's abound in its 92 pages of old article reprints, but very little on the YB or even ZB. By the time M.G. came to update these cars, the news was not so important, especially if very little external differences could be seen on the 'updated', or 'face-lifted' model. For we enthusiasts, this leads to many people not even knowing there was an updated 'Y' series, the 'YB', and even fewer who know how to tell them apart from the 'YA'. Worse is the fact M.G. themselves did not 'add' the relevant update till quite a few 'YB's had been built. The press would rather show a face-lift as news, bits you cannot see being updated are not as interesting, or newsworthy.

Strange as it may seem, the YA carried over some rather ancient engineering from pre-war Morris models. Though the 'YA', (I call it the YA, though it was only the 'Y' until the inception of the 'YB,) had rack and pinion steering with independent front suspension, (ifs,) it still had single-leading-shoe (sls,)front brakes. The ifs and steering put the car miles ahead of contemporary efforts by others, such as Austin and Ford, but the YA brakes were not known for their efficiency. It was only when the TD was developed on the Y's excellent thin-walled 14swg boxed-in chassis, that all-new Lockheed twin-leading-shoe, (tls,) front brakes arrived. According to M.G. literature, these tls brakes were fitted from YB number 286, so from the first car at 251, YA parts were still used! Rear brakes remained with a 'single-leading' shoe, and one 'trailing' shoe, or the car would have become virtually brake-less in reverse. For the uninitiated, 'leading-shoes' are those that come on and are actually 'dragged' on more in a 'self-servo' action by the rotation of the brake drum, giving far better braking if travelling forwards. A leading shoe has its leading edge touch the drum first, at the slave-cylinder end. A 'trailing-shoe' is one that the rotation of the brake drum tries to 'push-away' the shoe, hindering the brake's action, (but in reverse this 'trailing-shoe' becomes a 'leading shoe'.) Lo and behold, *BMC re-introduced* the sls front brakes on the 1959 Mini, to keep costs low. Those who drove these early Mini's will remember those brakes, BMC were soon forced to fit tls brakes, then discs, then servo-discs.

So the YB gained the later ' Lockheed-Nuffield' twin leading shoe front brakes from the TD, though such a system requires two front brake cylinders to each side, as each shoe is individually operated. It has been known for amateur restorers to fit the brake back-plates onto the wrong side of the car, continuing to assemble the brakes in such a fashion they have ended up with a full set of 'trailing' shoes. As the car will have awful forward brakes, the Mot examiner soon picks this error up. Not only did the 'YB' braking system gain modern drum brake technology, the system itself was different from that fitted to the previous YB. The YB drums were also once piece-wheel bearing hubs, the drums could not be removed separately as on the 'YA'.

Well into YB production at car number 286 again, the rear axle was changed from the 'Morris banjo' spiral-bevel type to the 'Nuffield' split variety, with hypoid-gears. This was much stronger, quieter, and longer lived than the pre-war Morris unit fitted to the 'YA' and 'YT'. The 'YB' axle gained the one-piece five-stud brake drums as well, fitting onto a locating taper, and splined drive shaft end with a very large nut. Hiding all this brake technology were 5.50 by 15 inch wheels, one inch smaller than those on the YA of 5.00 by 16 inch. To improve the looks of the model, YB rear wings were given a deeper skirt than the YA, this being the most obvious visual difference between the two versions. Deeper rear wings must have been a current styling fad, as the 1948 918cc Morris Minor 'MM'& 1953 803cc Morris Minor S2 also lost its slimmer rear wings to deeper versions on the 1956 948cc Minor 1000 shortly after. Chromed steel hub caps on the YB were smaller, and had an unpainted 'M.G.' motif, cast in Mazak, in the centre. These hub caps are identical to those on the TD, TF, ZA, ZB, ZBF, and Farina Magnettes, though after 1960 they are stainless steel pressings. Well hidden from view was a more modern brake master-cylinder mounted aft of the pedal-box. Not only the type of rear axle, but also rear axle ratios differed between the YA and YB, but only because of the wheel sizes; the YA was 5.143:1 and the YB was 5.125:1, (the same ratio used in the Wolseley 4/44 and

Morris MO series. These cars only had standard BMC four stud wheel fixings though.)

The spare wheel cover was enlarged on the YB to take the larger section 5.50 tyre, but this is hard to see with the eye. Other supposed updates of the electrical system were fed in piecemeal, current books say the YB had a later Lucas RB106 control box with separate fuse box, though early YB owners such as myself will tell you these were not fitted for quite some months into production, at car number 326 to be exact. A bit like saying the 'YB' has the SC2 version of the XPAG engine, when in fact a number of the last 'YA's had this engine with the integral oil filter cast onto the side of the oil pump.

I recently read that the YB did not handle as well as was expected. It roll-over-steered a little to readily, and considering it had a rear Panhard-Rod to control rear axle side-movement this surprised me. Anyway, M.G. decided the Panhard Rod was expensive and not required so deleted it from the 'YB'. At the same time M.G. modified the ifs geometry by lowering the bottom inner-wishbone fulcrum point on the chassis cross member by one inch. You can see the welded on bracket the lower arms now bolted to, between the arms and the cross member on a YB. This lowered the roll centre, and to ensure the car sat better on corners, a front anti-roll bar was fitted. As the MGA and MGB use a virtually identical ifs system, it is again interesting to see how these sports cars anti-roll bars link to the suspension, when compared to the YB's arrangement. On the YB the link bolts to the upper flat face of the spring seat. This cracks after many years use, around the bolt heads. On the other cars, the link bolts to holes drilled in the front wishbone arm; a much stronger position. Nice to know that MGA lower arms and seat pans fit a 'Y' type, (as do MGB items, especially the longer lived MGB V8 inner bushes.) The M.G. sports car king pins are very different though look similar externally, having plain bushes not the threaded wear-area of the earlier system. The 'Y' ifs not only fitted the TD and TF Midget, but all models of the MGA, MGB roadster and GT, MGB V8, right up to the 1990-94 M.G. RV8. (But not the MGC, as this used torsion bar ifs.)

Dampers were improved at the rear on the YB, though their basic 'lever-arm' design was similar. The YB has heavy-duty rear dampers. Road tests spoke of the better twin-tone horns of the YB, but these were not fitted to production models until car number 460. Headlamp shells were smaller on the YB to take the standard seven-inch Lucas pre-focus lamp unit, but again this was not easily seen by the eye.

So really it is hard to decide exactly where the YB began. What with late YA's getting the later engine, and other parts taking ages to arrive; or was it just a case of using up current production items, and feeding in the new parts when old items ran out? M.G. must have taken the decision at a point in production to say, " 'YB's Start Here," and sticking a pin into a production schedule.

It is a little worrying when you realise that the last YA was number Y7285, and the first YB was YB0251 leaving Abingdon on 21.11.51, when the only real difference between the two was the wheel size, anti-roll bar, lower bottom wishbone, and rear wing valance depth. The YA already had the SC2 XPAG engine, and the other 'updated' items would arrive some months later; improved tls brakes and better rear axle on car 0286, control box on car 0326, and finally twin tone horns on car 460.

What would Trading Standards make of that today? The adverts had promised all the updates. Perhaps that is why the motoring press was reluctant in those days to feature 'updated cars'. They knew only too well the problems of supply and demand. If you need an in-depth look at what I have touched on light heartedly, you need David Lawrence's book " Let There Be 'Y's", and John Lawson's, " M.G. Y Type Saloons and Tourers."

Living With a 'Y'.

What is it like to own and run a 'Y' type M.G.? The 'Y' series of M.G. saloons come straight out of the 1930's. Its styling, engineering, character and chram are all from that era. But underneath its charm is an enigma. The chassis was ahead of its time, and with the steering and front suspension gave the car road holding far beyond many more expensive cars. Driving the car you feel it desperately wants a bigger engine, with much lower gearing in top. To those who are new to the car, there are some surprises.

There are no seat belts, and no where to fix any if you did want them. The floor is of wood, and the 'C' post both far too far forward to fix a mounting to and it is not reinforced to take such a stress. The only safe bet is to fit a full racing, four point harness, which would destroy the car completely. The front seats are little buckets, that fit tightly around you. The huge steering wheel sits high, and is adjustable into and out of the dash to suit the driver. You have to drive the car in the old bent elbows method, modern straight arm driving is impossible. The suspension is very comfortable for those in the front seats, but those in the back are over the axle and get all the bumps, holes, and sleeping policemen jolts. When fitted with cross-ply tyres the car will squeal its tyres on any dry smooth tarmac, to quite an effect. Pedestrians will look round for the American police chase! Radial ply tyres improve the road holding, but make the steering very heavy at low speed. They also last about three times longer than the cross-ply. The windscreen is narrow, but close to your face so the view is good. The gear lever is long, but quite slick, in fact this Morris gearbox is one of the best of that era. It only has synchromesh on 2,3, and 4th. The synchromesh on such a car is not there for fast gear changes, but for silent ones, so move the lever deliberately, but not too fast. Often a down-change from 3rd to 2nd will require double-de-clutching as the synchromesh cones are worn. Do not engage first unless you are stationary, or you will chip the teeth on the gears; first and reverse use the same cogs in the gearbox, and you actually move them, not some selector dog as in modern gearboxes.

Starting the car requires a little choke on cold days, it is not automatic as on your modern fuel injected, catalyst fitted, euro-clone. The ignition is switched on, and a separate button pulled to start the car. The button pulls a short cable that operates the battery to starter motor solenoid direct. The car will fire up straight away and idle a little fast as the choke knob also works a snail-cam on the throttle. You can now depress the clutch pedal facing up out of the floor, engage first gear, switch out you right hand semaphore via the central steering wheel hub switch, look behind you, and

pull out. The gearbox will growl a little with the straight-cut gears of first. The engine will sound a bit rattley, and very close to you. There is little sound proofing in a Y and the ohv engine is not very quiet. The clockwork operation of the steering wheel semaphore switch will then click shut, but sometimes on cold days the semaphore will require a little help to get out of its hole upon selection. A thump on the door post from the inside is all that is required. Soon you will need to get into second, then third, and finally fourth. You will only be doing about 25mph now. The car is very low geared compared to modern cars. It was built for winding British roads years before motorways were thought of, and there were quite a few hills about as well. The car is about one ton in weight, and only has 1250cc to pull it along.

Pulling up at traffic lights you will find the engine idles over at a speed you can almost count the individual cylinder firings. The torque of the engine at slow speed is excellent, you can pull away on a quiet road without touching the accelerator, just try that in a modern car. An easy way of explaining the performance is by comparing it with a modern car that can only use 1st, 2nd and 3rd speeds, and it pulling a heavy caravan. The performance is gentle today, but it was quite nippy in 1947 as the car can do 70mph when other similarly sized engined cars could not reach 60, and took over a minute to get there. As you bowl along at 45-50mph on a 'B' class road, you will hear the rear axle growling at you a little, as well as feel the tyres trying to follow every rut and fold in the tarmac. This is normal and a fault of cross ply tyres. The accuracy of the steering will amaze you, even today it is more accurate than some modern cars, and has plenty of feel.

Then you come to the brakes. They are drum brakes with no servo. In the days this car was designed it was considered poor engineering if you had to fit power steering and a servo on the brakes. They should be designed to do the job, not assisted. (Today disc brakes have to be servo-assisted due to the high pressures needed on such small pads. Poor design has meant all the weight is over front wheels, so again power steering is needed.) On the 'Y' the car is balanced almost 50-50 front to rear. On the YA and YT there are only single leading shoes, and you have to push that brake pedal pretty hard. This comes as a shock to modern drivers whose leg muscles are poor as they rarely walk or ride a cycle. The YB fares better as it has twin leading shoe front brakes, and the car stops better. When driving any car this old, you have to DRIVE, not sit there and admire the scenery. The road has to be read, the car set up for bends with slow-in-fast-out being the rule; the two-second-rule and braking distances have to be kept or you will ram the car in front with its ABS. Do not be frightened to make the engine work hard, it was quite modern when it first came out, and can be tuned to very high power in racing 'T' types. The handbrake is very efficient, and will lock the rear wheels with its twin cable system. Again, is those days the handbrake was indeed a second emergency brake, not today's feeble efforts.

The lights are on another unmarked switch on the dash in front of you, but the dip switch is a floor mounted foot switch. A slim shoe needs to be worn so as to be able to get a left foot onto it. Lamp adjustment is easy, you just pull or push the whole headlamp up or down on its chromed bar mounting, loosening a nut underneath it to do so. Opening and closing the bonnet is quite interesting to watch, if you let someone do it who has no idea. This also goes when you hand the starting handle to someone telling them to swing over the engine. Starting an engine on a handle has one simple rule, always put your thumb on the same side as you fingers, not where you naturally

want to put it, on the underside of the hand grip. If you fail to do this, and the engine kicks back, you can break your thumb. To ensure this does not happen, always 'set' the engine just 'after' compression on a cylinder, prior to switching the ignition on. (You can 'feel' this.) Then, give the handle a good hefty swing and as the flywheel is going your way, it should start. That handle is very useful in other ways, If you get stuck in mud, remove the spark plugs, engage first gear, and 'wind' the car out of it. Trying to drive it will just spin the rear wheels causing it to sink further. Try that in a modern car. Setting the tappet clearances is assisted by the handle as well, as is setting the ignition timing. Very useful things starting handles.

The engine cooling system is not pressurised. It is thermo-syphon assisted by a water pump. (Thermo-syphon is the rising of hot water naturally, many 1930's to late 1950's cars only had this, no water pump at all. That explains the very tall radiators.) Because it is not pressurised, the water evaporates; so it needs constant topping up. Many modern owners spend ages looking for the non-existent 'leak'. M.G. did not pressurise their cooling systems until the 1953 TF and 'Z' Magnettes. The engine will use oil. All old type ohv engines do. It gets down the valve guides. So oil levels need checking often and only use a 20/50 oil. If you use modern 10/40 or one of the synthetic oils, the engine will leak like a sieve and drink its oil. The gearbox and rear axle use gear-oils of the EP 120 grade. This stinks like male cat pee, be warned. There are also many grease nipples on the car that require attention every 1000, 3000, and 6000 miles. Oil changes are at 6000 miles, or as low as 3000 if you do short journeys. The oil filter on the YA and YT is a pig to replace, that on the YB easier. On the YA/ YT the whole canister is thrown away, and they are expensive. Kits are sold so you can use the element from the YB as these are cheap, and were used on cars up until the late 1970's. There is even a kit about to enable you to use the modern spin-on filters. Gearbox oil levels are checked by a dip-stick under the gearbox cover, there is a small removable cover to get to it. The oil filler is next to this. The rear axle oil filler is under a small cover underneath the rear seat squab. The brake master cylinder is under the driver feet, again a small cover moves out of the way for it to be checked. Its cap is the same size as a 14mm plug spanner.

Under the bonnet, there is a reservoir for the Jackall system, this will take ordinary Motorcycle Fork oil. Only pre-war systems had special fluid, so do not listed to horror stories of ruined seals. The dynamo needs greasing, as does the water pump bearings. The battery needs topping up often as dynamo charged system battery has to work harder than modern alternator ones. The fan belt is huge, and needs its tension checking. Cross ply tyres are not fully air proof, they are often very slightly porous, as are their inner-tubes. So tyre pressures need checking often.

From this you will quickly gather that running an older car is far more expensive that a modern one with 12,000 miles between services, especially if you have to pay a garage to do all the work. Things were not sealed for life in those days, you greased it often. The bonus is that they lasted a lot longer than modern items. But you will have to crawl about under the car greasing things like universal joints in propeller shafts, clutch relay shafts, hand brake cables, the clutch cable and the pedal-box under the driver floor. On the TD the clutch was rod-operated, it is possible to modify a Y to have similar operation. The ifs, king pins and steering have myriads of nipples all demanding attention. Note that whilst the steering track-rod-ends use grease, the actual steering rack uses EP120 gear oil, and NOT grease. Door hinges need oiling,

throttle and choke cables require oil. Then it comes to cleaning the car. With so many nooks and crannies, washing, leathering down, then polishing will take a whole morning. A good thing is the cars floor, it is level with the tops of the sill as there is a chassis underneath. So sweeping out the car is easy. Cars always look good if you concentrate on wheels and windows. Everyone polishes the chrome and paintwork, but forgets the tyres, wheels, and glass.

If your car has not been modified for lead-free petrol, you will have to find a garage that still stocks the old four-star leaded fuel. If you fill up with leaded four star every three tank full's, and do not drive at 60mph for long journeys on motorways, you should be safe. Even better, exchange your cylinder-head for an unleaded modified one. About £300 will cover the cost if you can remove and fit your own. If you do do this, get a head with the bigger TF 1500 valves fitted, and the ports gas-flowed, with the compression ratio about 8.5 to1, (standard is 7.2 to 1 .) You will gain some useful extra power without overdoing it. Note that the banjo-type rear axle of the YA and YT is of the older Morris Motors design, and has a reputation for breaking its half-shafts. The Nuffield rear axle fitted to the YB is much stronger.

Road tax on a 'Y' is free, but you still have to Mot and insure the car to get your free tax (vehicle excise licence,) disc. Use one of the M.G. clubs to get agreed-value insurance, with a limited mileage of about 8 to 10,000 a year. If you are over 25 it is not expensive. If you limit yourself to just 3-5000 miles a year it is even cheaper.

If the car is serviced as per its schedule, (copies of hand books and factory manuals can be had from the MG Octagon CC,) it will be reliable. Things like ignition points do wear out, but if you have a YB SC/2 engine you can get round fitting the expensive originals by fitting the plate from a later car (ie a 998cc Mini,) and using the quick-fit type points at 50p/£1 a time from auto-jumbles. Do resist adjusting the tappets, (rocker clearance,) to silence the engine. Quiet tappets is a sign of death for the exhaust valves. If the book says 19 thou, or 12 thou on SC/2 engines, then adjust them to that gap and no less. Tightening up tappets burns out valves. Anyway, the ticking-clattering is quite nice once you get use to it. The term " ticking-over" relates to those early ohv engines, as the rockers audibly ticked away at slow speed. If you want to know more about your XPAG engine, try < www.mgcars.org.uk/engine/mgenginehistory.rtf > I wrote this and it is a free download onto your printer. It is 84 pages long.

The 'X' Factor.

(The Engine in the 'Y' Series.)

In the UK there are many modern car owners who would be amazed to realise their all-aluminium alloy, vee-eight engine fitted to their Rover, dates back to the USA and was designed in the 1950's. I refer to the General Motors 215cu.in. engine as fitted to the Buick Skylark, Special, Pontiac Tempest, and Oldsmobile F85 Cutlass. The rights to re-manufacture this family sedan engine by Rover dates back to 1965. It was seen later in the MGB GT V8. Similarly, there are lots of overseas owners of M.G's who

would be amazed to realise that engine's they thought were exclusively an MG product, were in fact borrowed from a staid, mass produced Morris saloon car.

In 1935 the small M.G. factory in Abingdon in Berkshire, (now Oxfordshire,) England, had a bit of a shock. Whilst the company had been doing well on the British racing circuits with their fast Little British Cars, production had become a rather ragged discipline. The company had been subjected to an internal re-organisation and had been 'sold' to the Nuffield Group. M.G. had been the personal property of William Morris, but his vast emporium had now got him into trouble with the UK income tax department, hence the new arrangements. This meant that now M.G. came under the management of the Nuffield Directors. The senior manager who was now in control of M.G. was one Leonard Lord who did not agree with 'wasting time and money on racing cars'. Companies exist to make profits for their share holders, not to squander it on playing games, was the view of the new management.

Along with M.G. now having to drop many of their less profitable lines from the numerous models and variations they listed, was a decree that all M.G's must now use in-house-corporate components. This resulted in the tiny ohc M.G. Midgets and various four and six cylinder specials stopping production. Kimber was not too worried as he had long sought to get M.G. upmarket with big, fast, well appointed saloon cars, and the results of this aim were the very elegant six cylinder SA and later the W.A. The VA with its four cylinder engine was a bit dumpy, but affordable. Under the skins of these cars were components straight from the Nuffield production lines of the Morris and Wolseley saloons. Morris were nearly always side-valve (sv) driven, with Wolseley using overhead-valve (ohv) conversions of the same engines. The family of engines from the Morris Engine Branch were all inter-related. Many parts were common to them all, such as the tappet blocks with four cam followers in, two sets to a four cylinder, three to a six. Connecting rods, cam profiles, valves, guides, pistons, were all common. Even the stroke of many Nuffield/Morris engines dated back to that historical UK car, the Morris Bull Nose 'Oxford' and ' Cowley' saloon, of 102mm. The basic engines in the SA and WA were straight from the Wolseley 18/80 range, and that for the VA was from the Wolseley 12/48. That of the Wolseley 12/48 refers to twelve horse power range, (12hp,) with 48 brake horse power. The 12hp refers to the road taxation group for the exchequer, not the actual engine power. Common 'sizes' in the 1930's for UK cars were 7hp, 8hp, 10hp, 12hp, 14hp and 18hp, and road tax was charged based on this. (The 'hp' tax was ancient, devised by the Royal Automobile Association, or RAC, early in the century when engines were feeble, and it used the bore but ignored the stroke. Hence the number of small-bore UK engines.)

Unusually for Morris, the equivalent to the Wolseley Twelve/48 also had an ohv engine. This Morris was called a 12/4, meaning 12hp four cylinder just to be awkward. Next down the range of the Nuffield line up was the Morris 10/4, a 10hp car with four cylinders. The Wolseley equivalent was the Twelve/40, 12hp with 40bhp. For the uninitiated, Wolseley were always the 'better equipped' version of the more mundane 'cooking' Morris. The Morris 10/4 was about to become part of the M.G. empire in a similar manner to that of the first M.G. I doubt if any Morris or Wolseley was ever exported to the USA, they were far too 'English'. These two makes will not be familiar to Americans, but M.G. relied heavily on their components. Morris, Wolseley, M.G. and Riley made up the 'Nuffield Group'. M.G.

and Riley were two very small parts, Morris however was massive. Along with Austin they were then the two biggest UK car manufacturers.

Due to the decree of Leonard Lord banning small scale specialist component runs, M.G. were forced to use the running gear of the Morris 10/4 from 1935 in their new sports car. Brakes, steering, instruments, engine, gearbox, axles, etc, were all Morris 10/4 series 3 components. The engine was of a very long 102mm stroke dating back to Veteran Morris days with a 63.5mm bore with a cork clutch running in oil. Not a good recipe for a sports car engine. The five-port cylinder head was a casting adapted to what had originally been a side valve unit. The engine was slow to accelerate and had poor top end performance. It was never intended to be a sports car unit, and only fate had put it into the 1936 M.G. TA Midget. It was reliable enough, and a good saloon car engine for a workhorse, but too heavily built for a 1935 new M.G. model. Its ancestry dated back to 1923, and even further to the Hoskiss-Morris engine of 1919.

Whilst M.G. were busy getting the TA into production, and pleased the engine was of 1292cc, bigger than the tiny ohc 847cc engines, Morris Engines were about to announce a better unit. The extra capacity made up for the poorer bhp per litre. Morris had for some time been looking at their engine range. It needed a full redesign. All of the range were developments of much older units, and it was time to invest in bettering them. The first group of cars to get an improved engine was the ten and twelve horse power range, (10hp, 12hp.) These were the most common size of car sold in the UK. Like any large company, no single person designed anything from scratch, that was far too expensive to put into production. Items had to be carried over as and when suitable. In the Morris Engines Design Office was a young man who had come from the Anzani Engine Factory, who built aircraft engines. He was obviously talented so was given the task of ‘improving’ the ‘M’ series of engines. This ‘M’ series was the MPJM in the Morris 10/4, the MPJW in the Wolseley 10/40 series 2, and the MPJG in the M.G. TA; infact all the 10hp series. He was Claud Bailey, and his updated and improved engine was to be fitted into the then new chassis-less Morris Ten Series ‘M’ saloon, (sedan.) (Do not muddle up the chassis designation ‘M’ with the earlier engine series ‘M’.) The new engine was designated the Morris ‘X’ series of engines, and they were of 90mm stroke with a 63.5 mm bore. Note the bore, it meant the same pistons could be used again, and the machinery for boring the cylinders, as the TA engine. The ‘X’ series was not a new engine, but an improved one. It was of 1140cc with a modern dry clutch.

As the XPJM in the new Morris Ten series ‘M’, and the XPJW in the Wolseley 10/40 series 3 the engine took to the roads in 1938. By 1947 over 80,000 Morris Ten series ‘M’ had been produced, along with 12,000 Wolseley 10/40’s. During WW2 the engine was built and fitted to tens of thousands of utility units as petrol/electric sets, water pumps, etc for use by the armed forces. These can be identified by their prefix of XPJM/U. All these engines will also fit into the M.G. models that used the ‘X’ series. By 1939 the engine had been developed into a 12hp unit. It emerged with 1250cc with a 90mm stroke and a 66.5mm bore. This was a bored out 1140cc XPJM unit, but not quite. It had a stronger crankshaft, connecting rods, and pistons. The head had larger valves, and it was a real sweet running, easily revved unit. It went into the M.G. TB along with the improved Morris Series ‘M’ improved gearbox with

remote control for the M.G. It was not used in a Morris 12hp model, as that range was dropped, the Series ‘M’ ten was very popular and selling well.

Claud Bailey had done a good job, his improved ‘X’ series of engines stopped being used by Morris and Wolseley in 1948. Morris went back to sv units, and many Wolseley’s got large ohc units. But M.G. continued using the engine and improving it until 1955, and one Wolseley used it until late 1956 as the XPAW. After WW2 in 1945 the XPAG 1250cc engine was put into the TC Midget, then in 1947 into the new Y and YT sports saloons. In 1949 It was seen in the new TD Midget, and by 1952 in the improved YB saloon. By 1953 it had been bored out to 1466cc in the TF Midget. In 1952 Wolseley had used the engine in their 4/44, (four cylinder, 44bhp.) This car looks just like a taller version of the 1953 M.G. ‘ZA saloon, both are closely related. However the ‘Z’ saloons used an Austin engine, called the ‘B’ series.

As well as those ‘X’ series used in Morris and Wolseley cars, and all those utility engines, M.G. used quite a number. There were 379 in the TB; 10,000 in the TC; 28,643 in the TD; 1,022 in the TD Mk2; 6,200 in the TF; 6158 in the YA; 1301 in the YB, 877 in the YT; and 30,000 in the Wolseley 4/44. That in the 4/44 being a car not exported to the USA used the basic SC2 engine of the YB, (SC meaning single carburetter.) That is a grand total of the engine’s production in the region of 182,600, not including those made as spares or for the war utility kits. The 1140cc engine can easily be bored out to 1250cc, but not 1466cc, that had required a re-core to move the cylinder centres.

Claud Bailey had lowered the reciprocating mass, improved the breathing, fitted larger valves with better porting, counter balanced everything, fitted full-flow oil filtration, shortened the stroke and designed in very modern cooling with water flow only through the head with the block using thermo-syphon. In the 1250cc he strengthened it all, and produced a real winner. There was a smaller version of 918cc that was used in the Wolseley Eight, 918cc being the older Morris 8hp engine standard size, but few were ever made. Claud went on to design another very famous ‘X’ series of engines in the late 1940’s when he moved to Jaguar. That was the Jaguar six cylinder, twin ohc ‘XK’ series used in the ‘E’ types and sports saloons.

M.G. really took the little XPAG to heart, and it found its way into many M.G. models, as well as some Morris and Wolseley's. Study the chart to follow its use, and to spot other models spares can be found on.

Model	bore/stroke	type	cc	made .
Morris 10/4 s2	63.5 by 102 sv		1292	1935-37
Morris 10/4 s3	63.5 by 102 ohv	MPJM	1292	1937-38
Wolseley 10/40 s2	63.5 by 102 ohv	MPJW	1292	1937-38
M.G. TA Midget	63.5 by 102 ohv	MPJG	1292	1936-39
Morris 10/4 s 'M'	63.5 by 90 ohv	XPJM	1140	1938-48
Morris 10/4 Utility	.. ..	XPJM/U	1140	1939-45
Wolseley Ten s3	.. ..	XPJW	1140	1939-48
M.G. TB Midget	66.5 by 90 ohv	XPAG	1250	1939
M.G. TC Midget	.. ..	XPAG	..	1945-49

M.G. TD Midget	..	..	XPAG/TD	.. 1949-52
M.G. TD mk2	..	..	XPAG/TDC	.. 1949-52
M.G. TD 8" clutch	..	..	XPAG/TD2	.. 1952-53
M.G. TD Mk2 8" clutch	..	..	XPAG/TD3	.. 1952-53
M.G. YA	..	..	XPAG/SC	.. 1947-52
M.G. YA 8" clutch	..	..	XPAG/SC2	.. 1952
M.G. YB	..	..	XPAG/SC2	.. 1952-53
M.G. YT lhd	..	..	XPAG/TL	.. 1948-50
M.G. YT rhd	..	..	XPAG/TR	.. 1948-50
M.G. TF Midget	..	..	XPAG/TF	.. 1953-55
Wolseley 4/44	..	..	XPAW	.. 1953-56
M.G. TF 1500	72 by 90		XPEG	1466 1953-55

Today engines have to run on leadfree petrol. The ‘X’ series was built when tetra-ethyl-lead was put into car fuel, and this both improved the fuels performance with higher compression engines, and meant cheap cast iron was good enough for exhaust valves to seat onto. Unleaded fuel will quickly ruin a cast iron valve seat on the exhaust. So it is necessary to have the cylinder head machined to take hardened steel inserts, and as this was a quite normal method of repairing burnt out cast iron seats anyway, just the quality of the insert needs to be up to unleaded fuel.

Mot-ing a ‘Y’ Series, (or any other older car.)

If you run a M.G., the chances are more often than not it will be a ‘modern’ version, such as the Spridget, MGB, Metro, Montego or Maestro. These cars are not so old as to be out of the experience of some ‘older’ examiners at Mot stations. This means they will know where to look for common areas of Mot faults. Ever since the “ Ten Year Test “ of all motor cars back in 1959, costing just ten shillings, (50p today, but probably more like £25 in actual value,) was introduced to rid the roads of dangerous cars, owners have fretted once a year. More than any other motoring legislation, this law was responsible for clearing thousands of pre-war cars from our roads, and many now rare M.G’s went to the scrap yard.

About two years ago, the ’Mot’ Testers manual was re-written. ‘ Mot’ once stood for Ministry of Transport, today it is the Department. ‘Dot’ test does not sound right though. Lots of the earlier ‘checks’ were simply left out, as so few cars now existed to comply with them. The ‘rules’ how ever still exist in motoring law, the manual just does not mention them. For instance, after 1953 everyone had to fit two rear red-reflectors to their car. This was a retrospective legislation, so pre-1953 cars had to have them retro-fitted. Post ’53 cars often incorporate them into the rear lamp lenses. Today you would get away with not having any, as they have been forgotten, (unless the examiner remembers!) The ‘Y’ type never had rear reflectors fitted at the factory for the UK market. Also, it is an offence to have an interior mirror that is not in a frame. All ‘Y’ types have unframed interior mirrors as standard when new, but few examiners can remember the legislation that was brought in to prevent serious facial injuries, as today a seat belt would prevent you hitting the mirror.

Seat belts have to be fitted in accordance with the Construction and Use Regulations. This only applies to cars made after a certain date. But if they are fitted to any car, there are rules about the belt anchorages. To fit seat belts to a 'Y' with wooden floor boards, and a body held to a chassis by eight bolts, is very risky. It can be done, but specially strengthened areas need to be welded to the chassis. Just look at the younger examiners expression as they searches for those seat belts, until he or she realises there are none. About 1970 the law was introduced to have all cars fitted with windscreen washers, another retrospective law that applied to all earlier models. There are how ever, exceptions. Cars with opening windscreens need not be so fitted, ie, early Landrover's. The 'Y's windscreen opens, but I bet quite a few of you have been asked how to work the 'washers'. And watching an examiner trying to work the ancient windscreen wipers is very amusing. He eventually twists the bakelite knob to get the drivers side wiping, but looks perplexed as how to get the passenger side one to join in. The law states that the screen needs to be wiped over certain areas, for the 'Y' to pass its Mot both wipers must work as the screen in one piece across the car. If you had an early Morris Minor series MM, or series 2, with a split-windscreen, only the glass on the drivers side would requires a wiper. It is classed as two separate windows on this model!

Flashing indicators are next, but the examiner searches in vain for them. There are none fitted as we all know. 'Y' types have semaphore units in the 'C' posts, worked from a clockwork rotary switch in the centre of the steering wheel. You enlighten them, but after working alright the nearside one fails to drop back into the post. A thump on the 'C' post cures it and the arm drops out of sight with a clunk. Then he tries the lights, and gives up trying to dip them having searched the steering column in vain looking for a finger operated dip-switch. He only found a chrome knob that adjusted the steering wheel height. Then he finds the poorly placed dip switch, hidden well above the drivers left foot. He operates it, but cannot then get his foot out from under the clutch pedal. As he pulls his trapped foot out having taken his shoe off to do so, he notices the clutch pedal moves about a little, and the brake pedal copies it. You explain they both run on the same concentric shaft, just like an early Morris Minor, but not like the sister model the M.G. TD/TF. There must be no interference between the two pedals, meaning the pivot must not be so worn as to let the pedals hit one another. This is not checked as the examiner has no experience of such a pedal system.

Checking the headlamp alignment shows up one a bit high on main beam. You grab hold of the headlamp and simply twist it a little on its mounting, till the beam falls on the line on the mirror. No stripping down headlamp cowls, or trying to turn rusted up plastic knurled nuts as on other 50's and 60's cars.

Time to check the brake system efficiency arrives, and the examiner carefully studies the copper pipe-work running under the car on its chassis. After a few minutes he frowns, as the pipes seem to terminate at some odd thick tubes bolted upright. He has just inspected your JACKALL system, and mutters to himself over older cars. He was looking for a set of cable brakes, and is surprised at the 'modern' hydraulic system he eventually finds. The bonnet is opened to check the master cylinder. It took some time for the poor fellow to master the bonnet clips, and now he cannot find the master cylinder. He studies the Jackall pump and fluid reservoir, but dismisses it. His pride dented, he asks you where it is. As on virtually all early Morris, Wolseley, and M.G.

cars so fitted, the cylinder is under the floor, so you smile and show him. Later on the brake check on the rollers, he is very surprised at the efficiency of the YB's front brakes, that actually give better readings than some disc fitted cars, (ie 1980's Mini's with disc's but no servo.) At low speeds, cold twin-leading-shoe (tls,) front drum brakes are very good. Alas all drum brakes suffer from fade once overheated, where as disc's cool themselves better and are more efficient. YA's and YT's have single-leading-shoe (sls,) brakes like 1959-63 Mini's. These are less efficient and cheaper as only one slave cylinder per wheel is required. The handbrake, being an excellent Nuffield 'twin cable' design, unlike modern flimsy versions, locks up the rear wheels when applied. The rollers continue to grind away your tyre tread for a few seconds, but then record almost 100% efficiency on the machines gauge.

Your 'Y' type did not get its first Mot test until 1959, if it was a pre-1949 model, as the early testing system was for cars over ten years of age. Today it is three years, and the test covers a massive amount, unlike the earlier 'cycle-parts'; ie, brakes, steering, and tyres. Your Mot test takes only half as long as a modern car, but it still costs you the full amount. Never mind, you were entertained.

The Smiths & Son of Cricklewood, Jackall System.

Today, we take long tyre life and freedom from punctures as a normal part of motoring. It was not always so, and motorists up to even the early 1950's were dogged by the dreaded 'puncture'. Tyres were mostly the old type cross-ply, firm and with little 'give' in the side-walls and driven till the canvass showed through the treads. Front tyres suffered a great deal of side-scrub, and all tyres suffered from the poor, uneven and rough road surfaces then common. Almost everyone carried a puncture outfit and tyre levers, as well as a spare wheel, and often a spare, repaired inner tube.

As was often the case, a puncture would happen on a wet busy road, whilst the car was full of passengers and luggage; or you were in a hurry and miles from anywhere. Out would come the screw-jack, from under all the luggage you had unloaded, then stiff nuts would fight you to undo them, eventually you raised the car sufficiently to remove the flat tyred wheel. Your back was now aching, and with your last bit of strength, you lifted on and fitted the spare. Then you had to reload the boot, or luggage rack, and stow the damaged wheel. Would it not be nice to have some sort of system to lift the car for you, quickly, to make life easier?

S.Smiths & Sons Ltd., of Cricklewood, London NW2, were motoring accessories manufacturers. They made car heaters, petrol gauges, speedometers, ammeters, clocks, and the 'Jackall Integral Jacking System'. In the 1930's and 1940's Nuffield Motors were one of their biggest customers, using the products on the companies Morris, Morris Commercial, Wolseley, Riley, and M.G. vehicles. On the up market M.G. saloon cars and larger Wolseley's the Jackall system was part of the cars specification, on the others the system was sold as an 'optional extra'.

The 'Jackall' jacking system was built into the vehicle, and gave the driver an easy job of jacking up the car, front end only, or rear end only, or all four jacks, whilst keeping

his shirt sleeves clean. It consisted of four tubular telescopic jacks, fitted near to each wheel often actually on the axle, a simple two-cylinder cast alloy hydraulic pump with a selector valve, a reservoir for the oil, and copper pipe work fixed to the chassis feeding the axles via flexible hoses. No one appeared too worried over unsprung weight in those days it seems. On Nuffield cars with early hydraulic brakes, it was easy for the uninitiated to confuse the brake fluid reservoir with the similar Jackall one, hence the clear markings.

Just like certain early French car hydraulic brake systems, prior to WW2 the Jackall system was very sensitive to its fluid, the correct organic 'Genuine Jackall Fluid' must being used. After the war normal mineral oil was installed as the material the seals were made of was less sensitive; today many owners use motorcycle fork oil. The reservoir fed directly to the twin cylinder pump, built as part of the selector/control valve. To anyone use to pumping bilge water from a boat by hand, the back-and-forth action of operating the Jackall pump will come naturally. The pump & valve were often fitted under the front passengers floor, with the long pump handle clipped into the boot. There is a selector for 'F' for front, 'R' rear, or 'ALL'. To operate the system, select the jack (s) you wanted to lift, screw down the release valve knob,(the very top one,) and pump away, remembering to have first loosened the wheel nuts with the wheel on the road. To lower the car once the wheel had been changed, simply undo the release knob two or three turns. The selector should normally then be left in the 'ALL' position and the release valve left open, to ensure no jack is left lowered to be bent and ruined on the first bump in the road. Today it is best to re-check those jacks have indeed gone back up into the housing, keeping the ram-leg greased.

The jacks are simple hydraulic rams, where oil is pumped in to extend them, and a huge internal coil spring pulls the ram back in when the pressure is released. Some rams could extend to double their length, others treble. With age, many cars jacks require a little 'assistance' today to fully retract, especially the rear axle jacks. Many cars have suffered rear axle jack damage, where the ram has not fully retracted, dirt and corrosion on the ram making it stiff in action. Once bent, they are scrap.

On the M.G. YB saloon in the photos, jacks are mounted on the rear axle by each rear spring, with a flexible hose joining the pair to the pipe work on the chassis. Those at the front are actually mounted each side on the front chassis, just aft of the front independent suspension cross member. TD, TF, MGA & MGB owners, study this cross member if you see a 'Y' saloon, you might be surprised when you recognise it as similar to your own. Retracted, the jacks are difficult to see, but once extended, the car stands is as if on 'legs'. The two-pint capacity reservoir is mounted on the battery box on the nearside, adjacent to the twin cylinder pump and selector/control valve on the front of the nearside dash. Access is by simply opening the nearside bonnet flap.

So, your M.G. 'Y' Type owner could keep his cool, and change a wheel with minimum fuss. He or she did not even need to empty the luggage from the boot, as the spare wheel and jack handle are in a separate compartment underneath, such was the thought that went in M.G. cars.

The hydraulics of the Jackall jacking system are simplicity itself. You pump oil into what is basically a bicycle-pump type jack, to extend it, and lift the car; then release the oil back into the reservoir to lower the car. Bleeding the pump is done by

loosening the screw you can see through the hole in the 'FRONT, ALL, REAR,' selector, looking from the top. The screw can only be seen when 'ALL' is selected, and when the handle is pumped oil will come out of a vent hole beside the screw. This will bleed the pump only, where as the rest of the system is 'bled' by operating it three or four times on all jacks. Excess air is released into the reservoir. The weakest point is the flexible hose, it age hardens and shreds itself with the rear axles suspension action. Unlike the copper pipes, this flexible hose uses a very fine 'cycle' type thread. Routing the hose is important, as on the 'Y' for instance, there is little room around the rear axle and it can rub on chassis/body/axle parts. Mot examiners are often confused by the 'extra' large bore pipe work around the chassis, until they see the rams.

Working on the rams themselves is really the job of a hydraulic specialist. Not because they are complicated, but are so easily damaged if gripped in a normal engineering vice. Such damage will cause leaks. The copper pipe work uses normal British Pipe Threads, and is similar to that used as 1/4" petrol pipe of the era. The pump and selector-control valve is again simple, with no sprung ball valves, just a simple landed piston and a screw down valve. With so little to go wrong, people forget that ANY hydraulic system is prone to the tiniest spec of dirt. Oil into the reservoir MUST be clean, as even a bit of human hair on a valve seat will cause it to leak. Dirt under the screw-down release valve can be forced into its seat, causing the jacks to sink slowly once extended as the valve leaks. Other reasons for the system to not hold pressure is a pipe leak, (look for the pool of oil underneath,) or the excess-pressure valve is leaking. This is tiny ball held onto its seat by a small leaf spring. The spring is secured by one screw, and hides inside the unit, just above the pistons reciprocating arm. This valve is to release very high pressures should they occur, very unlikely unless you are jacking up the garage roof as well, or have fully extended all the jacks.

If you have problems, first try bleeding the pump, check there is sufficient oil, look for leaks, then look at the pump/selector. Damaged seats might just be salvageable by lapping in with fine valve paste and then metal polish. Do remove ALL traces of both before re-assembly. The cotter pin, (remember those on bike pedals?) can become loose on the pumping handle arm, leaving you wondering why the car is still sitting on the ground as you pump away. Tightening it will restore the pistons action, or you can make a new one if you over-tighten the original and strip its threads.

Under no circumstances ever use the Jackall system to work under the car. It is only intended for emergency wheel changes. Axle stands save lives.

The MGCC 'Y' Register carry stocks of the 'Service Manual for Jackall' (a pre-war copy,) and rear hoses. This rather limited booklet carries a fault diagnosis chart, and spares stockist are now few and far between; though the Register and NTG of Ipswich keep jack seals, flexible hoses, pump handles and labels for the tank. Items do come up at M.G .autojumbles, and the M.G. press is worth watching for parts.

The Future for the 'Y'.

It was not long ago that the poor 'Y' was a bit of a Cinderella, just as the M.G. Metro's are now. No one wanted them. That was in the 1970's and 80's. Now the cars have a full following, prices are rising, and the spares scene very good. Things like the earlier YA brake cylinders are scarce, but companies will now re-sleeve them. There is the MGCC 'Y' Register, the MG Octagon CC, the MGOC, and The 'Y' Register of John Lawson for the enthusiast. The MG Octagon CC keeps quite a spread of spares, as much is common with the TD Midget, and NTG of Ipswich stock a good selection as well. Hard to source parts can be looked for on the UK MG web-site by leaving a message. Here you will find yourself talking to the whole world as many other countries use the same site. < www.mgcars.org.uk >

Finding a Y today to buy will most often mean buying an already restored car. There are very few decent unrestored cars, or basket case/barn finds about now. Always have the car inspected by an experienced person, or buy from a well known M.G. specialist. They are of such an age now almost anything could be wrong. If you buy one to restore, try to get a much as possible of one, as things like missing interiors and engines will cost a fortune to replace. Common rot areas are door bottoms, sill bottoms, boot lid bottom, around the sun roof opening, inside wheel arches where the sun-roof drain pipes exit, where the wings bolt to the body, the rear spring rear hangars and at the rear chassis where it dips under the rear axle.

The 'Y' Series of M.G. One and a Quarter Litre sports-saloon cars were a very important part of the development of M.G. cars in the post war ear. They were the first to use independent front suspension on a production M.G.; they were the first to use rack and pinion steering; they were the first M.G. production model to have a left-hand-drive version made especially for export. The chassis of the car was very advanced for its day, and with the ifs and steering it was the foundation of thousands of TD and TF sports cars. The ifs suspension was carried over into tens of thousands of MGA's and MGB's. It bequeathed its reliable single carburettor engine and running gear to a luxury Wolseley saloon that was produced in the tens of thousands. The rack and pinion steering first seen on the 'Y' found use on over a million M.G's, Wolseley's and Morris cars. For reasons that are rather unclear, no one seems to bother to chalk up and advertise these facts. *The 'Y' was a vital part of M.G., Nuffield and BMC history.*

The registers and clubs run meetings, rallies, weekend drives, trips to Europe, spares days, etc. It is quite a busy time if you attend everything. About the only thing that will hold you back is the rather slow speed of the Y on any motorway, 60mph is as fast as you will want to go, perhaps 55 if your car is getting worn. **See the appendix at the rear for addresses of clubs and spares suppliers.

The total number of 'Y' series M.G. saloons built for the six years between 1947 and 1953 was just 8336. Over 1500 have survived worldwide.

Books on the model range include Let There Be 'Y's by David Lawrence, ISBN 0620218320; M.G. Y Type Saloons & Tourers, by John Lawson, ISBN 0947981314 by MRP; MG Y Type & ZA/ZB Magnette by Brooklands Books, ISBN 1855203472;

Rallying a Works M.G. by Len Shaw. Both the MG Octagon CC and the MGCC 'Y' Register can supply copies.

Prices of the 'Y' series.

1947	M.G. YA	£525 plus £146 Purchase tax.
1948	M.G. YT	£525 plus £146 Purchase tax.
1952	M.G. YB	£635 plus £345 Purchase tax.

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The M.G. 'Z' Series Magnettes.

The ZA, ZB, & ZB Varitone.
(DO1010 & DO1091.)

Chapter Two.
The M.G. Magnette 'ZA' Series.

If the 'Y' Types were Georgian Elegance, the 'Z' series was Elizabethan Splendour. Whilst the Y had those pleasing flowing lines of the 1930's being led by a traditional upright M.G. radiator, the Z Magnettes were up to the minute in their air-smooth styling of the 1950's. The bulk of the car was designed by Gerald Palmer, and was one of six such models. The Nuffield Group wanted a cohesive style for its family saloons, and this had been began prior to the merger with Austin in 1952-53. The other cars in the group were the 1952 Wolseley 4/44, (in 1956 gaining the single carburetter Austin 'B' series, then being called the 15/50,) the 1955 Wolseley 6/90, and the 1953 Riley RMH Pathfinder, (in 1955 fitted with a BMC engine and called a Two Point Six, being almost identical to the 6/90.)

The Z arrived at an awkward time as Nuffield was now part of BMC. The original model that used a twin carburetter version of the faithful 1250cc XPAG engine, (or even the 1466cc TF engine,) and Morris running gear was shelved, and the new 1489cc Austin designed BMC 'B' series was fitted. The XPAG was not shelved though, as it was fitted to the Wolseley 4/44 in the YB specification as the SC/2, but in the Wolseley the engine was called a XPAW. The Z Magnette went to the London Motor Show as the first car to use the 'B' Series engine, designed by Bill Appleby of the Austin Design Office. He was assisted by Eric Bareham and Jimmy Rix, and like Claud Bailey at the Morris Design Office, their brief was to improve an already existing design. The engine that fathered the 'B' series was the 1200cc Austin version first fitted to the 1947 Austin A40, itself a partial clone from the pre-war Austin Twelve/4 engine and the initial cause of that 89.9mm stroke, (almost identical to that 90mm stroke of Claud's Morris 'X' series.)

Whilst the almost identical 1952 Wolseley 4/44 went out to the public fitted with a single carburetter 46bhp XPAW engine, a Morris Ten series 'M' gearbox on its side with column gear change, the Nuffield hypoid rear axle, and those YB one piece brake drum cum wheel hubs, the Z was held back another year. In 1953 the 'Z' Magnette arrived, sitting two inches lower than its cousin the 4/44, (done by raising the front subframe and fitting flatter rear springs,) with a slight nose down stance giving the car a really mean look. The Z Magnette's looks have been compared to that of the later Jaguar 2.4 Litre saloon of 1955, both look as if they are speeding whilst actually stationary. Other than the under-frame, surprisingly very little of the M.G. was common with the sister Wolseley, only the front doors, boot lid, windscreen, door glass and at first the roof panel were directly interchangeable. The performance of the Z was then the fastest 1500cc production saloon on sale in the UK. The car could not have been more different to that it replaced. Today we think of the ZA as the first cars are now known, as rather slow with poor acceleration, and again having very low gearing. It was a very similar weight to the old YB, but whilst the YB only ha 46bhp

the Z had 60bhp initially, rising to 63bhp by 1954 and by 1956 to 68bhp. The improvement was because the Z was a test bed for M.G. using the BMC 'B' series engine. It was lifted virtually unchanged to then be fitted into the 1955 MGA sportscar. The compression ratio of the first Z models was just 7.15 to 1, due to the poor quality 'pool' petrol available. This was raised to 8.3 to 1 giving the extra 3bhp in 1954.

Virtually nothing was carried over from the Y series, (apart from the Lucas electrics, dynamo, and regulator/control box.) The Z front suspension was of Palmer design and not used on any other model other than the ZB, and Wolseley 4/44-15/50. There was no anti roll bar, it was not required as the geometry and design gave the car little roll. The rack and pinion steering was taken from the 'Y', but modified. The steering rack was now a standard Nuffield item and was now found on the Morris MO series as well, (but not on the other larger Palmer Riley or Wolseley cars.) The front coil springs sat on a lower forged steel arm, this arm was braced rearwards with a compression tube, the two making up a lower wishbone in effect. The top wishbone was a steel pressing, but again braced with a forward facing brake torque arm as on the Morris 1000, 1100, 1300 and the Mini. Inside the coil spring was a telescopic damper, and the whole affair was a very stiff and accurate set up. Age has shown that the front springs can settle rather too much, the floor rots out around the rear facing compression strut, itself rusting away at its rearmost threaded end, and the spring seat disintegrates after about 25 years. (Bronze castings are now available to replace this rather important item.) The whole assembly runs on Silentbloc rubber bushes with steel inserts. The Z Magnette was built to be sold in both rhd and lhd form, and all the holes required for the steering and dash were in the hull.

The rear axle is traditionally mounted on two long semi-elliptic leaf springs controlled by telescopic dampers. These dampers were angled over at 30 degrees to act as anti-roll assistance at the rear. Whilst the first cars were shown with an anti-tramp bar fitted to the differential housing, none were actually built with this fitted as it caused serious and unwanted rear-axle steering. The rear axle was a standard BMC banjo unit, as was the four-speed gearbox with synchromesh only on the three upper gears. That between 2nd and 3rd would wear out in a few thousand miles, so again double-de-clutching was demanded on changing down. The gearbox innards are those from the pre-war Austin Twelve/4, and were still being fitted to the MGB roadsters up until 1966. Whilst the engine was a cast iron ohv unit with siamesed exhaust ports, and the two central inlet ports, the gearbox was a nice aluminium casting saving weight. Later steel synchromesh cones from the Austin A60-M.G. Magnette Mk4 can be used to replace these early gearboxes with brass cones. The later ones last a lot longer. Using gear oil in the gearbox ruins the cones, as ordinary engine should be used. The heavier gear oil causes excessive drag on the gears, wearing out the cones quicker. Alas owners put EP90 oil in to either quieten the box, or out of ignorance.

The structure was a monocoque, with the sills running rearwards in between the rear wheels to act as locations for the rear springs. The forward end of the rear spring bolted to a complex cantilevered out steel pressing. To give this strength there was a steel tube running through it out to the inner sill outer closing plate, just in front of the rear wheel. This is all hidden, apart from the outer end that can be felt up between the sill and the closing plate, often it has all rusted away. Once this very vulnerable area gets rusted out it will cost a great deal to repair. The design does not lend itself to an

easy fix, and has many areas to trap mud and road salt. The sills themselves consist of a thick 16swg inner section, that runs from the rear edge of the front wheel arch, along the edge of the car, to then turn in and over the rear axle, down the sides of the boot floor, to finish at the rear bumper panel. This along the sill is closed off by an inner plate, or diaphragm, and all this is identical to the sister Wolseley models. But the outer sill is not structural, and on the M.G. just folds under the doors, (but 'tumbles-home' on the Wolseley.) Early Z Magnettes used the bumper irons as jacking points, a typical Morris system. Later cars had a tubular jacking point fitted under the central 'C' post between the doors, and welded to the floor of the car. (Again, that on the Wolseley was always a square tube at the same location, but built into the outer sill from day one. As I said, there were lots of differences between the supposedly identical models.) As the Z sat two inches lower than the 4/44, the wheel arches were cut up 2" deeper into the front and rear wings. This means they are not interchangeable, and the rear door has a deeper cut out as well. The whole bonnet was of the alligator style on these Palmer M.G's. The grill of the Wolseley stayed bolted to the front panel, but that of the M.G. was bolted to the bonnet. This was to ensure every Z owner bashed his or her head at least once a year, if not more often, on the lower edge. The engine sat well forward in its bay making the car nose heavy, but giving excellent directional stability. The hydraulic clutch and bell housing were also in the bay, with only the rear end of the gearbox actually hidden under the transmission tunnel. As the floor and gearbox cover was part of the structure, unlike the Y it could not be lifted out into the car, or out underneath rearwards as the Farina Magnette. The engine and gearbox had to come out for any work on the clutch or gearbox.

The very first models had no front door quarter-lights, and the top of the dash inside the car was of painted pressed steel. These models are now very rare, and termed 'tin-tops'. The ZA can be identified by the hockey-stick front chrome work. The side flashes curve down to the front bumper around the wheel arch, to join the ends of the bumper. Very early ZA's were not fitted with front opening quarter-lights, where as the 4/44 was. Also the dash did not have a glove box, just an open shelf. The interior was of leather covered seats on the wearing surfaces, with adjustable individual ones for those in the front, but not as bucket like as on the Y. The later dash is all of wood veneer, with the instruments in front of the driver, The speedometer is half an octagon, of which there are four types by the way, the only way to confirm the correct one is by its TPM number, [turns per mile of the driving cable,] as it was also fitted to the two Farina Magnette models. The rear axle differential ratio is different on each model and this is the reason. The steering wheel sits high again and is huge; it is not adjustable, the windscreen does not open, nor is there a sun roof. The four-door, four light body is very comfortable, though on early models the rear windscreen is small, (shared again with the 4/44.) The floor is fully carpeted, and the roof fitted with a woollen lining with sound deadening under it. The car is much quieter to drive than the Y. It also feels and is a lot faster. A road test by the Autocar in 1954 gave the fastest speed obtained as 86mph, getting to 60mph in 22 seconds. That was fantastic in those days, (and as fast as the two-seater TF1500 in production alongside the first Z cars.)

The term 'air-smooth' appeared in an early advert for the Z Series Magnette. It fits the car exactly. Gone were the sharp angular upright lines of the 1930's, though the Y itself had quite flowing lines it was still basically a sit-up-and-beg style. The most

contentious part of the new M.G. saloon was its curved radiator grill with a false filler cap. It sat low at the front of a dipping bonnet line, and was fixed to the bonnet. The front wings fully enclosed the front wheels and simply ran into the doors and side panels. Only a small pressed waist line that dipped from the front wing to the rear door, then kicked up again to give a vestige 'wing-line' to the rear panel, (which was in fact the boot outer panel,) gave any style to the rather slab sides. But overall, with the dipping bonnet line, then the steeply raked windscreen, the curved roof, raked rear window, and boot bustle, the car looked far more expensive and faster than it actually was.

The specification of the 1489cc engine was twin SU HS2 carburetters, (1.25",) and a fairly mild camshaft valve timing, with a larger inlet valve than the standard 'B' series fitted to the other BMC cooking models. There was an 8" dry clutch. The engine had actually taken a backwards turn as it only had a by-pass oil filter fitted, (that of the XPAG was a full flow type, filtering all the oil. A by-pass filter only filters oil after all the main bearings have been fed by unfiltered oil, dribbling directly into the sump.) This was soon changed when crankshafts were found to suffer, and is why nearly all 'B' series have an external oil pipe from the oil gallery at the rear of the block, feeding to the oil filter. Then the filter feeds oil to the bearings. It was the 63bhp full flow oil filtered engine that went into the MGA, but that was modified to give 68bhp, with twin SU HS4 carburetters, (1.5") The MGA also stole the gearbox and rear axle, but the Z's 4.875 ratio was raised to 4.55 for the early MGA. The Z itself later gained a 4.55 rear axle and the MGA a 4.3. The engine block and sump was shared with many other BMC models, the forward facing sump also being found on the Wolseley 15/50, and the Morris 'J' series of light vans. The van used this sump as it cleared the solid beam, leaf sprung front axle. On the Z the sump was prone to hitting kerbs and large stone due to being far forward and low. On the other BMC models, and the MGA & MGB, the sump sat aft of the front axle line.

Whilst the 4/44 had kept the YB 9" brakes, (but with a standard BMC four stud wheel fixing, not the standard Nuffield five of the Y,) the Z had more modern Lockheed brakes of a larger 10" diameter. The drums were removable on their own, and the 15" steel wheels had a hole in their centre that could be lined up with the adjuster hole in the drum, so a screwdriver could be inserted to operate the snail-cam and adjust the shoes for wear, without any dismantling. Only the hub cap need come off, (these were the same chromed steel hub caps as the YB, with an M.G. emblem at the centre.) The twin master cylinder of the Z was shared with the 4/44, MGA, Morris MO series, and the larger Palmer Wolseley and Riley. Today they are very hard to find, and the only way to repair them is to have them sleeved. Both the clutch and brakes were hydraulic, and the master cylinder lived high up on the dash, just under the battery, not under the floor as in pre-war designed M.G's.

Like the Y type, quite a large number of the Z series have survived. The hull of the car was very rigid, and its tank like roof and floor panelling gave it great strength. The worst rot areas are the rear spring hangers, the sill area, and the under-floor box sections of the front floor and were the most common reason for scrapping them. There are inspection plates inside the car, above both front chassis legs. These are at the very forward end of the foot-well, on the top of the leg, held on with four small self-tapping screws; ideal for access to renew anchor nuts with stripped threads, or putting in Waxoyl. The panels aft of the rear wheels fall apart after only a few years,

so nearly all cars will have been repaired here two or three times. All steel panels are now available to repair the car, but it is expensive in labour and time. The early ZA " Tin-top" is the least common of the model. Between 1953 and 1956 12,754 'ZA' models were made, a great many were lhd and exported.

When the initial Nuffield mid-range saloons were being designed, and the original M.G. Z Magnette was to have the twin carburettor version of the 1250ccXPAG, or the twin carburettor version of the 1466 XPEG, and the Wolseley 4/44 a single carburetter version of the XPAG SC/2 engine, Gerald Palmer also had ideas of a GT version. He actually put pen to paper and had run off a design for a twin overhead twin camshaft unit, (tohc.) The 'Z' was to be as a sports tourer with the XPAG, and a Grand Tourer with a tohc engine. The merger with Austin put this GT model on hold. Eventually a twin cam was produced, but from a competition between the Morris and Austin engine-design offices. That from the Austin was chosen to go into the MGA Twin Cam, as it used the current 'B' series engine as a base. That from Morris would have required a huge investment to build. So the M.G. ZA 'G.T.' never arrived. A similar move as made with the new BMC 'C' series six cylinder engine, of 2693cc. It was tried in a ZA, but made the car far too nose heavy. Now had it been cast in aluminium, things may have improved. (Some actually were at great expense, and put into racing Austin Healey 3000's.) BMC Australia produced there very own six cylinder version of the 'B' Series. This went into a slightly stretched Farina Wolseley 12/80 and Austin Freeway. It would have been an easy fit to a 'Z' gearbox, but was only ever used in the UK on the development models of the MGC.

The M.G. ZB and Varitone.

In late 1955 for the 1956 season M.G. updated their saloon car. In September 1956 it was ready to be seen. It was really what today we call a 'face-lift', other than the engine the mechanical specification changed very little. The ZA was called this title from day one, unlike the Y retrospectively being called the YA. The ZB was built from September 1956, and a two-tone painted version called the ZB Varitone from October. The two-tone was called 'duo-tone' in those days. Everything said already about the ZA readily applies to the ZB, concerning problem areas, etc. These M.G. saloons were not cheap, being almost twice the price that of the really mundane family saloons of the day. At £1041 in 1956 the M.G. ZB was not a car for the commoner. As the Morris Oxford and Austin Cambridge had gained the 1489cc engine the year after the ZA arrived, by now all the mid range BMC saloons and commercial vehicles were using it. The ZB gained a more powerful version, now having the early tune of the MGA, with 68bhp and an 8.3 to 1 compression ratio with SU HS4 carburetters. The cylinder head gained double valve springs, the block the early MGA camshaft, and to cope the rear axle was raised to the 4.55 to 1 ratio. This gave the car longer legs on fast cruising, but killed the acceleration a little. Like the YA before had gained the improved SC/2 engine of the YB, the last few ZA's had the 68bhp engine and rear axle ratio change prior to the arrival of the ZB, (from chassis 18101.) The MGA engine power had crept up to 72bhp by now.

The ZB's facelift consisted of a dished steering wheel and the front hockey-stick chrome trim was deleted, replaced with a straight chrome strip now running to the middle of the front doors replacing it, (looking very like those of the 4/44 with the 'Wolseley' motif removed.) The 4/44 also grew up in 1956 gaining a single carburetter 1489cc engine, the larger ZB brakes, gearbox and rear axle. This became the Wolseley 15/50, with a similar side-trim strip to the ZB, but this ran further into the rear doors. The ZB rear window remained as the 4/44. Inside the car there was a full width parcel shelf under the dash. Under the bonnet, apart from the engine prefix, the 68bhp engine can be identified by the later export oil-bath air filter. A token effort towards passenger safety was made in the dishing of the steering wheel, to try to avoid chest injuries in head on accidents. A sponge barrier 'crush bar' was fitted across the front of the dash top, as it must be remembered this was a long time before mandatory seat belts.

The ZB Varitone arrived very late in the life of the 'Z' Series. In October 1956 the ZB was given a two tone paint scheme, divided up by a stainless steel trim line running along the bonnet edge from the radiator grill, to follow the pressed swage line along the side of the car, then up over the false rear wing line. Not all cars were two colours, some sold with the trim line but the same colour top and bottom. But by far the easiest way to spot a Varitone was to look at its rear window. The hull was identical to the ZB when delivered from the builders Pressed Steel Fisher, but at Abingdon the aperture was cut out larger into which to fit a wrap-around rear screen. This, along with the two-tone paint, completely altered the cars appearance. By 1958 10,722 ZB's had been built, and 7,803 Varitone's. The grand total for the 'Z' series range was 36,601 in six years. This is a very proud total of M.G. saloon cars.

Production Data.

The 'B' series engine fitted to these M.G's used the old Morris/M.G. numbering system initially. This led to that fitted to the first ZA having a prefix of BP15GA. The B meant 'B' series, the P meant push rod for OHV, the 15 meant 1489cc, the G meant it was an M.G. engine, and the A it was for a ZA. This soon changed to the Austin system used by BMC, and became simply 15GA for the 63bhp engine in the ZA. The 68bhp engine gained a prefix of 15GC, the C meaning it was for the ZB. (The 15GB was in the first MGA.)

Chassis numbering was still the Nuffield system. For a ZA it was prefixed KA meaning K for MG Magnette, A for four-door saloon. Following them will be a third letter for the paint colour, (and a fourth letter if a Varitone.) Then there will be numbers, the first is the spec of the body, ie rhd, lhd, etc. The second number is the type of paint, ei cellulose, etc. After that will be the actual chassis/car number, this is stamped onto an M.G. Abingdon plate screwed to the left hand side (passenger side on rhd,) at the top of the dash under the bonnet.

Paint letter codes,	A black	B light grey	C dark red
	D dark blue	E mid green	F Beige
	G brown	H primer, (CKD,)	J dark grey

K light red	L light blue	P ivory
R white	S mid grey	T light green
U dark green		

Specification of the body,	1 rhd home market	2 rhd export
	3 lhd export	4 lhd N. America
	5 CKD rhd	6 CKD lhd

(CKD means in bits in a big box, for assembly overseas.)

Modifications During Production.

One of the first modifications was to the engine, raising the compression ratio from 7.2 to 1 to 8.3 to 1 as the pool-petrol had improved. Along with bigger SU carburettors this gave more power. At the same time the engine gained a full-flow oil filter. On early ZA's the front brake hoses were also altered as they could become trapped in the coils of the front springs. The top bracket on the damper tower was made longer using part number AGG5151-2, but anyone competent with a hacksaw and file could make one to suit. Later the inner end of this hose moved to the inboard end of the top wishbone. On the post 1954 cars the eye bolts that held the front damper to the bottom suspension arm was modified to move the base of the damper outboard a little. This stopped it hitting the inside of the coil spring on full re-bound.

There had been complaints of vibration being felt through the steering wheel. This was cured in 1955 by fitting rubber bushes between the steering rack and the front suspension cross member.

Electrically a modified control box as fitted after mid 1954, part number AHH5356, with altered settings. Externally they look identical. At the same time a later type of 'windowless ' dynamo was fitted, you could not inspect the brushes in situ now. In 1955 the doors gained child-proof locks, where a small lever on the latch would make in inner handle not work.

The engine improved a little more in 1955 as it gained better valve stem oil seals of the ring type, and the collar was extended down as a shroud. This covered the top of the valve guide to stop excess oil getting into the manifolds. The piston rings were changed quite regularly as to material and type, to try to improve oil consumption. Eventually two oil control tings were fitted. Some late ZB's may have nylon jet feed pipes on the carburetters, from the float chamber. The cooling system became a 7psi pressurised system on the ZB, replacing the old 4psi system. The radiator cap is the main component here. Very soon after the ZB arrived the rear gearbox extension oil seal was changed from a leather one, to a neoprene type.

The Manumatic Magnette.

In the mid 1950's, drivers in the USA were running about in automatic transmission cars. In the UK between 1956 and 1958 quite a few UK manufacturers tried out a supposedly cheaper system called the Manumatic. BMC put it into a few Austin and

Morris saloons. M.G. built 496 of these semi-automatic cars as ZB Magnettes, but only one is known to survive with it fitted. There are others existing that were originally delivered with it, but were soon modified to a normal clutch and gearbox. The Rootes Group in Coventry were also bitten, producing lots of Hillman Minx's and Singer Gazelles so fitted. They too soon reverted to the normal floor change gearbox and clutch. The system was designed by Automotive Products, and used the inlet manifold low pressure to operate a number of expanding bellows as servo's to operate the clutch when changing gear. It was all a bit Heath-Robinson, and there was no clutch pedal. The driver simply moved the gear lever, the system was supposed to do the rest. The clutch was centrifugal, so at idle rpm it was disconnected. Moving the gear lever operated a solenoid to disengage the clutch, and so it should have worked. Alas, it just brought in many warranty claims, and was not up to the job, hence the few remaining cars so fitted.

You could not park a Manumatic fitted car in gear, as the clutch was disengaged by its fly-weights; you could not tow start the car, as the weights were on the engine side of the flywheel; and it was very sensitive to the engine rpm a little like 1960's Borg Warner type 35 automatic gearboxes, that is on choke with a fast idle, the car will creep. To move the car in tight areas the driver had to use both the accelerator and the brake pedal together, or the car would shoot forward or backwards to hit another parked car or obstacle. M.G. showed one of these cars in the 1956 Motor Show and it was available in early 1957. It did not prove very popular for the reasons above, and it added £50 to the cars purchase price. M.G. did not offer free conversion back to a normal clutch, but charged for the parts to the poor owner.

Living with a 'Z' Series Magnette.

Driving a Z Magnette is a pleasure. The only real gripe one can make if the car is an original early model ZA, is the low gearing of the rear axle. Like the Y series the car was made for the current style of UK roads, all narrow and bendy and with frequent hills in most areas. There were no motorways as today. This simply means, that most Z owners, like Y owners, tend to avoid motorways if possible. It can be tiring to drive a long journey at 60-65mph with the poor engine working at high rpm. That is one reason why quite a few cars have had later MGB engines and an MGB overdrive gearbox fitted. Fitting this gearbox means metal has to be cut out of the transmission tunnel, though fitting the early three-main-bearing 18G or 18GA MGB engine means the sump needs modifying, otherwise it bolts straight up to the Z gearbox.

Of course there is no need to modify the car in any way, other than perhaps to have the cylinder head modified for unleaded petrol. If you want an experience of owning and running a good quality early 1950's sports saloon, there is virtually no other car readily available to fit your needs. The Y Series has its up-right radiator charm, and the Farina Magnette its juke-box comfort and roominess. The Z Series is solid, firm, conservatism at its best.

The car sits a lot lower than the Y. As there is no chassis, the floor of the car is much lower. You do still sit rather upright in the manner of the day, but it is quite easy to get a straight arm driving position. The pedals are of the hanging type, (the clutch and

brakes are both hydraulic, with the composite master cylinder high on the bulkhead.) It is quite easy to heel and toe the brake and accelerator pedals. But, like the Y there is a floor mounted dip switch for the headlights, and again it is mounted quite high up, though there is much more room for a foot than on the earlier car. The seats are very comfortable, with masses of shoulder room. The rear seat is luxurious in its space. All doors open from a front hinge line, and are again huge, giving easy access. The dash is set out with the dials in front of the driver, though the water, oil, ammeter and fuel gauges are a little small. The half-octagonal speedometer has a mileage trip indicator as well. The steering wheel is large again, in the style of the day, and to give sufficient leverage. The car uses similar 15" diameter wheels to the Y, but today most Z'ds are fitted with radial-ply-tyres. This does make the steering very heavy at low speeds, so one soon learns the trick of moving the car slowly when moving those front wheel; it is easier to steer a rotating wheel than a stationary one. The gearlever is just in the right place, and if it was not for that poor synchromesh on 2nd and 3rd gears, it would be a pleasure to use. The rear axle is quieter than that in the Y, but does eventually develop a slight whine. The gearbox is again quite audible in the intermediate gears, but that engine is very quiet. There is quite a lot of soundproofing in the Z hull, and the engine is very far forward over the front axle line. This rather heavy front end adds to the heavy steering, but does make the car have almost arrow-like directional stability. Again, the ignition key does not start the engine, this is done by the usual Lucas cable connected starter solenoid, you pull a switch on the dash. All 'B' series engine start easy if set up correctly.

The wheel base is over eight foot long, giving the car an excellent ride, but not a good turning circle. Even today on 'B' class road the car can fairly move along, and shows little roll on cornering. The road manners of the car are excellent, and were once again far ahead of other saloons of the day. The windscreen pillars and door pillars are rather thick, and do give the driver a few blind spots so you have to move your head about. There are the 1950's semaphore indicators in the 'C' post, the same units as in the Y Series. This time the switch is on the steering wheel centre, but it is not on a clockwork timer, they self cancel on moving the steering wheel to the straight-ahead position. The wires for the indicators and the horn run down a stator-tube in the centre of the hollow steering column. This tube is anchored by a big brass nut and olive, at the base of the rack and pinion steering box. Late ZB's were fitted with flashing indicators for some markets, using the front sidelights and rear brake lights. The handbrake is on the central transmission tunnel, and is very powerful with its twin cables. If you sat in the sister Wolseley model, the handbrake is of the umbrella type, coming out of the dash, like Ford and Vauxhall cars of the day. The twin leading shoe brakes are very effective, but are not servo assisted like modern cars, so they have to be firmly pushed on with a right foot. Whilst these drum brakes are excellent for the 60-63 and 68bhp standard models, if you fit a bigger MGB engine, it would be sensible to use disc brakes with a servo. If you fit disc brakes, the brake master cylinder reservoir is not big enough; a screw in plastic extension bottle is available for this.

The weak synchromesh on the gearbox will mean learning to double-de-clutch if you want to make fast, noiseless gear changes down the box. Under the car there are lots of greasing points, some requiring attention in as little as 1000 miles. The king pins are one example, but once you have a high-pressure-grease-gun in your tool kit, you can whip round the car in a few minutes as most are not too difficult to get access to.

Again, the rack and pinion steering should have EP 90 gear oil put into it, (with your grease gun,) and do not forget that nipple at the base of the steering column. The gearbox uses engine oil, not gear oil. DIY servicing will save you a small fortune in garage labour charges, as well as the knowledge the job was done properly. Few modern garages are set up to service the older car. On the early ZA with its by-pass oil filter, it is very important to change the oil and filter every 3000 miles. The later full flow system can be left until the 6000 mile service unless you are doing a lot of stop-start shot journeys. Do not pay garage prices for oil, buy up a years supply at an autojumble, Duckhams 20/50 and similar are often at bargain prices.

The Z is an easy car to wash and polish, not like the Y which has many sharp bits to rip open your knuckles or tear you chamois leather. The Z's stream-lining means washing the car take half the time of the traditional shape of the Y. Conversely, hoovering out the complex interior is fiddly.

The large sloping windscreen is fixed, and has electric self-parking wipers. The car was sold with a windscreen washer system run by the vacuum in the inlet manifold. If someone has used ordinary washing-up liquid in the water-bottle, this will congeal and block the little chrome jets under the windscreen. The glass reservoir bottle top rusts away, keep your eyes skinned for an old pickling jar at second hand shops, the bottle is almost identical, as is the top. The rubber diaphragm inside the washer bottle eventually breaks up with old age. You can open up the copper halves and substitute a polythene bag as a replacement, or convert the system with a small modern electric motor-driven pump. The self-parking of the wipers is controlled by a third contact on the driving wheel on the motor, all you need to do to alter the parking position is loosen off two of the cover screws, and move the round cover a little either way, then tighten the screws.

The car has a heater as standard, and it is a good quality Smith version, and it includes a windscreen de-misting system, this was real luxury in 1953. The intake is under the windscreen just aft of the bonnet, and the 'flap' is worked by a handle inside the glove compartment. Leaves get through the gauze, and block the plenum chamber intake, this is where the heater motor bolts to the bulkhead. This plenum chamber can rust out, and cause wet carpets. On the move the motor is not really required, as the ram-air from the intake is sufficient. If it is not, either there are old leaves inside the system as above, or the internal selection flap inside the heater has rusted up closed, set for recirculatory air only. Some cars had radios (wireless,) as an extra. The valve-box was put under the driver's seat, just the right place to hit it when shoving a starter handle under the seat of not careful. Seat belts can be fitted to the car, but the semaphore's position in the 'C' post is in the way of the shoulder mounting. To get round this find some more modern belts with the adjustable upper mounting, or convert your car to flashing indicators as the later and export ones were.

Jacking the car can be fraught with problems if you have rusted out side jacking points. Buy a good quality scissor jack, and jack the car under the front or rear springs to change a wheel. Watch your head on that grill when you are checking under the bonnet. Keep a spare SU fuel pump in the boot, (or a set of points if you are a capable DIY type.) SU electric petrol pumps always stop on rainy days, on empty roads miles from anywhere. The pump is on the top of the tank, behind the panel at the forward end of the boot, under the filler cap.

The ‘Z’ Magnettes are still a very desirable car. They, like virtually every M.G. saloon every built, had quite a bit of derision thrown at them upon introduction. They soon proved there were a capable fast sporting car of their day. They are also a good looking car and popular with the M.G. enthusiast who has a family.

Who Brought the ‘Z’ Series M.G Magnette?

By 1953 Britain was pulling away from WW2 rationing, though there was still some effects on the working population such sweets still being limited purchases. The car industry was very busy working off the war-debts by exporting like mad. The new M.G. Magnette of that year was squarely aimed at the upper-middle-class, just as the BMW, Audi and Mercedes are today. The ‘Z’ Magnette was the BMW of its day. Whilst the more well off working man had the Ford E93A side valve Popular, and the foreman purchased his Standard Pennant or Hillman Husky, the manager was likely to run a Rover, Riley, or an M.G. Magnette saloon. New housing estates were springing up everywhere and many new homes had garages. The sporting driver who had a family might well buy a Z Magnette, as it fitted his personal image perfectly. Note I say HE and not SHE. These were the days of the man being the bread-winner and the lady of the house bringing up the family. The man of the house probably had once run a little M.G. Midget, and wanted to keep a bit of a hold on his youth.

How Much was a ‘Z’ Magnette?

1953	M.G. Magnette ZA	£645 plus £269 Purchase Tax.
1957	M.G. Magnette ZB	£714 plus £358 Purchase Tax.

Radio was £44 extra.

BMC 'B' Series M.G. Engines.

Potted History.
A New Engine for M.G.

The BMC Austin designed 1489cc 'B' series engine was first seen in an M.G. in October 1953. It was shown at the 1953 Motor Show, and caused a bit of a rumpus among some who called themselves enthusiasts. The model was the air-smooth M.G. 'Z' Magnette saloon car. It replaced the 'Y' type with its 1250cc XPAG engine, an engine the company's Wolseley 4/44 would still be using three years later, till 1956.

The source of the 'B' series goes a lot further back in motoring history, as does its little sister the 'A' series, both being born from a 1200cc ohv Austin engine of 1947.

This 1200cc unit was one of a pair that Bill Appleby, Eric Bareham, and Jimmy Rix, at the ADO (Austin Design Office,) is supposed to have cribbed from a lorry engine. The original unit was in fact a ohv six cylinder Chevrolet engine that Vauxhall were building to fit in their pre-war Bedford lorry. It was very successful, and Austin got hold of an example, and made his own slightly altered version. It was also very successful so the Engine Design Department cloned it into two smaller four cylinder versions, for use in the cars. One was a 2199cc 16hp engine, used in the post-war 1945 Austin Sixteen saloon, 25cwt van, and early A90 Atlantic, and bored out to 2660cc in the later A90 Atlantic, Austin Taxi, the Champ, and Austin Healey 100 sports car. The other was a very tidy unit of 1200cc, not unlike the 'B' series, but with a gear type oil pump and by-pass oil filter, using the crankshaft, connecting rods, pistons, camshaft, and bore centres from the pre-war Austin 10/4 of 1932, of 65.5mm bore and 89mm stroke. It produced 40bhp at 4300rpm, with its Zenith carburetter. This was a good example of tying a designer down to a price. It is NOT an ohv conversion of the Austin 10hp side-valve engine, it was done so the same boring machine could be used to make the 'new' engine. It was fitted to the four door A40 Devon and two door Dorset models, in 1947, the same year the M.G. 'Y' type saloon was introduced.

In 1953 it was redesigned into the 1200cc and 1489cc 'B' series by Eric Bareham and Jimmy Rix, and this engine went into the A40 Somerset in 1954, (same A40, new body.) The 1947-1953 Austin 1200cc engine is **not** a 'B' series, though it looks similar. The new redesigned engine was of conservative design, in grey cast iron, with a pressed steel sump, timing chain cover, and rocker cover. Its mechanical petrol pump was driven off a lobe on the camshaft, and it was a push-rod ohv unit with heart shaped 'bath chamber' combustion chambers, developed by the same consultant Harry Weslake who had a hand in the 'A' series. The cylinders were further apart than the original A40 1200cc engine, and the crankshaft was of EN16 carbon steel. The 89mm stroke meant the counterweights of the crank actually went within one sixteenth of an inch of the camshaft, something that limited any lengthening of the stroke in later life. It was only designed for a five year production life after all. All 'A' and 'B' series engines had their compression ratios altered, within that engine's model range, by the differing dish in the piston. This made production easier as only one cylinder head was required, and should you have an engine with a flat piston, this would be a high compression version. The cylinder head had five ports, all four inlets were siamesed into two, and the two centre exhaust shared a port, just as in the MPJG Midget engine of 1936. This central exhaust port would mean the exhaust valves would run very hot, so only the best steel was used in them. Even so, many larger 'B' series developed a name for running on after switching the ignition off, easily cured today by fitting an anti-run-on valve from a Metro, to the inlet manifold. The camshaft design ensured the cam lasted a lot longer than the XPAG versions. The camshaft was slightly offset from the centreline of the followers above, so as the cam lobe rotated and lifted the follower; being offset, it rotated the follower as well inside its bore. This reduced wear of both parts considerably, as not just one area took all the stress, and stopped pocketing of the follower's lower face.

Like the 'A' series, it was all the electric's on one side of the block, and fuel the other, for safety. The 'B' series had a paper/felt element oil filter in a bolt on steel bowl, but it was still only a by-pass version, taking 10 miles to filter all the oil just once. Early engines have no oil pipe to this filter, which assists identification. The oil pump was

an eccentric three-lobe type, by Holbourne-Eaton, driven from a skew gear off the camshaft, with the distributor drive coming off the same gear via a jack-shaft that sits between the cylinders. This means the distributor is at an angle on the other side. Connecting rods (con-rods) had the pinch-bolt gudgeon pin and diagonally split big ends so they could be withdrawn up via the cylinder. On old long-stroke sv engines it was common to drop the sump, undo the big ends, and wriggle the piston down past the crankshaft; ohv engines usually have pistons that are too big for this having broader bores. The 89mm stroke was to give the engine good mid range torque, but would limit rpm, and development; not that the designer had any idea his engine would still be about in 1980's. It had three main bearings on its counterbalanced crankshaft that were a larger diameter than the A40 1200 unit of 1947. The timing chain had a tensioner, which the earlier engines before 1954 did not. The 1200cc version only lasted until 1957, but the 1489cc '1500' was still in use in the Wolseley 1500 as late as 1965. Of all engines in this book the 'B' is the easiest to identify, as they have their capacity cast in numbers on the nearside front of the block, under the dynamo, '1200' for 1200cc, and '1500' for 1489cc, for these early units; and '1600' for 1588cc, '1622' for 1622cc, and '1800' for 1798cc. It is one of the heaviest engines about for its size, 370lbs for a 1489cc, less gearbox; 520lbs for a 1798cc with gearbox. (Make sure that garage roof is strong enough.)

Selection of 'B'Series Engines in M.G's.

model	cc	suffix	bhp/rpm	torque
M.G. Magnette ZA	1489	BP15GA	60/4600	77
	1489	15GA	64/4600	78
M.G. Magnette ZB	1489	15GC	68/5200	82
M.G. MGA	1489	BP15GB	68/5200	82
M.G. MGA	1489	15GD	72/6000	85
M.G. MGA Twin Cam	1588	BC16GB	108/6700	104
M.G. MGA 1600	1588	16GA	80/5600	87
M.G. Magnette Mk3 ,,	1489	15GE	66/5200	85
M.G. Magnette Mk4 ,,	1622	16GE, 16GF	68/5200	89
Riley 4/72 ,,	1622	16RA, 16GF	72/5500	90
Riley 4/68 ,,	1489	15RA, 15RB	68/5200	85
MG. MGB three main bearings,	1798	18G, 18GA	95/5400	110
M.G. MGB five main bearing,)	1798	18GB,18GD, 18GG, 18GH,		
)		18GF, 18GJ, 18GK, 18GJ,		
)		18GC & 18V	95/5400	110

Only those MGB's sent to the USA after about 1970 could use unleaded fuel. The 'B' series was not designed to run on unleaded petrol. To do so it requires hardened steel inserts fitting the cylinder head on the exhaust valve seats. This was a normal method of reclaiming burnt out valve seats anyway, so today only the steel needs to be of better quality to cope with the unleaded petrol. The vast majority of M.G. Specialists will do an exchange cylinder head scheme.

Many other ‘B’ series might find its way into a ‘Z’ or Mk3 and Mk4 M.G. Magnette. A list follows;-

Model	cc	Prefix	BHP/RPM	Torque.
Austin A40 Devon	1200	BP12A	40/4300	58 lb/ft
Austin A40 Somerset	1200	BP12A	42/4500	58
Austin A40 Sports	1200	BP12A	42/4500	58
Austin A40 Sports	1200	BP12A	46/4500	58
Morris Cowley Series 1	1200	BP12M	40/4500	58
Austin/ Nash Metropolitan 1200	1200	BP12A	40/4500	58
Austin/ Nash Metropolitan 1500	1489	BP15A	52/4500	70
Nash Metropolitan USA version	1489	15F	52/4500	72
Morris Oxford Series 2	1489	BP15MH	50/4500	70
Morris Oxford Series 2 (low comp)	1489	BP15ML	45/4500	65
Morris Cowley Series 2	1489	BP15M	50/4500	70
Morris Oxford Series 3	1489	15M	55/4500	72
Morris Oxford Series 4	1489	15M	55/4500	72
Wolseley 15/50	1489	BP15W	50/4500	70
Wolseley 15/50	1489	15AMW	55/4500	72
Wolseley 1500 Mk1	1489	BP15LAW	50/4500	70
Wolseley 1500 Mk2	1489	15W, 15WA	55/4500	72
Riley 1.5 Mk1	1489	15R, 15RA	60/4800	77
Riley 1.5 Mk2	1489	15RB	66/5200	82
J Type 1/2 ton Commercial Van	1489	BP15ML, 15AC	50/4200	74
Diesel Engine	1489	BP15J,15Y,15Z	40/4200	90
Austin A50 Cambridge	1489	1H	50/4500	70
Austin A55 Cambridge	1489	15	55/4500	72
Austin A55 Cambridge Mk2 (Farina)	1489	15AMW	55/4500	82
Morris Oxford Series 5 (Farina)	1489	15AMW	55/4500	82
Wolseley 15/60 ,,	1489	15AMW	55/4500	82
Riley 4/68 ,,	1489	15RA, 15RB	68/5200	85
Morris Oxford Series 6 ,,	1622	16AMW, 16AA	61/4500	90
Di Tella, (Argentina) ,,	1489	15AMW	55/4500	82
Austin Cambridge A60 ,,	1622	16AMW,16AA	61/4500	90
Wolseley 16/60 ,,	1622	16AMW, 16AA	61/4500	90
Riley 4/72 ,,	1622	16RA, 16GF	72/5500	90
A60 1/2 ton Commercials	1622	16AC, 16AE	61/4500	90
Farinas with Alternators, '71 only	1622	16C	61/4500	90
BMC 1/2 Ton Van	1622	16AD	61/4500	90
BMC 'B' Gold Seal recon-engines	All	48G		
Sherpa Van, low compression,	1622	16V	58/4500	82
Hanomag-Henschel van	1622	16AC/16AE	61/4500	90
Sherpa Van ,,	1798	18V	80/5000	85
Morris Marina 1800	1798	18V	85/5000	90
Morris Marina 1800	1798	18V	85/5000	90
Morris Marina 1800 TC	1798	18V	95/5400 ***	110
Austin 1800 Mk1	1798	18C, 18AMW	80/5000	90
Morris 1800 Mk1	1798	18C,18AMW	80/5000	90
Wolseley 18/85	1798	18C,18AMW	80/5000	90

All fwd 1800 Mk2	1798	18C, 18WB	86/5300	92
All fwd 1800 Mk3	1798	18H	86/5300	95
Austin 1800'S'	1798	18H	96/5400	106
Hindustani 1500	1489	?	50/4200	74
Navigator Marine	1489	?	42/4200	60
Navigator Marine	1622	?	58/4500	85
Massey Harris Harvester	1200	1HLC		

*** Same engines as that in the MGB of the same year. Marina used a cheaper flow-cast crankshaft not a forged one as in the M.G.

Crompton-Lanchester Lecture, by W.V. Appleby, 1960.

This lecture by Bill Appleby of the Austin Design Office, and responsible for the 'B' series, tells us a lot about this engine, and particularly that for the M.G. Magnette 'Z' and 'MGA'. The cylinder block is made of cast iron to the British Standard, (BS) 1452-17, with the water jacket down to just below the track of the piston rings in the bore. Two locating holes are machined first, in the sump flange of the casting, and reamed accurately, and from then on they are used to locate the block for all further machining. You can see these holes, they seemed to have little use when the engine was in service, now we know! Bores are not honed, but wire-brushed by machine, then rolled to flatten the ridges. A scroll rear crankshaft oil seal was thought satisfactory for the engine's use, and runs with an 0.008" clearance. Camshaft bearings are lined with Babbitt metal in the steel backed shells, as unlike the early 'A' series, it does not run direct in the block iron.

Cylinder heads are made of the same metal, with a patent Weslake shape combustion chamber and porting. The chamber is heart shaped, so that incoming mixture is directed at the central spark plug. The wall is brought round between the inlet and exhaust to protect the inlet gases from the hot exhaust valve, and reducing the amount of ignition advance required. The crankshaft is made of EN16, 55 ton steel with a safety factor of 4 to 1. Radii on journals must be kept free of tool marks, or stress can be induced and the shaft will break. Two holes per bearing are drilled for oil delivery. Con-rods are of 55 ton alloy steel of 'H' cross section, with a clamped gudgeon pin. Big end shell bearings are of steel backed copper-lead alloy, with a thin lining of tin or lead-indium, capable of loads up to 9000 lb/in sq. The 'B' series has a loading of 3000 lb/in sq. The touring engines have split skirt Lo-ex aluminium pistons, but MG use solid skirt pistons that need an extra 'half-thou' running clearance, and the rings are thinner than the touring engine. Oil rings are designed to give 6000 miles per gallon (mpg) of oil at 40 mph, and 500 mpg of oil at 80 mph, later improved to 2000mpg at 80 mph. The top ring is chrome plated for longer life.

The camshaft lobe shape is based on the sine curve, with complex hardening of the lobes, journals and sprockets. The cam followers are chilled cast iron, and their centre is slightly out of line with the lobe, with a .002" dome, to ensure rotation and even wear. Tappet and lobe maximum loads are in the region of 190,000 lb/in sq.

Pushrods are solid, but can deflect up to 5/64" on the MGA at 6100 rpm, with a load of 560lb, (400 lb on touring engines.) The rockers have a ratio of 1.406:1, increasing lift a little. There is a load of 960lb per rocker on the MGA and double spring valve Magnette engine, (700lb on the touring unit,) and they are made from malleable cast-iron.

Inlet valves are made from Silchrome (EN52,) and exhaust from XB (EN59). For high performance in the Twin Cam these are stellited XB, or KE956 steel. Inlet valve steel has a tensile strength of 4 ton/in sq; XB 5 ton/in sq; and KE965 16 ton/in sq.

The oil pump of the M.G. delivers 3 gallons of oil per minute at 1000rpm, and is driven at half engine speed. The water pump moves 8.8 gallons per minute at 4000 rpm. The flywheel is 17-ton cast iron. Interestingly the dynamo is a 22 amp/hr type, runs at 1.698 engine speed, but with all services running 22.6 amps are required, a net loss!

Future of the 'Z' Series Magnette.

The 'Z' Magnettes have a very good chance of surviving for many, many years. They are far more modern than the 'Y' series, and have the advantage of sharing with many other British Motor Corporation, (BMC for short,) many common components. This fact is advertised quite forcibly in that it is not too difficult to fit a 1963 MGB 95bhp 1789cc engine, (three main bearing version,) and its overdrive gearbox, plus the higher ratio differential, to the Magnette. Modification will be required to the fit the sump, as on the MGB it is the 'wrong-end' of the engine. Adapting MGA and MGB disc brakes to fit is also a popular option. Making a 1489cc 1953 ZA with its 60bhp engine leap up to a 1798cc 95bhp engine is some power boost. As the engine have a common ancestor, it is also possible to make the larger MGB unit look just like the original at a glance.

The 'Z' Series was, like the 'Y' before it, a very important part of M.G. History. It was the first model in the new company to use the BMC 'B' series engine. It was also the first monocoque built M.G. The 'Z' was a test bed for the 'B' Series engines use in the very successful MGA sports car. In fact the MGA did more than just use the 'ZA' engine, it had the gearbox, rear axle, brakes, and many other parts. This could be done because both were using items from the BMC Corporate parts bin, and many other models used that very same item. (One wonders if BMC put spares into boxes, and charged more for the box with M.G. printed on it than the item for an Austin!)

So mechanical parts are still easy to obtain, but the 'Z'd did have its very own design of ifs, designed by Gerald Palmer. Thus parts for this are almost unique, though shared with the sister Wolseley models, the 4/44 and 15/50. The only major difference is the lower arm compression tube-rear mounting bracket, as it bolts to a sloping floor panel, not a flat one. (The Z sits two inches lower than the Wolseley.) Like the 'Y' the model has an astounding number of survivors compared to the original numbers built. Again, like the 'Y' full restoration costs on a poor example are unlikely to be recuperated when the car is sold, restoring costs about 150% of the cars restored

resale value. Due to the very complex under-framing of the car, especially around the forward end of the rear springs, it is best to have any prospective purchase carefully inspected. It is quite easy to 'bodge' the rotted out areas by simply welding a cover plate over the lot. The torsion-box arrangement under the front floors is also important, (and is why the floor slopes up towards the bulkhead,) as this area is also infamous for reverting back to natural ferrous oxide.

The gearbox in the Z is a standard BMC item. Today you can purchase a five speed conversion that uses a Ford Mondeo unit with a special bell-housing casting to connect it to the 'B' series engine. This makes a nice conversion if a MGB engine is used. Hi-Gear Engineering do these on 01332 514503. They also do a similar kit for the M.G. TD, that would fit a 'Y' series quite easily. Also on the market is a kit to use a four cylinder 1800cc Rover 'K' series engine, or the V6 version giving out 170bhp. Moor Lane Garage will do this on 07870 369130.

Other 'Z' Magnettes.

Whilst the designations of the Nuffield Drawing Office were DO1010 for the ZA, and DO1091 for the ZB, development of the models went on behind the scenes. Few if any saw actual production. Within M.G. the experimental shop still functioned, and their work was given an 'EX' number. EX178 had been the M.G. version of the BMC 'B' series engine as suited for the Magnette. EX190 was a competition model of the ZA, with EX199 being a competition model of the ZB. EX193 was a special model of the ZB for export to Bermuda. EX200 was a face-lift for the ZB, but perhaps the most interesting was EX202, a drawing for the fitting of the Riley Pathfinder/Wolseley 6/90 'C' series six-cylinder engine, complete with gearbox, rear axle and brakes, as fitted to a ZA.

Books, Etc.

Using your Z Magnette you can meet others of similar interests through the MGCC 'Z & Farina Magnette Register', details in that clubs monthly magazine.

Books on the model include M.G Y and ZA/ZB Magnette by Brooklands Books, ISBN 1855203472, M.G. Saloons by Anders Clausager, ISBN 1901432068, and Magic of the Marque by Mike Allison, by Dalton Watson, ISBN 0901564826. TSB do a TSB393 covering both the 'Z' and Farina on 01473 212912. On the web the site to visit is at < www.mgcars.org.uk > and go to the Bulletin pages, and select 'Magnette'. The search facility will also find you other private web sites on this model.

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The M.G. Magnette Mk3 & Mk4.

ADO9 & ADO38.

Chapter Three.
The Farina M.G's.

In 1958 BMC decided to finalise the corporate models by using a common body shell. They have quietly and already underpinned all their range, no matter what the marque was, with almost identical engines, gearboxes, rear axles, suspension systems, steering, and electrics. Now it was the time to go for what today would be termed a World Car. Alas, in those less enlightened days the term Badge Engineering was used instead. All the manufactures were doing it, large American car companies sold only one model, but it had up to four names on the bonnet. There was clever swapping about of outer panel work, but still the same parts underneath. The little aluminium Vee Eight engine from General Motors, that was eventually purchased by Rover, ending up in the MGT V8 and MG RV8 began sitting under the bonnets of a Buick Skylark, Buick Special, Pontiac Tempest, and an Oldsmobile F85 Cutlass. Rolls Royce and Bentley shared the same body, engine, interior, and almost everything except the radiator grill on the 1960-70 and 80's Silver Cloud, but no one complained. Jaguar used its largest saloon badged up as a Daimler, again virtually only the grills differed. The Rootes Group used the same body, engine, and running gear under their Sunbeam, Hillman, and Singer badges. BMC were to do the same, and using the A55 Austin Cambridge as a base platform, they put their Austin, Morris, Riley, Wolseley and M.G. badge's on the cars.

When the five BMC models of the Austin Design Office model number 9,
(ADO9,) were released to the press in late 1958 and early 1959, there were many complaints of 'Badge Engineering'. Each had its own ADO number, the last letter denoting which marque, ie ADO9'G' was the Mk3 M.G. Magnette, R was Riley, A was Austin, M was Morris, and W was Wolseley. The Times and Telegraph newspapers, as well as Motor and Autocar motoring magazines, were full of letters from readers. The main thread of them all was, all the models looked the same, had the same mechanicals, with different 'makes' on the grill. BMC were building a car that would suit many tastes. Today we have the various 'World Cars' of the big car company's, again, the same car with different badges such as Opel, Vauxhall, and with what we know as the Astra, Nova, and Cavalier, but with another name and badge in other countries. BMC did not realise it at the time, nor did the UK public, but the ADO9 was one of the first World Cars. They cannot claim a 'first', as Rolls Royce beat them to it with their dual Rolls Royce and Bentley models, with only the radiator, rocker cover, and badge differing in 1952 their all steel saloon. Daimler and Lanchester shared models in the 1950's, as did Jaguar and Daimler later. Morris and Wolseley models have been virtually identical since the early 1930's, so why all the fuss in 1959? Austin were not excluded either, with their little Austin Seven in the UK, a BMW Dixi in Germany, (BMW's first car,) and the Rosengart in France. MG

took over an Austin model in 1958, the little Austin Healey Sprite, and stuck a MG badge on it calling it a Midget.

BMC caught all the flack back in 1959, with their Austin A55 Mk2, Morris Oxford series 5, Wolseley 15/60, Riley 4/68 and the MG Magnette Mk3. How ever, it must have been successful, as the ADO16 1100-1300 that followed included a Vanden Plas version as well as the other BMC names, and they sold millions. BMC had in fact tested out the UK market for similar models with a differing specification with the Palmer designed MG 'Z' series Magnette in 1953. This had been beaten onto the market place by the Wolseley 4/44 in 1952. The Wolseley used a 46bhp Nuffield 1250cc XPAW engine from the 1952 MG YB saloon, with the YB gearbox, rear axle and brakes. The gearbox had been modified to column change. The 'Z' Magnette used a redesigned 1947 1200cc Austin Cambridge A40 engine, gearbox and rear axle. It was the first use of the BMC 'B' series engine, in 1489cc form, with twin SU carburetters, and initially 60bhp. Both Wolseley and MG sold well. So in 1958 BMC announced the replacement model for all its mid-range saloon cars, based on the floor-pan and running gear of the 1957 Austin Cambridge A55 family saloon.

History of the Farina Magnette's.

BMC invited a number of the franchise garage managers to Longbridge to see their newest model, on the 12th of November 1958. It was the first of the Farina styled cars to be shown to them. The press were to be shown the car early in 1959, and the first appearance to the public was in the Autocar and Motor magazine in March 1959. The car on display and seen by those who were to sell it, was the Mk3 MG Magnette. The Riley 4/68 followed it on the 3rd of February 1959. Both cars shared the same monocoque bodies, running gear, and most of their trim. The 4/68 was better fitted out for its driver, with a cable driven tachometer, and wood veneer dash. The MG shared its instrument with the preceding 'ZB' MG saloon, the only difference being the tpm number of the speedometer, (turns per mile due to differing rear axle ratios.)

Austin had merged with Morris in 1952-53, to improve their chances on the world markets being up against huge USA giants like Ford and General Motors, (GM.) Rumour had it BMC, the newly formed company, was then the fifth largest motoring manufacturer in the world. Old UK names like Wolseley, Riley, MG, Morris, Austin, and Vanden Plas, were now under one management. Or at least that was the idea, because in fact BMC, the British Motor Corporation were just a holding company, and struggled to get all the small individual firms to pull together in the same direction. Riley remained virtually independent up until the Farina 4/68. Leonard Lord was the leading light of the firm and its managing director, and he worked hard to improve the management. The arrival of the ADO9 series was proof of his success, and was very forward looking. There were valid criticisms of the MG and Riley versions, as road holding was not of the best on the staid Austin A55, even though the Austin Healey 100 up to the Healey 3000 used the very same components in its suspension. It was not until 1962 that BMC improved the models, adding anti-roll bars front and rear, double acting dampers, and lowered the car adding a longer and wider wheelbase. Sadly, one or two ex-MG ZB owners who purchased the early versions of the Mk3 Magnette, took them back to the garage and asked for their old

car back. It was true to say the Mk3 was slower, heavier, bigger, and far more wieldy than the model it replaced. The ZB handled well, had accurate steering, and a slightly more powerful engine. This was the price of a common model covering from a farmer's pick-up van, through to family motoring, to a car for sports touring.

The other problem that BMC fought, was the numbers of franchised garages they supplied, where often only one or two individual makes were covered. For instance there were still separate Austin garages, Morris and MG garages, Riley garages, and Morris and Wolseley garages. An Austin garage would not sell a Wolseley, or a Riley a Morris. So BMC had produced the mid range saloons to be able to be sold at any of them, with the added advantage of the majority of common spares to all models. An A55 front wheel bearing was the same as a Wolseley 15/60, or a Mk3 Magnette, etc. This kept prices down as well as not requiring huge stocks to be held by a garage stores thus tying up cash. The idea to produce a common shell and running gear paid off. BMC made 900,000 Farina cars under various badges, from 1959 through to 1971. The cars became a by-word for reliability, and the vast majority of country taxi firms used Morris Oxford series 6 models, with their roofs painted white.

The M.G. and Riley versions of the car were set aside by their differing styling to the others. This styling was originally carried out for BMC by Pinin Farina of Italy. But back at BMC in Longbridge, Birmingham, the five individual models had their bonnets, grills, and interiors styled by BMC head stylist Sid Goble. The rear fins were cut off on the M.G. and Riley versions at about thirty degrees, improving the look of the rear end of the very angular styled car. When the updated model the ADO38 arrived in 1962, the Austin, Morris, and Wolseley had their high rear fins trimmed down, but the M.G. and Riley remained unchanged.

Whilst the floor pan came direct from the Austin Cambridge A55, (I defy you to tell the difference if both cars were up on a garage ramps, you laying underneath looking up,) the engine and gearbox has a more complex history. There were minor alterations to the chassis/floor to accommodate the larger sharp edged Farina body. On the M.G. and Riley, the front panel, bonnet, rear wings and grill were styled by in-house BMC stylist Sid Goble, and very successfully applied to the hull. The engine on the ADO9 was the standard BMC 'B' series, designed in 1950-51 by Bill Appleby of the ADO Engine Design Office. He was assisted by Eric Bareham and Jimmy Rix, who between them had cloned the 1947 Austin A40 Cambridge engine from the four cylinder 2 litre Austin 16, but using the dimensions of the current sv Austin Twelve/4. The 16hp engine was itself developed from the six cylinder Austin lorry engine, and that from a Vauxhall lorry engine, a copy of a 1930's General Motors engine! A complex web of commercial intrigue. The three men had developed the 'A' series the year before, and were now responsible for the 'B' series. The 'B' was not new, it had to use the pre-war Austin 12hp engines crankshaft and bore, as had the A40 before it. The 1489cc 'B' series of 1952 had its bores set further apart, and was also in production as a 1200cc, the same size as the previous A40 of 1947. The engine went first into a M.G, the 1953 MG Magnette 'Z' series, later called a 'ZA'. It was also fitted later into the 1953 Austin Cambridge, 1955 the Morris Oxford (1498cc,) & Cowley (1200cc,) and in 1956 the Wolseley saloon cars and smaller commercial vehicles. The 68bhp unit put into the Mk4 MG Magnette and the Riley 4/68 was that of the early MGA 1500, and the later M.G. 'ZB'. On the Mk3 Magnette there was no camshaft drive for the tachometer, but there was on the Riley 4/68, as there was on the

MGA. This 1489cc engine produced 68bhp on paper only, but 66bhp on a brake! The 1959 engine produced 2bhp less than the 'ZB'. The only difference was the use of SH HD4 carburetters with a rubber diaphragm for the choke, as used in larger form on Jaguars, big Rovers, and Rolls Royce/Bentley cars.

The gearbox was of standard BMC type, with no synchromesh on the 1st & reverse gears. The synchromesh on 2nd to 3rd was very weak, and often gave up after six to eight thousand miles. M.G. Farina owners are often good at double-de-clutching as are Z Magnette owners. The rear axle was the standard banjo BMC type of 4.3 to 1 ratio.

After a bit of bad press over the first 1489cc cars being over-bodied, the car was revamped in 1962, and became the Mk4 MG Magnette, and Riley 4/72. The engine had grown to 1622cc from the MGA 1600 mk2, but the car kept the SU HD4 carburetters that only ever used on this model, and power was up to 72bhp that of the last MGA 1500. BMC took the time to ask M.G. what they would do to improve the cars bad name for steering and handling. Whilst in use as a family saloon there was no complaint, in the faster Farinas the worm & peg steering was very vague, with quite a bit of play even when new. What the car wanted was the MGB's rack and pinion steering, but this would have meant too much re-engineering. So the model ended up with an anti-roll bar fitted front and rear, the car being lowered by an inch all round, the wheel track widened, and the rear axle moved along the spring an inch rearwards to lengthen the wheel base. The dampers were uprated to double acting lever arm Armstrong's, and the rear spring rate changed. With a set of radial ply tyres,
the car was now quite presentable and handled far better than the early model. The cable driven tachometer of the Riley was deleted in 1966, and the MGB/Midget/Marina electronic one fitted, one that counted the pulses of the ignition points. Both the engines in the MG and Riley were then identical and suffixed with 16GF. These 16GF engines also used common parts from the MGB 18V engine.

The interiors were of leather faced seats, and the only real change to the interior specification was to the rear seats. The Mk3 Magnette had individual seats where as the Riley one rear bench seat. The early cars used modified ZB front seats, but mid 1959 those from the Wolseley 15/60 were fitted, (but trimmed in leather with rounded corners,) and at the same time the MG gained the Riley rear bench seat. This was to cut costs.

The Riley 4/68 ran from 03.02.59 to 04.10.61; the Riley 4/72 ran from 19.09.61 to 24.10.69; the Mk3 Magnette ran from 12.11.58 to 04.01.61; and the Mk4 Magnette ran from 18.09.61 to 08.04.68. The Morris Oxford s6 and Wolseley 16/60 continued until 1971.

Selling the M.G. Farina Magnette.

In those days virtually every town of any size had its Austin, or Morris dealer. Average earnings were between £12 to £17 a week for the working man, but the MG and Riley Farina were aimed at the lower end of the middle managers, with a family.

They perhaps took home £100 to £130 a month, so the cars initial cost was about a years salary to them, not so different to today. Two things sold the Farina Magnette to M.G. enthusiasts. One was the enormous boot, and the other the huge opening doors and spacious interior that assisted the 'older' owner to enter and exit. The automatic version was popular with such buyers as well. BMC spent a lot of money advertising the M.G. and Riley Farina. The profit on up-market Farinas was much more than on the basic cars.

The running costs were much higher, as if you were not mechanically minded, the cars needed greasing every 3000 miles at least. Other servicings were at 6000 and 12000 miles intervals. Whilst awaiting the car to be serviced, you could chose from the optional extras your dealer wanted to sell you. What the roof rack did for wind noise and fuel consumption is anyone's guess.

The Differences Between Farina's.

Not only were there seven models of the Farina ADO9, there were modifications during production, and a redesign of all seven in 1962. This leads to difficulty in identifying what is what. The various models 1958-1962 were:-

Austin A55 Mk2 Cambridge saloon,
Austin A55 Mk2 Cambridge Countryman estate,
Morris Oxford Series 5 saloon,
Morris Oxford Series 5 Traveller estate,
Wolseley 15/60 saloon,
Riley 4/68 saloon,
MG Magnette Mk3 saloon.

The updating of the models changed their designation, and between 1962-1971 they became:-

Austin A60 Cambridge saloon,
Austin A60 Cambridge Countryman saloon,
Morris Oxford Series 6 fleet model saloon,
Morris Oxford Series 6 deluxe saloon,
Morris Oxford Series 6 Traveller estate,
Wolseley 16/60 saloon,
Riley 4/72,
MG Magnette Mk4 saloon.

Note the cheap version of the Oxford for fleet users. The de-luxe had a white roof and oddly many of these became taxi's.

It is the M.G. Magnette that is the enigma of the M.G. market. M.G. made sports cars, easy to drive, cheap to run, and usually quite small in size. The big Farina ADO9G saloon sat rather odd in the company's line up of models for sale. The car was actually built at Cowley in Oxford, and had been a BMC design, but it carried a M.G. chassis plate with The M.G. Car Company of Abingdon printed on it. The Riley sat

far better in the selection, as Riley's had always had a well fitted out, plush saloon in their range. There was the M.G. 'Z' Magnette, but this was a very different animal to the big Farina M.G. The 'Z' was sporting, had excellent handling, looking fast, where as the Mk3 Magnette was far more of a mini-limousine with average handling.

In the paragraphs following on the various cars there is a description of each of them, in this chapter are the items that can be checked to see if what you are looking at is indeed what it appears to be. It is not hard to 'clone' a Farina, as the panels that differ at the front simply unbolt. The fins might cause more problems, but there is a least one Wolseley 16/60 with a Riley 4/72 bonnet, front panel and grill running about. I once built a Mk3 MG Magnette estate car, by putting the relevant panels on my 1961 A55 mk2 Countryman. It fooled many people, till it was scrapped in 1975.

1959 M.G. Magnette Mk3, (and Riley 4/68.)

The M.G. Magnette Mk3 was to replace the M.G. ZB. The Riley 4/68 was to replace an earlier Riley model discontinued some years before, the 1.5 litre RMA. There had been a Riley 1.5 in production since 1956, the little car built onto the Morris Minor floor-pan and sharing it body with the Wolseley 1500. This little Riley was also to share its 1489cc engine & gearbox with the bigger 4/68.

Of the new 1959 Farina family the M.G. Mk3 was to be the sporting family model, whilst the Riley 4/68 was aimed a bit higher at the gentlemen's sports tourer. The dash in the Riley was more impressive than that of the M.G, which inherited the M.G. ZB dials. These two cars were the most expensive of the range, the purchase price being nearly a third again over the base Morris Oxford saloon, before tax. Both shared the same body shell with its reversed rear fins, giving the cars a much more balanced look compared to the high pointing spires of the others. The front panel grill, bonnet, dash, front and rear seats, rear fins, rear lamp units differed from the other Farinas. The front side-lamps were shared with the Wolseley, but both bonnets and front panels were uniquely different even from each other. The Riley had side vents to its grill, that wrapped around the lower corners of the front wings. If you look under any Farina bonnet, all the holes are punched for the various models, even the pairs of three holes each side of the radiator on the bonnet 'shut' panel, to hold the front panel support bars of the Riley/M.G. version. Two are for the M.G./Riley, the third is for the Wolseley.

The interiors of the M.G./Riley used the same front seats after mid 1959, but with the pleating of the leather running along the car on the M.G, but across the car on the Riley. The early M.G. Mk3 Magnette had the front seats from the ZB modified to fit the Farina runners. The rear seat on the Riley is a bench type, but two inches taller in the back-rest than the single carburetter cars. The Mk3 Magnette has a very nice rear seat arranged to be two individual seats, with a cut-out portion in the back rest. Both have a central arm rear which will fold into the back rest for an extra passenger. All wearing faces are leather, with the sides in plastic covered rexline cloth. By mid 1959 apart from the differing pleating, the M.G. rear seat was that of the Riley, as where the front seats. Cost cutting had arrived.

Sitting in the cars the dash-board instrument display obviously differ. That of the Riley is all polished wood veneer, where as the apparently lower-mounted polished wood veneer dash of the M.G. has a black crackle-finish metal face around the gauges. The fixing point of the various dashboards of all the Farinas affix in the same places, so in theory you can fit an M.G. dash to an Austin, etc. The M.G. has its ex-M.G. ZB instruments set in a binnacle set in front of the steering wheel, with a larger half-octagonal speedometer. Each side are pairs of small square dials covering water temperature/oil pressure, and fuel contents/ammeter. The virtually identical switches are haphazard to say the least, and take some remembering as to their functions. The Mk3 M.G. speedometer has a differing TPM number to that of the larger wheeled ZB, (turns-per-minute of the speedometer cable, a four figure number on the face.) The ZB has 15" wheels and the Farina 14". Whilst the three single carburetter cars use Smiths gauges, the MG and Riley use Jaeger. This is a bit of a swindle, as the working insides of all the units are the same on all the Farinas, only the shape of the case differs.

The Riley 4/68 dash is more imposing, as it sits higher, and has large round dial faces. These cover the same information as that in the M.G, and are set in front of the driver. The two large dials are the speedometer, and the cable driven tachometer, shared with the MGA and Riley 1.5. The cable runs off a gear on the rear of the camshaft. The M.G. has no tachometer or even drive for one. Both cars have 12volt clocks, that are polarity sensitive. Deep pile carpets, a heater and windscreen demister, lots of sound deadening material, are standard fitting. The electric-motor driven windscreen wipers are only single speed, but do self-park. There is an indicator stalk on the steering column cowl, and a blanking plate where the ignition switch is on the Morris and Austin version. Ignition is in the dash on the M.G, Riley and Wolseley.

The steering wheel is huge, set very high, (lowered by 2" later.) It is a typical juke-box style with a huge chromed horn half-ring in its centre. At the horn ring centre is a badge for the various makes. Even when new, there is about two inches of play at the steering wheel rim. The worm and peg steering is ground in a helix that changes ratio as you steer. Towards full lock the ratio is high giving more wheel movement on the road, but straight ahead the gearing is lower, requiring more steering wheel movement for a similar correction.

The interiors of the Austin and Morris appear Spartan in comparison. The Austin, Morris and Wolseley share the same dash gauges, in different layouts. The Austin A55 Mk2 and Morris Oxford s5 could be had with steering column change as an option. This was more common on export models. The Austin A55 previous had column change and a gearbox with overdrive if required, (a very similar unit fitted to the early three-synchro MGB roadster.) This was not an option on the Farinas for unknown reasons. Only the column change gearbox had ever been fitted with an overdrive unit in the saloons. The Morris had a bench front seat, the Austin a split bench front seat.

Body trim was in stainless steel, hub caps had the marque logo centrally, either RILEY or M.G. The logo was a Mazak casting affixed to the hub cap, those of the other were just stamped in. The Mk3 M.G .shared its hub caps with the MGA, 'Z' series Magnettes, the YB saloon, and the TD-TF sports cars. The Riley and M.G. Farinas were sold with laminated windscreens, where as the other Farina's simply had

toughened glass. Both M.G. and Riley had full-length chromed brass strips down their body waist-line, and across the boot lid rear end. There was a reversing lamp fitted to the boot lid centre, in chromed cast mazak. This centre also hid the boot-lid opening handle. In the centre of the rear doors on both models, just in front of the door handles, there was a chromed flash, which was the dividing line of those cars sold with two-tone paint colours. Early cars had the boot lid, rear fin tops, and the roof one colour, the doors, bonnet and front wings another. This later became simplified as the full-length waist strip was the colour divider.

This early colour scheme followed that of the Austin A55 mk2 Cambridge. The two-tone finish was £16 extra, (called duo-tone in its day.) It made the cars look very smart, but as they aged it accentuated the sagging rear springs of the pre-1962 models, making them look tail heavy. Fitting estate car seven-leaf rear springs cured this fault. Worth remembering is that the M.G. and Riley Farinas continued using the early bumper over-riders after 1962. Front and rear differ, as do the later Austin A60 types, giving four versions of similar looking parts. Estate cars used the early rear over-riders till the end as well as the Riley and M.G. Estate car rear bumpers also fit the M.G. and Riley.

As well as the body hull, the front suspension, steering, gearbox, brakes, and rear axle were all standard BMC units. There were no anti-roll bars on the early cars. This was again odd, as the previous 1957 A55 had carried a rear anti-roll bar as it was known to be tail heavy. The rear axle ratio of the twin carburetter cars was higher than the others, to take advantage of the more powerful engine. On the M.G. and Riley it was 4.3 to 1, the single carburetter cars were 4.55 to 1, and the estate cars 4.875 to 1.

The basic models had the standard single carburettor 55bhp BMC ‘B’ series engine, as fitted to a huge number of BMC’s cars and vans. These all had one SU HS4 fitted, even the Austin Farina engine. Austin had until 1959 used down-draught Zenith carburetters. The engine used in the M.G. Mk3 was basically that of the M.G. ZB saloon; and that in the Riley 4/68 that of the pre 1956 MGA 1500, (still in use in the Riley 1.5. when the 4/68 arrived.) Both had twin SU HD4 carburetters, which are peculiar to only these two Farina models, not being used anywhere else. In much larger sizes the SU HD was used on big saloons of Jaguar, Rolls Royce, Bentley, and Rover. Today it can be hard to find spares, as the jet control and choke are a rubber diaphragm, not the usual spring-loaded brass jet tube. The engine turned out 66bhp, two less than the ZB, Riley 1.5, and pre 1956 MGA 1500. The ‘68’part of the Riley’s model name was supposed to mean 68bhp.

Whilst many think the Farinas all had the same engines, this is not true. Whilst the single carburetter cars did use identical units, those fitted to the MG and Riley had harder bearing metal faces in the big end and main bearings, lead-indium. Hot running oil pressure was 75psi, 25 higher than the others. The cylinder head had bigger ports and bigger valves, with double valve springs; the camshaft had different valve timing, and a different timing curve in the distributor. The two carburetters were silenced by a huge oil bath silencer/filter. The others used paper elements. The exhaust manifold was more free flowing, and originally the exhaust pipe was an eight of an inch bigger. This led to 12bhp more than the other cars, and was basically the current 72bhp MGA 1500 engine with a softer camshaft. 66bhp with 83 lbs torque was not a lot to pull around a 2740lb car.

Whilst the rear brakes were those of the A55 Cambridge, the front twin leading shoe drum brakes were much wider, and shared with the Ford Consul of the same year. Economy was about 28-30 mpg, worse of driven fast. Maximum speed was about 80-85 mph, this was slower than the 'ZB' Magnette which had more smooth air-cheating lines. The biggest fault with the handling is the roll-oversteer, meaning the car leans alarmingly in fast bends, and the back end swings out. The steering is too vague to be capable of catching it soon enough.

How do you identify a Mk3 Magnette or Riley 4/68? To check that your cars is what it is supposed to be, look by the battery between this and the wing. Stamped into the metal inner-wing, will be the chassis number. This was only done until about mid-1961. The body number on the makers plate on the dash in the engine bay, should be prefixed RHS1 for a 4/68, and GHS1 for a Mk3 M.G. The Riley 1489cc engine will have a prefix of 15RB, same as the Riley 1.5; and the Mk3 M.G. engine should have 15GE. Cars often have ex-single carburetter engines fitted, these were prefixed 15AMW, (standing for Austin-Morris-Wolseley.)

By 1961 BMC had taken notice of the motoring press, of the criticism of the cars, and made some much needed improvements to the ADO9. This led to the ADO38 versions. ADO9G had been the MG Mk3, and ADO9R the Riley. ADO38G and ADO38R were very different cars, but unfortunately externally they looked virtually identical to the earlier ADO9.

1962 M.G. Magnette Mk4 , (and Riley 4/72.)

By 1961 UK drivers of 1950's family saloons, and some sports cars, were blowing up their engines on the new M1 motorway. These 1950 engines were not made for long high speed running that a long straight road demanded. Like other manufacturers, BMC took their engines aside and improved them. The 1489cc 'B' series was redesigned into an odd 1622cc size, but strengthened right through. It first went into the MGA 1600 mk2 giving 90bhp, and then into the Farina cars with 61 bhp in single carburetter form, and 72bhp in twin form in the M.G. and Riley. This much improved engine was longer lasting, more powerful, but perhaps a little rougher running than the 1489cc version. Second gear synchromesh was improved with harder wearing steel synchromesh cones, but this still wore out quite quickly as the gearbox was still basically that from the pre-war Austin 12hp. Torque was up as well as the single carburetter cars adopted the 4.3 to 1 rear axle of the M.G .and Riley. The estate cars now used the 4.55 to 1 ratio.

The basic single carburettor cars had subtle modifications to their high rear fins, dropping them some two inches, with re-styled rear lamp units. These rear lamp clusters were still individual to type, the Wolseley 16/60 getting a small 'peak'. The stylist tucked the rear bumper in closer to the body, now the fins were smaller, and reduced the base cars length by four inches. As the Riley 4/72 and Mk4 M.G.

Magnette retained their rear fins and bumpers, so they remained the older length of 14ft 10inches, four inches longer than the updated models..

The front axle subframe had the lower spring fulcrum arms, and the Armstrong lever damper arms lengthened by one inch each. This widened the front track by two inches. The rear axle had one and three-quarter inches added to its width, and the rear axle was moved one inch further back on the springs. This lengthened the wheel-base. The rear wheels on an ADO38 are very close to the rear part of the inner wheel arch. Because of the nose up attitude of the ADO9, the front springs had their spring-pan lowered by a half inch. This dropped the front of the car by one inch. The old single-acting, lever-arm dampers were replaced by double-acting dampers, (identified by the two large hexagonal nuts at their base,) and the front and rear axles had anti-roll bars fitted. The steering was not improved as it remained the old Earles worm and peg system. If fitted with radial ply tyres, the Mk4 M.G. and 4/74 are a much better drivers cars. The handling was much improved, and the roll-oversteer reduced. The car sat better on the road as well, not looking as top-heavy as ADO9. At last the Mk M.G. Magnette handled almost as well as the ZB it replaced, and was also a little faster.

A modification not too well known was the moving back of the rear seat. Well, not quite, as only the forward end of the rear wheel arch had a big dent put into it on the ADO38. This permitted the rear seat back-rest to sit further back by about two inches at the edges, giving more bum-room. Whilst the base cars had fin, rear bumper, and light changes, the M.G. and Riley kept the same outer panels as before. This meant the ADO38 version of the Riley 4/72, and MG Magnette Mk4, were now four inches longer than the Austin A60, Morris Oxford series 6, and Wolseley 16/60 versions. The M.G. and Riley were now much better mannered cars, but the buying public tarred them with the same brush as the 1959 models. The MGB suffered a similar fate in the MGC version, both looked virtually identical, but one had a 1789cc four cylinder engine, the other a six cylinder 2912cc engine. Sales of the bread-and-butter single carburetter cars romped away, but not the sales of the M.G. and Riley. Both the Riley and M.G. now were either a single colour all over, or had a two-tone colour scheme split at the chrome strip waist line.

The body numbering of the Riley 4/72 should be prefixed with RHS3, on the chassis plate on the dash under the bonnet. No numbers were now stamped on the inner wings of these later cars. The M.G. Magnette Mk4 should read GHS2. The Riley engine should be prefixed 16RA, and the M.G. 16GE. Mid 1966 when the Riley 4/72 went over to the impulse type tachometer, the cable drive was no longer needed. So both the M.G. and Riley used the same engine, prefixed 16GF, at about Riley chassis number 29,000 and M.G. 22,000. At about this time the oil pump and sump pressing was commonised with the 1789cc MGB, which already used the same timing chain and sprockets, with timing cover and rocker cover and the 16GF encompassed these changes as well. The other three Farina makes used a 16AA engine after 1966, previously a 16AMW. The sump change with its bigger swelling in the cylinder block on these later, MGB oil-pump fitted engines, means sumps are not interchangeable between the pre and post 1622cc engines.

Propeller shafts received sealed-for-life universal joints, and the rear spring shackles were fitted with rubber bushes, not brass bushes. This reduced the number of grease

nipples requiring attention every 3000 miles by four. The rear leaf spring-rate and camber was changed, to stop the tail-dragging effect of ageing springs. The cooling system was uprated from a pressurised system at 4psi, to 7psi. There was still an 82 degree C thermostat fitted, where an 88 degree one will improve economy and the heater.

Maximum speed of the Riley and MG Farina was up to 88-90mph, and acceleration better at 0 to 50 in 12 seconds, being previously 13.5. Fuel economy was the same, as the car was the same weight with the same drag coefficient. The widening of the rear axle led to improved star splines being used on the longer half-shafts. The 1959 cars had square splines. Rear springs now had their centre bolt one inch further back, so were not interchangeable with the earlier models, and required fitting the right way round with the shorter length to the rear. The gearbox also adopted the stronger longer lasting star-splines on its first-motion shaft, again requiring the correct star-splined clutch plate.

Because drivers were fitting radial-ply tyres to their cars by 1964, the stresses on the tall steering box were causing the four bolts holding it to the front chassis leg, to crack the leg. BMC issued a modification leaflet for retrofitting of a strengthening bracket to the top of the steering box, affixed to the front end of the battery tray. Anyone using radial ply tyres must fit this bracket, but post 1964 cars are already fitted at the factory. To lengthen the life of the steering box, eventually needle rollers were fitted to the cam followers inside the box, as well as the adjustment becoming spring loaded. Again, early box internal parts cannot now be used on later boxes. The later steering boxes have their filler cap at the bottom end of the top cover, early cars at the top.

Other external changes to the 1962 models were the fitting of stainless steel rim-belishers to the ADO38 cars, on slightly narrower wheel rims, now 4J and not 4.5J. The exhaust system became the bigger diameter version on all models, but now with both a silencer and expansion box in its length. The parcel tray under the dash gained a crush-edge at its front, to save knees in a crash. All cars now had front seat belt mountings fitted during manufacture. Original BMC inertia-reel belts relied on the car stopping quickly, as opposed to today's passenger pulling forward quickly. There was only one way to test the older belts, hit something! Modern after-market Securon inertia-reel belts will fit the ADO38 mountings. The front seat adjusters had their locking arrangement improved. Sealed beam headlamp units were fitted, and the SU, SP type electric fuel pump fitted. All engines now used the lead/indium bearings, and all models had the laminated windscreens.

Not affecting the Riley or M.G, BMC did lower the trim standards of the Morris and Wolseley by using Amblar plastic seat coverings, and the Morris Oxford becoming available as a fleet model, and the de-luxe identified by its white roof.

Who Brought a Mk3 or Mk4 M.G. Magnette?

BMC were out to sell the two upper specification level Farina saloons. They advertised them far and wide. The profit margin on the better models was far higher

than on the basic one. For instance the profit made on a Mini in 1960 was below £30, but that made on an Austin Westminster above £300, so the fact that a Mk4 M.G. Magnette cost almost a third again that of a basic Morris Oxford fleet-model must have been profitable. BMC had got it all wrong though, as there really was not a market for these 'plush-Farinas'. The Riley went to the retiring manager, or businessman. The M.G. was not really in any market. It was lost, but people did buy it. These were mainly the older generation of M.G. enthusiasts with a family, who were none too bothered about fast driving. Traditional M.G. buyers left the car well alone. Neither the Riley nor the M.G. sold in any really large numbers, and must have been a real pain in the neck to those doing the planning on the production lines. With competition like the Vauxhall Victor VX 4/90, Ford Consul Classic and Capri, and the Sunbeam Rapier the M.G and Riley were not popular. All were cheaper.

Modification During Production.

There were quite a number of modifications to the cars during production. Some are very hard to see. One is the changing over from flat rubber blocks to moulded rubber cones, on the front subframe. This was again about when ADO38 arrived in late 1961, and renders the interchange-ability of the front suspension frame between ADO9 and ADO38 virtually impossible. Another little modification very few know of is the camshaft change early in the life of the 1959 M.G. and Riley Farina. The timing used was capable of letting a blow-back through the carburetters on acceleration, so the keyway that secured the timing sprocket was machined 5 degree later, retarding the valve timings of both inlet and exhaust valves, curing the fault. The inlet valve had opened at 5 degrees before top-dead-centre, (BTDC,) now opening at TDC. The 1489cc engine gained two oil control rings during its life, because of high oil consumption, acceptable on a sports car, but not on a family saloon. The better 1622cc engine did not suffer as badly.

Because of the poor steering, the whole front suspension subframe was tilted forward by half an inch, to alter the castor angle from three and a quarter degrees down to one and a quarter degree. The steering wheel was dropped by two inches as smaller drivers had earlier found themselves looking through it rather than over it. In 1963 the steering box had an extra bracket fitted to brace it to the inner wing. Owners fitting radial ply tyres had caused the four bottom bolts to crack the chassis leg.

The ADO38 1622cc cars could be had as an automatic, not available to the 1489cc cars. The three-speed unit was shared with the new MGB sports car, both using a three speed Borg-Warner type 35 unit, specially designed for smaller four cylinder cars. Soon afterwards, there was a similar unit for the little 998cc Mini, with four speeds.

Production Data and Identity.

Many of the modifications during production were to all the Farina models, but here are those made to the M.G. Magnette Mk3 and Mk4. The Mk3 was introduced in

February 1959. It sold well initially. By March 1960 two number plate lamps were fitted to the rear bumper, instead of one. From engine number 12002 there was a longer oil dip-stick, new flatter combustion chamber shape, and modified camshaft timing the retarded the inlet valve by five degree. Very early in the engines life in the Mk3 it gained two oil control rings. Oddly the ZB did have two already, but this was not carried over.

October 1961 saw the introduction of the redesigned 1622cc engine. This had been tried out in Australia first, and with twin SU carburetters gave out 72bhp, and the crankshaft was much stronger for fast motorway running. The Mk4 was available with an automatic gearbox. The exhaust system gained an expansion box. January 1962 the exhaust pipe was extended by eight inches, to stop fumes getting into the car via the door quarter-lights.

May 1962 the rear springs were given less camber, sealed beam headlamps fitted, rear shackles modified to take rubber silentbloc bushes, steering joints sealed for life, and universal joints sealed for life. This reduced the large number of grease nipples requiring regular attention. November 1962 the seat adjusters were modified.

March 1963 a drain tube was fitted to the filler cap to stop water getting into the tank. A stronger fan belt was fitted. October 1963 an in-line fuse was fitted just above the battery, in the loom, for the front side-lamps. January 1964 the key number was removed from the ignition switch to reduce car thefts. All you needed was a pair of theatre binoculars and a glimpse through the rear window. Any garage would stock spare FA or FS keys. The front and rear windscreen seals were improved. June 1964 crushable visors fitted.

October 1964 a reinforcement bracket was fitted between the steering box and the battery shelf. This was to stop the steering box flexing as it was very tall, but only bolted to the chassis at it base. Radial ply tyres had forced this move. The flexing caused the mountings to crack. If an alternator is fitted this bracket needs some of the top edge filing away to clear. November 1964 a four bladed fan was fitted to aid cooling in slow traffic.

May 1966 saw the bronze synchromesh cones in the gearbox changed to sintered steel. These had a much longer life. The second speed gear's cone was also molybdenum coated to improve its short life. June 1967 a larger lay-shaft gear shaft was fitted at 16GF-U-H-3190, and first and reverse straight cut gears were cut from stronger steel. All these gearbox parts were from the commercial models.

November 1966 the water pump, sump and oil pump were commonised with the MGB/Marina 1798cc engines. This water pump was greaseless. This occurred at chassis number 29013. In mid-1968 the automatic model had its rear pump deleted, so it could not be tow-started

From car number 29000 the engine prefix changed to 16GF, using those MGB parts. From chassis number 013744 the caster angle was increased to 3.25, by adding spacers to the rear of the cross member. From engine number 16GE-A-H-2544 the automatic gearbox flexi-plate was thicker, due to the older one cracking around its bolt holes.

In 1994 a media campaign was run to trace all the existing Farina M.G. and Riley cars. From this a shock discovery was made that the 4/68 and Mk3 M.G. were indeed very rare cars. The Mk4 M.G. was better off, but the best survivor is the Riley 4/72, almost twice all the others added together The rarest model is the Riley 4/68, introduced on 03.02.59, and ending production on 04.10.61. 10,984 were made, but DVLA Swansea only has 40 cars on its records. The first was 101, the last 11084.

The 4/72 survived a lot better, possibly due to an older age group buying them as retirement cars, as many are automatics. Not as hard on their car as the M.G. owner, many are still low mileage examples in pristine condition. 14,191 were made, 129 less than the Mk4 Magnette. The first was 11101, the last 25291,(16 numbers were not used after the 4/68.) DVLA Swansea has 236 on their records. They were made from 19.09.61 to 24.10.69, but due to orders of the last taking time to deliver, OR the cars took time to sell, there are some 1970 'H' registered cars about. On the 4/72 in particular, delivery times seemed to be long after the shell was made and allocated a chassis number, and built into a car. For instance 25122 was built between 13th & 15th August 1969, but was not completed for delivery from the factory until the 21st February 1970! Did strikes slow them down? Number 23409 was built between 14th & 17th of April 1967, and delivered on the 19th April. Survival of the last cars is understandably better than the early cars, the 24000 and 25000 series show this. Pre-1964 survival rate is very poor. Blocks of cars going to dealers can be noticed by the registration allocations, cars with ‘VYD’ are common. Garages are given 'blocks' of registrations to speed up delivery.

There are a lot of automatic 4/72's, and quite a few manual cars have been fitted with 1798cc MGB engines, (as have the Mk4 Magnettes.) The engine used is the early 3 main bearing unit, 18G and 18GA. New Zealand is rich in Riley Farinas, and again in blocks of chassis numbers can be seen. It took quite a long time before they were registered. Very few M.G's went to NZ, and very few Riley’s went to Australia.

The second rarest model is the Mk3 M.G. Magnette. It was the second Farina to be shown to Joe Public, after the Wolseley 15/60,(now almost as rare.) It arrived on 12.11.58, and 1,575 cars were made, the first being 101, and the last 16676. DVLA has about 70 cars on record. In its three year life it sold 2,255 more cars than the Mk4 did in six years. Red was a very popular colour.

The Mk4 M.G. Magnette has had an identity problem all its life. It looks just like a Mk3, but has improved performance and handling, but not image. It was introduced on 18.09.61 and faded away on 08.04.68. Its sister the Riley 4/72 lasted until 24.10.69. The first Mk4 was 16801 and the last 31120. DVLA has just 178 on record. The car is fading away fast due to its almost identical mechanics to the MGA 1600 Mk2, (8719 MGA’s were made, over 3000 still exist, worldwide.) Also, the 'Z' Magnette, of which 36,601 were made, a similar number to the Mk3 & Mk4 added together, over 1500 still exist. Compare that to the few Farinas left. Not many M.G. Farinas are still on the road, at an educated guess about 25 to 30 are taxed and mot'd. Most await restoration or breaking, or the banger-racer. How ever in the 21st century quite a few have been purchased for restoration, but then the few parts stockists becomes a problem, especially finding body panels.

If you have an unknown engine in your car with a prefix on the engine number plate, there is a full list in the ‘Z’ Series chapter to enable you to identify it.

Prices of the Cars when New.

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Magnette	£1072	1013	1042	1059	892	892	893	900	916	916	end
Riley	£1028	1028	1059	1088	916	917	921	921	937	937	937
A55/A60	£879	830	854	884	756	756	757	772	785	804	804

All inclusive of Purchase Tax. Duo-tone paintwork was £12.10s.0d extra. On the 1622cc cars a three speed Borg-Warner automatic (type 35) could be fitted for £93.10s.0d extra. On the Riley & M.G. Farina the heater and windscreen washers were standard, but extra on the Morris, Wolseley & Austin.

Note that there were blocks of unused numbers between the models, so 125 M.G’s and 16 Riley’s were never made! The chassis number is on a plate on the battery side inner wing, also stamped there, and on later cars a plate screwed to the nearside rear dash, up under the bonnet hinge. Body number (or commission number,) is on the radiator panel, and on some cars up under the offside inner wing. Only early cars had the number actually stamped into the offside wing by the battery. Good security would lead you to stamp it into the metal yourself as the plate is only held on by two little screws.(RHS2 was the little Riley 1.5 Mk2.)

Chassis numbering:-

First letter indicates the make, R= Riley, G=M.G.
Second letter means engine fitted, H= 1400 to 1999cc
Third letter means style, S= Four door body,
Fourth letter is the series, such as 1,2,3, etc.
Numbers following them is the chassis number

Many people seem read the 'S' as a '5', and the dash '/' as a '1'. On late cars the chassis number is followed by the letter 'M', this just indicates the car was made at the '**M**ORRIS' factory at Cowley, not the 'Austin' factory at Longbridge.

Engine Numbering.

There are five 'types' of ‘B’ Series engines fitted to M.G. and Riley Farinas;-

15RA= 1489cc Riley 4/68,(cable drive tacho.) 15GE= 1489cc Mk3 M.G.
16RA= 1622cc Riley 4/72 ,(.. .. ..) 16GE= 1622cc Mk4 M.G.
16GF= 4/72 with impulse tachometer, and Mk4 M.G., both cars used the same engine in early 1966, (at about RHS3 22000, and GHS2 29000.)

Using your engine number, the following will be noted.

First number 15= 1489cc 16= 1622cc 48G= Gold Seal recon.
Second letter G= M.G., R= Riley, AMW or AA= Austin/Morris/Wolseley
Third letter is engine type, ie 'A', 'E' or 'F', (16G**E** or 15R**A**, etc.)
Fourth letter U= floor gear change, A= Automatic. D= diesel.
Fifth letter, H= high comp 8.3 to 1, l= low comp 7.2 to 1.
The next group of numbers is the engines number, 132456.

If the new engine had an undersize crankshaft fitted as new, or had to be re-bored, the engine numbers would have letters after the number, (very rare.)

DD= +020" oversize bore or -012" undersize crank.
FF= +030" .. .. or -030" .. ..
HH= +040" .. .. or _040" .. ..

Most engines if so modified went into the Gold Seal reconditioning system, and not new cars. Though if supply was low, a new car was fitted with a 'reclaimed' new engine.

Chassis and engine numbering follow standard BMC practice, as used on all its cars & commercials. Full list of ‘B’ series engines in the ‘Z’ Magnette chapter.

Total Production.

Riley 4/68 10,984 Riley 4/72 14,191
Mk3 Magnette 15,676 Mk4 Magnette 13,783.

Living with a Farina M.G. Magnette.

There are two main problem areas, the first is the lack of panels available for the M.G. and Riley models, and all suffer from corrosion. This is a major problem with chassis-less, mono-constructed cars, mass produced from mild steel sheet metal, spot welded together. Luckily, although all the under-body panels are shared by the whole range, it is items like front and rear wings, grill, rear lamp units, and even indicator lenses that cause the problems. These are all special to type and model. The rarest item is the chrome front side-lamp trims of the Riley, that wrap around the corners of the front wings. Their mazak alloy casting disintegrates after 20-30 years, leaving a thin outer chrome shell that crumbles when touched. The keen restorer needs to hunt out many auto-jumbles to find what they require.

The wood veneer dash can become a mess if water is allowed to get onto it, as from leaking windscreens. Leather seats also cost a fortune to re-upholster. Interior items are often the most expensive to restore, especially when it is polished wood, leather seats, and deep pile carpets. No one is going to make much profit out of re-building Farinas back to as-new, they just do not demand the values. Mechanical parts availability are far better off, as M.G. Specialists stock MGA 1500 and 1600 Mk2 parts, almost identical to the Farina items, but at a cost. The same goes for the gearbox and rear axle. If you struggle to find a decent camshaft, do not use the Austin A55-A60 item, fit a late MGB one. This gives more power and torque with a small cost of a loss of a decent idle rpm, this becomes a bit lumpy. The Riley cable driven tachometer will finds spares again, from the MGA, and M.G. specialists. The later impulse version was fitted to the later 1275cc MG Midget, 1.8 Morris Marina TC, and the later MGB, as only the outer case and dial face differ. The post 1961 Austin A60, etc, cylinder-head is the same as all the Farina M.G. and Riley engines.

Steering box parts are now hard to find. Synchromesh on 2nd gear wears out. The plastic ball on the lower end of the gear lever falls off. It will be found in the oil drain channel under the lever, with this missing the lever is very sloppy.

The major headache is rust. The front valence, the front outriggers, rear outriggers, forward end of the rear spring to chassis fixing, all the sill areas, the jacking points, the flitch plates under the windscreen, and the rear edge of the front wings, all rot out. Door bottoms go as well, but are not structural. The join in the rear roof to boot-lid panel, each side of the rear windscreen, rusts away from underneath.

The construction of the underneath of the car was designed to catch dirt and salt. Hence it corrodes away quite happily, and requires regular checking, and Wax-oyling to keep in good condition. A few owners have fitted twin MGB SU HS4 carburetters, when they found out how much a SU HD4 costs to rebuild, and there are two of them as well.

Driving a Farina is a totally different feeling and experience to that of the Y or Z types. The car immediately feels massive upon entering it. The saloon cabin is large and airy, and the room for your feet is huge. Even with the front seat fully back there is still sixteen inches between the back of your drivers seat and the front edge of the rear seat squab. Then you grasp the steering wheel, and it moves. It seems to move about a lot and doing nothing. This is the play and springiness of 6 balls joints, and three track rods, plus a steering box and steering idler. The pedals are hanging down from the dash, and there is again masses of room for your feet. The gearbox is the same as the Z Magnette, and suffers the same good and bad points. The car is started by an ignition key, that has a further 45 degree turn to engage the starter solenoid. As with all ‘B’ series the engine bursts into life easily. The engine sounds miles away due to the extensive sound proofing of the cabin. The controls are quite light, apart from the steering if radial ply tyres have been fitted, then again moving the car a little with the clutch makes steering easier.

Moving off is a bit like a ship moving away, there is no real sensation of acceleration. This may be because there is not a lot of acceleration on the Mk3, but this is better on the Mk4. Brakes are very good, the huge front drums with twin leading shoes see to

that. Should you fit an MGB engine as mentioned in the Z chapter, you can use disc brakes from the Austin Westminster, Healey 3000 or the Carbodies FX4 model. These all use that standard BMC ifs system. A larger master cylinder reservoir and a servo will be needed if discs are fitted, though for normal motoring the brakes are excellent. Noticeable on the Mk3 is quite heavy body roll if corners are taken at any speed, and the rear axle will tramp sideways if overdone. The car will tell you by its manner if you are overdoing it by the tremendous under-steer when cornering fast. Going slow-in-and-fast-out helps on bends. It is best to just treat the car as a big comfortable family saloon, which is exactly what it is. Like the Z the engine gets a bit frantic if cruised on motorways over 65mph, though the car will run on up past 85mph if permitted.

The Mk4 is a much better car, it sits a lot lower to start with, and has anti-roll bars front and rear. The bigger engine also gives the car more get up and go. This time the car does not roll too much, but that rear axle will slide sideways if allowed. Like the Mk3 the car does roll, though not as much. This M.G. will run up to 90mph and cruise happily at 70mph all day.

The boot is massive. Three adults can sit side by side with their knees up under their chins, and the lid shut. Washing the car is again easy, due to the huge flat areas of panelling. Servicing is as the Z, with lots of grease nipples demanding attention at the 3000 and 6000 mile point. The Mk3 even has nipples on its rear spring shackles, identical to the 1947 Austin A40, The only real gripe on servicing is the access to the oil filter bowl. It sits above the suspension cross-member, under the battery, and is very difficult to get to. Unlike the Z the gearbox comes off easily from under the car, for clutch changes, etc. The floor of the car is less fiddly than the Z, and easier to clean, probably because there is so much space between the seats. The tyre size is still in use on some Vauxhall models, so easy to find in radial ply types.

Many so called M.G. enthusiasts have been known to throw derision at this particular model of M.G. Many with having never even driven the car make comments upon its breeding and manners. No one can ever say it is not an M.G. as it carries the Abingdon Chassis plate. It is part and parcel of the history of the M.G. saloon car, and fulfilled its slot very well. It is not, and never was, a sporting saloon. It is a large well built, well fitted out, family saloon.

The handling can be improved by fitting anti-roll bars to the Mk3, lowering its front suspension by fitting spacers between the spring pan and lower wishbone, and fitting radial ply tyres. The Mk4 gains with fitting radials, and swapping the front anti-roll bar for one from the Marina-Ital 1.8, this is much thicker than the original. To do this the links from a M.G. Midget are needed, and fitting needs care or the bar fouls suspension parts. Like the Z Series the fitting of a MGB three-main bearing 18G or 18GB engine improves performance. This is very easy on the Farina as the engine simply bolts to the gearbox without trouble, and the sump is in the same place as the Magnettes original 1489/1622cc engine. As mentioned, the brakes are very good as drum units, but disc brake can be fitted with a servo, though obtaining the correct king pin and stub axle may cost quite a lot, as they are only available today as Austin-Healey components.

The Farina M.G. and Riley Register.

In 1994 the author wrote to as many owners of the Farina MG and Riley as he could trace. At that time he was club secretary for Farina cars. This was to start up a Register of the few cars left. It transpired that the low figures of the club were not as low as suspected. There was about ten times as many MG and Riley Farinas about as there were members of the club! The success really began when the large Classic Car magazines were targeted, and the Register became well known. Owners from old Commonwealth countries joined, and the list grew and grew. In 1995 a quarterly newsletter was began.

Then John Elwood in the USA had the brilliant idea of setting up a Farina web-site. The author's mailbag grew and grew. The Register needed a more formal grounding, and a committee was formed in 1998, with Mick Holehouse taking over the reigns of magazine editor, and membership secretary, the author becoming the historian.

Because so little had been published about the cars, in the mid 1990's the Author wrote a number of articles for M.G. and Riley clubs, and classic car magazines. This further advertised the cars and the Register, and firmly put the M.G. Mk3 and Mk4 Magnettes on the M.G. map. Clubs and magazines in the USA, Canada, Australia, Sweden, Belgium, have asked for articles, and email has become a God-send in replying to their requests. Email has also been the standard way many have requested technical advice.

The Past and the Future.

The fact that the Farina Riley and M.G .exists was because of the policy of BMC to use one basic car to supply five different franchise's. The water had been tested by BMC with the Palmer designed Wolseley 4/44 and MG Magnette 'Z' series. Both sold over 30,000 in a seven year production run. In 1958 BMC launched the Farina range to its garages at a private showing of the Mk3 M.G. Magnette. In 1959 the Wolseley 15/60 was the first to be shown to the press and public. Today, that very Wolseley 15/60 is the rarest Farina saloon model, with less than 60 on DLVC Swansea records. The rarest of all the Farinas from BMC are the estate cars, with only four known Austin A55 Mk2 Cambridge Countryman's existing.

In the 1960's the BMC Farina shape was so common on our roads, you did not see them anymore. The 900,000 built were part of the British road furniture. In 1971 the last Morris and Wolseley Farinas were built and sold. Some years before the twin carburetter cars had quietly been dropped; the M.G. in 1968 and the Riley in 1969. No one mourned their loss, no one noticed either. Some of the last cars took some time for the garages to sell off. The cars were just too old fashioned. Underneath your 1969 Riley 4/72 was the basic floor-pan of an Austin Cambridge designed in 1952. By the 1980's the Farina cars were bangers, and many had gone to scrap yards. Not many

were now seen as every day cars. Both the M.G. and Riley were being brought for spares for their basically MGA engine and gearbox, for just a few pounds. Banger Racing was rife, and Farina's were a popular choice as they were very strong. Such cars were wrecks anyway. No one was restoring a Farina in those days.

The 1990's were the lean years. So few M.G. and Riley cars were on the roads, that even national rally's of the clubs that supported them would only see two or three attend. Younger generations of motoring enthusiasts were surprised to see large 1960's M.G. family saloons at an M.G. rally, many did not even know such cars existed.

Compared to the numbers of Austin, Morris and Wolseley Farinas, few of the twin carburetter M.G. and Riley cars were sold. The last year of production in 1968 of the Mk4 Magnette saw just 300 off the production lines. With the Lotus Cortina on sale at a similar price this was no surprise. No manufacturer is going to bother with such low numbers, they simply become un-economic to produce. Today the Riley 4/68 is the second rarest Farina saloon, followed in order by the Mk3 Magnette, Mk4 Magnette, then the 4/72.

In the 21st Century people are restoring M.G. and Riley Farinas. Once people do this, there is some hope. NTG of Ipswich, and Earlpart of Derby, are currently the only two firms who supply parts for the cars. Again, the fact someone takes the trouble to do this is good news. Pristine cars are seen at M.G. and Riley meetings and shows, and people walk over to them to take an interest. Of the very few cars now left, the best ones have become the Cinderella of their class.

The Di Tella Magnette 1500 & 1600.

In Argentina between 1959 and 1965, the Di Tella Motor Company licence-built the Farina models of BMC. One was the up-market version of their Di Tella saloon, and it was identical to the Mk3 M.G. Magnette, right down to the grill. The grill badge however, was the stylised 'S' of the company, not an octagonal 'M.G'. The main product of the company was a Riley version, known as the Di Tella 1500. This was the main Taxi of that country for years, and saw use as an estate car known as The Countryman, and a pick up called an Argenta. All used the standard 1489cc single carburettor engine. The Magnette gained a 1622cc single carburettor engine in 1962. About 3000 Magnettes were built, but over 30,000 of the others. No one wanted a 'posh-taxi'. M.G. enthusiasts in the USA are finding these cars now.

SOCIEDAD INDUSTRIAL AMERICANA de MAQUINAS

Di TELLA AUTOMOTORES SA.

Buenos Aires, Argentina

Back in the successful days of the British Motor Corporation, better known as 'BMC', there were many world-wide outlets for their products. Many of these markets were in the old Commonwealth countries, such as the Indian 'Hindustani' with the Morris Oxford series 3, (still in production today with a Japanese engine.) But one country that today will seem surprising, was Argentina.

However, if you trace history back just a few decades, prior to the Falklands War, Argentina and the UK were working very close with each other. Even today the countries railway system mirrors our old British Railways in the majority of its hardware. As we sold them the entire system, it is hardly surprising the equipment looks familiar. Wales even exported some of its expert miners, to Patagonia, and odd welsh words have invaded the local dialect still in use today.

BMC were not slow in seeing another market, and ' Torcuato Di Tella Industries' of Buenos Aires were not slow in coming forward. They needed a car that could be put into production quickly, and could stand up to the rough country roads, as well as the primitive driving and parking methods of the locals. The company dated back to 1910, and had grown to encompass building the British designed railway stock in use there, as well as making their own steel, electrical motors, cranes, ships, and soon motorcars. It was in 1960 that the chosen BMC model was in full production. Knowing their fellow countryman well, the engineers of the giant Di Tella engineering firm had chosen a well built, strong, solid and dependable motor car from the BMC range. It was also one that was easy to repair!

The cars were built at the company's factory at Monte Chingolo, Provincia de Buenos Aires from 1960 until 1966. In May 1966 Industrias Kaiser Argentina, (IKA,) and American offshoot of Kaiser Automotores (USA) brought up the Di Tella cars production. Production lasted until 1968, when American local car production took over the markets.

The basic hull used was that of the 1959 Farina MG Magnette. This was for sale in four versions. The first was as a taxi, looking for all the world like a Riley 4/68, except the bonnet badge had the Di Tella '**S**' on it. This was called the 'Di Tella 1500', as it used the standard BMC 1489cc single carb 'B' series engine. The next model was an estate car, again looking just like a Morris Oxford Countryman series 5, but badged as a ' Di Tella Traveller'. The third basic model was the estate car, but built as a pick-up and a two seater cab; this pick-up had the Riley bonnet and grille again. The pick-up was called the 'Argenta'. All three were very basic inside, and

with huge overiders at each end to 'assist' parking habits. All used the column change gear stick from the 1958 Austin A55, as this copied the American imported cars.

The last version was almost identical the Mk3 MG 'Farina' Magnette. This 'Di Tella Magnette' model stood apart from the others, as it was meant to be far more up-market. Its bench seats had leather covering, its dash complete with octagonal speedometer and with 'plastic' wood veneer; but only around in instrument pod, the rest was painted metal. It had a fully carpeted interior. Again, the engine was the 1489cc single carb unit. All models were a single paint scheme, no 'duo-tone'. Di Tella tried very hard to sell this as a limosine, but many people thought of the models as just taxis.

Like the other BMC Farina models but a year later, the Di Tella Magnette gained the bigger and stronger 1622cc engine in 1963. There was an option to have twin SU carburetters fitted. The actual models hull continued to be that of the 1959 car. None of the Argentinean Farinas ever gained the wider wheel track, longer wheel base, lower suspension, anti-roll bar, or double acting dampers, of the UK Mk4 Magnettes. The larger engined Di Tella was called the 'Di Tella Magnette 1622'.

Originally the cars were clones of their UK counterparts, but all parts were locally manufactured. When IKA took over the cars were using an American rear axle, built by Dana, an IKA company.

The taxi version of the car's lasted well, and even today in outlying areas an elderly Di Tella taxi can be seen plying for trade. The Di Tella Magnette did not do so well, very few are known of, (only three to the MG Farina Register.) Production figures show which were most popular.

Di Tella 1960-1966,

Di Tella 1500, taxi,	45,000
Di Tella Magnette 1500 / 1622,	2,654
Di Tella Argenta,	)
Di Tella 1500 Traveller	) together over 30,000

IKA Di Tella, 1966-1968,

Di Tella 1500, taxi,	2,537
Di Tella Magnette 1622	235
Di Tella Argenta,	1,035
Di Tella Traveller	1,637

The 'Argentinean MG' is now probably one of the rarest models, that is if it can be called an MG. To see more try < www.mgcars.org/farina > One has to wonder at the views of any Riley enthusiasts who find out they have a commercial vehicle relative in the 'Argenta'.

For the enthusiats, the differences between the UK MG Magnette Mk4, 1622cc, and the Di Tella Magnette 1622, are as follows.

Di Tella Magnette	Mk4 MG Magnette.
LDH	RHD
Column gear change	floor gear change
Plastic 'wood' & metal dash	Rosewood veneer dash
Bench front seat	Individual ex-ZB bucket seats
Single colour sceme	Duo-tone paintwork
Huge overiders and nudge bars	normal BMC overiders
Di Tella hub caps & motif	Stainless Steel MG hub caps
None	Chrome rim-bellishers
Single HS4 SU carb	Twin SU HD4 carbs
Di Tella 'S'motif on grill	MG Octagon badge on grill
Chrome strip along sill	none on sill
None	front & rear anti-roll bar
Standard 1959 chassis	Improved 1962 chassis
Horizontal split front indicators/sidelamp	Vertically split front lamps

Books in Farina's.

Books available on the Farina M.G. are rare. Some are Unique Books 'Magnette' a compilation of old technical data; TSB137 Plush Farina Fours is a collection of road tests and articles from 01473 212912, and Anders Clausagers M.G. Saloon Cars, by Bay View Books, ISBN 1901432068. TSB also do their TSB393 book covering both the 'Z' and Farina Magnettes. My own The Cinderella M.G. and Riley is available, but much of it is incorporated into this tome. A good one to find at autojumbles is the P Olyslager Motor Manual, M.G. Magnette Mk3 and Mk4, by Sunday Times Publications. There are two web sites, both connected, on this model. First is the Magnette pages on the Bulletin page of < www.mgcars.org.uk > and the other is < www.mgcars.org.uk/farina >.

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The M.G. 1100/1300. *(ADO16G.)*

Chapter Four.
The First FWD M.G.

The Austin Design Office, (ADO,) were very busy in the late 1950's and early 1960's. This was a productive time for the British Motor Corporation, (BMC,) and new models were filling the factories and the roads. It was a time of commonisation, or that dreadful term, badge engineering. The ADO gave each new model a designated number, just as Morris and M.G. had in the days of the Nuffield empire. One of the most successful ADO projects was ADO16, that of the 'Big Mini'. Over two million were made by BMC between 1962 and 1974. Of these 143,067 carried the M.G. badge as ADO16G. Alex Issigonis was the founder of quite a world-shattering array of cars, having been involved with virtually all Morris/Nuffield independent suspension systems (ifs,) since WW2. He was the father of the Mini along with Alex Moulton's rubber suspension, and the more conservative post-war Morris Minor. The ADO16 was introduced to the public as six differing marques, some with estate car variants. These were the family saloons of Austin 1100, Morris 1100, Wolseley 1100, the more up market Riley Kestrel, the sporting M.G. 1100 and the Van den Plas luxury model.

From 1962 to 1974 BMC 1100's and 1300's crowded our UK roads. The six version's of the car were indeed a very successful model for the company. In some ways just too good, as BL failed to follow it up with another success till the arrival of the LC10 (Maestro-Montego,) in 1984. The Morris was the first model to be shown to the public in 1962, with the Austin following the next year. 2.1 million were made of the six differing marques. Others were licence built in Spain, South Africa, Italy and Australia. In Spain the 1100 was called the Victoria, in South Africa the Apache, but both were sold as Austin's. Some foreign versions even sprouted boots or rear hatch-backs, but the oddest was that seen in Australia where the Austin Maxi 'E' series engine and five speed gearbox was fitted, and named the Nomad.

M.G. 1100.

The Mini had proved to be a catalyst for virtually every current modern front wheel (fwd,) drive car of the mini and super-mini class. The ADO16 was introduced in 1962, and in its various guises was produced until 1974. Between those dates, and for some years after, the little 1100/1300 ADO16 was part of the British street furniture; there were so many about you just did not see them. They used a great deal of the technology of the 1959 Mini, with very similar front and rear sub-frames, all round independent suspension with trailing arms at the rear, and initially a 1098cc version of the BMC 'A' series engine then after 1967 a 1275cc engine. The power unit was externally identical to the 848cc Mini engine & gearbox, just bigger inside. The extra cc was gained by lengthening the stroke, and moving the cylinder bore centres about. The most numerous engine to be built in the millions was the 998cc development of the 1908cc engine for the Mini 1000; BMC just shortened the 1098cc's stroke. But

where the Mini had been just that, Mini inside, the ADO16 had masses of room inside. It was hard to believe the car was just an 1100, as four big adults would find there was ample room in the cabin. Its cabin was larger than that of the other 1960's big M.G. saloon, the Mk4 Magnette. The traditional rwd Mk4 did have a higher roofline, and a much larger boot.

Not only was the car little on the outside, but huge inside, it also had interconnected 'hydrolastic' suspension that gave an excellent ride for a car with tiny wheels. The road holding, with the Issigonis wheel-on-each-corner design with rack & pinion steering, was almost as good as the immortal Mini. As the Mini Coopers were by now winning lots of competitions, it was quite natural to use some of this engineering on an up-market version of the ADO16. So it was quite natural that a M.G. version should be produced of a car with good performance and good road-holding. So in the same year as the arrival of the MGB, the year 1962 also saw entered the first M.G. 1100, with its twin SU carburetted 1098cc engine producing 55bhp, (the cooking version had just 48bhp.) The head, manifolds, block design and carburetters were very similar to those on the 1100 M.G. Midget rear wheel drive, (rwd,) model. Later the little M.G. saloon would give the Midget a bit of a worrying time, but only if the saloon was one-up. With four persons in it, performance was not so good. The M.G. 1100 was quite a heavy car at 16.5cwt, (112lbs to a cwt for you youngsters.) The first M.G. 1100's used the strip speedometer of the Austin/Morris models, but were better fitted out inside with a twin carburettor engine under the bonnet.

M.G. 1300.

If there were any faults with the M.G. 1100, it was that the 1098cc engine was really revving its little heart out pulling the saloon about at any speed. Oddly, it was some considerable time before the engine was re-cored to the 1275cc '1300'. Initially this engine only had a single SU carburetter, but in 1967 twin SU's were fitted with a better cylinder-head and the M.G. 1300 Mk2 became quite a fast car. This Mk2 1300 was the best of them all. It could leave a Midget behind at the traffic lights, and even gave the MGB a worrying time. By now though the MGB had had its power output strangled by a succession of American clean air acts, (from 95bhp down to the upper 70's.) The first M.G. 1300 Mk1 was only fitted with a single SU carburetter, the engine being shared with the Wolseley, Riley, and Van den Plas models. This was soon rectified when the engine gained twin carburetters and 70bhp. The instrument panel was used from the Riley with its excellent large round dials and wood veneer.

There is more on the running gear under the 'Technical' paragraph following about the 1300 Mk2.

Where are they all?

So why, if the little car was so popular, are they now so rare? For a number of years in the 1960's BMC sold more ADO16's than Ford did of its very popular Cortina. The reason is simple, they are scarce for the same reasons as many other 1950-60-70's

cars; they simply rusted away. Unlike today's cars, where plastic is commonly used in stress-free areas, and box sections are wax-injected, such cars had virtually no paint inside closed areas. Salt was liberally thrown about our main roads every winter, poor design led to vital structural areas not draining properly, poor preparation and painting, and designed in rust traps led to cars falling to bits after a while. This was true of Vauxhalls, Fiats, BMC, Fords, and Rootes Group cars, as of many others. Surviving BMC Farina estate cars can now be counted on two hands; Vauxhall Victor series 'F' estate cars on one hand; Morris 1000 Pick-ups on two hands; with M.G 1100 and 1300's not too far ahead. Who in their right mind would have spent lots of money on restoring a BMC 1100/1300 in the 1980's and '90's? So today, the end effect is one of the rarest of M.G. models to be seen at any M.G. gathering in the UK. Any M.G. saloon model is thin on the ground at the majority of M.G. meetings. The technology was not wasted, as the BL Metro of 1980 used a great deal of the engineering, even incorporating the later rod-remote gear change. The last M.G. 1300 Mk2 produced 70bhp in 1968, and oddly the first 1983 M.G. Metro 1300 produced 72bhp in its 'A'Plus engine!

The structure of the ADO16 was brilliant in one way, but a disaster in another. It was a very rigid and efficient structure, though heavier than a 1500cc Ford Cortina Mk1. The huge inner sill meant there was great strength in the car, but the thin 22swg steel and poor drainage, with poor or non-existent corrosion proofing, simply meant the sill would rot out within three to just five years. Alas, before the wet carpets warned you of an impending disaster, the front inner wing area had already rotted out. Two steel trumpets, (called flitch plates on older cars,) that stiffened up the inner wing area would turn to rust within two to three years. The MGB has a similar but much larger design under its front wings. These also are infamous for rotting out. Once the inner wing on the ADO16, along with the inner 'A' post rusted, salty water from the front wheels found an easy entry into the sill area. Owners would make things worse by tacking on pattern sills, with no drainage holes, to cover the rot. Today it seems criminal that so many were built, and so few survive. But if you study areas of the car such as the forward edge of the rear subframe, where tight gaps permit road dirt to collect, it is hardly surprising rear sub-frames fell off upon jacking up the car. But that was the technology of the day and it is easy to be clever in hindsight, and few owners thought to clean out underneath their cars then putting their faith in rubber based underseal that just trapped in moisture. Cars became second and third hand, worth very little, and then scrapped. Many M.G. 1300 engines went into Mini's. The swap was just a spanner job that just needed the differential swapping over, to cope with the smaller Mini wheels. Fitting an ex-M.G. 1300 engine you gained virtual Mini Cooper 'S' performance for very little outlay. Just as today many M.G. Metro 1300 engines still find their way into Mini's. Rover even put the 1989 M.G. Metro 1300 engine into a 1990's Mini and called it a Cooper. The very first 1100 M.G's could be out accelerated by the Vauxhall Viva to 60mph, so it was not long before BMC improved the engine power output.

This all makes a very dark picture of the success of the car. In its day it was indeed a great success, in the Austin, Morris, Riley, Vanden-Plas, and M.G. versions. It is worthy of note that the 1100cc Riley and Vanden-Plas used the same power unit as that fitted to the M.G. ADO16G. The 'G' denotes the M.G. version, just as ADO16R was the Riley Kestrel. Many families enjoyed ownership of an M.G. where otherwise they would have purchased possibly a staid Ford Cortina, or Hillman Minx , or

Vauxhall Victor; all very much larger cars with poorer handling and greater running costs. The last 1275cc Wolseley 1300, Riley Kestrel, and Vanden Plas Princess, also had the twin carburetted engine of the MG 1300 Mk2. The ADO16 was also a good looking car with its Italianate-Pinin Farina styling. It lent itself easily to a two-tone paint scheme and the stainless steel body trim of the day set this off nicely. Reg Job again was responsible for the differing front end treatment and styling, as he had been on the larger Farina's.

Size Matters.

The first ADO16G, the M.G. 1100 Mark 1 was built from 1962 to 1966. 1967 to 1971 saw the Mk1 single carburetter M.G. 1300, soon followed by the much better Mk2 with twin carburetters. The one to aim for is the latter version. In 1971 M.G. declared they were to only build sports cars, (how often has that changed?) so the little ADO16G ended, but the Austin and Wolseley versions carried on until 1974. When initially introduced the model had found its own hole in the market. It was bigger inside than a 1500cc Ford Cortina, but only had 1100cc engine; it was almost the same size externally as a Morris 1000, but was seven inches lower. RWD cars used one third of their area for the engine, the FWD ADO16 used just one fifth. The model was built alongside its bigger brother, the Mk4 M.G. Magnette. Where the Mk4 was 14'10" long and 5'3" wide, the M.G. 1100 was 12'2" long and 5' wide. Front leg room in the 1100 was 20", in the Mk4 just 18"; rear leg room was 30", in the Mk4 just 23". Headroom was an advantage for the Farina. Even the 1100 cabin was one inch wider! The only real area the larger M.G. saloon beat the much smaller car, was in its cavernous boot, and the excellent towing ability of its bigger engine.

Technical.

The ADO16 has to been seen in its time to appreciate it. Virtually all cars were rear wheel drive and front engined. FWD was a 'foreign' thing, that only Citroen were really successful at. Yes, the Mini was ground breaking technology, but it was the ADO16 that could take four big adults in comfort in a cabin *bigger* than virtually all the mid-range family saloons about, and these all had 1500cc or bigger engines. The first ADO16 had just 1100cc. The constant velocity joint (CV,) was a clever copy of a submarine conning tower linkage, (the Hoshkiss-drive with Hookes universal joints as used in the 2CV is not a CV joint, there are complex accelerations when rotating at any angle other than in a straight line.) The Moulton hydrolastic interconnected, independent suspension was very advanced. Even the 1982 M.G. Metro did not use interconnected units, (at least not until the Rover 1.1C 'K' series engined version came out in 1990.) There were many updates and improvements to the models, also usually applied across the board to the Austin, Morris, Wolseley, Riley, M.G. and Vanden Plas versions. Like the windscreen washer bottle being moved to the rear of the engine bay in October 1963, because it kept freezing up in winter behind the grill; September 1964 saw the coil sprung clutch cover replaced by a diaphragm cover, crushable visors and a frame to the interior mirror, (any car can fail its Mot if the interior mirror is not framed today,); December 1964 Smiths positive crankcase

ventilation valve fitted; October 1965 saw an automatic version arrive; May 1966 reclining seats were an option; October 1967 saw the Mk2 single carburettor version, easily identified by the cut-back slope of the rear lamp clusters, repeat flashers on the sides of the front wings, ventilated wheel, and an all-synchromesh gearbox on the 1300, (and not before time, all ADO16 drivers had to be experts at double-de-clutching when others had never even heard of the vintage term,); but it was September 1968 before the 1100cc got this gearbox. The electric SU fuel pump was replaced by a camshaft driven mechanical one in October 1969, continued on the 1971 the Morris Marina 1.3. Most of the life of the M.G. 1100 it used the 'Austin' strip-speedometer dash, but in Mk2 1300 form it gained the dash of the Riley Kestrel with proper round instruments, and lots of them set in polished wood veneer. The Mk2 also had radial ply tyres as standard fitment, but no ADO16's were ever fitted with a servo to help with the rather small 8" front disc brakes. 1970 saw a plastic shield fitted in front of the engine to stop water soaking the ignition, and the fitting of a steering wheel ignition/steering lock.

The suspension system of the 1100-1300 was a bit of a revolution for a British car. Not only was the car front wheel drive, it had interconnected hydrolastic suspension. This meant the suspension medium was rubber as in the Mini, but when a wheel was displaced its movement was passed to the following wheel, so the car remained level. (This was quite correct in the saloons, but the estate cars suffered serious low tails if fully loaded, and dazzled everyone at night.) The car handled almost as well as a Mini, and body roll was minimized by a rear anti-roll-bar joining the two trailing suspension arms. The medium Issigonis used for the transfer of the suspension movement was water, actually water with anti-freeze in, called glycol. The suspension units had diaphragms inside with the fluid one side under pressure, and the rubber cone the other side. The valves in the system could set up a little squeak, but your BMC agent cured this by putting a little brake fluid into the water-glycol mixture, and charging you for an 'anti-squeak-additive'. It worked as well.

Engines were quite a mixture, with the first M.G. 1100 producing 55bhp; the single carburetter 1300 just 58bhp then 60bhp in 1967, then in 1968 the twin carburetter mk2 with 65bhp, and the last with 70bhp.

The arrival of the Ford Escort Mexico, Hillman Avenger GT, being much cheaper and faster than the MG 1300, meant demand had dropped to below 2000 in its last year of production of 1971. The Austin 1300 GT continued with the same power unit as the M.G. after 1971.

Who Purchased a M.G. 1100/1300 ADO16G ?

When the Austin and Morris 1100 hit the saloon car market in 1962, it took it by storm. The Mini had finally managed to overcome the initial fear of its technologically new front wheel drive system, so the path had been paved for a larger version. The ADO16 sold well from the word go. The markets were very buoyant and all the UK car makers were doing well. The public liked the little 1098cc car so well, they brought so many it held the annual car sales record for sales for some time. It even beat Ford's Cortina for a number of years.

The middle classes had mushroomed like rabbits, and home ownership was becoming the norm. The 1960's were the good years after the war, and the politicians told us, 'you never had it so good'. Car sales rocketed, and millions purchased the ADO16. The M.G. version was at the top end of the range, and was an ideal family car for the man or woman who found themselves with children who were too big or too numerous for an M.G. Midget. The car was practical, and cheap to run. In 1275cc form it was quite sporting as well. For the retired man and wife there was the Riley Kestrel, the top of the range 1100-1300, often sold as an automatic. The M.G. 1100-1300 was also available as an automatic, and both the Riley and M.G. used either the same twin carburetter 1100-1300 engine, or the single carburetter 1100-1300 automatic engine. Only the sticker on the rocker cover differed, (though the engine number prefix was different as well, but unseen by the average owner.) BMC were on a real high, their advanced fwd cars were selling well, their traditional M.G. sports cars were selling well, their staid rwd saloon family was selling well, and their commercial side was selling well. The ADO16G sold the highest number of models of M.G. saloon to date at 157,409. Soon it was to all change for the worst.

The problem was, how to improve and advance on after the ADO16?

Spannish M.G. 1100-1300.

BMC also operated in many other markets, and the South African and the Australian branches built the little 1100-1300 cars for their respective markets, (that in South Africa had four doors and a rear hatch.) The company in Spain began assembling the cars, including the M.G. version. They went on to develop it for their own market, so do not be surprised if you find a lhd M.G. parked in that Mediterranean area with a few odd fittings, and a Spanish VIN plate under the bonnet.

Living With a M.G. 1100-1300.

The ADO16 is another very pleasant car to drive, once you have become accustom to the fact the steering rack runs behind the engine unlike the 'Y' or 'Z' series where it runs in front. This is necessary due to the engine/gearbox transverse layout, and makes the steering wheel lay at a rather flat angle not unlike that in the Mini. This is hardly surprising as the whole transmission package on the ADO16 is similar to that from the Mini, in a bigger sub-frame and modified engine mounting to stop the engine rocking. The earlier car is started by a key that also turns beyond the ignition setting, to operate the starter. Later this became the standard modern ignition key on the steering column lock, as we see today on current cars. The seats are low but comfortable, and you sit low as in a sportscar. The wind screen is huge, and all round visibility due to the large glass area makes the car seem light and airy. Sitting back in a 'Y' type seems almost claustrophobic in comparison. The gear lever is a remote change type, and quite good, but improved later when the single rod system was fitted, (and even later used on the Metro and the Mini Mk2.)

The clutch pedal seems tiny, as does the brake and accelerator, and that dip switch is still on the floor but now easier to get a left foot onto. The car feels lively, and pulls away with a typical Mini gearbox whine. One up the M.G. runs quite well, but four up the car has increased its weight by a huge percentage, so it will need rowing along on the gearlever if an 1100cc version. The trouble is it looks and feels like a bigger car, so you forget it is only just 1098cc. The ride how ever is superb, that of a much bigger limousine. The handling and steering are accurate though the suspension can 'crash' about a bit in pot holes. This can be heard more than felt and is due to the tiny wheels when fitted with cross-ply tyres. Radial ply tyres really improve the car and it runs quieter as well as having even better grip. There is little body roll and in the 1300cc Mk2 configuration the car really is fun to drive and throw about. Alas your passengers may not agree as you soon learn not to slow down for corners.

The angular Pinin Farina styling is again easy to keep clean, but there are many mud and rust traps underneath around the rear sub-frame. A common trick when purchasing a second had model was to lift out the rear seat squab, pull out the four rubber bungs above the rear subframe mounts, and look for rust. Often the bungs had already gone, as had all the metal around them. The sub frame sat in its position held in by luck and dirt, God forbid you later going over a hump-backed-bridge at speed, as the subframe would fall away from the car as you 'yumped', with dire results. The handbrake cables and hydrostatic pipes might keep the frame with the car, but the damage would still be terminal. That was the biggest problem with the model. It rusted too easily due to bad design in drainage, and poor painting and rust-proofing. But that was the order of the day, few cars lasted more than five years before they were showing large areas of rust, that went for Vauxhall Victors, Fiats, Hillman Minxes, Ford 100E Populars, and so on and on.

On the plus side, and the reason the cars were so popular, was their superb design. Whilst the Mini was ground breaking in 1959, the 1100-1300 took the Mini's ideas one step further. Four adults had ample room in the ADO16 cabin. The car was fun to drive, none to difficult to service as even the clutch could be changed in situ, (a real pig of a job in a restricted Mini engine bay.) Running faults with the car was the rather poor steering lock, the failing of the bonding of rear subframe rubber mountings, high oil consumption cured by better oil ring's, and premature wear of the inner universal joints on the drive shafts. The car required regular servicing, and again there was quite a number of grease nipples requiring attention at the 1000, 3000, and 6000 mile interval. The front swivel-pin had shimmed ball joints top and bottom. If these were not greased regularly the steering stiffened up and they wore away very quickly. Mot tester went straight for these on any test, (as they did on the Mini that uses the same components.) Changing a fan belt was quite a chore, and you soon found out why there was a little opening in the fan cowl on the radiator, it was the only way to get a new belt fitted. Changing a lower radiator hose was also a real test of character.

The M.G. 1100-1300 had a heater as standard, windscreen washers, two speed self-parking windscreen wipers, fully fitted carpets, and a radio and leather seats as an extra. There were two choices of body style, a two door and four door, though the M.G. was for a time only available as a two door. There was a 'Traveller' or 'Countryman' estate car in the Morris and Austin models, but not available in M.G. guise. These were another version of today's hatch-back. Like the larger Mk3 and

Mk4 Magnettes, it was not difficult to fit the panels from a M.G. version to that of an Austin or Morris, as only the bonnet, grill, front panel and badging differed. Hence the need to check the chassis/VIN number.

1100-1300 Gearbox.

The ADO16 was a 'big' Mini. BMC enlarged the front wheel drive, saloon car idea up to its next level. Whilst the Mini was 850cc initially, the ADO16 used a 1098cc version of the same engine and gearbox unit. The mounting of the 1100's engine was a much better design that the method it was installed into the Mini. With the fwd layout, there were problems with Min's ripping out the torque arm from under the brake master and clutch master cylinder plates, mounted on the bulkhead box section. In the 1100-1300 the mounts were higher, and very similar to the original rear wheel drive system, even the old front engine plate from the A35/Morris Minor was used. As the mounting was higher up the engine, the torque loadings were absorbed better, and the engine did not try to spin itself around its crankshaft quite as much as the Mini did. The mounting of the 1100-1300 engine also led to a much quieter passenger compartment, and a lot fewer driver kangarooing down the road on their first drive.

Having said all this, the engine and gearbox unit was essentially the same as the Mini. Very much was directly interchangeable, so much in fact that quite a few 1100 cylinder blocks eventually found their way into tuned Mini's. But here we need to remember the origins of the Mini's engine and gearbox. Both came from the Austin A30/35 family. The gearbox design itself in the Mini, was a straight lift from the A35, complete with its weak synchromesh. The A30 gearbox back in 1952 was itself a clone of the 1939 Austin Eight, and that a n improved copy of the original Austin Seven gearbox. True, the Mini did have synchromesh on the three top ratios, as did the 1100-1300, but the gearbox still used a moveable first and third gear, (both were the same gear, one just reversed the direction of the drive, hence them both having the same ratio.) Many, many owners of the ADO16 will remember how difficult it could be to get first gear when stationary. That was until you learned to slip the gear lever into second then across to first. This simply moved the cogs about in the gearbox so it was easier to engage first. The other perennial problem with these gear boxes, (and the following Metro,) was how quickly the small synchromesh cones wore out; especially on the 3rd to 2nd gear move. The cure was easy, you learned to double-de-clutch young in those days.

The earlier cars with the twin rods that operated the external gear selectors, (from the gear lever to the gearbox casting,) also caused problems. Occasionally first gear was impossible to get, but upon closer inspection over the back half of the engine led to the fault. The rods that entered the gearbox were connected to the external rods and linkage by ball joints. These ball joints were 'clamped' to their respective rods, by a 3/8 inch A/F bolt, (¼" UNF thread.) These often came loose, and permitted the ball joint to slide up and down its splines. The 3/8" bolt did engage a slot in the rod, but this was quite a wide one and once loose, you gained a huge amount of 'lost-motion' in the linkage. The cure was to remove the ball joint, clean off all the oil and crud, then refit the ball joint with a new bolt, using 'Lock-tite' on the bolt threads AND the splines. Needless to say, the worst offending ball joint was right under the exhaust

pipe, above the differential unit, really well out of reach unless you hade three elbows and two wrists on your three arms. When the much better single-rod gear change arrived on the Mk3 1275cc M.G. 1300, this problem disappeared. But like all good British Engineering, another fault replaced it. The new rod-change entered the gearbox underneath the oil level, so when its tiny seal wore, the gearbox leaked. The seal was cheap, and you only needed to remove a scroll-pin to get access to fit a new seal. The gearbox is required to be selected the 'reverse' gear to get the scroll-pin in a position so it could easily be removed and refitted. (See also Metro Gearbox in that chapter.)

Identifying a M.G. ADO16G.

Unlike today's cars, there is no chassis number stamped into the body, only that on the VIN plate screwed to the engine bulkhead. The prefix of the chassis number followed the standard BMC system. The first letter G was for M.G.; second letter was the engine size, usually an A for 800-1400cc, (later a G for 1000-14000cc;) third letter the body style, S for four door, 2S for two door; and the first number being the mark of the car, 3 for Mk1 1962-67, 4 for Mk2 1967-68, and 5 for 1300 Mk2 1968-71.

The engine is even easier to swap about, and many 'AMW' prefixed units are found in M.G's. AMW stands for Austin, Morris, Wolseley and was the prefix of the standard cooking unit fitted to them, (only the early Wolseley had a single carburetter.) The 1100 Mk1 engine prefix should be 10GR-Ta-H. The 10 means 1098cc; the G means M.G; the R engine mark; T means transverse gear box; Ta means close ratio gearbox; and the H standing for 8.3 to 1 compression ratio, (or High.) Positive crankcase ventilation in 1964 changed the engine prefix to 10GRB-Ta-H, (or L for low compression of 7.2 to 1 for overseas areas with poor petrol.) This 10GRB engine was used in the Riley and Wolseley 1100. 1275cc engines have a prefix of 12H, the 12 meaning 1275cc, the H meaning horizontal, ie transverse engine, (the in-line engine had a V for vertical, the letters coming from the way the design looked on the drawing board.) The twin carburettor 12H engine was also fitted to the 1967 on Riley Kestrel, Wolseley and Vanden Plas.

The other number you may find on the body is a commission number, and begins with a G16S on the four door models, and G16-2S on two door models. Like the Mk4 Magnette and Riley 4/72, later cars had a letter M suffix which meant that model had been assembled at Cowley, Oxford, the Morris factory.

Some cars may have gained M.G. Metro 1300 engines, as with a little spanner work and swapping over engine end plates, one can be fitted to an ADO16. These are prefixed 12H/D24, or 12H/F01 if an unleaded late version.

Engine Codes. Any of these might find its way into a M.G. 1100-1300. the full list of the use of the 'A' Series is very long, this is of those used in the larger fwd cars of BMC.

Model	Prefix	Cubic Capacity
Mini 1275 GT	12H	1275
Mini Cooper 1275 'S'	9F/SA/Y	1275
Mini Cooper 1275 'S'	9FD/SA/Y	1275
Mini Cooper 1275 'S'	9FE/SA/Y	1275
Mini Clubman	10H	1098
Austin Morris Wolseley 1100	10AMW, 10H,	1098
Austin Morris Wol 1100 Automatic	10AG	1098
Aus Mor Wol closed circuit breather	10AH	1098
Aus Mor Wol auto closed circ bre	10AJ	1098
M.G. 1100 Mk1 & Mk2	10GR	1098
Vanden Plas 1100	10GR later 10V	1098
Riley Kestrel 1100	10GR	1098
M.G. 1300 Mk1	12G	1275
M.G. 1300 Mk2	12GR	1275
Riley Kestrel 1300	12GR	1275
Austin 1300 Automatic	12A	1275
Vanden Plas Princess 1300	12GR later 12V	1275
Austin 1300 'S' Mk1 & Mk2	12FA	1275
Austin 1300 'S' Mk3	12H	1275
M.G. Metro 1300	12H/D24	1275
Austin Metro 1.3	12H/D24	1275
Austin Metro 1.3 leadfree	12H/F01	1275
M.G. Metro 1300 leadfree	12H/F01	1275
M.G. Metro Turbo	12H	1275
Austin Maestro 1.3	12H	1275

Unleaded versions of the Austin Metro 12H engine;- 12H/E24, 35, 39, 40, 41, and 67 up to 75.

UPGRADING ADO16G, (The M.G. 1100/1300.)

(Fitting a 1275cc Metro Engine.)

I have often written upon the subject of the interchange ability of components within the family of cars of the Nuffield, BMC, BLMC and Austin Rover. One of the good things about models running on for years is that the spares availability is often excellent. One little car that spawned a huge cloning operation by other world car producers was ADO15, the 1959 Mini. ADO stands for Austin Design Office. It had stolen its engine and gearbox from the 1952 Austin A30, by way of the improved 1956 Austin A35/40. Alex Issigonis got the engine department to put the engine on top of the gearbox's innards, with a nice new aluminium casting to fit them all into. It was not long before the 1098cc Austin 1100 arrived, called the ADO16 also front wheel drive (fwd,) and using the very same engine and gearbox unit. Well, almost, the stroke had been lengthened to get the extra cubic capacity. This soon grew to 1275 cc with the bores being offset to get them into the cylinder block. Other models in the BMC range using the 'A'series engine had also been updated, such as the

1098cc MG Midget and Morris 1000. In 1966 the Midget grew to the 1275cc with the ADO16. The rear wheel drive (rwd,) cars had different blocks and crankshafts to the fwd cars, but many other engine castings and internal items were common to all of the models.

Amongst all these models was the M.G. 1100, the single carburetter M.G. 1300 Mk1 and the twin SU M.G. 1300 Mk2. The 1300 Mk2 was a very good car, as the 70bhp power output of the 1275cc engine it had was more suited to the heavier body of the ADO 16 over that of ADO15, the Mini. It has to be said that the original M.G. 1100 had its work cut out to give a sporting performance. The 48bhp 1098cc engine had to rev very high to give a good cruising speed, making the car look as if it were being thrashed all the time.

Time passed and the models were replaced. All except the Mini. This was updated little by little over the years, until it found itself running alongside the 1981 Austin Metro, ADO88, later called the LC8, (Leyland Cars.) This Austin car was built with a 998cc and 1275cc engine. Both engines were also used in the current Mini. To keep costs down, the power unit castings were the same. That is, the aluminium gearbox casting in the 'A' plus fitted Mini 998cc, 1275cc, the Metro 998cc and 1275cc, were identical. But both cars used different engine mounts. This was got round by the Mini mountings being the standard fittings, with the Metro ones bolted to suitable bits of that casting. So, a Mini engine can be put into a Metro, and visa versa as long as you swap over the relevant items. Note, this is the 'A' Plus 'A' series engine, all post 1981 because the earlier 998cc and smaller capacity engine size gearbox castings need metal grinding away, to miss the larger crankshaft throw of the 1275cc engine..

Then in 1982 the M.G. Metro 1300 came along, with its 72bhp 1275cc engine, based on the 50bhp Austin Metro 1.3. Then the M.G. Metro Turbo arrived with its 93 bhp 1275 cc engine. Remember that the 1100/1300 used the basic Mini engine castings. Well, you can quite easily fit a nice M.G. Metro 1300 to any of the 1100/1300 range, with a few simple spanner modifications. Because the basic design did not change to radically, a 1989 M.G. Metro 1300 engine can be put into a 1962 M.G. 1100. You do not have to use a rusted out M.G. Metro engine, you can used the Austin 1.3 GTa, or even the cooking Metro 1300 and Mini 1275 engines. Using a cooking 50bhp 1275cc Metro engine would need the relevant camshaft, distributor, and larger exhaust valves fitting to get up to 72bhp. Here companies like MiniSport will be only too glad to help. Interchange ability is the secret and this is due to the fact BMC, BL, and Austin Rover were too tight fisted to spend money on new production machinery for the Mini. 'If it ain't broke, don't fix it.'

So, how do I get a 1275cc Metro engine into my M.G. 1100? And why bother? First, you can pick up rotted out Metros with good engines for less than £200, as Mot failures they are even cheaper. This is about one quarter the cost of fully rebuilding an original 1100/1300 engine. As the Metro's clutch cover casting has the Mini engine mounting holes drilled and tapped, you can fit the 1100 engine offside mounting without any problems. The later Metro's had a cable clutch, but the slave cylinder from a post 1981 Mini will fit the same bolt holes as your M.G. 1100/1300. You can even fit your current clutch slave cylinder if you swap over the actuating lever arm. Note that these later 'A' series engine have Verto clutches, so you need to

use the clearance adjustments for the Verto fitted Mini for the actuating rod. You can remove all the Metro engine mountings as they are not required. You will need to also removed the fan belt pulley, timing chain cover, timing chain and sprockets, from both the Metro engine and the 1100/1300 engine. Then swap over the front engine plates. That on the Metro has no side arms for the 1100/1300 near-side engine mountings. This plate is the same as that fitted to the Morris 1000, Austin A40, and the 'A' Series fitted M.G. Midget. So are the engine mountings. Refit all the Metro's own timing chain, sprockets, cover, etc. but when you come to fitting the timing chain tensioner, you will need to drill a 3/8" hole to clear the pivot of the tensioner. Use the original Metro plate as a template. If you have a double-row timing chain, you will also need to countersink the two lower holes, for the heads of the two screws that hold the plate to the front engine main bearing cap. If you fit the normal headed bolts, the chain binds on them. Again this is obvious if you study the two components prior to assembly.

The metro has more modern universal joints in its inner drive shaft ends than the ADO16, but you will need to use your current M.G. 1100/1300 shafts. And you will need your current drive ratio, (unless the Metro one suits you.) This means swapping over the differential, but here you can get away with just swapping the planet-gears inside it, that the drive shaft inner ends locate into. Ideally you want to end up with your normal 1100/1300 drive shafts being able to connect to the engine, for this you need to put the bits out of your original engine into the Metro engine. Again comparing the two next to each other makes it easy to decide what needs swapping between the engines, and it is only spanner work. Swapping final drive ratio's is easy on this engine layout, any Mini manual will show you how.

Next the cooling arrangement means you will needs to connect the M.G. Metro's thermostat bleed to the inlet manifold, and the other end from the manifold to the rear of the cylinder head. The Metro uses a water heated inlet manifold. From this you will have to adapt a feed for your heater. The Metro uses a heater that has a hot water flow all the time, the 1100/1300 can close off its water flow. The 1300 Metro has no by-pass hose between the head and block, that function is carried out by the heated inlet manifold. You will see that the thermostat housing has an additional casting under it for the hose connection to the manifold, (on the Metro this goes to the heater, then manifold, then the rear of the head.) The M.G. Metro has a single, huge SU HIF44, (the 1275cc Mini has a smaller SU HIF38.) The inlet manifold is easy to fit, but you must keep the twin cast iron exhaust manifold as it boosts BHP. You will need to adapt the front exhaust pipe to your current 1100/1300 exhaust system. Brackets to support the radiator can be swapped over from the old engine.

Post 1986 M.G. Metro's also use electronic ignition, all have alternators and four speed all-synchromesh gearboxes. The later ADO16 1300's used the rod gear change as well, so that of the Metro should be adaptable for earlier ADO16's. The M.G. Metro's large single SU carburetter is much easier to keep in tune than those twin SU's of the M.G. 1100/1300. As there is so much room in the 1100/1300 engine bay, who will be the first to fit an engine from a Mot failed M.G. Metro Turbo?

Once a M.G. Metro 1300 engine (or upgraded Austin Metro 1.3 engine,) is installed correctly into an ADO16, the vast majority of enthusiasts would be very hard pushed to identify it as anything other than the original. The better informed will soon spot

that single carburetter, but with 72bhp at hand you will fly. There is no reason why the twin SU's and manifolding from the original engine cannot be reused, with needles from the 1275 M.G. Midget. If you use the M.G's large plastic air filter, the car will also be very quiet as intake roar is killed off. Be a bit suspicious about that immaculate 1962 M.G. 1100 that just cruised past you at above the legal speed on the motorway, four up!

The Future of the M.G. 1100-1300.

The cars are now rare, and the M.G. versions even rarer. Body panels are the real crippler in any restoration, though firms like Earlpart 01773 719504 do keep a fair stock, (also for Austin 1800, Triumph 2000, and the Farina's.) A few very poor examples have been rebuilt into good condition Austin/Morris bodies, as mentioned this is not difficult, and almost impossible to trace afterwards if done properly. The car was a real barn-storming success in its day, it really is a shame so few have survived. Unlike the 'Y' or 'Z' series M.G. saloons the percentage of ADO16G's that have survived is very, very low. Much of the 1100-1300 was continued in the evergreen Mini, so mechanical parts will mostly still be available, some items even continued in the M.G. Metro 1300. The 1098cc engine was also used in the M.G. Midget, the Austin A40 Mk2, and the Morris 1000 in the millions, though obviously with a different sump and crankshaft.

Anyone finding a 'barn stored' ADO16 today will have their work cut out if they restore the car. Those I have seen recently looked as if they might disintegrate if moved. I witnessed the attempted recovery of a Mk3 Magnette from a ditch in a farm yard, when the car was pulled out, the rear end just fell off. This is the problem with thin sheet mild steel constructions, nature is just too much in a hurry to revert the unstable mild steel back to ferrous oxide, its natural state. The 1100-1300 sill is quite a complex design, but not as bad as the 'Z'series is. Almost every car will have had repairs to them.

These smart little M.G's are always welcome at meetings and rally's, and will attract attention from the ' I use to have one of those,' brigade. Many people today can remember them, and may have learned to drive in one or had a parent or relative with one. The FWD Registers of the MGCC, MGOC and the MG 'M' Group will all be pleased to gain an ADO16G. Books to find on the car are few. BMC 1100's by David Marshall, by Foulis printed in 1967 now long out of print, is very good. MG Saloon Cars by Anders Clausager, by Bay View Books, ISBN 1901432068 is another good read. 1100/1300 by TSB Books on 01473 212912 cover many road tests of all the ADO16 range.

Car Prices.

1962	M.G. 1100 Two door	£789.
1962	M.G. 1100 Four door	£812.
1963	M.G. 1100 Four door	£713.

1965	Riley Kestrel 1100	£780.
1965	Wolseley 1100	£754.
1968	M.G. 1300 Mk1 4 door	£812.
1968	M.G. 1300 Mk1 Automatic	£905.
1968	M.G. 1100 Mk2 2 door	£788.
1968	M.G. 1100 Mk2 Automatic	£880.
1969	M.G. 1300 Mk2 2 door	£930.
1970	Austin 1300GT 2 door	£910 (replaced the MG 1300.)

Sad but True.

In my mid twenties, I was serving in the RAF at a large Transport Aircraft station in Oxfordshire. I was very handy at fixing cars, and almost ran a small business from my barrack block. Because of this I was often offered cars the owner did not want any longer, often going on an overseas tour. I purchased these very cheaply, tidied them up, and made a profit. I also obtained cars via the Station Warrant Officers (SWO,) office. Vehicles that were dumped were placed in the Station Weekly Orders to be claimed. If not claimed in one month, they became the property of the Crown. I purchased them from the 'Crown', the SWO's office. This still holds good by the way, if you find a Rolls Royce dumped on your driveway, and you try hard for a month to find its owner, and cannot, it is yours. The law only requires you to try to trace its owner, after that it is a civil matter over ownership.

Well, the most common car to come into my little fold, was the ADO16, in all its model forms. Of these by far the most popular with young RAF families, was the M.G., and it had to be red! I could shift one of these in a day, at undisclosed profits. Being a proficient welder was a very necessary skill to handle these cars, as they were designed to fall to bits after about four and a half years, it is called designed in obsolescence, and entails making all the welded joints in the sill face the water wash off the wheels. To compound it, no inner sill wax injection allows advanced corrosion to rage away. I could fit a set of pattern sills with inner sill repairs in a morning; reinforce the rear subframe mounting points by unbolting and dropping the frame six inches, still connected to the brakes and hydrolastic suspension, refit it with new rubber mounts; respray up the sill, "Tee-cut" the car, and have it out for sale the next day gleaming. Buy it for £10, sell it for £150 with Mot.

Such was the fate of the majority of the pretty little front wheel drive ADO16 models that BMC produced from 1962 in Morris and MG form, Austin and Vanden Plas from 1963, and Riley and Wolseley from 1965. The Riley died in 1969,(being the last Riley made); the Morris and M.G. went in 1971, followed by the Wolseley in 1973, then the Austin and Vanden Plas in 1974. It was the best selling British car, outstripping the Ford Cortina in the mid 1960's for a while. The car was a logical follow on from the Mini, ADO15. Its bigger body looks more balanced than the tiny Mini, and here it was designed by Alex Issigonis, but styled by Pinin Farina. The styling can be seen in other cars Farina had a hand in, the MGB GT, Farina Magnette, Austin A40, and Westminster, those 'fins' are the family tie. Outside it was clean, sharp and tidy. Inside it was simply massive, a real 'Tardis'. (Tardis, you know, Doctor Who and all that!)

The two door version of the car made an excellent M.G. model. It had inherited the excellent handling package of the Mini, with its rack and pinion accurate steering, and such a low centre of gravity, with wheels at each corner, it was fun to drive, even if the steering wheel was at a rather flat angle. It was an excellent car for the M.G. enthusiast who had a family, the two door body kept the little terrors in safely, in the back, though with a full four adults the 1098cc had its work cut out. It was amazing that it took until 1967 before M.G. put the 1275cc engine into the car, a few months after the Midget had gained the extra cc. The larger engine gave the car a need boost. The interior changed little over the years from 1962 to 1971 for the little saloon M.G., the strip speedometer was changed for a round one, and the car shared the Riley dash later. With the arrival of the Austin 1300 GT, the M.G. 1300 version was discontinued.

The hull design was carried out by Issigonis, whom it is said was not a production engineer, and 'whom' got the front footwell floor lap-joint wrong in the Mini, (the footwell's filled up on rainy days from water being rammed in via the front wheels.) His superb mind for invention did not cover practicalities as designing natural drainage for sills, etc. No car shows this better than the ADO16. The flat bottoms of the sill literally fell out after 3 to 4 years, as did the rear subframe mounting points. Far too many rust traps were designed in unintentionally. Under the rear seat were two holes in the box section that stiffens up the rear. The holes were about 1" diameter, and gave a good view of each end. The rear edge of this box section held the forward subframe mounts. It was here I looked on every car that passed through my hands. It was here I made the decision whether to buy it or scrap it. Remember, these cars were only 4 to 5 years old!! If the car was reasonable, it could be patched with flat sheets of metal under the sills, as I did, as well as the mountings repaired as mentioned. Under the inner front wings were 'trumpets', pressings that stiffened up the front end. These would disappear very quickly as well, unseen, and hard to fix, just like those under the MGB wings, under the wings forward of the windscreen. The single biggest problem was NONE of this showed up on the car by just looking at it. Many of them looked very smart, shining, with good paintwork and interiors. Or at least until you lifted the front carpets and saw the rot in the inner sill up by the front wheel, and the carpets were wet. The cars looked good, so they sold, until the next Mot. Luckily they were immensely strong, like their bigger brother the ugly 1800 Landcrab, (ADO17).

I ran a 1967 red M.G. 1300 for a while, and it did well over 40mpg on long trips. The car shone like a diamond, and its chrome M.G. grill setting it off well. It was given to me having been repaired by a local garage. I heard loud creaking from the front end that I traced to a large crack across the nearside passenger floor, aft of the front subframe mounting on the heel-board. As you accelerated it opened up, and on braking it closed tight! It was 18" long , and the cause was the metal had simply rusted so thin, it had failed. The car was just 3 years old. Mechanically it was superb, but signs of the garage repairs were long 90 degree bent strips of steel along the inner sill, the full length both sides. I welded it all up, sold the car to a young nurse, who told me a year later she had to scrap it. Obviously this car was exceptional, but it shows how little BMC cared about the shell life of their cars in those days.

Anyone who had the foresight to Waxoyl, or Ziebart their M.G. 1100/1300, would have a very good car for a long time. They were coming out of BMC at a rate of

150,000 a year and were very popular and good value for money, in all the model variations. The M.G. had a production of 143,067, the largest M.G. saloon production run. The performance difference between the basic Austin 1100 and the M.G. 1300 was quite a huge gap, and not so obvious to the uninitiated. The Austin 1100 produced 48bhp, did 0 to 60 in 23 seconds, and could top 80mph. The M.G. 1300 produced 70bhp, did 0 to 60 in 14 seconds, and could reach 95mph, which is quicker and faster than the 1275cc Midget, with just 68bhp, 0 to 60 in 17 seconds, and 90mph. With the introduction of the Cortina GT, the sales of the M.G. 1100 suffered, and it took some time for BMC to enlarge the engine to 1300 to compete.

I had to do very little to the cars I sold, mechanically. The 'A' series engine was a well tried and sorted power unit by then anyway. CV joints would wear on high mileage cars, CV boots would split, and the timing chain cover oil seal leak. This last oil leak did cause odd problems in that the fan BLOWS through the side mounted radiator, and with the air went oil mist, that collected road dirt, then blocked up the radiator matrix and the car overheated. This was easily cured with a new seal at a few pence, (old £sd in those days mate!) and washing out the matrix with contaminated aircraft fuel, (Avtur.) Rear sub-frames did rot, but not as badly on the Mini's I knew. Again they were cheap to buy and easy to fit, ONCE you had welded in new mountings on the rear panel.....many sub-frames fell off once the rear end bolts were undone, the forward ones having separated at the rubber/steel bonding. It was only two flat bits of steel with a rubber sandwich between. The frame had been held in place by the cars weight only. We had made up our own little Hydrolastic charging kit at work, using an old brake master cylinder. The 'fluid' was just water, antifreeze, and an anti-corrosive additive. Some cars developed a 'hydrolastic squeak', and BMC offered a simple cure. It was a bit of brake fluid diluted in the water! (Just like we use to put into radiators when the water pump began to squeal on its worn carbon seal.)

In magazines like Car Mechanics, firms offered almost every panel for repair of the 1100/1300 range, apart from the roof. It was almost criminal that such a good car should have such a basic fault. I read somewhere that Alex Issigonis was advised by Pressed Steel, the experienced firm who made the bodies for BMC, that his design needed some modification if it was to not rot, he apparently ignored their assistance. Like the Mini, the design has now been copied by all other car makers, even Volkswagen has abandoned its rear end driven, punt chassis, Beetle, in favour of the FWD hatch. The interior room the M.G. 1100/1300 offers is as large as that of the massive Farina Magnettes, and the performance better than the Midget. It was years ahead in its engineering, with front wheel drive, interconnected hydrolastic suspension, stressed shell with sub-frames to carry the main components, most with servo assisted disc brakes as well.

It is many, many years since I drove one, I did for a while make money from small trailers made out of the rear subframe and trailing arm suspension, using the handbrake cables for an overrun brake, from scrap cars. I did note that many of these scrap cars had the inner universal joint on the drive shafts rubbing the gearbox casing, where oil had swollen the joints rubber innards. I do remember hearing well worn examples growling and chattering away when the engine to gearbox transfere gear was worn, especially if the idle speed was too low.

Where are they all now? Like so many cars that people write off as common, uninteresting, not a real M.G., they become ignored. It is good to see a few at M.G. meetings, but its the same few cars each time, even though they are in excellent condition. Like the M.G. Metro that followed it, the 1100/1300 deserves a lot more attention than it is at present getting, and as an entry into M.G. motoring it was once ideal, but now a very rare car.

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The M.G. Metro 1300.

Chapter Five.
ADO88 or LC8.

In the early 1980's M.G. were to take a completely different tack on the car markets. The little open topped sports cars had gone in 1981, not many firms were building open cars due to the American markets jittery attitude to the effects of one Ralph Nader and his cronies. The market was still there for a more sporting version of the mother company's family saloons. The end result was the triple-'M'- M.G's of the Metro, Maestro and Montego. Triple 'M' how ever within M.G. circles refers to the pre-war Magnette, Magna and Midget, so we tend to refer to the later cars as the

MG'M' models. A fellow named Charles Griffin was the catalyst for the Metro, with Fred Coultas as the suspension designer. Griffin was responsible for guiding the car for years through the maze of BMC and BL till its actual production in 1982. The very first ADO88 was shown to the public to test the water so to speak failed miserably on its slab-sided styling. This was quickly corrected by the now familiar crease that runs along each side of the car. As nearly everyone knew of the inception of the new model initially meant to replace the Mini, the Austin Allegro body was used to do the long term testing of the new Metro mechanics. 'Metro' was chosen from a vote at the factory by the workers in 1979, (the name Maestro came second, Match was also popular.) The model was launched as an Austin on 8th October 1980.

The ADO88 was the Metro, though it was to change, and change again, and again, before it finally arrived as the LC8, (Leyland Cars model 8.) Poor BMC had plunged into BMH which had eventually been taken over by Leyland. After the ADO16 the management lost their way. Finally the government assisted the ailing company and the Metro was born. Initially aimed at replacing the Mini, the two models eventually ran side by side. The Metro was a far better car than the Mini, it was quiet and comfortable, and far more refined. It was built by a long line of robots at a specially built factory at Longbridge, and with the Montego and Maestro at Cowley these were some of the most up to date factories in Europe for a while. The public loved the Metro, and brought them in the millions up until the end of production in 1998. By this time there had been four face lifts, and one major redesign under Rover in 1990, where the ancient 'A' series engine was replaced by a Rover 'K' series 1.1 or 1.4, driving through a Peugeot gearbox. The M.G. Metro 1300 and the Turbo ran from 1982 to 1990, and along with a Van den Plas model were the top of the range of the many model versions on offer. The M.G. Metro costs £351 less than a Ford Escort XR2 on its debute.

The pundits were exasperated at an M.G. made from an Austin when they heard of the M.G. Metro, Maestro, and Montego. But there was already a precedence for such action in the little 1961 M.G. Midget. This had been a straight clone of the *AUSTIN* Healey Sprite. How odd that people are prepared to forget certain facts if they do not suit their arguments. The new little M.G. was certainly popular and filled a niche in the market. It was certainly fun to drive, very safe, and quite fast, fulfilling the well know motto of M.G., *Safety Fast.* An earlier example of Austinisation of M.G. was the delay BMC put on the 1953 M.G. Magnette sports saloon, the ZA. This was to have had a Morris-based engine, but arrived fitted out with an Austin engine, gearbox, brakes and rear axle, (the everlasting 'B' series, see the chapter on the 'Z' Magnettes.) The ZA was the first car to be fitted with the 1489cc version. The MGA and MGB followed, also using similar Austin running gear.

The end of production of the MG MGB in 1980 meant there were no more exports of M.G's to the USA. This very short sighted plan for M.G. has at last, some twenty one years later, been revised, as the USA is to get the new M.G. ZR, ZS, and ZT sports saloon's (sedan's,) due out in late 2001. What happened in the intervening years? Where did M.G. go? Why on earth did they kill off such a good and enthusiastic export market?

Well, in the UK the loss of an M.G. model only lasted for two years, as the company re-introduced itself into the sporting saloon market. Like all M.G. saloons, these were

based on the parent company's other models. This is a fact from M.G. Number One, which uses Bull Nose Morris parts, through the 1930's Magnette and Magna, (though these did become super-fast super-charged racing cars eventually,) to the Wolseley saloon based VA, SA, and WA of the late 1930's. Then post WW2 the YA and YB were firmly based on Morris Eight and Ten parts, the Z Magnette used the Wolseley 4/44 body and Austin A50 running gear, (also later used in the MGA,) till we reach the Farina Magnettes and the 1100-1300 front wheel drive cars of the 1960-70's. These were badge engineered from stock Austin saloons, but with more powerful engines. Very few of the M.G. saloon range was made at Abingdon. One third of all M.G's ever made are saloon cars (sedans); and one third of M.G's ever made never saw Abingdon.

The little M.G. that rolled out of the Longbridge factory in 1982 was the M.G. Metro 1300. It was a true 100mph car. This car was a further development of the 1960's 1100-1300 range, in that it used a front wheel drive engine, (virtually a large single carburetter version of the Mini Cooper 'S'1275cc unit,) with a front and rear subframe taking the running components, rubber mounted to a rigid and very roomy shell. The 'A' series engine had been updated at a cosy of thirty million pounds, but this was cheaper than designing a new engine from scratch. It was called the 'A Plus' engine. The Metro used 'hydrogas' suspension units designed by Alex Moulton, but unlike the 1100-1300 range they were not interconnected, (but were on the post 1990 Rover Metro 1.1, 1.4 and 100.) Between 1982 and 1989 Austin-Rover, (as the parent company had now become,) made 142,405 M.G. versions of the little Metro, not quite as many as the ADO16G. In 1983 a very sporty version was built using an exhaust powered Garratt T3 turbo charger, and of the 142,405 M.G. Metros, some 21,968 were M.G. Metro Turbo's.

The 1100-1300 M.G. saloon of 1962 to 1970 was the most prolific of M.G. saloon models; M.G. made 143,067, just beating the Metro figure. The Metro was initially to replace the little Mini, but fate led the Mini to last until 2001. The car that boosted Mini sales in the early 1990's was the 'new' Mini Cooper, which used the single SU carburetter 1275cc engine lifted straight from the M.G. Metro 1300, but with a two-way catalyst fitted. This further use of the M.G. Metro's engine was good news for future supplies of spare parts for the enthusiast.

The M.G. Metro 1300 was a sporting version of the 'cooking' Metro model, and only available as a two door. The normal 1980 Metro saloon was seen as a shopping car, a little town run-a-bout, and no threat to anyone. It could be had as a two or four door, a van, a pickup, and an automatic. It sold by the millions, and became just part of the UK street furniture. The arrival of the M.G. Metro 1300 in 1982 raised a few eyebrows, especially as it was a 100mph car, one of the fastest production M.G. saloons to that date, (in a country with a maximum speed limit of 70mph?) The M.G. Metro used pepper-pot alloy wheels with a wider section tyre, ventilate front disc brakes, an improved 'A-Plus' version of the now ancient 'A' series engine, (which can be dated back to 1951,) and a very tidy and plush interior with a good set of instruments on the dash board. This included the requisite tachometer as the 6500 rpm red line was important. The engine had bigger ports, larger valves, three-into-two-into-one long-centre-branch exhaust manifold with a water heated inlet. This was fed by a SU HIF 1.5" carburetter with air temperature adjustment, topped by a huge paper

air filter element. The engine looked externally just like any other of the millions of front wheel drive 'A' series, but it had a wide overlap camshaft with a mixture of the Mini Cooper 'S' 1275cc timings, at 9;41;49;11, with .318" lift at the valve, and a 10.3 to 1 compression ratio. From 1985 the M.G. Metro was fitted with Ducellier electronic ignition. Anyone who has heard a Mini Cooper 'S' engine idling, will identify with that of the M.G. Metro as the same uneven splutter. This mixture produced 72 bhp and 73 lb torque, giving the M.G. Metro a top speed of just on 100 mph, and a 0 to 60 of 11 seconds, a very good performance for a 1980 super-mini. A 1" thick front anti-roll bar kept things level, and the M.G. version of the Metro sat lower than the shopping versions. The seats were a clever design as the split rear one either folded flat to give an 'estate-car' loading area, or just one third of the seat folded down giving one side for a shopping load. The 'boot' area (trunk,) was covered by a shelf that rose with the rear 'hatch' door. The whole front end of the car panelling and front wings was bolted on to cut the costs of accident repair. The rear of the M.G. had a spoiler to keep dirt off the rear hatch window. Other items fitted were rear screen wiper and wash, rear fog lamp (again now mandatory,) reversing lights, two speed wipers, wiper delay for light drizzle, heater, demister, dual braking system, reclining bucket type seats, radio/cassette with four speakers, and initially pepper-pot alloy wheels. The wheels became an option after 1986, and that year the ignition became electronic and central locking was fitted.

Today the early M.G. Metro's are rare, even those from post 1985 are not so common. The reason is the standard M.G. Metro engine will fit easily into any Mini, and you get a jump from 50bhp to 72 bhp for a small cost. The Turbo's are even rarer, as most are used for racing. The clubs that cater for them are the UK based 'MG'M' Club, that covers the M.G. Maestro and Montego as well and the Metro Sports Register. Our UK weather and habits of throwing salt over our roads in winter has had the usual effect on corrosion. Like any other car Metro's have their weak areas, these being rusted out front valances that fix the front of the body to the forward end of the front subframe, and again the front mountings of the rear subframe, that are on the sills just under the rear seat. The cars are not of high value, so no one repairs them. They get scrapped, and their engines go into Mini's.

To drive they are not as much fun as a Mini, but have very similar road gripping performance. There is a lot of room is so small a car, and they are far more quiet and comfortable than any Mini or 1100-1300 ever was. Their wedge-styling is not to every ones taste, and the later 'MG' graphics on the body sides upset a few M.G. enthusiasts. But then enthusiasts never buy new cars, only old ones! For my sins I run an internet email help line for M.G. Metro's, and it does seem there are quite a number of keen owners out there.

M.G. Metro Turbo.

Ever wondered what the fuss was about when Austin/Rover announced the MG Metro Turbo? No, well read on.

Back in the 1930's a new type of engine had been designed by a German, one Rudolf Diesel, that worked by compressing air until it got so hot, the fine oil that was sprayed

in exploded instantly. Compression ratios used were up in the 22 to 1 range, a bit high for your average petrol driven MG motorcar today. Alas, size for size this new 'Diesel' oil-engine was not as powerful as the petrol engine. At the same time, the aeroplane was climbing to ever greater heights and began suffering from a lack of oxygen because as you all know, the air gets thinner the higher you get. What was required was something to get more air into these engines to boost power. The item used was a 'centrifugal-compressor'; the very same thing is living in your Hoover, in the washing machine and the M.G's water-pump. Upon a flat disc radial vanes spread out from the centre, if you then enclose the vanes and spin the disc round fast, air is sucked into the centre and spun out around the outside. If you narrow down the exits around the periphery, (outside edge,) you can use the rotation to compress the air by centrifugal force....hence 'centrifugal-compressor'; then catch this air and feed it into the engine. These were fitted to the aircraft's piston/propeller engines and called superchargers, seen on the likes of Spitfires and Hurricanes that used the Rolls Royce Merlin V12. They were geared up to give lots more air than normal, and the aircraft could then fly much higher and faster. Later, similar engine-driven superchargers pressurised the cockpits to make life more comfortable for pilots and passengers at high altitude.

The centrifugal-compressor went on to become the first compressor used in the Jet-Engine age by Sir Frank Whittle, (the engine's inventor,) in aircraft like the 'Meteor' of the RAF, and much later in passenger aircraft like the 'Viscount' using the Rolls Royce Dart turbo-prop.

Likewise, the Diesel engine also became 'supercharged' after a fashion, using a similar compressor. But here there was a problem, as to use the engine to drive it took some of the power away from the already meagre output. Oddly enough, Rover Motor Cars came to the rescue after a fashion, as in WW2 they were helping designer Frank Whittle with his first Jet Engine, and here the Diesel and Aircraft Technology combined to cure their common problem. How to drive a centrifugal compressor without using up lots of power, or the need for another engine to drive it was the problem. Physics Law states that for every action there is an equal and opposite reaction; and using power if you compress a gas it heats up, as well as if you release a gas into lower pressure, it cools down releasing power, (or energy.)

What Whittle used in his jet engine in 1939 was a 'centrifugal-compressor', joined to a 'centripetal-turbine'. This turbine works in the opposite fashion to the compressor, instead of spinning and sucking in air through its centre, (as in your Hoover remember?) hot air is fed in at its outer edges under pressure, and escapes via the centre to lower normal 'ambient' pressure. This causes the turbine to spin if you 'bend' the exit vanes a bit, and the more hot air fed in the faster it goes. In fact if you 'bend' the vanes of the compressor the other way, this improves its efficiency as well. A centripetal-turbine can use any hot gasses, such as that from a jet engine, or a lorry or cars exhaust. All it does is work in reverse action to the centrifugal compressor. So put a compressor back-to-back with a turbine, and you have a 'turbo'.

Whittle used the compressor from the WW2 fighter-aircraft supercharger, to compress air, then he burned paraffin in a combustion chamber, then let the gasses pass through the 'centripetal- turbine' to escape. This turbine drove the compressor, and any 'thrust' left over pushed the aircraft along; a simple 'jet-engine'. In the diesel engine the exhaust gasses were fed through a similar, much smaller 'centripetal-turbine', this

drove a tiny 'centrifugal-compressor' that pushed more air into the cylinder, giving a 'turbo-charged diesel engine'. Because the diesel turbo system was so efficient, the turbo-charger system then began to replace the engine direct-driven superchargers on aircraft in the 1950's. Many American radial-engined propeller aircraft were turbo-charged after WW2.

Did you spot the bit about Rover Motors? They went on to use a tiny version of Whittles jet engine to power a car, then miniaturised it into an 'Auxiliary-Power-Unit', (APU) for aircraft and sold millions. A tiny Rover jet engine ran the electric and hydraulic power on aircraft standing at airports, this saved using a huge jet engine. It was small, and used the same fuel, and was often fitted in the tail-plane, and in emergencies could be started up in the air to give emergency electrical and hydraulic power. It spun over a 32,000rpm at idle, and ran up to as much as 72,000 rpm when working, and was the fore-father to our 'turbo' with its back-to-back compressor and turbine.

After WW2 it did not take long for the racing boys to get their hands on turbo-chargers. The old engine driven superchargers you see on old M.G's and Bentley's used up a lot of power and space. The cars exhaust heat was going to waste, so let's use it for getting more air into the engine instead. Meanwhile, diesel lorries were becoming turbo-charged all over the world almost as a standard fitting, doubling their bhp, torque, and economy. Small turbo-diesel engines could pull huge 42 tonne lorries. When you compress air, it heats up, (the bicycle pump theory at school, remember?) so it was becoming common to fit 'intercoolers' after the turbo, but before the inlet valve, to cool the air and make it more dense. Hot inlet-air is not good for thermal efficiency of a piston engine. The centrifugal compressor went out of fashion in aircraft by the mid-1950's, as the far more efficient axial-compressor took over, designed by a clever German in WW2 the same time as Whittle was developing his engine.(Both had been beaten by HERO in 120BC, who had made the first ever jet-engine, using steam.)

Today, we are use to seeing 'TURBO' badges on car boot lids, most often on the top of the range model. Technology once used on very expensive engines was now available to the ordinary motorist. Using a cars exhaust to drive a turbo is good for power, but can wear out the engine much faster. Whilst a turbo-charger does boost an engines power, there is always a trade-off, ie, you never get anything for nothing. Turbo's produce exhaust back-pressure, which the engine has to overcome. With the old direct engine-driven superchargers there was instant throttle response, and masses of torque, but the supercharger was large, heavy, and took a lot of the extra power produced to be driven. A supercharger compresses an air/fuel mixture, as it sucks through a carburetter. A supercharger can be made of aluminium, both the case and rollers/compressor.

A turbo is usually tiny in comparison, runs at very high rpm and very, very hot , often requiring special oil, (usually synthetic.) The heat absorbed by the turbo means it just has to be lagged to stop other bits of the engine and car bursting into flames and upsetting the driver. The lagging is often stainless steel sheet with silica inside, more expense. A turbo compresses the air first, then fuel is normally fed in after by injection. If you stop and think for a moment, that is logical as the hot exhaust turbine and centrifugal compressor are only a few millimetres apart. Whilst the compressor

can be aluminium, more often it is stainless steel to be able to cope with foreign bits passing through, spinning at very high speed a tiny item could wreck it. The turbine has to be of special steel to cope with the exhaust, usually a Nimonic alloy, like racing car exhaust valves and jet engine turbine blades. Both the compressor and turbine has to be aerodynamic, not just a bit of stamped out steel sheet like your M.G's and washing machine water pump impeller. Also, because of the need to have the exhaust speed up the turbo you get a thing called 'turbo-lag', not the instant throttle response of the supercharger. With modern designs this 'lag' is minimal, but still apparent when you floor the throttle. Both supercharger's and turbo's require a 'boost-control', to control pressures in the inlet manifold. High 'extra' pressure would cause an engine to wreck itself in spectacular fashion.

In 1982 a new MG was announced, the little M.G. Metro 1300. It used the staid old 'A' series engine in Cooper 1275cc tune, 10:1 compression ratio, giving a lumpy idle and a claimed 72bhp at the flywheel at 6000rpm. This engine has been about since 1952 when it appeared as an 803cc engine in the tiny Austin A30, and used what was almost a bit of bent wire for a crankshaft. Over the years it was upgraded, enlarged, strengthened and improved. In standard form, the M.G. Metro 1300's 'A'-Plus 1275cc engine performance was acceptable. Then to astound the critics, a 'GT' version appeared in 1983, and named the 'M.G. Metro Turbo'. This turbo powered Metro was the brain child of one Geoff Kershaw of Leyland Cars. The Turbo used the standard Austin Metro camshaft and compression ratio of 9.4:1, not the M.G. Metro 1300 'Cooper' version. It followed in the tradition of the then popular small hatch, boosting the potential of the tiny MG. Still using basically the same engine/gearbox, but with some important items strengthened, like a forged and nitrided crankshaft, (normal crank was flow-cast,) sodium filled exhaust valves, stronger pistons, (standard M.G. Metro were 21253, Turbo's pistons are 20484,) improved big end and main bearings, 93bhp @ 6150rpm and 85lb/torque @ 2650rpm was produced. A veritable pocket-rocket, the M.G. Metro Turbo took to the roads. The weak part, (there always has to be one,) was its ancient Mini-based gearbox, the 1959 Mini had just used the 1952 A30/A35 gearbox in its sump....and the A30 gearbox can in fact trace its ancestry through to the 1935 Austin Eight. So to feed in the extra torque without blowing up the gearbox, and to beat turbo-lag, the clever M.G. Metro Turbo controls its boost pressure using an exhaust-waste-gate from 4psi @ 4400rpm up to 7psi @ 6000rpm. A Garratt AiResearch T3 Turbo-charger blowing through a sealed SU HIF44 carburetter,(note, not fuel injection,) a standard 9.4 to 1 compression ratio, and a solenoid operated exhaust-waste-gate on the turbo combined to eliminate most of the turbo-lag and protect the gearbox innards. The term ‘T3’ refers to the main body of the turbo charger, as the outer component parts are fitted to suit the installation, so a T3 from another model may not fit your Metro. The waste-gate is a simply spring operated valves, worked by the pressure in the inlet manifold. The capsule in the inlet manifold is set to 4psi on the Metro, and is connected by an adjustable rod the to waste gate valve in the exhaust manifold. When the pressure reaches 4psi in the inlet manifold, the gate is opened for the exhaust gasses to by-pass the turbo so controlling the pressure. The Metro then uses electronic means to monitor rpm to the raise the boost to the 7psi at its maximum at maximum engine rpm. Unofficial raising of the boost pressures can cause the pistons to melt as well as the central supporting web in the gearbox to crack. This web supports the final drive gear to the differential. The

bearings of the idler gear between the crankshaft and gearbox suffer as well, and chew their way into the alloy castings. The turbo engine runs very close to 'detonation' all the time.

Fuel is pumped by a rear mounted Bosch electric unit, with a control to monitor intake boost pressure to ensure fuel pressure is always above boost pressure. Otherwise the boost would blow the fuel back to the tank. Lotus Racing had a hand in the cars development, and it was the fastest M.G. saloon up to that date, running up to a magic 113mph. It was the most powerful production 'A' series engine, and the clutch was of the diesel type with a solid centre plate to take the torque, no damper springs to fall to bits. Ducellier electronic ignition was used and an oil cooler was standard. Engine mounts were also stiffer, but there were problems with head gaskets blowing on the first few cars. The 12G 940 head casting used on the turbo had a thinner head face, possibly for better cooling around the exhaust valves, but this permitted warping. The cure was to fit a head with the original thickness of metal.

9.4 seconds would see 60mph on the speedometer, not bad in a car costing just £5650 in 1983. The turbo is bolted at the rear of the engine to the cast iron exhaust manifold, and then blows into the sealed 1 1/2" SU carburetter which feeds into the inlet manifold. Inlet air is filtered before entering the compressor . The exhaust waste-gate controls the amount of gas used to drive the compressor, and is controlled by a boost sensor capsule and operating rod . To protect the whole system from too much boost pressure, there is a dump-valve fitted to the inlet manifolding before the carburetter.

When a car has fuel being pumped to the engine under pressure, one problem that could prove fatal is, what happens if the engine stops and catches fire? In an accident modern cars have 'inertia' switches fitted to switch off the pump; but the M.G. Metro is a bit old fashioned, as it uses a system to tell the electrically driven fuel pump when the engine is going, and when it is stationary. The oil-pressure-switch is responsible for keeping the fuel pump power relay energised. If the oil pressure drops to nil, the power to the pump is cut off. However, you have to start the car with no oil pressure, so the ignition starter position on the ignition key powers the fuel pump, but only when the starter is operating. A problem that occurs in very high mileage Metro Turbo's is at idle rpm with a very hot engine. If the oil pump is well worn, and with the hot thin oil, the oil light can come on because of the low oil pressure. This stops the fuel pump! The cure is a new oil pump, and probably an engine rebuild if it is so worn. The oil pressure switch has caused many owners problems with older cars, as if you thrash a Turbo, (or any other Metro for that matter,) bits of swarf from the gearbox-in-the-sump are drawn up into the oil pump. This will quickly wear out the pump, as the oil filter is AFTER the pump. This results in low oil pressure, till its gets so low on idle the fuel pumps thinks the engine has stopped, so stops itself. The car will start as the starter solenoid puts power direct to the fuel pump, but this ceases upon the engine firing up. The cure is a new oil pump and these are not expensive, but it does mean taking the clutch end of the engine to bits.

Like a jet engine, switching off a turbo powered M.G. Metro without letting it idle for a least ten seconds, can ruin the turbo's bearings. If you switch off immediately after a fast run the turbine will still be spinning at very high rpm, with no oil. On the M.G. Metro Turbo this can be as high as 130,000rpm. The engines own oil system is used to feed the turbo bearings and cool them. Also take care if running the engine with the

air intake hose disconnected, the high speed of the compressor can cause serious, if not fatal, injury. Sucking in one of your spanners will ruin it, and flying shrapnel can maim and kill.

The MG Metro Turbo is destined to go into history as something special. It was followed by Montego and Maestro versions, but the Metro was there first. There are not many books on the Metro, but if you want more on these models, buy a Haynes manual and a copy of the TSB collection of road tests and data. TSB are on 01473 212912. A book by Mark Steward tells the story of the Metro during production, , by Osprey ISBN 1855321807. By the end of production 21,968 MG Metro Turbo's had been made. Only the very last few were fitted with lead-free cylinder heads.

Living With a M.G. Metro.

Like the ADO16 the M.G. Metro is a bit of a Tardis. It has plenty of room inside the cabin, but is only really a four seater. The rear seat sits higher than those at the front, so tall people will touch the roof on big bumps. The car is easy to drive, being one of the first super-mini's. It had quite a long production, and was beginning to look ancient by the late 1990's after nearly twenty years, (even though Rover did update it.) The M.G. version ran from 1982 to 1989.

Metro's corrode. So does every other item made of non-precious metal made by man. I worked on aircraft for 22 years, and their aluminium alloy, magnesium alloy, steel alloys, all corrode. Mind you, they rust away a lot slower than the mild-steel sheets cars are made from. All cars are bio-degradable, even those dipped in zinc to improve corrosion resistance, (called galvanized steel.)

The very method used to assemble a motor car actually assists the mild steel to revert back to its natural state, called ferrous-oxide, (or more simple, good old fashioned rust.) The foundry turned the iron ore into iron, then it was 'converted' into steel, and then rolled out into thin sheets, to be pressed into panels for your car. This is a completely unnatural state for the iron, so it tries to turn back into iron oxide as soon as possible. To do this all it needs is a bit of water moisture, and some oxygen. So, if you paint the steel, the water and oxygen cannot get to it, and it does not rust.

Cars, and Metro's in particular, are held together by lots of tiny welds, called 'spot-welds' because of their appearance. You can see these all over the car. Welding causes heat, heat causes steel to oxide. So as your car was being made, the seeds of rust were being built into it. This is rather handy for the car manufacturers and is termed designed-in-obsolescence, as it means the car will rust away after a few years, and you will buy another one. One way of stopping the corrosion, (that is not correct, you cannot actually stop it, mother nature will not let you, but you can slow it down,) is to get something like Wax-Oyl into all those spot welded areas. The most at risk areas are the un-welded spaces between the tiny welds. No paint ever gets into this minute gap, but water does! Metro's suffer rust in areas like the bottom of the doors, the lower edge of the rear tail gate, up along the rear valance, corners of front wings, the sill bottoms both inside and under the car, the front floor sub-frame runners,

(second most common area of Mot failure for corrosion,) and around the headlamp inner wing area. But the most unsightly, and a Mot failure area, is the front valance.

It starts by rust appearing at the lower joints with the bottoms of the front wings. This is actually a bolted join, using self-tapping bolts. It is inline with the front wheel's water splash, and leads to water getting into the box-section that runs across the car inside the valance. The front sub-frame bolts to this structure, hence its importance on Mot checks. If yours is showing signs of the dreaded rusted valance, remove the bolts, open out the joints, wire brush everything as clean as possible. Then treat it with a good anti-rusting agent like Rust-Cure, (follow the instructions.) If possible, rub back the rust to shiny metal. Then prime it, undercoat it, and paint it. Assemble the join again with a good helping of Wax-Oly, and treat inside the box section with this waxy substance.

You need to keep water and oxygen away from the steel. Rust itself contains oxygen, (ferrous OXIDE remember,) so the more of it you gat get rid of the better. If really desperate cut it out and weld in new metal. Look upon rust as a cancer that will eventually kill your car. It even grows like cancer does, causing the metal 'cells' to expand, look at a stone chip on a door or sill, there are little fingers growing away from the area in a few weeks as rust gets under the paintwork. On the Metro, the under-body protective rubber compound hides these ' fingers of rust'. Ask anyone who has pulled it away to find no floor by the inner sill area. One little fault that some Metro's develop is the 'unzipping' of the spot welds of the flitch plates. These little triangular plates are just inboard of the front suspension 'mounds', under the bonnet. They are the triangular bits that run across the two rear corners of the engine bay, and stiffen up that area. The spot welds that fix these to the bulkhead break away, possibly as there are about four or five layers of sheet steel being welded there. The top layer is the flitch. A very obvious give-away to problems here is a loud 'cracking' noise when in reverse as the area 'opens up'. When you go back into forward drive the area 'closes up'. Look up under the wheel arch at this area, as bad examples will have a long crack in the inner top area of the wheel well, just underneath these spot welds. Do not panic, as you can put in a strip of steel about 16swg up under the wheel arch, eight inches long, two inches wide, and fix it in by drilling three 3/8" holes each side of the area and bolting it together. These bolts will also grip the flitch plate to the flange on the bulkhead.

The Metro does not have a good name for anti-corrosion, but then the car was only designed for a five year life. British Leyland wanted you to buy another car after that. If you keep your older car on the road in use for longer, you are saving buying a new car. If you do not buy a new car, you are saving the planets limited resources. It takes masses of energy to make a new car, and this produces tons and tons of carbon-dioxide, carbon monoxide, etc; in fact far more than any car will ever produce it its lifetime from petrol. Think 'green', save an M.G. Metro.

The ADO16G is now a very rare car, it suffered far worse corrosion prevention in production that the Metro did. If left alone, there will soon be very few M.G. Metro's about.

Servicing the M.G. Metro requires a grease gun. It must be one of the last cars built that needed such equipment. The grease gun was required to lubricate the front and

rear suspension pivot points every 3000 miles. The engine has a form of oil cooler fitted between the oil filter body and the engine. This used the engines cooling water to take heat out of the oil to the radiator. The oil and filter require attention every 12,000 miles if used regularly. I personally changed the oil and filter at every 6000 miles, not trusting the 'A' series to keep that clean. Front disc brake pads require watching, they are powerful and can eats away pads. The early solid discs gave way to ventilated ones after 1986. Changing the pads is easy, but changing the discs much more involved requiring the removal of the bearing hub and calliper. Electronic ignition replaced the old ignition points in 1986 as well, getting rid of the chore of fitting those fiddly items, along with a new condenser and re-timing the engine. The only way to do that successfully was to remove the distributor to a bench. Taking the grill off was a waste of time, as the Metro has its radiator across the front of the car. This is a 15psi cross-flow system, and the radiator is of aluminium construction. A hot running engine may mean many of the thin fins in the radiator have corroded away, leaving just the 'pipes'.

Other things that will often crop up are the bracket under the engine, to its rear edge, where the exhaust pipe is clamped to the gearbox. This bracket often cracks and breaks, requiring a new one making. Try using thicker steel than the original, and fit washers as spacers so as to not stress anything. Use self-locking nuts on any bolts, but not the nyloc variety. Vibration is the culprit of this common area of the exhaust. If this bracket breaks, then the two exhaust clamps on the manifold will loosen and leak. Again, using cast steel clamps is better than those useless pressed steel things exhaust centres fit. The little oil seal on the gear change rod that runs into the rear of the gearbox often leaks. Sometimes this may need renewing twice a year on a high mileage car. The seal is only a few pence, and can be fitted in ten minutes once you have mastered putting the lever in the reverse gear position and drifting out the scroll-pin. Drive shaft seals on the differential also leak after a few years. Again they are cheap, but the whole drive shaft has to come off the car to renew it. Changing this seal takes five minutes, getting to it takes half a morning. Note you must drain the engine oil if you change this seal, or you will get very wet in eight pints of oil making a break for freedom. (Wear barrier cream on your hands if you are to work with old engine oil, it can affect your skin.)

Towards the end of production the motoring press were giving the Metro a bit of a rough ride, saying it was a bit rough to drive, just the opposite of the original reviews. But then the market had moved on nearly twenty years, and comparing a 1982 Metro to a 1998 super-mini was not really fair. The M.G. version had gone by 1989.

Driving a M.G. Metro.

If you think the Metro is going to be like a Mini, forget it. The car is much more refined, and bigger. It was one of the first super-Mini's, and like the Mini only ever meant to be a cheap shopping-cum-second car. Also, like the Mini, it was found to be a good handling package, and given more power quite a fast car within its price bracket and market area. There was a niche in the market for an up-market, faster Metro, and the M.G. Metro went straight for that hole.

The first surprise is, once you have entered the huge wide opening door, is just how comfortable the interior is of the M.G. Metro. It has an easily adjusted seat for both leg room and back rest angle. After the 'Y', 'Z', 'Farina' and 1100-1300 the steering wheel feels tiny, and the pedals very light. This car has servo assisted disc brakes, and is front wheel drive with a wheel on each corner. The glass area is huge, and all round visibility is good. Many M.G. Metro's have the option of a glass tilting sunroof, with opening rear seat windows. This gets the wind through the car if you want it, or the heater demisting system will soon clear any condensation. The heaters in these more modern cars leave the others in the ice-age. The car starts easily on a key switch on the steering column, the same key unlocking the steering lock now mandatory on any UK car. If the car is post 1986 it will have central locking and electronic ignition. The choke is manual however, and works the mechanism on the huge SU HIF44 single carburetter with its water heated alloy manifold. You will be gripped into the seat by a self-adjusting seat belt, as will both rear seat passengers. There is a centre fixed-lap belt for a third rear seat passenger if needed.

With the car idling over, gear selection is as per the Mini. It is good as only one single rod does the selecting, but it can still baulk on first even though this now has synchromesh. The clutch is light, and the car will pull away quite quickly. The 1275cc engine has good low down torque and makes the car either an easy drive in top, or one that you can stir the gearbox and nip in and out of gaps very quickly indeed, almost as well as a good Mini. On the earlier cars the disc brakes a good, but on the post 1986 cars with their ventilated disc from the Turbo, the brakes are excellent. The rear brakes on all Metro's are still basically those from the original 1959 Mini. With the correctly shaped front seats, and 72bhp on tap, the M.G. Metro will run rings round most other similar cars of similar vintage. The driver is spoilt, as they have two speed wipers, with a delay wipe switch as well; a rear window wiper; front and rear screen washers; fingertip wiper, washer, lights, and indicator control. With the performance the front tyres do get to do a lot of work, and they can wear out quite quickly, but rear tyres seem to last for ever. If you are use to Mini's, you will find you have to wind on a lot more steering than you are use to. The Metro is more nose heavy and has lower geared steering. Contrarily if you are use to a Mk3 or Mk4 Magnette, the steering will seem phenomenally accurate. If you forget to push the choke in, or leave the handbrake on, lights on the dash remind you of your error. The same light panel will tell you if the font brake pads are low, the brake fluid is low, or there is a brake fault. A blue light will tell you when you have full-beam up, and amber arrows when you are indicating.

Whilst the car can be a little sports-hatch, it is also a good bulk carrier. The rear seats will fold away into the floor, and the large rear opening hatch gives the possibilities of carrying very large loads. As a bonus you can still carry a rear seat passenger, and just fold down one third of the rear seat for long objects. The wide opening doors are prone to hit walls due to their length, so fitting rubber bump stops may save the paint work.

The car was not meant for long journeys, but it is comfortable enough to easily cope with them. With its radio/cassette and four speakers you can even deafen yourself whilst you drive. There is no doubt the car is fun to drive, and not to wearing on the passengers.

This cannot be said of the M.G. Metro Turbo. It is certainly fun for its driver, but eye-popping for a passenger. The cars acceleration is quite staggering if you are not use to turbo-power. Even today some twenty years after the first Metro's, a well set up M.G. Metro Turbo will run rings around normally aspirated cars. The Turbo is an out and out drivers car, a real M.G. as it is fast, safe, and fun. What the 1300 has in abundance, the Turbo excels in. It is very easy to get into trouble in a Turbo with its 92bhp, and because of the need to be an experienced driver many insurance companies will not even look at people under 25 years of age. To keep the driver informed the Turbo has a boost gauge where the normal 1300 has its clock, up on the roof. The noise the turbo makes on accelerating will make you want to keep doing it; it will bring the little devil out in you! The MGB has 95bhp in a body twice the weight of a Metro Turbo's with its 92bhp, it is little surprise then that a Metro Turbo can certainly shift.

Driving the 1300 in today's traffic is a far better experience than one of the earlier M.G. saloons. The car can still keep up with the faster moving models, though if you are to do a lot of 70mph cruising you will need to ensure the cylinder head is lead-free compatible. It is fast running for long journeys that burns out cast iron exhaust valve seats if unleaded petrol is used. The car is also much quieter than the earlier models, panel gaps and glass areas are all faired into the body, cutting wind noise to a minimum. Low noise levels means low fatigue levels. The car runs on radial ply tyres as standard, which again helps handling, performance and low noise levels.

The Future of the M.G. Metro.

The M.G. Metro has still to become an accepted classic. The Turbo certainly is, but the 1300 is still seen as a run about for younger less well off, motorists. There is great potential for the car to become a cult as the Morris Minor did. Insurance is not high for the M.G. 1300, and even lower if an agreed-value limited mileage policy is obtained. The danger is that we will end up with the Farina and 1100-1300 problems that very few will be restored or kept. With the 1100-1300 this was almost criminal, but with the Metro it has a much better anti-corrosion treatment, and was made in similar numbers to the M.G. ODO16. Ignore the bigots who plead the car is not a real M.G., If they had their way we would have no M.G. saloons at all. Of course the car is an M.G. and a good one at that. It is the entry model for the majority of younger enthusiast's, has a real following on the racing circuits even today and is often sought after by older M.G. owners as a second car. The price you will pay for an excellent M.G. Metro 1300 is very small for the amount of car and fun you will get.

Getting Spares.

Mechanically, since the inception of the Metro in fact, the Mini has shared a lot with our cars. Obviously the 998cc engine will have internals that differ, but the 1275cc engines use virtually identical parts. On the bread and butter 1275cc Mini this does not include things like manifolds, carburetter, camshaft, distributor and cylinder-head, (which has bigger valves.) But good news is that the 1990's Mini Cooper's engine is virtually identical, with slightly less power, (62bhp.) This means all those Mini Specialists who advertise in Classic Car magazines keep many mechanical parts for your M.G. Metro. Do not turn your nose up at an Austin Metro GTa, it uses your M.G. Metro 1300 carburetter engine as well, in the same state of tune.

The actual running consumables parts supply is even better. Leafing through the latest Halfords little catalogue, free in any shop, shows lots of parts for the Metro. Even their 15w/50 oil at £9.99 I though good. Finding oil for car engines of older design can be quite hard, many garage forecourts only keep thin stuff for modern cars, at extortionate prices. If you put 15w/30 in your Metro, it will drink it in a few hundred miles as it is far too thin. Brake pads are £9.99, rear brake shoes just £8.49, brake discs£29.99. Bit like an advert for Halfords so far. But the same ease of supply can be found in virtually all Motorists Shops of various organisations. My own local FADS supplied me with a rear brake cylinder for just £9.99, and a rear brake hose for £6.49. A 'Power-Train' Verto clutch cost me £64 locally, mind you I had to buy a stronger flywheel puller from 'Mini-Sport', as my old one bent itself! The puller cost just £14.

Mentioning 'Mini-Sport' brings me to tuning the Metro. Such firms have been about for years, and can supply many tuning extras for the Metro. But, do remember the M.G. Metro is quite highly tuned already, at 72bhp. The 1992 onwards Mini Cooper only produces 62bhp with its fuel injected, catalyst fitted, 1275cc engine.

Rover themselves still keep some parts for the Metro, but tend to keep to the post 1990 Rover 'K' series version, and nothing forward of the windscreen of this model will fit our earlier models. Again though, if you want an engine/gearbox part, Rover still make the 1275cc Mini. I found my local motorists shop 'pattern' Metro front wing was half Rovers price, though the cheaper item took quite a bit of fettling to fit correctly. Beware, there are at least three front wing designs for the Metro over the years. Bonnet lines and headlamp shapes caused the changes.

Mentioning body parts brings me to the second-hand market. In one glossy Mini magazine in Smiths, I found four firms who also offered Metro second-hand parts. Most were small car breakers, but it proves there are bits out there to buy cheap. I eventually found many more firms and included them in the '*Running a MG Metro'* booklet the MG'M' Club can now sell you. There are other booklets on the M.G. Metro held by them. Martin Woods is the fellow to contact for a copy.

If you get stumped over a part, try the MG web-site, < www.mgcars.org.uk > and go to the 'Bulletin page'. Put your question on the Metro page, someone some where

will know of a good second-hand part, or new / old stock. Other enthusiasts can often help, I recently saw someone trying to sell a rare Metro body kit.

Finally, the Mini, Metro, and the many 1100-1300 fwd models made, means there are a lot of mechanical parts about at auto-jumbles that *look* as if they will fit your M.G. Metro. Beware, not all of them are interchangeable so you must either take the old bit with you for comparison, or find the correct part number. The 'A' series engine was fitted to at least 76 different models, and of the version fitted to the Metro, there are at least 12 differing specifications. As a hint to prove the point, the M.G. Metro 1300 has an engine with a very hot camshaft and a 10.3:1 compression ration; where as the M.G. Metro Turbo uses the standard 'soft' Austin Metro camshaft with a lower 9.4:1 compression ratio. Do your homework if you are going to an autojumble, it is not funny to find you have purchased a water pump for an 1957 Austin A55 mk1 1500cc car, because it looks just like a 1300 Metro one, only slightly larger. It still will not fit your M.G. though.

THE M.G. METRO GEARBOX.

With the little M.G. version of the Metro, fitted with its 1275cc 'A'series engine and excellent performance, being the entry level M.G. for many of the younger generation, it may be prudent to mention its gearbox. Few people these days seem to understand the workings of a gearbox. Even though the system used up till this very day, dates back to engineering workshop lathes used in Victorian workshops, the gearbox innards seem to have a veil drawn over them. Whilst it is true few Victorian lathes changed gear whilst in motion, it is the method of selecting the individual gears using 'selector-dogs' that has not changed. This is true whether it be driven by an overhead shaft and pulley system, an electric motor, or an internal combustion engine. Today, many enthusiasts new to the older M.G. has little idea of what to expect from the engineering it provides. Even fewer will know that the gearbox under the M.G. Metro's engine is identical to that of the rod-change Mini's. None will know that the rod-change Mini had synchromesh on all four gears, itself developed from the earlier Mk1 Mini gearbox with its complex external-twin linkage gear change; and only synchromesh on the three top gear ratios. Then to try to explain that the first 1959 Mini's gearbox was just the guts of the 1952 Austin A30's gearbox put into a new sump-casting will raise a few eyebrows. But this will pale into insignificance when they discover the Austin A30's gearbox is virtually that of the pre-war side-valve 1939 Austin Eight/Ten. That very ancient 1939 gearbox itself carried over details from the now famous 1927 Austin Seven.

So I think I am safe in saying that the gearbox as fitted to the M.G. Metro 1300 is quite old in its basic design. Do not get too carried away with the idea that the Metro is on its own. The Austin Healey Sprite and M.G. Midget shared the Austin A30 gearbox as well, as did the Morris 1000, Austin A35 and A40 Farina. That fitted to the 'Z' Series Magnettes, the MGA, three-synchro MGB, and the Farina Magnettes is merely an enlarged version of the same gearbox. Then again, three million 1100/1300's of which many were M.G's, used the version fitted to the Mini. No, my point is that it is a bit of a shock to the less experienced and the younger enthusiasts,

to find out they may need to unearth some very old driving methods to cope with some gearbox faults. It is true to say that BMC and BL, followed by Austin Rover, who did carry out some modifications the these front-wheel-drive gearboxes to improve them. For instance the fitting of synchromesh on all four forward gears certainly made the cars easier to drive. Prior to this it could be almost impossible to select first gear when stationary, unless you realised the gears needed moving a little. This was accomplished by selecting second gear first, then first gear. This simple action moved the gear teeth a few degrees so they did not 'baulk'. Baulk is another word for jamming. In such an ancient design as the three synchromesh gearbox, when selecting first or reverse gear, you are actually moving the gear wheel itself, and it is not unlikely that the gear teeth hit the other gears teeth edge-on. This make selection difficult, hence the whipping of the gear lever into 'second' first then forward into first!

But, you say, I move the other gears when I select them, do I not? No, you move a selector that has a forked end, that slides a selector 'dog' along a splined shaft. These 'dogs' live between the various gears, ie there is one between third and fourth, and one next to the second gear. The actual first ,second, and third gears run on the same shaft, and they run free, not being splined to it at all. They are also in constant mesh with their opposite number on the 'lay-shaft', (hence the term 'constant-mesh-gearbox.) This 'lay-shaft' is one single piece of metal with four gear wheels cut into it. It is driven by a gear on the end of the shaft from the clutch, (the first motion shaft.) This first motion shaft is in line with, but NOT connected to the splined shaft with all those free running gears on. The first motion shaft actually runs on the end of this other shaft, end on in roller/needle bearings. This 'other' shaft is called the third motion shaft.

Between the gears as mentioned is the selector-dog. This is fixed to the splines on the third motion shaft and rotates with it. The third motion shaft goes out of the gearbox to the differential on the M.G. Metro, (or to the prop-shaft on rear wheel drive cars.) On the sides of all the gears, and on the selector dogs, are what look like crenulations, or square teeth. When a 'dog is moved sideways by you selecting a gear, these square teeth can engage those on the sides of the gear wheels. If this is done, then that gear also becomes locked to the splined shaft via the selector dog.

Now for some real mental gymnastics'. Imagine the engine is running, and the gearbox is in neutral. You depress the clutch so the engine cannot drive the gearbox. You move the gear lever to the ratio you want. The lever moves the selector dog, which engages the selected gear. The dog is splined to the third motion shaft, but the gear is not. But now you have selected the gear it can drive the third motion shaft via the selector dog. This gear is in constant mesh with the lay shaft remember. The lay shaft is driven by the first motion shaft from the clutch, but this is currently dis-engaged. You then let the clutch out, the clutch bites, and turns the first motion shaft. This drives the layshaft, which will in turn spin the gear you selected. The gear is now fixed to the selector dog, and the dog is splined to the third motion shaft, so this shaft will turn and drive the differential. You move the car with the engine.

What is missing from all this is the way the gearbox makes sure that the selector dog's teeth and spinning at the same speed as those on the sides of the gear to be selected. If they are spinning at different speeds, you hear a loud crunching noise. In years gone

by on pre-war cars, you had to become an expert on judging these gear and engine speeds, and ensure that they were ‘synchronised’ as you selected them. Very quickly the engineers worked out a way to do this automatically, but it added extra expense to the manufacturing of the gearbox.

All they did was to put little cones between the selector dogs and the free running gears on the third motion shaft. On the Austin A30 that on the second gear was very weak. It had to try to spin quite a lot of heavy metal as it engaged the conical hollow on the side of the gear wheel. These cones were usually of brass, or sintered bronze, and much later carbon steel. The weak ‘synchromesh’ as it was called went into the Mini from the A30, and as the Mini was a rushed design in 1958-59 using already existing a production engine and gearbox in a new casting, the faults followed through. Even when the Mini Mk2 gearbox had a major redesign there was very little room to improve the second to third gear synchromesh. This gearbox went into the Metro range, albeit with a much better external gear change system, that of the single rod. I say ‘better’ in the engineering sense, not that it soon became the one major oil leak area on the engine, as the rod entered the engine ‘below’ the oil level of the gearbox. Once the seal wore you gained an interesting pattern of oil blobs on your driveway.

There was no real problem with going ’up’ the gearbox from second to third; it was when changing down the weakness in the design became apparent on fairly high mileage units. The cure? Either strip the lot down and fit new synchromesh, or learn to double-de-clutch.

That is where the problem lies, as very few people know how to double-de-clutch. All you are doing is mechanically spinning the engine over at a similar speed to the rear wheel drive, so at to match up those selector dog teeth, so they engage easily and noiselessly. It is an art of driving, but is NOT suitable for modern all-constant-mesh, fully-synchronised fwd cars. It is essential for anyone with a worn M.G. Metro gearbox, M.G. 1100-1300, or an early three-syncro-MGB, or any MGA, Z Magnette, Austin Healey Sprite, M.G. Midget, Farina Magnette, etc, etc, to learn to double-de-clutch.

How is it done? As you go to change down, depress the clutch, then move the gearlever from third to the neutral position, release the clutch, blip the engine throttle, dip the clutch quickly and smoothly move the gear lever into second. It all needs to be done very quickly, as you are doing the job of the worn out synchromesh cones with your feet. On the very early versions of synchromesh fitted to pre-war and early post was cars, it was not fitted to speed up gear changing, but to make it silent. Many manufacturers advertised their cars with a ‘Silent Gear Change’. Only since about the early 1970’s has synchromesh improved gear-changing speeds.

So, if you are to enter the magic world of the older M.G. (and the Metro is 21 years old in 2002,) you may need to gain a few more skills in driving. Learn to double-de-clutch. When you get the idea you can then heal-and-toe with your right foot, (braking and blipping the throttle,) as the left one does the clutch work. If you now find the M.G. Metro gear lever seems to have a long and slow movement, buy yourself one of the quick-change kits sold for rod-change Mini’s. These only take about 15 minutes to fit and improves driving fun.

Who Brought a M.G. Metro?

Whilst it had been common for the M.G. saloons to be aimed at the older, more successful owner, the M.G. Metro was directed at that younger person. By the time the little Metro was on sale, there were far more defined market areas for the advertising people to target. The M.G. Metro was a young persons car. Many women drivers purchased one and had fun out driving the odd 'macho' male driver who thought Metro's were slow. It could take a family, so was also often a car for the young mother as well as the boy-racer of the family. Whilst it was directed at this market, quite a proportion went to older retired people, those who hankered after their old M.G. Midget days but could not now stand the roofless primitive mechanics and no heater. The image of the Austin Metro was that of a town shopping car, and here we had a car that blasted that image away. When the M.G. Metro Turbo arrived the car went racing. It was a little pocket rocket and many of the little 'shopping cars' were sold to male egoists. Insurance companies liked the standard M.G. Metro, as it had been carefully aimed at the market to keep its premiums low, but the M.G. Metro Turbo carried quite a penalty, especially if you were under twenty five years of age. If you were under that age with claims, you may not even be offered cover.

So the little M.G. was seen with a younger clientele. Whilst once again the bigots decried the car as they did every M.G. saloon upon its inception, one or two had their words shoved down their throats as the M.G. Metro out performed both the Midget and MGB. The majority of M.G. enthusiasts were pleased to see the car, as it carried on the name of M.G., and both the large M.G clubs endorsed the model.

Today the M.G. Metro is the entry level for the young M.G. enthusiast, into the world of M.G's. It is best we encourage them and not denigrate the car in its old age. These people are tomorrows club members.

Identifying a M.G. Metro.

these cars, along with the Maestro and Montego, use VIN plates, (Vehicle Identity Numbers.) A typical example will begin SAXXBANB1AD, followed by the body number.

SAX is the code for Austin/Rover in the world wide system.
XB is the code for Metro.
A is the model class, others are

A	base line
F	high line
H	midline, ie HLE or S
M	automatic
P	low line

N is the body style, meaning three door hatch.

B is the engine size,

B	998cc
D	1275cc

1 is the transmission type and steering,

1	4 speed manual RHD
2	4 speed manual LHD
3	automatic RHD
4	automatic LHD

A is the model year,

A	1981-82
B	1983
C	1984, and so on.

D means Longbridge.

The engine numbering might read 99H 907P H101, this means:-

99	998cc
12	1275cc

H means transverse engine fwd,
907 is the code for engine performance level, transmission type, etc.
P means crankcase vent system with clean air park,
AA means air temperature control system, etc.
H means high compression.
L means low compression.
followed by the engine serial number.

The chapter on the M.G. 1100-1300 lists all the 1275cc engine, including those in the M.G. Metro. engines with a prefix 12H/F01 built after mid 1989 are already lead-free. The engine continued in use the Austin Metro GTa for another year. Earlier engines wil eventually need an unleaded modified cylinder head fitting.

Books on the Metro, some appear in the Metro Turbo paragraph, others are TSB125 M.G. Metro & Turbo, a compilation of articles and road tests from 01473 212912.

The M.G. Metro 6R4 only used the doors from the original model, everything else was changed.

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The M.G. Maestro and Montego.

The Modern Saloons, LM10 & LM11.

Chapter Six.

1977 was a year that British Leyland began to turn itself around and become a power in the car markets again. So many old British car firms had come under one roof the whole thing was far too complex. The press had torn the company to pieces over its mis-management of one project after another. The new Metro model was well under way and due out in 1980. This covered the small family hatch market, with the little M.G. Metro 1300 arriving in 1983 to take up the sports-hatch challenge. The next level to be attacked was the medium saloon/hatch area, one that was contested by many other car makers, and had the biggest profit margins. Rover-Triumph as BL had now become, continued with the LC10, (LC meaning Leyland Cars in this case.) Malcolm Harbour of the Triumph division managed the project, with David Bache of Rover P6 and SD1 fame doing the styling. The Austin part of the firm were preparing the Metro. The LC10 was to be the last fully designed and built in Britain car! As the firm had recently taken on licence building of the Honda Civic, sticking a Rover and Triumph badge on it, the LC10 was delayed a little. It was 1984 when the first LM10

and LM11, (now standing for Light-Medium,) was seen on the showrooms and forecourts for sale. The Austin models Maestro and Montego lasted until 1991 and are still very distinct in their own styling, not copying the usual euro-clone mode. They were in direct competition with the Vauxhall Cavalier and Ford Sierra, and like the competition there were many variations covering seven differing models on offer. Three engines were initially to be fitted, the 1.3 'A-plus' series; the 1.6 'R' series; and the 2.0 litre 'O' series. There were saloons, hatch backs, estate cars, vans, and sporting versions. This was where M.G. came into the picture

As mentioned in the Metro chapter, the company was forging ahead into the markets with models using similar bodies but in different states of trim and engine power. The LM10 and LM11 were very similar cars, eventually named the Maestro and Montego in their Austin form. Like Fords very successful Escort and Orion, these two were either a four-door hatch back saloon, or one with a boot. LM11 was sixteen inches longer than LM10, LM 11 was also two inches longer in the wheel base and all were four door saloons. Otherwise there was a very great deal of interchangeable components between the two, with something like 60% of panels being identical. The two models were to be built at Cowley in a specially built factory with a great deal of automated assembly, with long lines of robots welding and building the car. For instance the front windscreen was fitted and bonded to the car by robots alone, no human hand touched it.

There were a number of levels of trim and engines in the Maestro and Montego range, and the M.G. version were to be the sporting saloons, with the Vanden Plas at the top of the range. BL were taking on the very competitive centre of the UK car market, and aiming the M.G. at the 'upper-medium-sector' to quote then current marketing slang. The models were very unique in their styling, and the base 1.3 Austin's were a little bland in equipment. The M.G's on the other hand were to be fitted with front and rear spoilers, alloy wheels, and red inserts in the trim and rubbing strips. This had the required effect of giving the car a rather aggressive look, something that would certainly be true of the Maestro Turbo in years to come. With the Austin Metro, the two larger Austin's were putting BL back on the motoring map. The smallest Maestro had the 1275cc 'A' Plus engine fitted, from the Morris Marina, but end on to a VW gearbox. This 1.3 car was very popular within its price range and performed rather well. Some road tests in magazines preferred it to the larger engine car. Roominess, good visibility, and cheap running costs gained these LC10 and LC11 models a good name. Little things like the windscreen wipers folding out of sight when switched off reduced wind noise as well. Alas, when the M.G. Maestro 1600 arrived all was not so good.

The Maestro style was chosen from a competition within the company in 1979. The winner was one Ian Beech of the Solihull office. Lucas offered the new computer designed 'homofocal' headlights for use on the first Maestro's. There was an abortive attempt to assemble Austin Maestro's in Bulgaria, but this flopped after one year. Whilst early Maestro floor pans had Allegro shells bolted to camouflage then on road tests, the Maestro itself was later used to do the same for the running gear of the little MGF sports car.

M.G. Maestro 1600.
LM10.

In March 1983 a sporting four door hatch was introduced to the markets. This was the new M.G. Maestro 1600. The adverts told everyone the new M.G. had been born to perform miracles. The same advert told of a top speed of 111mph from the 1600cc 'R' Series engine, zero to 60mph in just 9.6 seconds, and it would get from 30 to 50mph in top gear in 8.7 seconds. The 'R' series engine was also used in the ordinary Austin version of the car, but in a lower level of tune with a single SU carburetter. (Road testers called these SU's ARG's, meaning Austin Rover Group.) The car had a large M.G. badge in the centre of its plastic grill. 102bhp was produced by the engine in the M.G. version of the Maestro, the top model of a range of seven others down to a 1.3 Austin fleet version. It was the product of computer aided design and manufacture, those days a very new thing in car production. It was one of the first cars fitted with large plastic deformable bumpers, made of polyester and colour matched to the cars paintwork. Another first was the M.G's instrument pack, this was of the full electronic type with no moving parts, and a switch to swap the speedometer over from mph to kph. This solid state instrumentation was shared with the Van den Plas model. A less welcomed item was a synthesised voice system telling you when you had left the handbrake on, or some other human error. There was a five speed close ratio gearbox fitted, built under licence from Volkswagen. The cars speed was read by a sensor in the gearbox watching a phonic wheel, this transducer converted the readings to a digital form and sent it to the light-emitting-diode (led,) speedometer display. Engine rpm was read off the flywheel in a similar way. Engine temperature and fuel level were similar electronic displays. The voice of Nicolette McKenzie also told you of a low oil pressure. This was the first M.G. to be offered with heated front seats.

The basic Austin models used the 1275cc 'A' series engine from the Marina, bolted to the VW gearbox, where as the bigger engined Austin's and the M.G. used the 1598cc 'R' series engine. In the Austin only 81bhp was produced, but in the M.G. this rose to 102bhp. The 'R' series engine was a development of that from the Maxi, a chain driven overhead camshaft unit called the 'E' Series. The M.G. Maestro 1600 had twin choke Weber 40DCNF carburetters, and a better manifold system. The power was put onto the road via a set of alloy wheels on low profile tyres, and the M.G. had a thicker front anti-roll bar than the Austin model.

Standard Austin Maestro suspension was fitted, with Macpherson struts at the front and interconnected torsion beam at the rear. The press were at first pleased with the car, but it seems BL had rushed things a little too much, with not full development of the car before selling it to the public. The car soon earned a bad name for poor hot engine starting. The Weber's were not suitable for the engine installation. There was also very poor engine power after 6000 rpm. The cars competition was the Ford XR3i, VW Golf GTi and the Vauxhall Astra GTE; and all were faster than the M.G. Maestro. The M.G. Maestro 1600 was chosen as a training racing car for the Silverstone Race School. 'R'and 'S'series fitted M.G. Maestro's require hardened seats fitting to the exhaust ports to sope with unleaded fuel. All the Maestro's went unleaded at the same time as the Montego's, from VIN number 595500. Whilst the

1990 Montego went on to use the MEMS engine control system, the Maestro kept to the older Lucas system of ECM.

To prove the press correct, BL updated the LM10 M.G. soon after it arrived by improving the engine. It got a new cylinder head, a thin-wall cast block, a stronger crankshaft, improved distributor for the distributor, water pump and oil pump. This version was called the 'S' series and the chain driven ohc was now driven by a toothed belt. But only about 3000 M.G's with 'S' series engines were made before the car was commonised with its bigger brother, the LM11. The M.G. Maestro 1600 ceased production, replaced by the M.G. Maestro Efi in October 1984. This model was later called the M.G. Maestro 2.0i as the engine had fuel injection, and was of 1994 cc. This was the 'O' series engine, a development of that old soldier the 'B' series, and initially meant to be fitted into the 1981 MGB, but first seen in 1972.

Within one model year the M.G. had been fitted with no less than three engines. The stalling and poor hot starting of the M.G. had gained the notice of the Motor magazine. They had purchased an early M.G. Maestro 1600 and it proved to be a real Friday afternoon tea-break car, (registration OGN786Y, is it still about?) Whilst the engine was changed, the actual car was excellent value as it was in a similar vein to the Metro. The rear seats split in the rear hatch area to give differing load areas. The low floor was a bonus as it made the rear roof area quiet high inside, and the floor was flat. With either engine it was a good towing car, like the Mk4 Farina Magnette and the Austin/Morris 1800/Princess fwd saloon it replaced.

M.G. Maestro Efi, and 2.0i.
LM10.

October 1984 saw a much improved M.G. Maestro, with a decent engine borrowed from the M.G. Montego introduced in April. It had multi-point fuel injection, the two litre 'O' series single over head cam engine of 1994cc, giving 115bhp and was bolted end on to a five speed, close ratio Honda gearbox. This was a much better unit than the old VW one used on the earlier cars. The ignition was fully mapped and ran with a Lucas 'L' fuel injection system, (a license built Bosche Jetronic copy.) This intelligent ignition could retard or advance a spark for individual cylinders with its anti-knock sensing. The Efi could get to 60mph in 8.5 seconds and reach 114 mph. It now had ventilated front disc brakes from the Montego and uprated tyres. There was also a rear anti roll bar to improve road holding on the M.G. models, but not the Austin's. The specification was improved to include central locking, tinted windows, with power steering as an extra. The instruments reverted back to ordinary analogue dials, and the 'voice' was dumped. Externally the M.G. Efi and 1600 differed by the later car having a colour coded grill, door mirrors and door handles. A M.G. motif appeared in the centre cap of the alloy wheels, these were often stolen by small boys. Other extra's were cross-spoked alloy wheels and a tilt and slide glass sunroof similar to that in the M.G. Metro. This 'O'series fitted M.G. gave excellent economy if driven frugally. It returned 49mpg at 56 mph, and 35mpg at 75 mph in tests. By 1987 the

extra's list had grown with heated door mirrors, a digital clock, and electric front windows on offer. Maestro's built after May 1989 were fitted with lead free cylinder heads. Earlier models may need exhaust valve seats modifying, though the 'O' series was designed initially to be lead-free compatible back in 1979. In 1979 M.G. had intended to be exporting 'O' series MGB's to the USA. Cars with 'O' series engines with fuel injection have three-way catalytic converters fitted. A two-way cat was an extra on the carburettor cars. The Maestro used the Lucas 4CM carburettor and 'hot wire' airflow meter' control system till its end. Unleaded fuel use with a cat fitted lost the engine about 10bhp.

M.G. Montego Efi & 2.0.
LM11.

LM11 was introduced as an M.G. version in April 1984. It ran alongside the 'S' engined LM10 for a while, then both models shared the LM11 1994 'O' series. Both cars, the Montego and Maestro, are very similar, and much of what has been said applies to them both. The differences were that the Montego was a full saloon, not a hatch. It had a proper boot and was sixteen inches longer because of this. Rear seat leg room was better as the wheel base was two inches longer. If you were a family man with a hankering after an M.G. this was the car to have. It was both practical and roomy, could carry huge loads in its massive cabin area, and tow the caravan on holidays. It was no slouch either, though not quite as fast as the Maestro which was of course lighter. It was a five seater four door body, and again the rear asymmetric seats folded down for those longer loads. The boot had an 18.4 cu.ft load area. Power steering was an extra on the steering gear which was as the Maestro. There were improvements over the early LM10 in that ventilated front disc brakes were fitted, with drums on the rear. The original Austin Montego had used the cooking 'S' series engine, but it was not used in any M.G. Montego.

The engine was as the Maestro Efi, the two litre cast iron block, alloy cylinder head, single over head camshaft unit, mounted on the end of the licence built Honda five speed, close ratio gearbox. It gave 115bhp @ 5500 rpm and 121 lb/ft torque @ 3200 rpm from the Lucas multi point fuel injection ECU controlled and monitored unit. The normal Austin Maestro version of the 'O' series gave 102bhp. With the M.G's 115bhp went a top speed of 115mph, zero to 60mph in 8.5 seconds. The car initially had the same electronic solid state dash display as the early LM10, but not for long. By the end of 1984 it had analogue dials. To differentiate the car from its brethren it had front and rear spoilers, alloy Dunlop wheels with low profile 185/65 tyres. The package included central locking, electric front windows and a four speaker Phillips radio/cassette stereo system. The M.G. Montego Efi was the fastest and most expensive M.G. till that date, and until ousted by the M.G. Montego Turbo in April 1984. The standard M.G. Montego Efi was faster than the MGB GT V8, and a lot more spacious.

The car was renamed the M.G. Montego 2.0i the same time as the Maestro became a 2.0i. There were a few changes to the 2.0i which included plain grey cloth seats, the wheels became the cross-spoke variety, colour coded door mirrors, and the M.G.

badge moved from the plastic grill to the front of the bonnet. A slide and tilt glass sunroof was an extra. The Montego swapped over to a MEMS engine control system from the Lucas Jetronic (copy of Bosche,) in 1990, and at VIN number 595500 they were leadfree compatible, (this was about May 1989.) The catalytic converter was part of the post 1991 cars that were fuel injected, with a three-way cat on these cars. From 1989 a two-way catalytic converter could be had as an extra on the earlier models.

Between 1983 and 1990 45,368 M.G. Montego's, and 33,230 M.G. Maestro's were built. The 'O' series engine they used was improved to the 'O2' series tohc and went on to become a Rover 'T' series, and was used the 620 and 820 series. Quite a few LM10's and LM11's have adopted this twin ohc Rover version. Rover did try out a styling exercise with a M.G. Montego Estate, but only built one that never got to the public. It later became the GTi Estate.

Living with a M.G. Montego and Maestro.

The initial Weber carburettor Maestro's soon got themselves a bad name for poor hot starting, and stalling once hot at embarrassing places like traffic lights in busy towns. There were other little niggles as well that told of a rush to get the cars onto the market. Many cars soon had the internal door mirror adjusters become disconnected and useless, the plastic facia was poorly supported and rattled much to many peoples annoyance, and oddly the car seemed to eat wheel bearings. This was probably more to do with poor quality control where insufficient grease was inserted, rather than bad bearings. Paintwork was not always good either. The bonded windscreen often leaked, necessitating their sealing with a suitable mastic sealer. The shell had quite a few sharp edges to hidden panels where paint simply could not stick. Had the edges been de-burred the problem would not have arisen. This fault led to these edges soon rusting in areas like the 'B' post to sill joint. The M.G. Metro also suffered poor paintwork at first, and rusted as well, but this was on the underside and sill area. Many Maestro's and Montego's suffer premature rot of their rear wheel arches, as does the Metro. Early cars had solid front disc brakes, soon upgraded to ventilated discs suitable for the cars performance. There were rumblings the car was under-braked due to its small discs and only drum rear brakes. Other cars with similar performance had discs all round.

Things did improve, but it seems such a shame the company used the buying public as part of the development team. This was very true with those Weber carburetters. There will not be very many M.G. Maestro 1600's about these days, and no doubt they will have had the modifications done to cure the stalling and poor starting faults. The Motor magazine ran an early Maestro, and were very unhappy with it, (OGN786Y.) Only the 1983-84 cars had all these problems, improved quality control and the fitting of the 'O' series engine cured many of them. The electronic fuel injection and management system was not always reliable. Like an early 1950's TV it is best to switch on the ignition, then give this system a few seconds to power up everything before actually starting the engine. A good cure to many electrical problems is to ensure all contacts are dirt and corrosion free. Motor magazine carried out a readers survey for M.G. Montego 1600 owners, and one of the most annoying

faults the cars has was a rattling dash. It was all of plastic and seemed too flimsy. On the later Maestro's and all M.G. Montego's there is an extra metal brace under the dash supporting it. This cured 99% of the rattles.

The front suspension used similar ball joints of the Metro, and when these wear the car can 'wander' about the road following tarmac ruts and tram lines. Steering rack track rod ends give similar indications to these ball joints, but also make the steering feel imprecise and woolly, as well as accentuating any slight front wheel imbalance. Wear in any of these steering or suspension joint will soon show up in rapid uneven tyre wear.

What was wrong with those huge twin-choke Webers then? They had been fitted to a manifold that permitted a lot of engine heat to warm up the float chambers. Had they been at the front in the cold air stream the fuel would not have boiled and vaporised as it did in heavy slow traffic. Had AR (Austin Rover,) done their job properly and let Weber engineers see the installation, the fault may never have occurred. As the fuel boiled in the float chambers into vapour the engine stalled. As the fuel then stayed as vapour, it was a hell of a job restarting the hot engine. That was the basic cause if the stalling and poor hot re-starting. It was almost cured by the fitting of a fuel return pipe to the fuel tank. This meant the fuel in the carburetter did not get too hot, as there was a flow through it, not static fuel. Slightly increasing the idle speed also helped. The fuel-return system became a standard modification to any purchaser who complained enough. The Webers had accelerator pumps fitted, a simple device that squirted a tiny amount of neat fuel into the manifold upon hard acceleration. If the driver was unaware of this they might pump away on the throttle pedal and so eventually flood the engine, which also added to the starting problems. This fuel vaporisation in town traffic queues became a problem again to many older pre-1956 M.G's, due to the current use of unleaded petrol with its high aromatic content. An instant cure was to douse the SU carburettor with water to cool it, and then later fit a heat shield and a Paxaline insulation block between the manifold and carburettor body. This was standard practice anyway after 1960 on virtually all modern cars.

After 1985 the cars were far better, and AR began to pull out of the red with other good selling versions of these models. The Austin Montego Countryman was particularly popular, (and still is today in 2001 in its nine seater form.)

In their day these cars were up to the minute in design, but as they really were a 1980's style, today they look very dated with their angular edged panels. Not as rare yet as some other M.G. saloons, it does look likely not too many will survive. The M.G. Maestro 1600 how ever, is now rare. Driving the car is a pleasure, as it is modern but no so modern as to be a bland euro-hair dryer. The cars shape is unique and easily spotted miles away. Everything comes easily to hand as the ergonomics are good, (something the Farina Magnette stylist should have studied with its hap-hazard array of untitled switches.) You soon get the seat adjusted to your needs, and starting the car is again as any modern one. Door mirrors and a rear view mirror give excellent visibility, and the huge glass area leave no blind spots. Keeping the car clean is again easy, as there is quite a lot of plastic in the outer panelling. Rear wheel arches do attract rusty edges, but injecting anti-corrosion fluid from the inside retards this. The engine bay looks good as well, with its alloy cam-cover.

The Fastest M.G. Production Saloons, (Until the Modern 'Z' Series.)
M.G. Montego and Maestro Turbo.

M.G. Montego Turbo.

In April 1985 the sports car market were given a real treat from M.G. The Montego Turbo was unveiled to the public. It followed in the footsteps of the little M.G. Metro Turbo in that it gave outstanding performance. As mentioned it really was a fast car, its performance was up with such cars like a Ford Cosworth Saphire and a BMW M3. These two were faster, but few others were. The maximum speed was 126mph, and it went from zero to 60mph in just 7.3 seconds. The turbo boosted 'O' series engine turned out 150bhp @ 5100rpm, 13bhp more than the MGB GT V8. The turbo was a Garrett AiResearch T3 unit controlled at 10psi max boost by an exhaust wastegate. There was an air-intercooler between the turbo and the sealed 'blow-through' SU HIF44 carburettor Lucas EMS with ignition and cylinder knock sensors monitored the performance. It had an automatic choke with a Bosche high-pressure fuel pump that could go up to 40psi. Fuel pressure was always kept at 5psi above the boost pressure. The carburettor was cooled by a fan, the fan controlled by a thermostat, to avoid any further fuel vaporisation problems. If you need to understand how an exhaust turbocharger works, see the M.G. Metro Turbo chapter.

Inside the basically standard engine there were exhaust valves with stellite faced seats, and sodium filled stems to lead the heat away, (as in many WW2 fighter aircraft.) Along with the 150bhp the engine gave 169 lb/ft torque at 2800 rpm driving though the Honda five steed gearbox. This gave superb acceleration. The intercooler has a flap to direct the airflow around the matrix under 45 degree 'C' so as to not suffer the flow losses in the system, above 45 degree the air is directed through the matrix to cool so improve density. The suspension was uprated with an even thicker 22mm front anti-roll bar, plus a rear anti-roll bar, gas filled dampers, larger 241mm (9.5 inch) ventilated servo assisted disc brakes and dual circuitry for the brakes split diagonally. The spoilers at the front and rear were bigger, and there was power steering with a torsion bar in the system to give the correct feel and characteristics. Standard fittings were central door locking, tilt and slide steel sun roof and heated door mirrors. After 1988 the front seat belts had height adjustment, but rear seat belts were always an extra. There was a cable operated-locking fuel cap worked by a lever by the drivers seat.

Road testers were none too happy at the handling of the first models, claiming the car had odd steering characteristics at speed in a straight line. This was later cured by Rover in 1988 along with the introduction of the similar M.G. Maestro Montego Turbo. The modification to the later cars were stiffer suspension bushes to stop the car tram-lining; a softer tyre rubber compound to reduce road surface sensitivity; increased toe-out for the front wheels; larger diameter steering wheel to reduce the over-correcting by drivers that produced 'jerky cornering'; steering ratio increased from 2.9 turns to 3.5 turns from lock to lock. Autocar were impressed with these modifications as they removed the criticisms made by them of a 1985 version they

tested. Autocar claimed the car still suffered from a lot of torque-steer when cornering under high power, but with the huge amount of power the front wheels put on the road this is hardly surprising. Expensive hydraulic CV joints said to cure this fault were not fitted.

To try to improve the image of the new M.G. Turbo models, early customers were given a presentation pack. It contained a watch, video, scarf, suede cloth and a key fob. Most things you ever wanted were already fitted to the Turbo, but there was a short list of optional extra's. These included a headlamp washer system at £99, black paint finish at £48, and a sliding steel sunroof at £280.

M.G. Maestro Turbo.

It was October 1988 at the 1988 NEC Birmingham Motor Show when we first saw a Maestro version of the Turbo. This used all the improved M.G. Montego Turbo parts, but as it was lighter it was faster in a straight line, beating many super-cars far more expensive than itself. For instance it was faster in a straight line than the Ferrari, Porsche, Lamborghini, a Lotus and an Aston Martin of the day. M.G. said the car went from zero to 60mph in just 6.7 seconds and had a terminal speed of 130mph. That was some hairy Maestro, especially if you drove it after just getting out of a fully loaded Austin Maestro 1.3. It was the introduction of the 16 valve VW Golf GTi that forced Austin Rover to speed up the introduction of their own super-sports model. The M.G. Maestro had a body kit designed by Tickfords, with side skirts, deep spoilers, a tailgate spoiler, and only 505 were ever made. The car was certainly not a Ford Escort RS Turbo clone, nor was it a small hatch GTi like the VW Golf. It was a very fast autobahn cruiser, and was slightly faster than the VW Golf GTi on acceleration. The M.G. beat the VW Golf GTi on its excellent accommodation, as it had four doors and a hatch, lots of internal room, and masses of glass area for good visibility.

Motor magazine on their road test could not reach BL's official acceleration zero to 60mph figure, their driver obtained 7.3 seconds. Even so they were hugely impressed with the M.G. Maestro Turbo. The Maestro Turbo gained from all the problems and development of the previous Montego Turbo model. Both could leave a MGBGT V8 at the traffic lights, as this 3.5 litre sports car could only manage 0-60 in 8.4 seconds. Again Motor test figures give the standing quarter mile for the Turbo as 92mph in 15.9 seconds, and a one way maximum speed of 128.8mph. Like the Montego Turbo the 'O' series engine was bolted end on to a Honda five speed, close ratio gearbox, the engine using an 8.5 to 1 compression ratio, (normal car 9 to 1.) The turbo blew through a single 1.75 inch sealed SU carburetter. The clutch was much stronger with a clamping pressure of 1147 lbs, (normal car 945 lbs.) Here BL had learnt from its M.G. Metro Turbo experience, where the standard clutch would slip under hard acceleration. Spring rates were raised by ten percent at the front and twelve per cent at the rear. Power steering was standard, but still claimed to lack feel by testers. The chassis of the car was tested to its limit fitted with the turbo engine, and the family saloon base suspension was hard worked, (though stiffened up.) The handling was

not taught enough to be a true sports saloon, but at its price it was superb value as cars with similar performance were much costlier.

On fast acceleration out of corners there was still the tugging feeling of the torque steer on both sides, but the car was safe. The close ratio Honda gearbox was fitted which was very sweet to use. The car ran on the same 10psi maximum boost of the Montego Turbo, but without the incremental boost control of the smaller M.G. Metro Turbo with its weaker Mini-based gearbox. The exhaust powered Garrett AiResearch T3 Turbocharger was hidden underneath the 1.75 inch SU blow-through carburetter, which again was sealed and supplied by a 40psi maximum, high pressure pump. The actual fuel pressure was controlled to 5psi above boost pressure. Alloy pipes led the boost air to an air-to-air intercooler, looking just like a normal radiator. Cooling the air prior to putting it through the carburetter lowered the temperature by some 60% thereby making it more dense. Denser air means a heavier charge in the cylinder and more power. Here the turbo 'O' series produced 30% more power than the normally aspirated unit. Intercooling is not new, nor is turbo charging. Many late 1940's USAF bomber aircraft had such equipment on their huge radial propeller engines. There was a heat shield between the carburettor and turbo, and the turbo and bulkhead. The carb also had its own private cooling air supply to stop fuel vaporisation, here Austin Rover had learned the lessons of the M.G. Maestro 1600. The cooling air was taken from inside the off-side wheel arch. The actual SU HIF carburetter was that from the normal Austin Montego/Maestro, but sealed so as to be able to be 'blown'. The dash pot had an 'O' ring seal on the pot cover, and on the throttle spindles; all venting was internal. Upon stopping the engine and switching off the ignition a solenoid opened the concentric integral fuel float chamber to atmosphere. Maximum boost of 10psi came in at just 2500 rpm, hence the cars phenomenal accelerative prowess. The engine itself was not uprated very much at all, nor was the gearbox. Valve springs were stiffer to permit up top 6000 engine rpm. Different pistons were fitted with fully floating gudgeon pins, and the standard aluminium-tin coated crankshaft bearing shells were now plated with lead-indium. The head had stellite faced exhaust valve seats and the stems were filled with sodium to take the heat away quickly, again something copied from WW2 piston engine practice, as on the RR Merlin and Griffon V12 piston-propeller units.

There was no oil cooler, as the turbo had been redesigned to keep heat away from the bearings. Many turbo powered cars have suffered the oil cooking into hard carbon lumps that ruin any ball race in seconds. The heat is so fierce in an exhaust powred turbo you could almost make diamonds. Detonation in these 'O' turbo powered engines was always a problem, and the ignition was mapped to run as close as possible to this as most power is gained then. The system was clever enough to control each cylinder ignition timing separately by using anti-knock sensors. Today we ask why the car was not fuel injected. The answer is with injection power would have been even greater, and the car chassis then unsafe.

The same Montego 22mm diameter front anti-roll bar was fitted, (normal M.G. had 20mm diameter,) and a 14mm thick one was fitted at the rear. Ventilated 9.5 inch disc brakes at the front, no larger than standard, fitted with anti-fade pads, and 8 inch drum rear brakes stopped the car. These were servo-assisted, as was the steering power assisted as standard on these turbo M.G's. Initially there was 2.9 turns from lock to lock, later increased to 3.5 turns. With the Tickford kit fitted, with its deeper air dams,

the cars coefficient of drag was just 3.5, only beaten by the VW Golf GTi within its market group. The Maestro Turbo was 150lb heavier than the standard M.G. Maestro 2.0Efi, but it still returned 43 mpg at 56 mph. The 169lb/f torque was produced further up the rpm range on the last few cars, at 3500 rpm. The trim and interior equipment were as the Montego Turbo.

The Turbo Maestro and Montego were true fun cars, made for driving. As the road testers proclaimed, " Fastest production M.G. ever, the newly launched Montego Turbo is a car likely to do much to restore the enthusiasts faith in the M.G. name". Autocar magazines M.G. Montego Turbo registration C200TLY certainly gave their drivers a lot of fun, though they were upset at the depreciation the car suffered on the markets in just eighteen months. Insurance was and still is very high indeed. It must be remembered that these were family saloons tuned up, not designed from the start as fast cars. Hence there were a few problems with wheel spin, torque steer, and pre-ignition. All were almost eventually cured. The MG'M' Turbo sports saloons all run their engines very close to detonation, so if anything goes out of tune the first sign will be running on after stopping it. The LC10 and LC11 use an inertia switch to sense if the car has stopped suddenly as in an accident, to switch off the high pressure fuel pump. No one wants fuel pumping out onto a hot engine in an accident. The switch can easily be reset by pressing a small button at its base. Unlike the Metro Turbo, the oil pressure switch has nothing to do with the fuel pump. (On the M.G. Metro Turbo the oil pressure switch energises the fuel pump.)

The turbo is fed by engine oil from the engines oil pump. The oil returns from the turbo to the engine sump by a pipe that is subjected to the crankcase pressure. On a worn engine with lots of piston blow by, this pipe can become difficult for the oil to flow down against this pressure. The oil will then be forced out past seals inside the turbo into the inlet and exhaust manifolds, and the result is a very smokey exhaust. To get round this keep the breather system in good condition, clean out pipes and filters that get 'mayonaised'. The oil separator in the vent system is a prime suspect, looking like a small box on the front of the engine. This needs regular washing out with petrol to dissolve the muck it catches, removed from the car of course. A more recent assembly fault seems to be the routing of the cooling hoses, they can chafe on radiator supports.

The Maestro and Montego were assembled at Cowley near Oxford, but those destined to be M.G. Maestro Turbos were shipped less front and rear bumpers over to the Tickford factory at Aston Martin/Lagonda Ltd, Tickford Street, Newport Pagnell for the extra bits. These Tickford body kits were fitted to the 505 made, of which 215 were flame red; 149 BRG; 92 white and 49 black. A total of 1500 body kits were made, then the moulds were destroyed to keep the cars 'exclusive'. At £13,500 in 1988 they were expensive compared to an Austin Maestro 1.3, but fantastic value for money when compared to the super cars of the day, of which many could be out accelerated in a straight line. According to the MGCC FWD Register, 240 Maestro Turbo's still exist.

New Car prices.

Nothing shows how inflation rages away other than looking at car prices. From 1983 to 1989 the price of the M.G's certainly rose.

Year	Model	Price.
1982	M.G. Metro 1300	£4799
1983	M.G. Metro Turbo	£5650
1983	M.G. Maestro 1600	£6245
1984	M.G. Maestro Efi	£6245
1984	M.G. Montego Efi	£8000
1987	M.G. Montego Turbo	£11,396
1989	M.G. Maestro Turbo	£13,529

LM10 & LM11 in Old Age.

Like the Metro, it is corrosion that kills these cars off. Whilst the servicing schedule says it only needs a service every 12,000 miles, cars that have had one every 6000 miles last a lot longer. If you do not change the oil and oil filter regularly, the crankshaft will begin to rumble. Glass sealing was never good, and water will find gaps if it can. As the engine is a pretty old unit, it can develop oil leaks from all the usual places like crankshaft nose seal, and drive shaft seals. Early engines with the fuel pump on the camshaft cover often leak oil from this pump body. Door seams rust on even the best cars. Of the people who brought them new, and have hung on to them, many are still living though elderly. When these one-owner pristine cars start to come onto the market as their keepers pass on, such a purchase will be a real bargain.

Four Cylinder SOHC fwd M.G. Saloons.

The 'O' Series Engine.

The 'O', 'R', & 'S' series of engines all have cast iron cylinder blocks, with alloy cylinder head and gearbox-sumps. For the older enthusiast they are full of modern metric threads with metric bolt & nuts heads. BL tried the R and S engine out, but it was not really a raging success, so the trusty 'B' series based 'O' engine was resurrected, as you will see. The Geoffrey Johnson re-designed 'O' series story is part of the MGB story, as it was from the MGB's 2 litre engine stretch the series now used in LC10 and LC11 grew from. The original 1972 'O' Series was to be produced in two versions of 75mm and 89mm stroke, both over-square. It has been in service

since 1978 in the fwd Princess 1700, (1994cc in the automatic Ital,) and 1982 Austin Ambassador but it then used the BL designed gearbox in the sump. For the front wheel drive M.G's the engine block was revised, it was recast and rotated through 180 degrees so as to use a Honda designed five-speed gearbox built under licence. The cylinder head was also revised, and recast to put the manifolds back to the rear, with better porting. It is in this modern area that the older DIY enthusiast begins to lose control. On the XPAG and 'A', 'B', and 'C' series you could fix virtually everything yourself. But can you 're-chip' a fuel injected Montego? What about the three-way catalytic converter and the oxygen sensor? The engines of modern cars look after themselves, they can 'think'. These fwd engines have electric fans that have sensors to measure water temperature and engine knocking, sensors to check ambient air temperature, and even rpm, air density, and throttle angle for the Turbo powered versions. They need modern oils, no good putting 20/50 in these close tolerance units, they need good 10/40 quality oil, often a synthetic. If you are of an age where you went to the local handy garage, and wound a handle on an oil pump to get a pint of commercial oil from a 45 gallon oil drum, and serviced your own car, then a modern fwd M.G. would astound you. The oil filter is so easy to remove and throw away, the engine oil is separate from the gearbox oil, not ' Issigonis-in the sump ' as in the Mini and Metro. Plugs screw into an alloy head, and need torque setting to be correct on their tapered seats, and to set a plug to .040", when you thought .025" a large gap. Electronic ignition is the reason for the powerful spark, with no ignition points, but a transducer (phonic sensor) on the flywheel housing, that actually counts the rpm of the flywheel, using a tiny LED and a photo-electric cell. When the correct gap at the correct degrees flashes by, POW! out goes the spark, modified to suit the rpm and load. Like the V8, only correct coolant must be used in this part-aluminium alloy/iron engine; forget and it corrodes.

The story behind the 'O' series engine began in the late 1960's. There was a dire need for a better engine than the aging 'B' series. One reason another unit was required was the exporting of the MGB to the north American market. M.G. simply could not get the poor old 1789cc 'B' series to meet the harsh Federal Pollution Regulations, Clean Air Acts. It was never designed to meet them in the first place, having first hit the road in 1953 in the M.G. 'ZA' Magnette at 1498cc. By 1972 Abingdon had about twelve MGB's running about fitted with the 'O' series as a trial. But cash was tight in BL in those days, so the 'B' series was carried on until 1980 when plans were made to finally fit it to the MGB. The 'O' series would be available in three guises, one multipoint fuel injected, or twin carburetted, the other with a Turbo. Work had actually started when BL dropped a bomb on Abingdon by closing it all down. That was the end of any improved clean MGB. The MGB's being used to develop the unit were scrapped.

The 'O' series is closely related to the old 'B' series. Things like bore and stroke, the five bearing crankshaft, connecting rods and pistons are almost identical. The block is cast iron and the head aluminium alloy so watching coolant mixtures to prevent dis-similar metal corrosion is important. That was what killed the Triumph Stag V8 engine, corroded alloy flakes blocking up the radiators, permitting the engine to over-heat and blow its head gaskets. Then the hot gasses ate away the alloy head gasket face, rendering them fit only for scrap.

That is just what the ‘O’ was, a sohc 'B' Series, that produced less power that its former ohv unit, from 1700cc initially, (later 1994cc for the automatic Marina.) In 1972 the engine design team management at British Leyland had given Geoffrey Johnson a task of designing a new ohc engine, but tied him to using the ‘B’ series block and crankshaft, (with a longer nose.) There were two versions of 75mm stroke giving 1695cc, and 89mm stroke giving 1994cc. It first saw use in 1978 in the fwd Princess Mk2 then the Morris Marina Mk2, (called an Ital,) though 12 MGB's had been trial fitted. Like the MGA Twin Cam it used the same 'B' series cylinder block, this time a 18V version. The camshaft became a jackshaft for the oil pump, and the crankshaft nose carried a toothed belt drive to the single ohc, running in a ribbed aluminium cover. This cover had the mechanical petrol pump on, and the distributor in the middle, facing to the offside. The petrol pump location became a good area for oil leaks, keeping up a good old British tradition. The oil pump had eleven lobes. It was a 17V engine. Surprise, surprise, all dimensions below the aluminium alloy cylinder head are identical to the 1798cc MGB/Marina 1.8 engine, except the bore was 84.5mm and the stroke 75.8mm in the 1700cc, and 84.5mm bore with good old 89mm stroke in the 1994cc version. It was of course, the SAME block. Valve timings were 15;45;50;10 for the 1700, and 19;41;61;15 for the 2.0 litre, with .360" lift. With a single SU HIF6 it was fitted to Morris Itals. This was re-developed into the 'E' series, a four cylinder 17H, and a six cylinder 23H engine. The six was not used as a rwd unit, it had a chain driven single ohv, SU HIF6 carb, and a 76.2mm bore with just 81.3mm stroke,..... but we are well out of related LM10/LM11 history here. Luckily the ‘O’ series was decreed by BL in 1979 to be made as an unleaded unit, hence it long life. As Maestro’s and Montego’s were exported to Switzerland and Germany in the early 1980’s, where only lead-free petrol was available. These cars did not appear to other than standard.

Like the 2ltr BMC V4 in 1964, the 'O' series MGB was never heard of again, except in a failed venture to build the MGB by Aston Martin of Newport Pagnell in 1980. The 'O' and 'E' series inward-vented via their flywheel housings, and thence into the carburetters from the camshaft case. Both are full of metric threads and bolt heads. A six cylinder 'E' series MGB sounds nice though, with 2227cc, twin SU HIF6 carbs, 125lb/ft torque, 112bhp.The 'E' was fitted to the BL Maxi, Allegro, and six cylinder fwd Princess. The 'E' series led to the 'R' and 'S' series of the M.G. Maestro, as the 'O' series was to return in an M.G. A little of the 'B' series has lasted a lot longer, as the 'O' series was developed from it, going into the later M.G. Maestro and Montego in 1994cc form. From this 'O' engine was developed the 'O2' version, which with a shorter block and other modifications was produced as the M16 engine that is used in the Rover 800 series in the 1990's. This eventually became the 'T' series Rover 820

So if the MGB had never been intended to have a new engine, both fuel injected and turbo powered, would we have ever seen a M.G. Maestro or Montego Turbo?

1933 sv Austin Twelve to 1990 twin ohc Rover 800 Series.
Side valve to Rover ‘T’ Series.

You may think that only a character like 'Mr. Bean' could see any relationship between the two above motor cars, but their DNA, when tested, shows up a remarkable lineage that relates them to each other. In the centre of the story is M.G., and the engine most often associated with this name in sports cars; found in the MGA, Z Magnettes, MGB and Farina Magnettes, the BMC 'B' Series.

M.G. played a large part in proving the 'B' series engine, and as 1489cc it first appeared in the 'ZA' Magnette in 1953. The 'Z' engine was a bit of a test bed, as once the bugs had been ironed out, the improved version went into the new 1955 MGA. The first engines only did 500 miles to the gallon of oil, if driven flat out. Improved piston rings and a full flow oil filter helped. With thicker piston rings on the cooking versions, giving 2000 miles per gallon flat out, the 1200cc and 1489cc was then bolted into millions of Austin, Morris, Wolseley, and Riley motor cars. There was a twin cam version, of 1588cc, used in the MGA of 1958. The 1961, 1600 mk 2 MGA proved the stronger 1622cc version, which then went into many hundred-thousands of Farinas and Austin/Morris commercials. The MGB was used in 1962 to prove the 1798cc version, showing three main bearings were a bit under-engineered. So, in 1964, with five main bearings this unit went on into the MGB 1800 fwd models, and millions of Morris Marinas. The MGB played another card, in that it almost had a single ohc engine fitted, developed for an improved 1978 MGB, called the 'O' series. Again M.G. was used to develop an engine that then powered many an Ital, and later M.G. Montego and Maestro versions.

The story goes like this.....In 1933 Austin introduced a twelve horsepower (hp) 'Cambridge' model into their range, using a four cylinder side valve (sv) unit, (a 12/4.) The car proved very successful, and the 10hp began to take over the 8hp saloon market. After a few years, Austin developed an overhead valve (ohv) engine, for its commercial range, of six cylinders. There were a lot of similarities to Vauxhall's lorry engine, itself a copy of an earlier Chevrolet unit. A four cylinder ohv engine was cloned from this six, and went on to power the bigger post war Austin 16hp saloons, and Austin Healey's.

After the war, Austin's needed a smaller four cylinder ohv engine, as the Austin 10hp sv was too slow. The new A40 out in 1947 sported a 1200cc ohv engine, a shrunken version of the 2,199cc Austin 16hp engine. The engine was new, but like all manufacturers costs had to be watched, so the new 1200cc A40 engine used the bore, stroke of 89.9mm, pistons, crankshaft, connecting rods, and cylinder centres of the old sv Austin 12/4. Cylinder centres are the distance the bores are apart. This meant the same pre-war machinery could be used to build the unit. In 1952 Austin introduced their tiny 803cc ohv engine, developed from the 1200cc unit. (We now call this smaller engine the 'A' series.) In 1953 a 1489cc engine was introduced, which had wider cylinder bore centres than the A40, plus many other modifications, and this was called the 'B' series. A 1200cc under bored version was also available, of this not quite all new engine. It was this 1489cc unit that the 'ZA' Magnette was first to use.

The 'B' series went on being developed, through 1588cc, 1622cc, then 1798cc, as we have seen above. A six cylinder version called the 'Blue Streak' was around in 1959, but that went to Australia. The five main bearing block arrived in 1964 and many MGB's, 1800 'Landcrabs', BMC Princess, Marinas, and Sherpa vans ran with it fitted. By 1978 the 'B' series was developed into a single overhead camshaft engine,(sohc),

and called the 'O' series. The 1994cc 'O' series was to be a chance to update the MGB, and it was to be fitted and sold as a twin carburetted engine, or fuel injected, and/or turbo-charged. The 'O' series was 'Federalised' for the USA markets, but Abingdon closed before it got off the ground. In fact only 12 MGB's were ever fitted with the 'O' series engine.

But the 'O' went into the Morris 'Ital' , as a 1700 and 1994cc unit instead. Only the cylinder head was new, the rest was good old ' improved B' series. The 'O' series did not end there, it also found its way into the later 1984-on M.G. Montego and Maestro range, as a 'O2' series 1994cc unit, both twin carburetted and/or turbo-charged. Then this 'O2' engine was shortened a little, and with a new twin ohc cylinder head it was called the 'M' series, and as the M12 it went into Rovers 1994cc 800 model range in 1990.

So there it is, 1933 Austin 112/4 to 1990 Rover 800. It is all in the DNA bar-code if you look hard enough. Did you know the gearbox in the 1989 M.G. 1300 Metro was related to the 1932 Austin Eight?

Who Brought a M.G. Maestro or Montego?

The family man or woman wanted these cars. They did not want a basic model, but a better one. Not all were M.G. enthusiasts, but many were and wanted to keep with the marque. In the Montego especially there was masses of space, so a professional person who needed a fast comfortable office would like one. The working mother running her own business could both take offspring to school and deliver goods, as well as enjoy driving the car. Like the Farina Magnettes of the 1960's, there was quite a premium to pay above the basic Austin models, but then you got a pretty nippy car for your money. Adverts of the time have catchy lines like, " Born to perform miracles", and " Driving is believing", and for the Turbo's " Montego Faster".

The turbo cars were for the real boy/girl racer, who could afford the insurance and servicing costs. They might not run to a Renault 21 Turbo in costs, but they could certainly keep up with one in this M.G.

Use of the 'O' series.

Make & Model	date introduced	Engine Code
Original MGB installation, 12 only	September 1972-ish.	development engines.
1700cc Morris Marina/ Ital	September 1978	
2.0 Morris Ital Automatic	September 1978	
Austin Princess 2, 1700 (wedge)	July 1978	
Austin Princess 2, 2000	July 1978	
Austin Ambassador 1700	July 1982	
Austin Ambassador 2000	July 1982	

Sherpa van	1980, (also as a diesel)	
Rover SD1 2000cc	1982	
Austin Montego	1984	
Austin Maestro	1984	
M.G. Montego 2.0i	1984	20H, HC, HD.
M.G. Maestro EFi	October 1984	20H, HC, HD.
M.G. Maestro 2.0i	October 1984	20H, HC, HD.
M.G. Maestro Turbo	October 1988	20HC, HF.
M.G. Montego Turbo	1985	20HC, HF.

Rover 820 series in 1987,dohc cylinder head as the M16, then improved to 'T' series. (Hence the number of twin over-head camshaft M.G. Montego's and Maestro's about.)

Books on Maestro's and Montego's.

These are pretty thin at present. TSB on 01473 212912 have two, one for each model. These are collections of road teats and articles on them. TSB126 is that for the M.G. Maestro & Turbo, TSB151 for the M.G. Montego & Turbo. Both models have their own web sites, < www.montegoweb.co.uk > and < www.maestroweb.co.uk >.

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OWNERSHIP.

Chapter Seven.
Why Own a M.G. Saloon?

Whilst the main stream of the M.G. world evolves around the many small inexpensive sports car, the larger picture must include those more exclusive models, the M.G. Sports Saloons. I say inexpensive sports cars, as that is exactly what they were when originally sold. Today some models command prices that almost touch telephone numbers. Virtually all of them used the running gear and power unit of a Morris or Austin saloon car. Post WW2, without the 'Y' type, there would never have been the TD or TF. Without the Austin A40 of 1947 there would never have been a MGA. Without a MG 'Z' Magnette the MGA would have not been half the car it was. Without an Austin A55/A60 there would never have been an MGB. Without an Austin A30/35 there would not have been a M.G. Midget. This goes for the MGC relying upon the Austin Westminster's and the later ADO 3 Litre, or a MGB GT V8 having a great deal to do with the Rover P5b and P6B, and the engine of the Range Rover. Even the little MGF relies upon a lot of hidden items lifted from the Rover Metro, including sub-frames and the 'K' series engine.

Go to any large M.G. meeting in a M.G. saloon and you will see faces turn towards your car and smile. There may be rows and rows of gleaming, beautifully restored MGB's, Midgets, MGF's and 'T' series, but the arrival of a M.G. 1300 Mk2 will catch everyone's eye. Turn up in a YA or a ZA and the public will queue up to look into the car and under the bonnet. Take along a friend in a Farina Magnette and a M.G. Metro Turbo, and join a line of other M.G. saloons, guess who will get all the attention? Will it be the 250 MGB's or the single line consisting of a couple of examples of each post war M.G. saloon? M.G. saloons are rare, and getting rarer. Name the time and date you last saw a M.G. Maestro Turbo, or an 'R' engined M.G. Maestro 1600 in daily use? When did you last see a 1964 Mk1 M.G. 1100? The ownership of an M.G. saloon is exclusive and you have a bit of M.G. history in your hands. Look upon it as a stewardship of the car, to be passed on when you 'pass on'.

Then there is the practicability of the M.G. saloons. Where else can you drive in the winter with a heater on full, but a sun roof open, windows open, and the windscreen wound open as well, other than in a 'Y' type? M.G. motoring with nice warm feet with a cool wind in the face. Along comes some rain and you close the relevant apertures, and you are then as snug as a bug in a rug. No aching neck and blue nose from the cold counter-blast of driving an open M.G. The Z series will give more performance than a Y, without an opening windscreen, but again four seats, a heater, a big boot, all add to the practicable M.G. for a family man. The huge Farina Magnettes interior and massive boot are ideal for a bigger family, or as a back up car for a rallying M.G. The 1100-1300 M.G's are old enough to have character, but young enough to cope with modern driving conditions, and yet again you can take your partner, and a friend and their partner with the four seats. The M.G. Metro is currently the ideal car to now enter the M.G. world, prices are low for such an exciting little car that can use Mini Specialists to supply spares and extra tuning parts. The bigger M.G. Maestro and Montego are still very useable, and with very good performance, and yet again four big seats in comfort. The turbo powered versions will for some time yet continue to thrill their drivers, and are destined to be very collectable.

So why own a M.G. saloon car? To be different is the answer, and to appreciate the reason 33% of all M.G's ever made were saloons. also, there is the financial aspect. Why spend £19,000 on a very nice M.G. TF that can only carry two and is very prone to being stolen, when £7000 will get you an immaculate YB? And why lash out £7500 for a tidy MGB GT that again can only carry two, when £1900 will buy a very nice M.G. Metro 1300. The M.G. Metro is probably faster than that MGB GT; and it will take four people and their luggage, *and* you can still buy spares for it from your local Motor Factor? Do you need a nice reliable, large modern M.G., look no further than the M.G. Montego. The car is the top of the range model, and currently £2500 will buy a real bargain. The fairer sex of the human race have never been fools. They would much rather travel in comfort and warmth than an open topped, cold and draughty sports car. One reason that sex outlives the more foolish risk taking one is their ability to know when they are safe and warm. Whilst the sports cars have become in the main toys of middle aged men, the saloons often attract the younger family man or woman. The sports cars only come out at meetings and the odd sunny weekend, but a saloon can be pressed into service at any time and place, in any weather. Perhaps it is the versatility of the saloon that has led to the fewer remaining survivors. A much higher percentage of the sports cars have survived, and along with their higher values far more get restored. The extra cost of restoring more motor car as

in the M.G. saloons, that end up being valued at less than half of an equivalent sports car, has kept restoration numbers very low. Restoring a ZA Magnette can easily eat up a £12,000 budget if you pay someone to do the work. The car may fetch £7000 when complete which is a good example of negative equity. That is the reason for restoring for 'love', perhaps your fathers car, or a that of a well known friend.

High labour costs on a very high labour intensive job like motor car restoration means one of two things. Either buy the best you can afford, (this especially applies to interiors,) or do most of the work yourself and farm out the difficult stuff. It is much more fun to DIY as much as possible, but do buy a book on the subject, then join a club and speak to owners FIRST.

Because of the room in a M.G. saloon, they are ideal to take on long trips, or for a holiday touring. Be prepared to find crowds of people peering into your car and that they assume you are public property. Be firm but not rude to those who go too far, as the majority will be polite and none too nosy. But then again show the car off, open the bonnet, the boot, let them sit in the drivers seat. You need to become a PR machine for the classic car movement and will soon find you enjoy it. Mind you, getting anywhere can take hours with constant interruptions at filling stations and even traffic lights. Also buy a good quality visible security lock, one that locks the steering wheel comes to mind. Older M.G's are very easy to steal, try your ignition key in a few other similar models, the chances are it will fit both the drivers door and ignition switch. Many pre-1970 M.G. saloon cars can be opened with an old suitcase key, and started with a wire run from the live battery terminal to the coil, (called hot-wiring as the dynamo recharges the battery via it, often causing the plastic covering to melt!)
Insurance cover for these M.G. saloons is often quite reasonable, but do note that with an agreed-value policy there are clauses written in you need to note. Like the one about the car being kept in a locked garage each night, or limiting you to 5,000 miles a year, or that you need to tell the company if you touring and not garaging the car every night. Also important is that such cover does not extend to driving another car with the owners permission, as many normal car policies do. Travelling in Europe may require extra cover and bonds, and your drivers licence updating to one of the EEC plastic ID card variety.

Another type of insurance is just how many spare parts do you carry in the boot? The easy answer is to join a motoring organisation, but beware those who penalise cars over a certain age. It is wise to have a tool kit with a spare set of ignition points, SU pump points, some decent wire, some stiff wire to tie up an exhaust, a foot pump, spare oil and water, a set of tyre levers, and a good spare wheel and spare tube. In fact, the very things they carried all those years ago! You will soon learn what is not and what is needed, (and most often for other peoples cars on weekend runs who 'forgot' to put a spare bit in their boot.) Perhaps carrying a spare half shaft, clutch plate and set of valves is going too far, but a spare head and rocker cover gasket would definitely be insurance. If you have one in the boot fate says you will never need it. Remember in many countries that it is now mandatory to carry a reflective triangle and a full set of spare lamp bulbs.

To really enjoy your M.G. you must join a club. There you will meet other like minded people who will have suffered the many little foibles that your car has in store

for you. You may have had it fully restored, but hidden in its DNA are many minor faults programmed to keep you busy for years to come. And then some more.

If you have only ever owned modern fuel injected, computer controlled transport, be prepared for a pretty steep learning curve about ignition point heel wear, loose tappets, leaking core plugs, oil leaks, funny noises from the boot, cross ply tyre tramlining, speedometer cable inner cables running dry and breaking, unpressurised cooling systems boiling over on high hills and mountain passes, petrol smells and leaks from cork seals on old SU's, and what a grease gun is for every 1000 miles.

Good luck.

Nostalgia.

Whilst the following was written for the open M.G. sports cars, it applies just as much to the saloons;-

"A restored motor car sitting in a museum as a static exhibit is an historic document. But it smells of dust, decay and mould, its cold stationary pistons slowly seizing into their cylinders. The acids in its oil quietly etching away the surface of the polished bearings and turning to sludge in the bottom of the sump. Such a car raises memories and sensations but looks like a ghost. On the other hand a restored running car is an active sensation raiser, it smells of hot oil, leather, petrol, rubber and grease. The engine leaks its oil onto the floor to show it is alive. When it is started up it has a soul, it is conscious and vibrating and ready to go. The bearings are polished like mirrors and oil flows through them as if a life giving blood. If you have seen something similar to the above words before, they come from Dr. Gerolamo Gavazzi when describing the restoration of two rare Italian Caproni 'Ca 100S' vintage bi-planes, suitably modified by me of course to apply to our hobby. I chose the paragraph because it entombs the very essence of running an older car by an enthusiast. There are those who will restore a car to the point that is becomes a static museum piece; they become scared of using it due to the height of perfection they have raised it to. These are often the Trailer Queens we see at shows, these cars being probably better than when new. Such a car will smell only of polish. Then we have the restorer who wants a car he can use, enjoy, drive, to live with, service and repair. This car will leak oil onto the road, it will have worn tyres, and its ohv engine will rattle and vibrate as if alive. There will be dirty grease around king-pins, brake rods, and rust showing between leaves on leaf springs. The seat leather will be shiny, worn and cracked; and there will be the smell of petrol, hot oil, grease and leather.

Both will give their owners pleasure, but which will give them more enjoyment? Once a car is restored, if not used regularly, it may not need further work for many years. The used car will consume spares and keep the suppliers alive. People will see it out and about and point at it. Its owner will find crowds round it in car parks and the model and make will be kept in the public's eye. But what of the perfect car stored in its garage? It will come out rarely, usually only on dry sunny days. Its engine will for ever sound like a sewing machine, hardly ever get fully run in. Part of the fun of owning an old car is the enjoyment you can give to others.

The other car will get regular servicing, and parts will require replacing as they wear out. How often do you find people will crowd round your car when you open the bonnet, then start the engine? The car becomes a magnet no matter how tatty it is. It is as if the noise of those worn cam followers, sloppy rocker arms and wide tappet clearances act as a large invisible net, pulling in the interested public at the show. The ticking and clattering of that valve gear is nostalgic, almost heady in its regular beating rhythm. The polished show car is forgotten, the working car is the one they want to see. The well used M.G. with its ancient JPJG or XPAG over head valve engine rattling away will be the centre piece of the show. No matter that the rocker cover gasket is leaking, or number four plug misfires every now and then, it is a living thing. It is old, in fact ancient when compared to the transport many punters will have

arrived in with multi-point fuel injection, ECU managed catalyst fitted, self adjusting hydraulic cam follower fitted, silent engines. A father will point to the M.G's engine and tell sons and daughters of the olden days of open carburetters, ignition points, condensers, adjusting valve tappet clearances, four cylinders in-line with a dry clutch and floor gear change, double-de-clutching, heel and toeing, and the offspring will stare in amazement. Some will note there is no heater in the cabin, but who needs one when there are so many gaps in the wooden floor? There are no seat belts, and no air bags to clutter up the simple dash area. One or two might take a further interest and become a future enthusiasts for the marque.

Long after the show which one will they remember, the immaculate impotent show car, or the vivid vibrating non-too-clean, well used one? The one that had its bonnet open to show the oil splatter on the bonnet underside? Will they remember the smells and aromas of a working old car, that hot oil and grease, leather and rubber, and a waft of petroleum? Will they like many of us, suffer the same terrible urge to drive like Toad of Toad Hall does in ' Wind in the Willows'? Poop-Poop."

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Free download of a similar book on M.G. Engines, 1935-1998 is on
< www.mgcars.org.uk/engine/mgenginehistory.rtf >

Neil Cairns.

Other Books to Read.

MG Saloon Cars, Aunders Clausager by Bay View Books, ISBN 1 901432 06 8
MG The Untold Story, David Knowles by Windrowe & Green, ISBN 1 85915 051 9
MG Y Types, Saloons & Tourers, by MRP, ISBN 0 947981 31 4
Let Their be 'Y's, David Lawrence, by Haddons Images, ISBN 0 620 21832 0
Gerald Palmer, Auto Architect , by Magna Press, ISBN 0 9519423 6 0

List of Contents by Chapter.

Glossary.

BHP	brake horse power, the power output of the engine
HP	horse power under the old RAC formulae
FWD	front wheel drive
RWD	rear wheel drive
BMC	British Motor Corporation
BL	British Leyland
BLMC	British Leyland Motor Corporation
DO	Morris Design Office, prefix to a drawing
ADO	Austin Design Office, prefix to a design number
LM	Leyland Motors, prefix to a design number
LC	Leyland Cars, prefix to a design number
ohv	over head valve engine type
sv	side valve engine type
sohc	single overhead camshaft engine type
dohc	double overhead camshaft engine type
EP	extreme pressure oil type, used in gearboxes
SAE	Society of Automobile Engineers, (USA,) used as prefix to oil grades
A/F	across the flat size of nut or bolt heads
BSF	British Standard Fine thread
BSW	British Standard Whitworth thread
UNC	Unified Coarse thread, (ANC in the USA,)
UNF	Unified Fine thread, (ANF in the USA,)
ifs	independent front suspension

M.G. Saloon Web sites;-

'Y' Type', < www.mgytypres.org >
Farina < www.mgcars.org.uk/farina >
Metro, Montego, Maestro, < www.mgcars.org.uk/mgm/ >
ZA/ZB, < www.magnette.org >