

The MGB & Morris Marina Engine Story.

(Do they use the same engine)By Neil Cairns

It is not a very well known fact, and often kept quiet by the manufacturers, that an engine is often used in more than one application. When British Railways Western Region were looking for a good engine to use in the diesel powered locomotives in 1955, they cast their net very wide. The huge diesel eventually selected to go into the Brush 'Falcon', (number D0280 for anoraks,) began its life as a 12 cylinder Maybach engine in 1923, powering, of all things, Zeppelin airships. The 410hp (RAC rating,) engine had six valves per cylinder, is nothing new?

When the MGB was introduced in 1962, M.G. had been working hard on the bigger 1798cc 'B' series engine, required because the MGA 1600 Mk2 1622cc unit would have been hard worked to move the rather heavy new sports car. As was often the case, M.G. were being used to try out a 'new engine', in a similar fashion to the 1953 M.G. ZA Magnette's contribution to the 1955 MGA 1500 itself. In this case it was for the large Austin 1800 ADO17 front wheel drive saloon car the proven 1798cc was destined for. The MGB improved the '1800' by adding two more main bearings and a stronger cylinder block by October 1964, when the ADO17 was introduced to the public.

Both the MGB and the Austin 1800 gained from each other's modifications for a while. But by 1970 the machines that made the MGBs engines were very old, and worn. The MGB and 1800 were soon to have another saloon stablemate within BLMC, and it would use a similar engine. The investment in the new machines to produce the engine for the new 'Morris Marina 1.8' also meant the MGB could gain useful savings and longer life, with the larger production. To some people comparing a MGB sports car, to a Morris Marina saloon, is as like an airship to a railway engine. The 1800 ADO17 had not been a great success, it was too big, and the Ford Cortina with its smaller engines, had given the Austin a very rough time indeed.

The MGB and Marina engines were not initially produced to the same specifications, and there were some important differences. On introduction in April 1971, the Marina 1.8 had a 1798cc BMC 'B' series engine, but with a Triumph gearbox, (the same one the later M.G. Midget 1500 used.) There were quite a number of variations of the Morris Marina, some used a 1098cc 'A' series, (the 1.1 van,) others the 1275cc 'A' series, (Marina 1.3.) Top of the range models used either a single carb 1798cc '18V' engine, or a twin SU carb 1798cc '18V' engine. Most 18V engines have the casting number '12H3503'. That used in the Marina 1.8TC, built from 1971 to September 1978, will certainly interest the MGB owner. It was virtually identical, with the same power and torque. (The Marina 1.8TC could not go round bends though, but that is another story.)

The MGB used its own engine until October 1971, when the Marina '18V' cylinder block was fed into the production line. The Marina cylinderhead '12H4735' differed from the MGB's 'pre-1970 '12H1326', and the 1970 to 1975 '12H2708', in its oil feed to the rockers. The core had been modified in the internal cooling of the exhaust valve seats, requiring the oil drilling to be moved, or it broke through. This meant the rocker pillar that led the oil up to the hollow rocker shaft has an off-set oil feed. There is a little foot cast on the base of the pillar; fitting the normal early MGB one will mean the oil feed is cut off. By October 1975 the MGB was using the same cylinder head anyway, so only earlier engines need the correct pillar. Valves and porting were identical on both cylinder heads, even the single valve springs and the 1.562 dia. inlet valve.

Back in 1970, with the fitting of a larger inlet valve of 1.625" dia, and the necessary offsetting of the combustion chamber to the cylinder bore, the 18V blocks had to have a small 'scallop' cut out to clear the valves' head. The MGB was using a '12H2708' head casting at that time. Not only the MGB and Marina used the 18V block, so did the 1798cc Sherpa van, in both petrol and diesel form. The Austin 1800 used the 18H version, as it is front wheel driven. ('V' means vertical as in rear wheel drive, 'H' means horizontal as in front wheel drive, as seen on the blue-print.)

What else differed between the MGB and the Marina 1.8TC? Well, as mentioned, they both have completely different gearboxes, one a Triumph unit, the other a much stronger one from the commercial Sherpa. So rear engine plates are different, as are flywheels and clutches. This includes the spigot bearing in the rear of the crankshaft, the MGB's is much larger. Conversely the Marina's flywheel is massive, seen in the huge bell-housing. The front of the MGBs engine is supported on the front engine plate. The Marina is supported on mountings bolted centrally to each side of the cylinder block. So front plates are different, BUT the MGB front and rear engine plate will easily bolt to the Marina block. Remember, the cylinder blocks are really the same casting, with the same bolt drillings. The Marina used a single row timing chain in all its applications. The MGB uses a twin-row, much stronger chain with suitable sprockets. Because of the huge cast iron Triumph gearbox the Marina has, there are two strong lugs welded to the base of the Marina's sump, that bolt to the bottom of its improved Triumph Herald gearbox. This is to stiffen up the whole power unit/gearbox assembly.

The Austin 1800 18H engine could be used in either the Morris or M.G. application, but there is no pressed steel sump, or oil pump pick up. The oil is picked up via a drilling in the Austin's gearbox casting. Worth looking for is the later Austin 1800S engine, the cylinder head is better than the MGB's, with a shallow combustion chamber giving a higher compression, and bigger inlet valves. The Marina was sold in the USA as an Austin Marina, Morris being an unknown make there. The export 1.8TC version went through the same federalisation as the poor MGB had to, and lost just as much power.

Having gone this far, MGB owners may look out for a cheap Marina unit. The carburettors on the Marina 1800TC are identical to the MGB, as are the manifolds. A few hours with a spanner swapping bits over, some red paint, and a cheap MGB engine is the result you think?

Alas, not quite. The Marina was a cheap family saloon. Costs were kept down on all items, one of which is the Marina's crankshaft, in both the 1275cc and 1798cc engines. They are not strong forged EN16 carbon steel as in the M.G.s. They are flow-cast, spheroidal graphite cast iron; not as strong, but half the price. Just to look at them shows they are castings, not forgings, by inspecting the surface finish. So beware of what seems to be a gift horse, you must look into its mouth, or its sump in this case. Externally it is hard to see the difference, especially if the end plates and mountings have been removed from the block sides. A yellow plastic multi-blade fan is a Marina item. If you are tempted to use a Marina block, ensure you fit the mounting bolts, as sometimes the drilling breaks through into the crankcase, and you end up with a super oil leak. The bread and butter single-carb Marina 1.8 has the soft saloon camshaft as well, but the 1800TC uses the better MGB cam.

Morris Marina engines certainly did not power any airships, but they did move millions of saloon cars. Make sure their crankshaft does not wreck your engine. M.G. did not let BL cheapen the MGB engine, it was as strong as an ox to the end.