



SALES PROMOTION

1st July, 1958.

NEW TWIN OVERHEAD CAMSHAFT ENGINE

For The Famous M.G.A.

Introduction

Already a brilliant performer with its standard 1.5 litre o.h.v. engine of 72 b.h.p. at 5,500 r.p.m., the M.G.A. is now to be offered with an optional twin overhead camshaft engine of 1589 cc. developing 108 b.h.p. at 6,700 r.p.m. Even by M.G. standards this is something pretty big, especially as the new engine achieves this output without supercharging. Maximum recommended engine speed is 7,000 r.p.m., but valve-crash does not set in until 7,600.

Needless to say the car's performance with this new engine is unequalled by any other current model of similar capacity or price. Dunlop disc brakes, front and rear, give the controlled stopping power commensurate with the improved performance.

The overall performance and behaviour of this car is so much better than anything else available even at a much higher price, that a wide demand is confidently expected. Potential purchasers are, however, likely to be fairly technical and for these the information on the following pages should prove helpful to the M.G.A. Salesman.

Design and Development

Power developed by an engine is dependent on the amount of explosive mixture that can be fed into the cylinders above the descending pistons. Thus for maximum power the gases must sweep into and out of the cylinder bores with the very minimum of restriction. The design of cylinder head that best achieves this is that which offers a hemispherical combustion chamber with inlet and exhaust valves directly over the piston.

It was with such thoughts in mind that M.G. engineers considered, over three years ago, how they could boost the power of the existing four cylinder 1.5 litre engine now used so extensively throughout B.M.C. Although the original intention was to adapt what is now known as the 'B' series engine, the modifications found necessary during development proved so extensive that today it is more true to describe the twin o.h.v. engine as an entirely new unit since only certain features of the block resemble the current standard 'B' series production.

The cylinder head is of aluminium with cast-in valve seat inserts. The combustion chamber is hemispherical and both inlet and exhaust ports are individual to each cylinder and so shaped and positioned as to give complete freedom of passage to the gases. The twin overhead camshafts are chain driven and double valve springs are employed.

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The counterbalanced crankshaft, connecting rods (with fully floating little ends) and pistons are all specially designed, as is the large capacity cast aluminium sump with cooling fins. Even the cooling circulation is different since the outlet of the centrifugal pump is coupled by external pipe direct to the rear of the cylinder head.

One of the first experimental versions of this new engine was used in the T.T. race of Dundrod in the Autumn of 1955. Persistent misfiring led to a half distance withdrawal, but back home work on the engine quietly continued. Two years later, a supercharged version, driven by Stirling Moss at Utah achieved 246 m.p.h. Still development work continued and it is only now, when the M.G. engineers are fully satisfied with the engine, that it is being offered to the public.

It cannot be offered for installation in existing M.G.A.'s as the modifications required are sufficiently extensive to require the closest supervision and control by the factory. M.G.A.'s built at the factory with the new engine will have Dunlop disc brakes on all four wheels. This has necessitated the use of new centre lock disc wheels which alone give the required clearance for the rather bulky disc brake mechanism.

Data and Performance Comparison

	<u>Twin O.H.C.</u>	<u>Basic M.G.A.</u>
Capacity	1589 cc.	1489 cc.
Bore and Stroke	2.96 in. x 3.5 in.	2.875 in. x 3.5 in.
Compression Ratio	9.9 : 1	8.3 : 1
Maximum B.H.P.	<u>108 at 6700 r.p.m.</u>	72 at 5500 r.p.m.
Maximum Torque	105 lbs. ft. at 4500 r.p.m.	80 lbs. ft. at 3800 r.p.m.
B.M.E.P.	163 lbs. ft. at 4500 r.p.m.	133 lbs. ft. at 3800 r.p.m.
Maximum R.P.M.	7,000	6,000
Maximum Speed	120 m.p.h. †	103.3 m.p.h. *
Acceleration Thro' Gears		
0 - 30 m.p.h.	3.75	5.0 secs.
0 - 50 m.p.h.	8.95	10.8 secs.
0 - 70 m.p.h.	14.55	21.4 secs.
0 - 80 m.p.h.	18.0	32.1 secs.
0 - 90 m.p.h.	24.55	-
0 - 100 m.p.h.	30.4	-
0 - 110 m.p.h.	37.7	-



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Maximum Speed in Gears

1st	33 m.p.h.	26 m.p.h.
2nd	54 m.p.h.	42 m.p.h.
3rd	86 m.p.h.	68 m.p.h.

Overall Fuel Consumption

23 to 28 m.p.g.

27 to 31 m.p.g.

† M.G.A. Road Test
Department - Prototype
Test Results

* Vide "Motor" M.G.A. Coupe
7.8.57