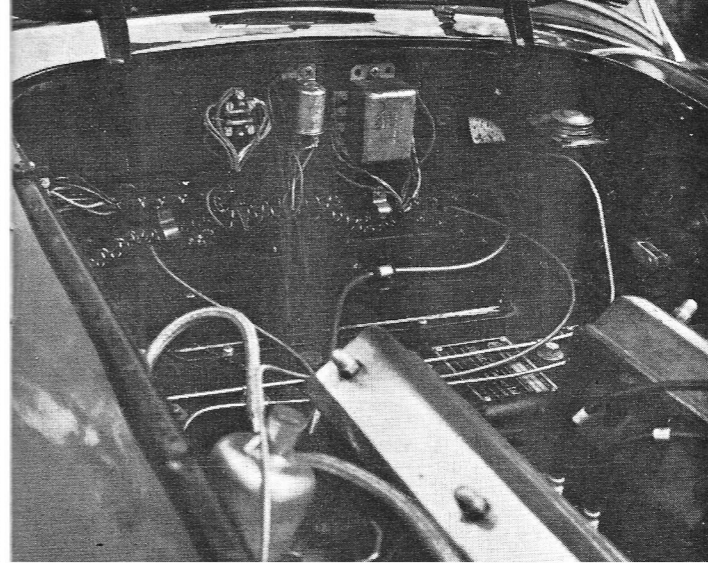
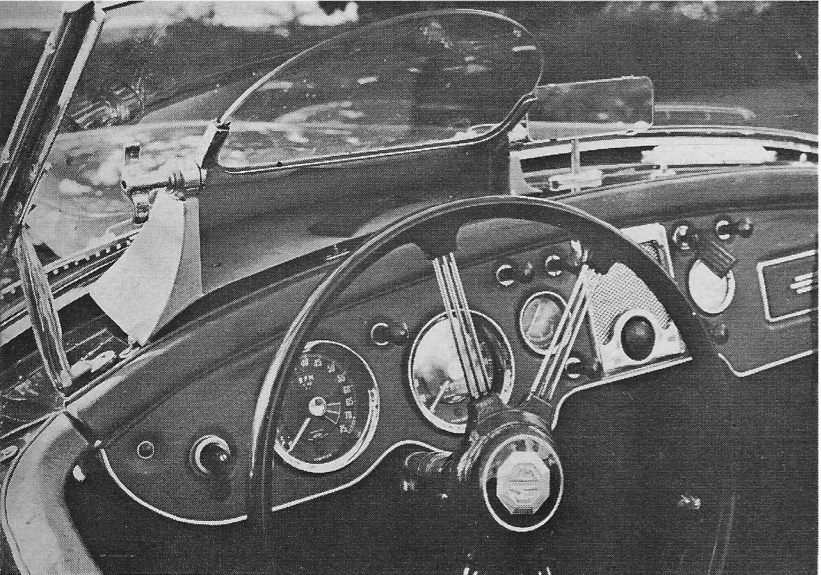


9
DUAL-PURPOSE
SPORTS CARS
FOR 1959



Photos by Don Typond

- 1 Use of a racing type windscreen in place of the full size windshield removes both weight and frontal area. It should be considered a must if full potential of the car is wanted.
- 2 Tendency to lean on hard cornering is still there but is considerably reduced from that of showroom model by stiffening the shock absorbers and raising spring rate.
- 3 Empty space between firewall and engine was left by removal of the heater. Any and all unnecessary equipment should be removed. Up to 200 lbs. can be lost this way.
- 4 Racing tires are another "must" item for the MGA if the full potential of the car is to be realized. These Dunlop R-3 skins made lap difference of almost a full second.



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MGA

3

TWIN CAM



WHILE most of our nine-car group of dual purpose cars were picked for their past performance as well as their potential for the '59 season, the MGA Twin Cam was chosen for potential alone—it has no past performance.

The one we used for this report is the same one tested previously (*SCI, October, 1958*) but with some significant changes including one we had not expected to make. In taking the car to the course, it was equipped, naturally, with a standard muffler. This is a piece of equipment that really muffles; there isn't the sign of a drone. Included in a kit of parts was a small extension, the length and inside diameter of the muffler. We never got to use it—in order to keep the noise from a few of the surrounding populace down we had, perforce, to keep the screaming rap of the Twin Cam in abeyance.

On the plus side, this time out, were two changes made by Hambro Automotive Corporation at our behest. A true competition clutch assembly had been installed and Dunlop R-3 racing tires had been mounted all around. The effect was immediately apparent even at the curbside at Hambro. This time when we took off there was no gentle bogging down. There was, instead, a satisfying chirp of rubber and an almost instantaneous transition from stasis to motion. The car still had the close ratio optional gearbox and the 4.55 rear axle gears. Except for a slightly

more "sporting" feel and a slightly stiffer ride handed out by the racing rubber the hundred miles to Lime Rock was done as if in an ordinary MGA, the only clue to the fact that this was *not* an ordinary MGA being the seemingly endless revs the engine was willing to turn up.

At the track we unloaded eight quarts of Castrol R, luggage, tools, and impedimenta, then set out to circulate. Two things were apparent; the car had the same lean as before but the racing tires enhanced driftability and did it without peeling down. So far so good. The car came off the corners much better than before and got up to speed on the straight quicker. Where we had previously been able to hit only a little over 90 mph before the shut-off we now could hit 95. Lap times were down, without pushing, to the point we had reached before by hurrying—1:19.5.

Next we resorted to an old stock car trick—since we didn't have the forthcoming competition springs, we had to. Dropping into a local garage we picked up a set of four contoured rubber blocks, jacked the car up and inserted the blocks between the coils midway up the spring. Result: stiffer springs. This had two effects: the car didn't lean as much and the increased rate was too quick for the shock absorbers to handle adequately—the front wheels hopped abominably on hard braking.

Since we didn't have stiffer shocks we

had a problem. This one was solved by another trick. Remember those cans of Castrol R? Castrol R is a vegetable based oil and does not attack rubber; as such it can be used in shock absorbers. Regular shock absorber fluid is the equivalent of 20W oil, Castrol is rated at 40. Voila! We drained the standard fluid and replaced it with R. Result: shocks that could handle the increased spring rate. These are rough-and-ready methods we will admit but they serve to show what the Sunday racer can do to keep up with the prepared competition when time and material is short. They should not be resorted to when the proper material can be had but they will work in an emergency such as this one.

The result of these quick measures gave us a car that would go much more quickly through a corner and, to us, much more comfortably. Lap times, still without undue hurry got lower by a half second and by pushing a bit by another half.

Mind you, all this time we were running full street equipment—bumpers, full grille, muffler, floor mats, windshield, top and tonneau cover. The sum total of this impedimenta in terms of dead weight is more than 200 lbs. It was like carrying an extra passenger and a large, rotund one at that, to say nothing of the air drag caused by the full windshield.

This, of course, is true of any MGA, not the Twin Cam alone. John Thornley once pointed out that the philosophy of the

MG Car Company is that their cars are expected to take a beating, that the MG begets enthusiasm to amount to over exuberance. It is expected that they will be haybaled, will hit curbs and other immovable objects from time to time. In consequence they are built, to put it mildly, with a certain amount of solidity. For this reason any weight that can be removed is a plus factor as far as competition preparation is concerned. In the case of the Twin Cam it is vital for the T-C is one of those cars in which any change can be immediately felt in the seat of the driver's pants. The addition or subtraction of 200 lbs. in the weight department is much like the addition or subtraction of two cylinders in the engine room.

As far as the engine room goes, at this point there is little one can do or need do except for the usual cleaning and matching in the long ports. In any production car, the engine is put together with production tolerances which must of necessity be somewhat larger than that found in custom racing equipment. So it is with the Twin Cam. The ports are clean but could use the attention of a careful man and a piece of emery cloth. Manifold-to-head mating points can use alignment. As the car comes delivered, two studs protrude into the intake manifold at the carburetor inlets (necessitating removal of carbs before the manifold can be taken off) and these studs are secured by large

hex nuts. It might be an idea for the careful tuner to replace these studs and nuts with cap screws or Allen screws which take up considerably less room. As far as the exhaust goes nothing need be done except for one small item. The factory has supplied the car with its classic 4-into-2, 2-into-1 tuned exhaust header developed for the XPAG engine. To make the car "streetable" they've capped the system with a large very quiet muffler as mentioned earlier which rather effectively destroys the tuning resonances inherent in the system. This means little on the street but on the track it is definitely a hindrance. Our test car was as we said, equipped with a short extension to take the place of the rear-mounted muffler and on the one occasion that we had a chance to use it, this extension made a definite difference. However, there was no attempt made to find the precisely proper length. A little time on the chassis dyno with a sliding pipe to check on the proper length of the final pipe would be worth while. If past practice on the XPAG and XPEG holds good for the Twin Cam, the outlet for competition should fall somewhere just forward of the rear wheel. On the other hand, some DOHC engines seem to work best with a full length pipe designed to increase outlet velocity to its fullest. Only the dyno will tell the tale here.

There is one more point that the would-be Twin Cam racer should know.

All MGAs are equipped with the B-type BMC rear end. This unit has a gear cone that contains the ring and pinion together with all bearings and carriers as an assembled entity. So it is with the Twin Cam. This unit can be changed in little more than thirty minutes if another assembled cone is at hand. If one has an extra \$200 in the racing budget two of these in different optional ratios can be carried along and changed at the course to suit local conditions. In the case of the Twin Cam and its seemingly inexhaustible rev limit a good choice would be cones in 4.8 to 1 and 4.5 or 4.3 to 1 depending on what is already in the car. These three ratios would give the correct choice for any course from long airports to short twisty road circuits.

Sydney Enever and crew are hard at work right now on feasible factory mods for the Twin Cam. One sure point is that they will take advantage of the tuned exhaust system to use considerably more carburetion. As a matter of fact the intake manifold has carburetor flanges already set up to take a much bigger carburetor size. The rush is on to get these options into production in time for legalizing for 1959. There is no doubt that the Twin Cam will be heard from in the coming season.

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