



LINES of the twin-cam M.G.A are unchanged, but a distinctive feature is the fitting of centre-lock perforated disc wheels as standard.

M.G. INTRODUCE THE "TWIN-CAM"

100 m.p.h.-Plus Version of the "A" with 1,589 c.c. 2-o.h.c. Engine Developing 108 b.h.p. and Dunlop Disc Brakes All Round for £180 (plus P.T.) Extra

At last the M.G. Car Co., Ltd., has announced production of the long-rumoured and long-awaited 2-o.h.c. version of the A-type; official type designation of the new model is the M.G.A. "Twin-Cam", and it supplements, not replaces the existing push-rod car. It is a direct descendant of EX. 182, which ran at Le Mans in 1955 and was the prototype for the M.G.A. For the Dundrod T.T. race in September of that year, a B.M.C. Series-B engine was fitted with a twin-overhead camshaft head. The power-unit was gradually developed separately, and was fitted to EX. 179 which did a spate of record-breaking at Utah in 1956, including 200 miles at 154.30 m.p.h., and 10 miles at 170.15 m.p.h.

Next stop was a Shorrock-supercharged version of the 1,500 c.c. engine which was installed in a new streamlined car (EX. 181). Driven by Stirling Moss in August, 1957, the flying kilometre was covered at 245.64 m.p.h. The 2-o.h.c. engine developed 290 b.h.p. at 7,300 r.p.m., and had twin, horizontal S.U. carburetters.

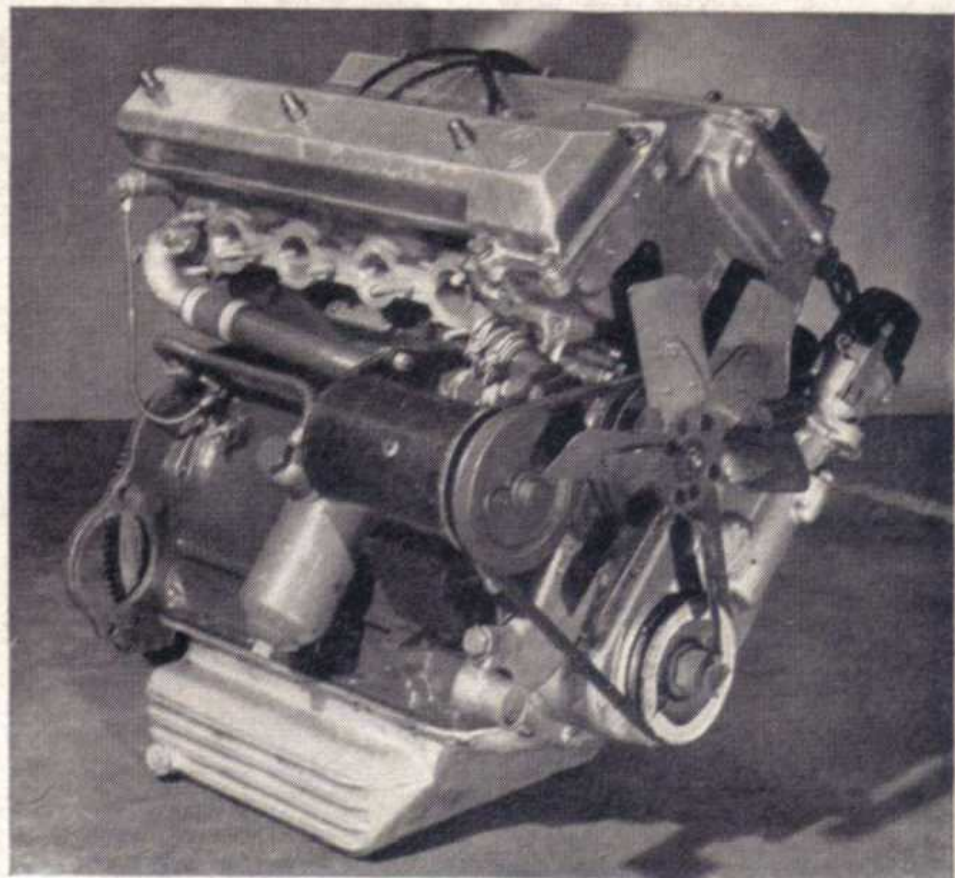
The new power unit is basically the Series B, which is used on a variety of B.M.C. productions. To take full advantage of the F.I.A. 1,600 c.c. category, bore and stroke are 75.406 mm. and 88.9 mm., giving a total cubic capacity of 1,589. A great deal of attention has been paid to the combustion chambers, particularly in the streamlining of the ports. The cylinder head itself is of aluminium-alloy, the two camshafts operating the valves at an angle of 80 degrees. In effect, the drive for the Duplex roller chain takes the place of the camshaft on the pushrod engine, the half-speed shaft being gear driven from the crankshaft.

A new, and more massive crankshaft is fitted to accept the greatly increased power-output of the new engine, the Vandervell steel-backed, lead-indium big-end bearings being fitted to journals

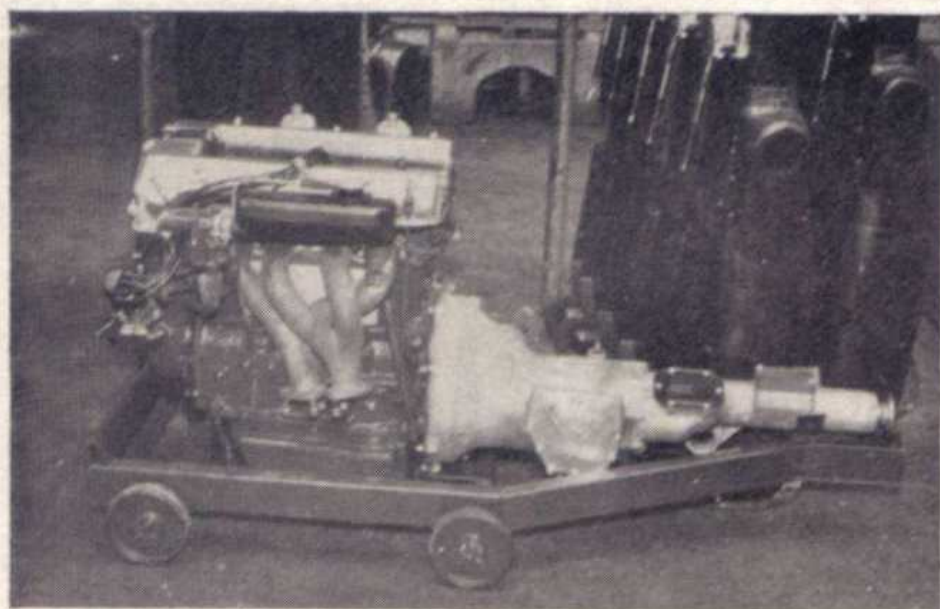
of substantial diameter. The crankshaft is fully balanced, statically and dynamically; it is supported in three large diameter Vandervell bearings of similar material to those used on the big-ends. New-pattern connecting rods are employed, and the four-ring pistons have

full-floating gudgeon pins.

The camshafts are supported in three renewable, white-metal bearings, and operate the valves through inverted bucket-type tappets. Compression ratio is 9.9 to 1, the power-output being 97 b.h.p. at 5,000 r.p.m. and 108 b.h.p. at



POWER UNIT: Capacity has been increased to nearly 1,600 c.c., in order to take advantage of current F.I.A. capacity classes. The twin camshafts have neat aluminium covers.



ENGINE is in unit with the excellent M.G.A. gearbox with remote control lever. Note the new manifold for the large diameter dual exhaust system.

6,700 r.p.m. Abingdon engineers give 7,000 r.p.m. as the recommended maximum. Lubrication is of the wet-sump type, the oil being circulated by an eccentric rotor pump via an external full-flow filter. Cooling is by water pump and fan, with thermostatic control.

Twin H6 S.U. carburettors are employed; these are of the semi-down-draught type with separate air-cleaners. They draw fuel via a rear-located S.U. pump, from a 10-gallon tank.

A 4.3 to 1 axle ratio is fitted as standard, which, with 5.90-15 tyres should give a maximum speed of about 120 m.p.h. The manufacturers claim acceleration figures of the order of 0-100 m.p.h. in 30-31 secs., and 0-110 m.p.h. in 38 secs.

Dunlop caliper-type disc brakes are fitted all round, operated hydraulically but without a Servo system. They are identical to those developed for sports-racing cars. A departure for M.G. is the use of centre-lock Dunlop disc wheels, also developed by racing.

In other respects, the specification of the M.G.A. closely follows the existing "A". Several "extras" are listed, mainly for competition work. These include special seats for long-distance events, constructed on tubular frames, a plastic windscreen of standard width, but 6½ ins. deep, a wood-rimmed steering wheel, and oil cooler. A selection of alternative axle and gear ratios is also available, and it is the intention of the manufacturers to introduce advice on tuning stages.

Undoubtedly the M.G.A. "Twin-Cam" will fulfil a long-felt want for the type of machine which can be used for high-speed touring or for competition work. It should also do well in the 1,600 c.c. Grand Touring category in International rallies, as well as in production-car sports-car racing. Naturally with its semi-elliptic rear suspension, and robust frame it will be unable to compete with modern, ultra-lightweight sports-racing cars in its class, but it is not intended to do so—at least in its present form.

The car offers excellent value, the cost in U.K. (including P.T.), being £1,265 17s. In hardtop coupé form, it is priced at £1,357 7s.

The manufacturers stress that it is not practical to convert existing M.G.As to

"Twin-cam" specifications, nor can disc brakes be fitted in place of the drum type.

SPECIFICATION

Engine: Four cylinders; bore 75.406 mm. (2.969 ins.), stroke 88.9 mm. (3.5 ins.), cubic capacity 1,589 c.c. (96.906 cu. ins.); compression ratio 9.9:1, developing 107 brake-horse-power at 6,500 r.p.m. Twin overhead camshaft driven by Duplex roller chain operating inverted bucket tappets and running in three renewable white metal bearings; three-bearing counter-balanced crankshaft with renewable steel-backed lead-indium bearing liners; aluminium-alloy pistons with one scraper and three compression rings; fully floating gudgeon pins; connecting rods with renewable steel-backed lead-indium bearings; aluminium-alloy cylinder head, forced-feed lubrication by eccentric rotor pump; renewable-element external full-flow oil filter. Cooling by water pump and fan with thermostatic control.

Fuel System: Twin S.U. Type H6 semi-down-draught carburetors with individual air cleaners. Rear-mounted S.U. large-capacity electric fuel pump. Fuel tank capacity 10 Imperial gallons (45.4 litres, 12 U.S. gallons). Fuel gauge mounted on fascia.

Electrical Equipment: Ignition by 12-volt oil-filled coil and fully automatic distributor with vacuum and centrifugal advance control; suppressor equipment; belt-driven dynamo; compressed voltage control; single-pole positive earth wiring system; dash-controlled starter switch; twin-blade self-parking windshield wipers; twin stop-tail lamps with flashing direction indicators and rear reflector equipment; windtone horn; double dipping headlights with prefocused bulbs and block lenses; foot-operated dipping switch; separate sidelamps; twin Lucas batteries mounted in balanced positions behind seats.

Chassis: Exceptionally sturdy box-section frame, specially braced for torsional rigidity; rear end of chassis swept over rear axle.

Transmission: Hydraulically operated single dry-plate Borg & Beck clutch, 8 ins. (20 cms.) diameter. Four speeds and reverse; synchromesh on second, third, and fourth; overall gear ratios: first 15.652, second 9.520, third 5.908, top 4.3, reverse 20.468. Central remote-control gear change. Tubular propeller shaft with needle-bearing universal joints.

Rear Axle: Three-quarter-floating rear axle with hypoid final reduction gears; ratio 4.3:1.

Suspension: Semi-elliptic rear springs controlled by hydraulic dampers. Independent front suspension by coil springs and wishbone-type links controlled by hydraulic dampers.

Steering: Direct rack-and-pinion steering with large-diameter spring-spoke clear-view steering-wheel. Left- or right-hand steering according to market (left-hand drive not available in the United Kingdom).

Brakes: Dunlop caliper-type disc brakes operated hydraulically on all four wheels by a foot-operated master cylinder. The separate parking hand brake mounted on the rear calipers is operated mechanically on the rear discs by a central hand brake lever with press-button ratchet control.

Tyres and Wheels: Dunlop 5.90-15 Roadspeed tyres with tubes. The disc wheels are centre-lock type ("knock-on").

Instruments: Large speedometer with dead-beat reading and headlamp high-beam warning lamp; large revolution indicator with ignition warning light; oil pressure gauge; water temperature gauge; fuel indicator gauge; ignition switch; rheostat panel light switch; mixture control; map-reading light; direction indicator switch and warning light; lighting switch.

Body Details: Open 2-seater streamlined body with enclosed luggage boot; adjustable bucket-type seats, leather upholstery with leathercloth on non-wearing parts; door pockets; safety-glass windshield; folding waterproof hood with large rear transparent panels; two detachable side-screens with combined stowage and hood cover; driving mirror centrally situated; spare wheel, tools, jack, and starting handle housed in rear boot; quick-release petrol filler cap; remote-control locks for bonnet and luggage boot lid; one-piece bonnet hinged at rear, giving easy access to engine unit.

TRYING THE NEW M.G.

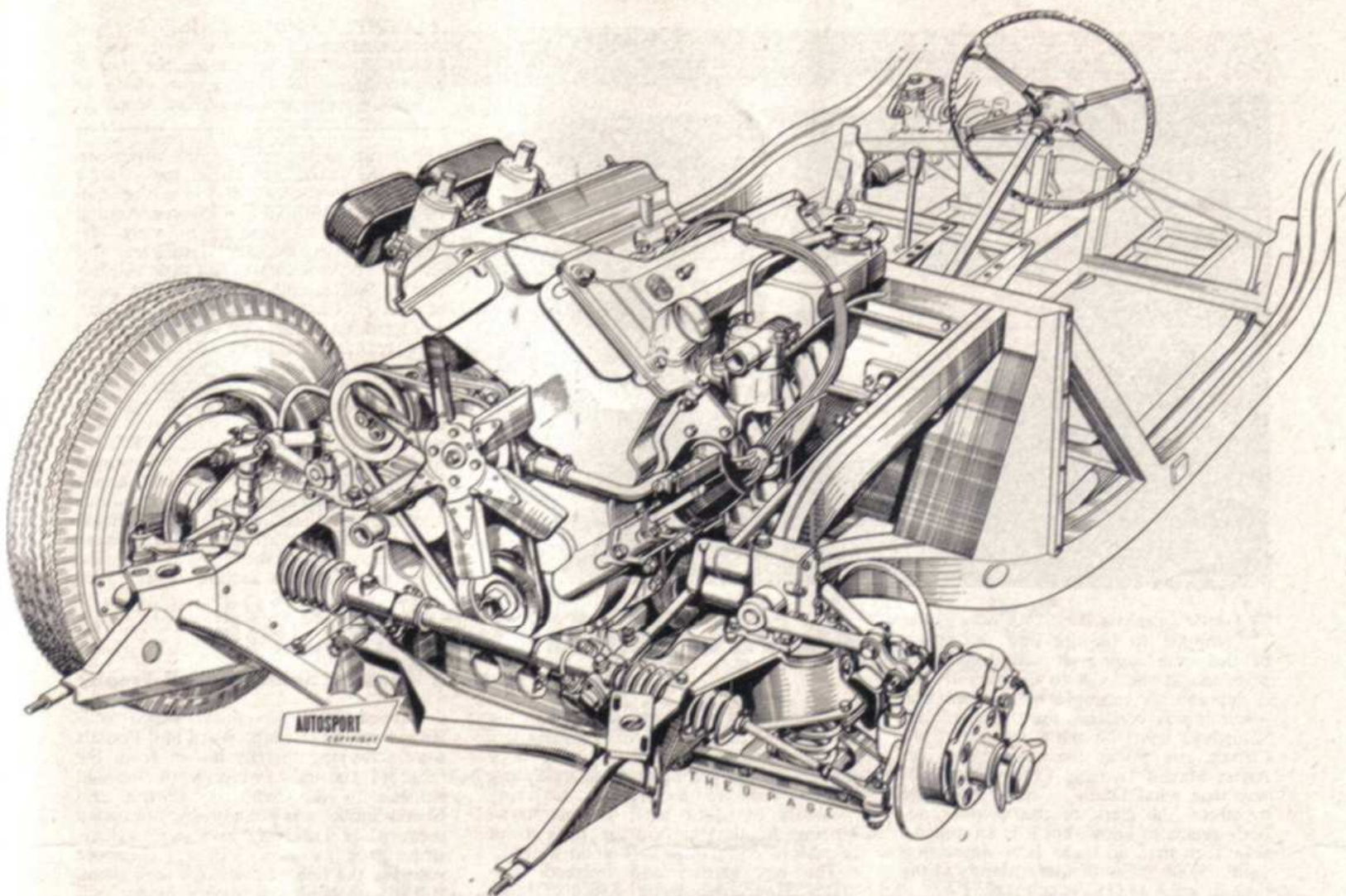
OPPORTUNITY was given at the B.M.C. demonstration day on Monday, to try out the new M.G.A. "Twin Cam". This entailed a few laps at racing speeds on the F.V.P.E. track at Chobham, and also on the "snake" mountain circuit. The engine revs. freely, and 110 m.p.h. was reached on the straight leading to the banked turn. At first the machine had a tendency to over-steer, which John Bolster also found. However, this was corrected by putting up the tyre pressures to about 28 lb. per sq. in.

The difference was very marked, the handling qualities being improved out of all recognition. Braking was so good as to be almost sensational, the Dunlop disc units giving the best stopping power that any M.G. has ever possessed. Strangely enough, despite the absence of any form of servo-assistance, very little pedal pressure was required. These brakes give one the necessary confidence for driving such a rapid little machine. Despite the greatly increased power over the standard push-rod unit, there was no evidence of rear axle judder, and the clutch was smooth in operation, without any tendency to slip even when "straight-through" changes were attempted. The gearbox, as on the "A", is a sheer delight.

The manufacturers' claims of 120 m.p.h. may well be justified, but, of course, there was no opportunity to reach maximum speed on the rather tight circuit employed. On several occasions the engine ran up to 7,000 r.p.m. in "third", without showing any apparent ill-effects, and with a complete absence of valve crash. It is mechanically noisier than the push-rod unit, but not obtrusively so. A tendency to "run on" on pump fuel rather indicated that best results will be obtained with 100 octane; M.G. technicians state that with higher-octane fuel, the engine is much more smooth.

Rather than rush into print with a full-scale road test of a completely new model just going into production, John Bolster will shortly do a comprehensive test of one of the actual cars which will be delivered to customers. The cars available for testing were, of course, pre-production machines, with engines not fully run-in.

GREGOR GRANT.



An Exclusive Theo Page Drawing of the new "Twin-Cam" M.G.A.

BOLSTER TRIES EX 181

ON Monday afternoon, at the B.M.C. demonstration day at Chobham, I had the pleasure of driving the successful M.G. record-breaking car—EX 181, with which Stirling Moss exceeded 250 m.p.h. on Bonneville Salt Flats. This beautifully streamlined little machine has a supercharged, rear-mounted two-o.h.c. engine and a de Dion rear axle. It is this engine, in modified form, which

is offered in the newly introduced M.G.A. "Twin Cam".

Unfortunately 200 m.p.h. motoring was out, as the engine was running on "cooking" fuel. However, I can state that I was agreeably surprised at the good handling characteristics; all the sound and fury of that supercharged engine took me back to happy racing days. The cockpit was a pretty tight fit, and I couldn't have got the "Perspex"

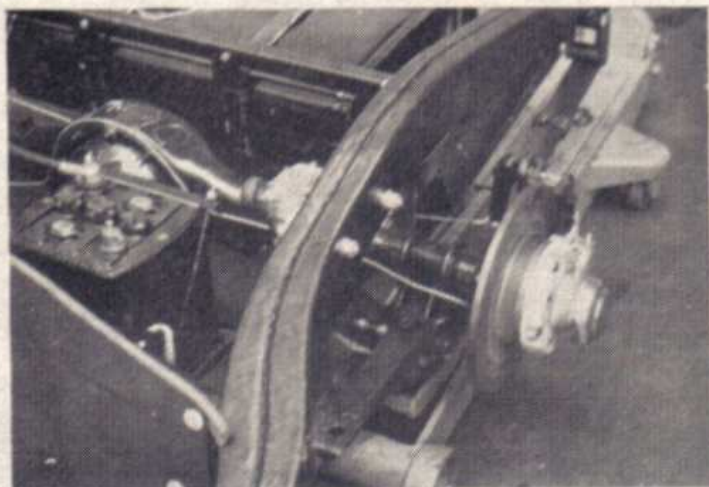
bubble down if I had had much hair on top. Still, Stirling, for whom it was built, is also beginning to lose his mane—if he will permit me to say so!

It was fun driving this very special M.G., with the engine at the "right end", and I am grateful to Syd Enever and his men for allowing a "stranger" to take out their pride and joy—the fastest 1,500 c.c. machine in the world!

JOHN V. BOLSTER.



NEW WHEELS for the M.G.A. are of the ventilated disc centre-lock type. It seems that the traditional wire wheels may be on the way out for serious competition wear!



REAR SUSPENSION is similar to that in the standard M.G.A., but now Dunlop disc brakes are fitted all round; first tests indicate remarkable effectiveness.