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-supercaraged 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

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 folding for the large diameter dual exhaust system.

**Specifications**

**Engine:** Four cylinders; bore 75,406 mm, 2,909 (1,909 in.) stroke 89.99 mm, 3,500 cubic capacity, 1.589 c.c. (96,906 cubic in.); compression ratio 9:1. Developing 197 brake-horsepower at 6,500 r.p.m. Twin overhead camshafts driven by Duplex roller chain operating inverted bucket tappets and roller or rotary-injecting accurate stroke to bearings; three-bearing counterbalanced crankshaft; with renewable steel-blocked lead-inlet bearing linings; aluminium-alloy pistons with one scraper and three compression rings; fully floating conrods; connecting rods with renewable steel-blocked lead-inlet linings; aluminium-alloy cylinder head, forged-steel lubrication by eccentric rotor pump; renewable-elemental external full-flow oil filter. Cooling by water pump and fan with thermostatic control.

**Fuel System:** Twin S.U. Type H semi-downdraught carburettors 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 facia.

**Electrical Equipment:** 12-24 volt battery; 12-24-volt coil and fully automatic distributor with vacuum and centrifugal advance control; suppressor equipment; high-output dynamo; compressed volume control; single-pole positive earth lighting system; dash-mounted starter switch; twin-bulb self-parking windowwipers; twin stop-tail lamps with flashing direction indicators and rear reflector equipment; windscreen horns, double dipping headlamps with prefocused bulbs and block lenses; foot-operated dipper-handle; 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 in. (200 mm) diameter. Four speeds and reverse; synchronesh on second, third, and fourth; overall rear ratios: first 15.562, second 9.520, third 5.908, top 4.41, reverse 20.468. Central remote-control rear gear change. Tubular propeller shaft with needle-bearing universal joints.

**Rear Axle:** Three-quarter-floating rear axle with hydraulic final reduction gears; ratio 4.41:1.

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

**Steering:** Direct rack-and-pinion steering with large-diameter spring-spoke clear-view steering-wheel, left-hand drive. Accompanied by market-left-hand drive not available in the United States.

**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 disc is operated mechanically on the rear disc by a central hand brake lever with pre-action ratchet control.

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

**Instruments:** Large speedometer with dead-beat mechanical and hydraulic rev. counter; large revolution indicator with warning lights; oil pressure gauge; water temperature gauge; fuel gauge and indicator; ignition switch; rheostat panel light switch; mixture control; magneto light; centrifugal indicator switch and warning light; light switch.

**Body Details:** Open 2-seater streamlined body with body-coloured bucket-type seats, leather upholstery with leathercloth on non-wearing parts; door pockets; safety-glass windscreen; folding hood with large rear transparent panels; two detachable side-screen with coiled exhaust and hood cover; driving mirror centrally situated; spare wheel, tool kit, jack, and starting handle housed in rear hood, quick-release petrol filler; 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 a "snake" mountain circuit, which the engine revs to 7,000 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 cured by reducing the track width and reducing the tire 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 tests gave 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 car was smooth enough 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 rated fuel, the engine is much more smooth.

Rushed 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 test are course, pre-production machines, with engines not fully run-in.

Gregor Grant.
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.