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AUSTIN A40



*Austin A40; 4 cylinders,
948 ccs, 4 forward gears*



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The Autocar road tests

90

THE AUTOCAR, 21 JULY 1961

1830
M.G.
MGA 1600
MARK II

From this angle the Mark II version of the MGA can be recognized only by the recessed slats of the radiator grille



COMPARED with the previous MGA 1600, a road test of which appeared in *The Autocar* of 9 October 1959, the Mark II, which was introduced last month, is fundamentally unchanged. The main differences concern the engine and transmission, the capacity of the engine being increased by 34 c.c. to 1,622 c.c. by enlarging the cylinder bores, while larger inlet valves and changes to the inlet and exhaust tracts and combustion chambers have brought about an increase in power from 83 b.h.p. at 5,600 r.p.m. to 90 b.h.p. at 5,500 r.p.m., to which a higher compression ratio of 8.9 to 1 has contributed. Increasing the crankshaft and connecting rod sections should ensure that this now quite highly developed four-cylinder engine will continue to be reliable in service. To match the increased output from the engine, the final drive gearing is raised from 4.3 to 4.1 to 1.

It is noticeable how this change in axle ratio has enabled a higher cruising speed to be maintained in comfort so that whereas on the previous model a speedometer reading of 80 m.p.h. (a true 77 m.p.h.) was judged to be the best cruising speed, the Mark II will cruise at an indicated 90 m.p.h., which is a true 84 m.p.h.

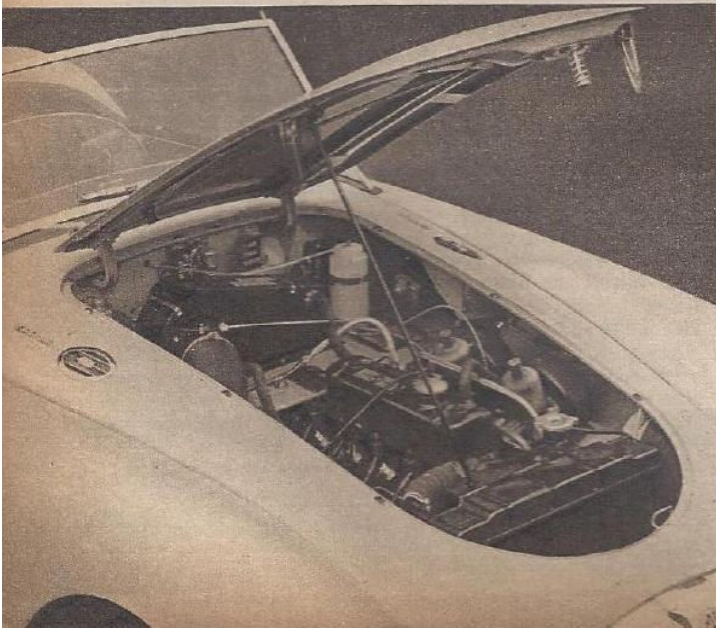
The increased engine power and torque have made a marginal difference to the M.G.'s performance. From a standing start acceleration through the gears showed a re-

duction in the order of 0.5sec to reach most speeds up to and including 70 m.p.h., and the time to reach 80 m.p.h. was cut by 2sec.

On the car submitted for test an optimistic speedometer which indicated 100 m.p.h. when the true speed was 93 m.p.h. tended to give an exaggerated impression of the car's performance. Maximum speeds in the indirect gears are now a little faster because of the higher final drive gearing. At a true engine speed of 6,000 r.p.m.—a safe limit for the engine—they are 29, 48 and 78 m.p.h. Normally, gear changes would be made below 5,500 r.p.m., at which the amber segment on the tachometer begins. This instrument read over 500 r.p.m. fast at an indicated 6,000 r.p.m. on the test car.

Like the engines of previous MGAs, this example cannot be judged a smooth and refined unit, although most people would agree that it is a very lively and responsive one. The exhaust note is relatively subdued for a sports car; at most speeds there is an above-average amount of mechanical noise from the engine, particularly when accelerating hard, when it is also harsh, and at about 5,000 r.p.m. distinct roughness begins. It is, however, a very flexible power unit which will pull quite strongly from under 20 m.p.h. in top. When pulling hard at low engine speeds occasional slight pinking was noticed when running on ordinary premium fuel, and this did not disappear when super grades were tried. A considerable part of the test mileage was covered on ordinary premium fuel with satisfactory results, although for performance testing higher octane fuels were used since the manufacturers recommend them for maximum performance. Whenever the engine was switched off, on either grade of fuel, it "ran on" for a second or two, shaking violently on its flexible mountings.

The clutch has a light action and gives a smooth, snatch-free take-up. If rapid upward gear changes were made followed by full opening of the throttle complete clutch engagement was not achieved at once. More "bite" in these circumstances might well have improved the standing start acceleration times. Quick changes can be made with the four-speed gearbox which has efficient synchromesh on



Unchanged externally but now 34 c.c. larger and producing more power and torque, the MGA 1600 Mark II engine is reasonably easy to work on for those who like to do their own maintenance

the three upper ratios. The gear change, by a short, rigid lever, is very precise with small movements between gears. On this low mileage car the action was still stiff both for the engagement of gears and in the travel across the gate; quite an effort was required to select reverse. It is known that with these cars there is some easing of this resistance after the box has been well used. On many occasions it was impossible to engage first gear at rest without releasing and depressing the clutch pedal for a second time.

The benefit of higher gearing was noticed in the fuel consumption figures recorded at constant speeds in top. Compared with the previous model these show an improvement at all speeds up to 70 m.p.h. Fuel consumption on this car was found to vary considerably with driving methods and conditions. The overall consumption for the 1,770 miles of the test worked out at 22.2 m.p.g.; continuous hard driving returned a consumption of 21 m.p.g. On the other hand, in main road conditions, if engine speed was restricted to 3,000 r.p.m. in top and 3,500 r.p.m. in the indirect gears figures as good as 35 m.p.g. were obtained.

Having a capacity of 10 gallons, the fuel tank enables journeys of between 200 and 300 miles to be made before a refill is necessary. The tank has a sensible, easily released filler cap, but the neck will not accept the full flow from a garage pump. As the engine was barely run in when we took the car over and, in all probability, the piston rings had not bedded in fully, oil consumption was heavier than is usual, six pints being added during the test.

Excellent Brakes

Starting was always instantaneous with a hot or cold engine and the choke was needed only briefly; its pull-out control could be secured in any position. From cold the engine pulled evenly at once and warmed up very quickly. The two carburettors are fed by a cold air duct leading from behind the radiator grille and two warm air outlets in the bonnet help to reduce the temperature of the engine compartment. Three nuts securing the exhaust pipe to the manifold slackened off and two welds on a bracket supporting the exhaust pipe broke allowing the pipe to drop.

The rear-hinged bonnet lid gives good access to the engine and most of its accessories, and the dipstick is particularly well placed. A strut, which was awkward to release and to replace in its clip, holds the bonnet open.

Lockheed brakes—discs at the front wheels and drums at the rear—gave a very good performance indeed. At all times their action was perfectly progressive and they engendered complete confidence whether applied from high or low speeds. There appears to be none of the falling-off in efficiency and increase in pedal effort often associated with disc brakes at low speeds. When applied hard repeatedly from high speeds no fade could be detected and the low pedal effort was well suited to the car, under 100lb being required to obtain the best retardation figure. In fact, this was a deceleration of 0.99g—an extremely good result—which needed only 95lb on the pedal. No fall off in efficiency was found if the discs were cold, such as after a spell of motorway driving. An assembly fault on the test car resulted in the loss of the fluid from the system.

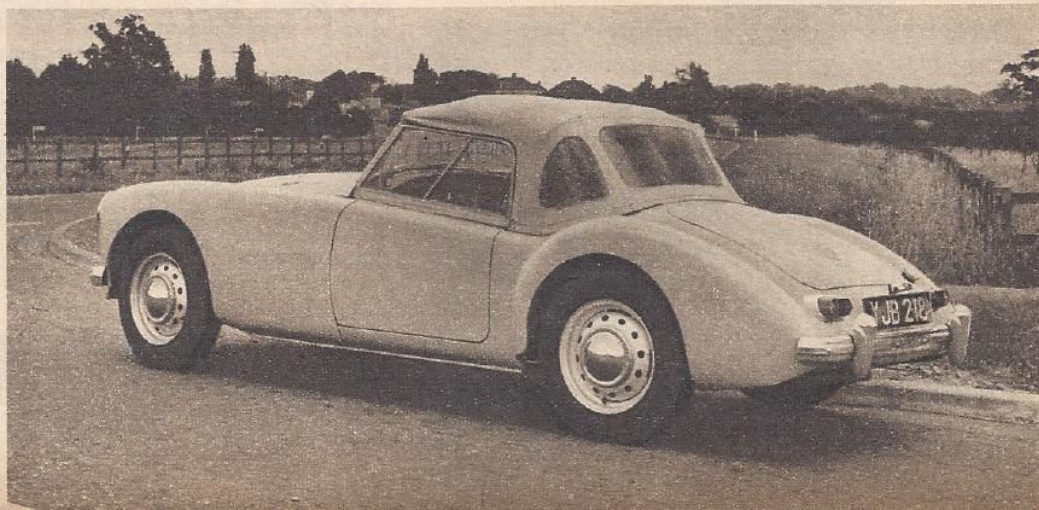


Both the facia and the decking below the screen are now covered in a grained black plastic material which effectively prevents reflections at night. A praiseworthy addition is a headlamp flasher on the extreme right of the facia. Upholstery is in leather and the floor is carpeted

There are now few cars with a fly-off hand brake. With this type of control the ratchet is engaged by pressing the knob and the brake is released by a slight upward pull of the lever. On the MGA, this is very well placed between the transmission tunnel and the driving seat, and enables a good leverage to be applied. The handbrake was quite effective with the car on the move and just held it on the 1-in-3 test hill. On this very steep hill the engine continued to run, though rather unevenly, and a restart with a full load could be made if the clutch was slipped and the engine coaxed.

In many ways the ride, steering and road holding of the MGA are very similar to those of a vintage sports car. The suspension, by wishbones and coil springs at the front, live axle and semi-elliptic springs at the rear, is very firm, so that on all but smooth surfaces there are short, sharp up and down movements of the car. Whereas most vintage cars have a flexible chassis that of the MGA is very rigid so even on bad Belgian *pavé* the structure remained taut and gave a feeling of considerable solidity. Only at speeds above 30 m.p.h. on such a surface did the ride become excessively harsh. Our impression was that on the majority of road surfaces in this country the ride comfort is acceptable and that suspension movements, admittedly rather limited, are effectively damped.

When a bump is encountered while cornering there is a tendency for rear wheel adhesion to be lost momentarily and for the tail to hop outwards. The rear axle is free



Weather protection is by a soft hood which remains taut and waterproof. Tail, brake and turn indicator lamps are now grouped on the tail panel instead of in the wings

MGA 1600

MARK II . . .

Metal-framed detachable side screens with a sliding plastic window reduce wind buffeting of the passengers when the hood is down. The doors are opened by a cable inside the door pocket

from wind-up and patter when making a rapid getaway from rest.

The steering is high geared and precise, enabling the car to be placed accurately in a corner. There is also quite a large amount of kickback at the wheel on many surfaces and a light grip on the wheel was found to be best in such conditions. Much vibration at the steering wheel occurs at above 70 m.p.h. It is not light steering for a small sports car, partly because of the high gearing; it is also affected by the deliberate introduction of friction into the rack and pinion gear. In our experience with previous MGAs, the steering becomes somewhat lighter after two or three thousand miles, and self centring is then stronger than it was on the car tested. The MGA holds a straight course with little conscious effort by the driver and its stability is not affected by cross winds.

All who drove the car agreed that it felt most stable when taken fast through a corner. A small amount of understeer is present and the technique when cornering really hard is to use plenty of throttle to get the rear wheels to drift outwards a little.

However, at no time at all did it show any unpredictable or awkward behaviour and it must be judged a very safe car for the inexperienced and expert alike. There was rather more roll than expected when cornering hard and more lateral support from the seats would have been appreciated. As it is, the driver tends to cling to the wheel for support and the passenger uses a grab handle which is part of the windscreen support. This cannot be gripped with the side screen in position.

On wet roads the adhesion of the Dunlop Gold Seal tyres is reasonably good. When accelerating out of a corner the rear wheels can be made to slide readily, although this is predictable and easily controlled. Heavy braking can result in locking of the front wheels on the more slippery wet surfaces.

The driver sits low in relation to the bonnet top but this curves downwards towards the nose so that his view immediately ahead of the car is satisfactory. Even with

hood and side screens erected there is good all-round visibility and no bad blind spots. The view afforded by the mirror is limited to that part of the road directly behind the car, and the mirror itself creates a blind spot over the left wing. This makes judgment of the width of the car rather difficult. Fore and aft adjustment for the driving seat is sufficient for tall or short persons to reach the pedals in comfort. These are well placed with sufficient room beside the clutch to rest the left foot. As is customary with this type of car, the feet are placed rather higher in relation to the seat than many would consider the most comfortable position. Situated close to the driver, again in vintage position, the sprung steering wheel is in a near-vertical fashion. An optional extra is a column adjustable for length by means of a spanner. The facia, too, is set close to the driver and all instruments are easily read. Minor controls are of the pull-out type with the exception of the turn indicator switch which has a time control and—an innovation on the M.G.—a headlamp flasher consisting of a stalk protruding from the facia, which the driver can reach without moving his right hand from the wheel.

The headlamps give an adequate beam for driving at up to 70-75 m.p.h. In the dipped position they have a sharp cut off but good spread so that the leftside kerb was clearly visible in the face of oncoming headlamps. Operated by the left foot, the dip switch is placed too high for easy operation and for a car such as this M.G. in which frequent gear changing is a characteristic, a hand-dipper would be more suitable. The wipers clear an adequate area of the shallow screen. It takes a driver new to the car a considerable time to become used to the button on the facia for the powerful horn.

One person can erect the hood although it is easier if there is assistance. An over-centre catch at the centre of the windscreen top rail prevents the hood from lifting in the middle. It was free from flapping at high speed, although wind roar was so great that conversation was impossible above 70 m.p.h. There were no signs of leaks during heavy rain and the hood stows in a remarkably small space behind the seats. Metal-framed side screens, housed in an envelope in front of the stowed hood, cannot be considered ideal but give reasonable protection from draughts. The sliding plastic window in each screen soon became scratched.

With a car of this type which has a soft hood and side screens, and doors which can be opened only from inside the car, it is clearly not feasible to lock it. In fact, there is no compartment which can be locked, and the only means of releasing the boot lid is by a pull-out handle on the bulkhead behind the seats. Stowage space is very limited, much of the boot being taken up by the spare wheel,

Much of the space in the luggage compartment is taken up by the spare wheel. The lid is released by a pull-out control behind the left seat



and soft travelling bags make the best use of the available space. Behind the seats there is space when the hood is up for articles of clothing and such like. There are very large pockets in the doors; inside them one's hand encountered surplus adhesive for the panel lining.

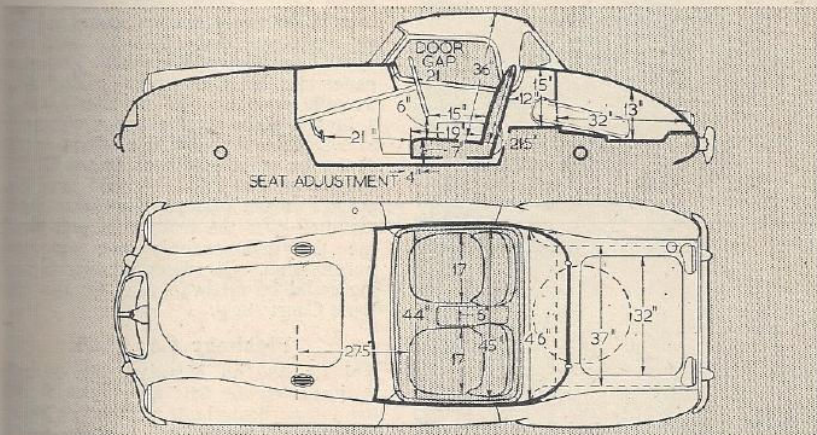
No seat belts were fitted on the car submitted for test although anchorages were provided, as they are on all models made by the British Motor Corporation.

The two six-volt batteries are placed away from the engine heat, immediately ahead of the rear axle. They are reached for inspection and topping up by removing a

metal panel secured by two quick-action fasteners behind the seats, but in this position they become dirty and are apt to be neglected. Battery covers are extra items of equipment. Ten greasing points require attention at 1,000 mile intervals.

In this latest MGA, which costs no more than the previous model, the engine modifications provide a little more performance, making this ample for most people's requirements but, more important, this is achieved in a more effortless manner. Basically, the MGA's traditional character, which has appealed to so many, is unchanged.

MGA 1600 Mk II



Scale 3/4 in. to 1 ft. Driving seat in central position. Cushions uncompressed.

DATA

PRICE (basic), with two-seater body, £663 British purchase tax, £227 7s 6d. Total (in Great Britain), £940 7s 6d. Extras, incl. p.t.: Heater £17 7s 1d. Windscreen washers, £2 16s 8d. Adjustable Steering Column, £2 16s 8d. Chromium plated ashtray, £1 4s 10d. Headlamp flashers, £2 16s 8d.

ENGINE: Capacity, 1,622 c.c. (99 cu. in.). Number of cylinders, 4 in line. Bore and stroke, 76.2 x 88.9 mm (3.0 x 3.5 in). Valve gear, o.h.v., pushrods and rockers. Compression ratio, 8.9 to 1. B.h.p. 90 at 5,500 r.p.m. (b.h.p. per ton laden 85.7). Torque, 97 lb ft at 4,000 r.p.m. M.p.h. per 1,000 r.p.m. in top gear, 17.7.

WEIGHT: (With 5 gals fuel), 18 cwt (2,016 lb). Weight distribution (per cent): F, 53; R, 47. Laden as tested, 21 cwt (2,352 lb). Lb per c.c. (laden), 1.45.

BRAKES: Type, Lockheed, F, discs; R, drums. Method of operation, hydraulic, non-servo. Disc diameter: 11 in. Drum dimensions: 10 in diameter; 1.75 in wide. Swept area: F, 240 sq in; R, 110 sq in. (334 sq in per ton laden).

TYRES: 5.60-15 in Dunlop Gold Seal tubeless. Pressures (p.s.i.): F, 17; R, 20 (normal). F, 21; R, 24 (fast driving). F, 23; R, 26 (sustained high speed).

TANK CAPACITY: 10 Imperial gallons. Oil sump, 7.5 pints. Cooling system, 10 pints.

DIMENSIONS: Wheelbase, 7ft 10 in. Track: F, 3ft 11.5 in; R, 4ft 0.75 in. Length (overall), 13ft 0 in. Width, 4ft 10 in. Height, 4ft 2 in. Ground clearance, 6 in. Frontal area, 13.8 sq ft (approximately), with hood up.

ELECTRICAL SYSTEM: 12-volt; two 6-volt 58 ampere-hour batteries. Headlamps, 50-40 watt bulbs.

SUSPENSION: Front, wishbones and coil springs, lever type dampers. Rear, live axle, semi-elliptic leaf springs, lever-type dampers.

PERFORMANCE

ACCELERATION TIMES:

Speed range, m.p.h.	Gear	Ratio	Time in Sec.
0-1	1	4.1	9.08
1-1	1	5.63	14.91
10-30	1	8.9	5.1
20-40	2	8.0	4.7
30-50	3	7.9	—
40-60	4	8.5	—
50-70	5	8.2	—
60-80	5	—	—
70-90	5	—	—

From rest through gears to:

30 m.p.h.	4.4 sec
40 "	6.8 "
50 "	9.7 "
60 "	13.7 "
70 "	18.1 "
80 "	24.6 "
90 "	36.1 "

Standing quarter mile 19.1 sec.

MAXIMUM SPEEDS

Gear	m.p.h.	k.p.h.
Top	(mean) 101.4	163.2
	(best) 102.3	164.7
3rd	78	126
2nd	at 6,000 r.p.m. 48	77
1st	29	47

TRACTIVE EFFORT (by Tapley meter):

	Pull (lb per ton)	Equivalent gradient
Top	215	1 in 10.3
Third	310	1 in 7.1
Second	540	1 in 4.0

BRAKES (at 30 m.p.h. in neutral):

Pedal load in lb	Retardation	Equip. stopping distance in ft
25	0.35g	86
50	0.65g	46
75	0.82g	37
95	0.99g	30.5

FUEL CONSUMPTION (at steady speeds in top gear):

30 m.p.h.	39.6 m.p.g.
40 "	38.8 "
50 "	36.7 "
60 "	34.5 "
70 "	29.5 "
80 "	25.5 "
90 "	21.9 "

Overall fuel consumption for 1,770 miles, 22.3 m.p.g. (12.7 litres per 100 km).

Approximate normal range 21-35 m.p.g. (13.5-8.1 litres per 100 km).

Fuel: Super premium.

TEST CONDITIONS: Weather: Dry, gusty 5-20 m.p.h. wind.

Air temperature, 58 deg. F.

Model described in *The Autocar* of 30 June 1961.

STEERING: Turning circle.

Between kerbs, L, 31ft 1in, R, 31ft.

Between walls, L, 32ft 8in, R, 32ft 7in.

Turns of steering wheel from lock to lock, 2.6.

SPEEDOMETER CORRECTION: m.p.h.

Car speedometer	10	20	30	40	50	60	70	80	90	100	110
True speed	10	19	28	37	47	56	65	75	84	93	102

