The Motor Road Test No. 25/60

Make: Austin-Healey **Type:** 3000 Hardtop (B.T.7.) With overdrive

Makers: The Austin Motor Co., Ltd., Longbridge, Birmingham

Test Data

CONDITIONS: *Weather: Dry, wind 5-15 m.p.h. (Temperature 70°-75°F., Barometer 29.7 in. Hg.) Surface: Dry tarmacadam. Fuel: 100 octane pump petrol.*

INSTRUMENTS

Speedometer at 30 m.p.h.	19% fast
Speedometer at 60 m.p.h.	10% fast
Speedometer at 90 m.p.h.	9% fast
Distance recorder	2% slow

WEIGHT

Kerb weight (unladen, but with oil, coolant and fuel for approx. 50 miles)	22 cwt.
Front/rear distribution of kerb weight	50/50
Weight laden as tested	25¾ cwt.

MAXIMUM SPEEDS

Flying Mile

Mean of six opposite runs	115.0 m.p.h.
Best one-way time equals	116.9 m.p.h.

"Maximile" Speed. (Timed quarter mile after one mile accelerating from rest.)

Mean of opposite runs	107.1 m.p.h.
Best one-way time equals	108.4 m.p.h.

Speed in gears

Max. speed in Direct Top gear	98 m.p.h.
Max. speed in Overdrive 3rd gear	92 m.p.h.
Max. speed in 3rd gear	75 m.p.h.
Max. speed in 2nd gear	48 m.p.h.
Max. speed in 1st gear	33 m.p.h.

FUEL CONSUMPTION

(Overdrive top gear)

35½ m.p.g. at constant 30 m.p.h. on level.
35 m.p.g. at constant 40 m.p.h. on level.
32 m.p.g. at constant 50 m.p.h. on level.
29 m.p.g. at constant 60 m.p.h. on level.
23½ m.p.g. at constant 70 m.p.h. on level.
20½ m.p.g. at constant 80 m.p.h. on level.
19 m.p.g. at constant 90 m.p.h. on level.
16 m.p.g. at constant 100 m.p.h. on level.

(Direct top gear)

31 m.p.g. at constant 30 m.p.h. on level.
29½ m.p.g. at constant 40 m.p.h. on level.
26½ m.p.g. at constant 50 m.p.h. on level.
23½ m.p.g. at constant 60 m.p.h. on level.
20½ m.p.g. at constant 70 m.p.h. on level.
18 m.p.g. at constant 80 m.p.h. on level.
16½ m.p.g. at constant 90 m.p.h. on level.

Overall Fuel Consumption for 1,632 miles, 86.8 gallons, equals 18.8 m.p.g. (15.0 litres/100 km.)

Touring Fuel Consumption (m.p.g. at steady speed midway between 30 m.p.h. and maximum, less 5% allowance for acceleration). 21.6 m.p.g.

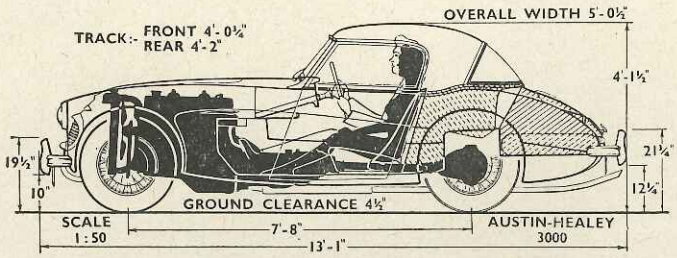
Fuel tank capacity (maker's figure) 12 gallons.

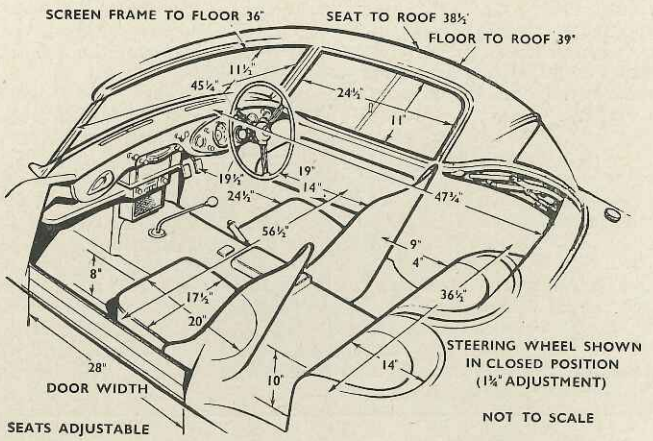
STEERING

Turning circle between kerbs:

Left	33¾ ft.
Right	33½ ft.

Turns of steering wheel from lock to lock 3





ACCELERATION TIMES from standstill

0-30 m.p.h.	3.4 sec.
0-40 m.p.h.	5.7 sec.
0-50 m.p.h.	8.5 sec.
0-60 m.p.h.	11.7 sec.
0-70 m.p.h.	15.5 sec.
0-80 m.p.h.	19.9 sec.
0-90 m.p.h.	27.2 sec.
0-100 m.p.h.	39.3 sec.
Standing quarter mile	17.7 sec.

ACCELERATION TIMES on Upper Ratios

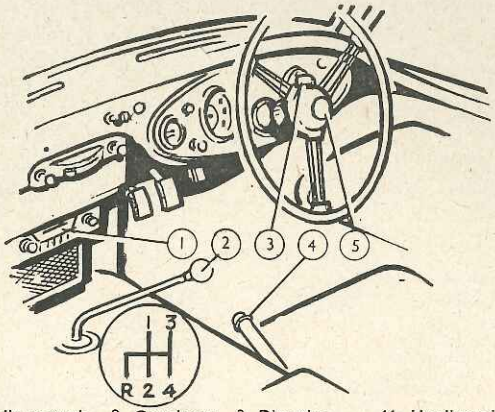
	Overdrive top gear	Direct top gear	3rd gear
10-30 m.p.h.	—	6.8 sec.	5.0 sec.
20-40 m.p.h.	8.6 sec.	6.6 sec.	5.1 sec.
30-50 m.p.h.	9.0 sec.	6.8 sec.	5.0 sec.
40-60 m.p.h.	8.9 sec.	6.6 sec.	5.5 sec.
50-70 m.p.h.	10.1 sec.	7.6 sec.	7.0 sec.
60-80 m.p.h.	11.7 sec.	8.7 sec.	—
70-90 m.p.h.	16.5 sec.	12.4 sec.	—
80-100 m.p.h.	20.0 sec.	—	—

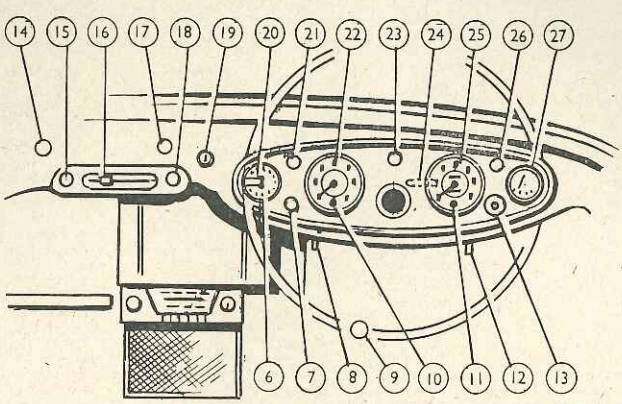
BRAKES from 30 m.p.h.

0.93 g retardation (equivalent to 32 ft. stopping distance) with 75 lb. pedal pressure.
0.67 g retardation (equivalent to 45 ft. stopping distance) with 50 lb. pedal pressure.
0.27 g retardation (equivalent to 111 ft. stopping distance) with 25 lb. pedal pressure.

HILL CLIMBING at sustained steady speeds

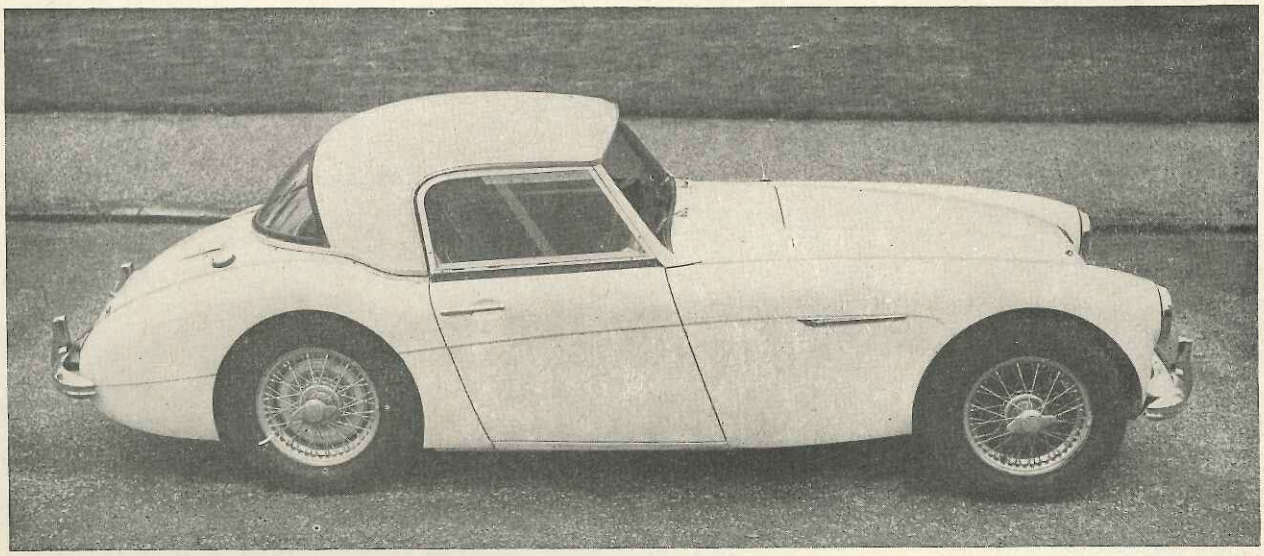
Max. gradient on overdrive top gear	1 in 8 (Tapley 280 lb./ton)
Max. gradient on direct top gear	1 in 6.2 (Tapley 355 lb./ton)
Max. gradient on overdrive 3rd gear	1 in 5.9 (Tapley 375 lb./ton)
Max. gradient on direct 3rd gear	1 in 4.8 (Tapley 460 lb./ton)
Max. gradient on 2nd gear	1 in 3.2 (Tapley 665 lb./ton)





1. Radio controls. 2. Gear lever. 3. Direction indicator switch. 4. Handbrake. 5. Horn button. 6. Water thermometer. 7. Windscreen wipers control. 8. Panel light switch. 9. Dip-switch. 10. Dynamo charge warning light. 11. Headlamp high beam warning light. 12. Trip resetting knob. 13. Overdrive switch. 14. Screenwasher button. 15. Cold air control. 16. Heater control and fan switch. 17. Choke control. 18. Hot air control. 19. Ignition switch. 20. Oil pressure gauge. 21. Starter. 22. Tachometer. 23. Direction indicator warning light. 24. Bonnet catch release. 25. Speedometer. 26. Lights switch. 27. Fuel contents gauge.

The Austin-Healey 3000 Hardtop



An Occasional Four-seater Tested in Overdrive Form

SINCE the Austin-Healey "Six" was last tested, numerous small changes have been made in both the mechanical and body specifications. In conjunction with a 10% increase in engine size, bringing the capacity to just over 2.9 litres, the final drive gearing has been raised by 5%, a closer ratio overdrive fitted, and disc brakes have been adopted on the front wheels only. The particular car tested had the occasional four-seater body that now supplements the two-seat version and the well designed hardtop that effectively converts it to a closed car when the weather makes this expedient. All performance figures were taken with this fitted.

An unexpected by-product of these changes, which may be indicative of carburetter modifications, was the 5 to 15% improvement found in the overdrive top gear fuel consumption at speeds below 70 m.p.h. Less surprising, in view of the very smooth shape of the new hardtop, is the increase of 7 m.p.h. in maximum speed to the creditable figure of 115 m.p.h. It is probable that even better figures for acceleration and speed might have been obtained from a well-used model as the car tested had done only 2,500 miles at the time and both engine and gearbox were relatively stiff.

In order to depress fully a long-travel clutch, it is necessary for the driver to sit quite close to the steering wheel, and for a person of average height the extended-arm steering position is out of the question, in spite of an adjustable steering column which allows the wheel to be moved quite near to the facia. The close conjunction of windscreen and driver is reminiscent of older sports cars and, despite a low seating position and a long broad bonnet, provides excellent visibility and a view of the road surface surprisingly close ahead. In addition, dirt or rain on the glass reduce visibility much less than with a distant screen and better protection is obtained from the wind when the car is open; in this form the Austin-Healey is a very pleasant machine, and with the side-screens erect it is possible to cruise at speeds in the region of 80 m.p.h. without undue buffeting or turbulence, although with considerable wind noise as must be expected in an open car.

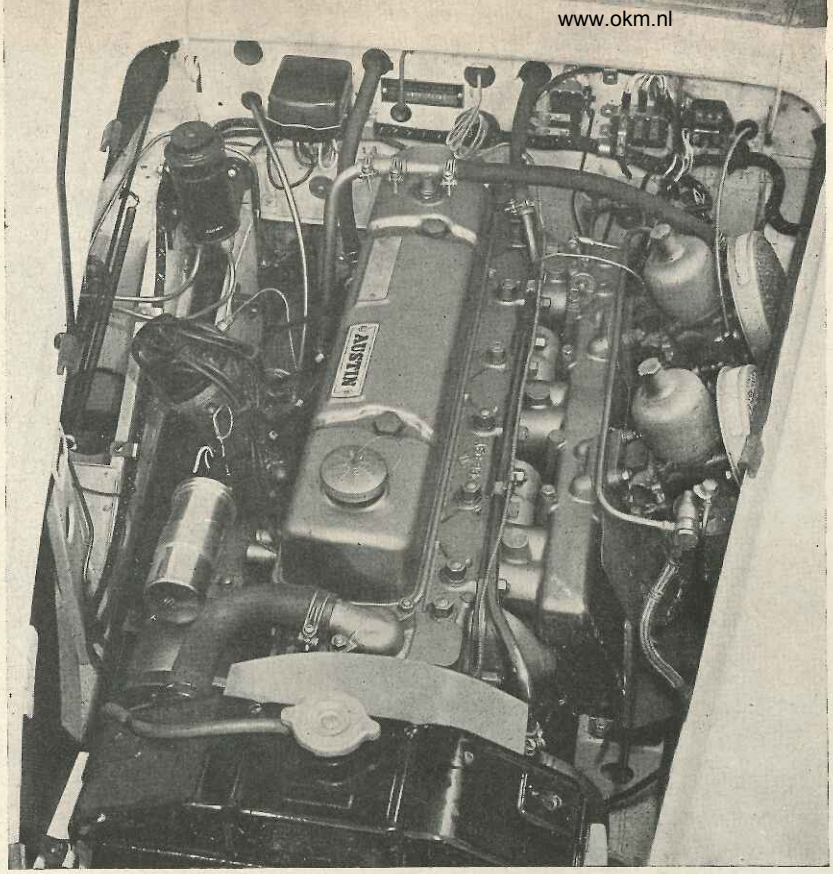
The small bucket seats give unusually good lateral support but have very upright backs and almost horizontal seat cushions. Many people would prefer to have the seats tilted bodily backwards with some extra padding to support the small of the back which tends to ache on long journeys.

With standard tyre pressures, the car is perhaps a little heavy to drive on slow, twisty roads, and although the wheels adhere firmly to the ground, hard driving

In Brief

Price (including overdrive and hardtop as tested) £935 17s. 6d., plus purchase tax £391 1s. 6d., equals £1,326 19s.
Price without overdrive and hardtop (including purchase tax), £1,175 10s. 10d.
Capacity ... ... 2912 c.c.
Unladen kerb weight ... 22 cwt.
Acceleration:
20-40 m.p.h. in top gear ... 6.6 sec.
0-50 m.p.h. through gears 8.5 sec.
Maximum direct top gear gradient 1 in 6.2
Maximum speed ... 115.0 m.p.h.
"Maximile" speed ... 107.1 m.p.h.
Touring fuel consumption ... 21.6 m.p.g.
Gearing: 19.0 m.p.h. in top gear at 1,000 r.p.m. (overdrive, 23.1 m.p.h.); 32.5 m.p.h. at 1,000 ft./min. piston speed (overdrive, 39.6 m.p.h.).

TOP REMOVED.—The aluminium-framed detachable sidescreens have sliding Perspex windows, and the self-parking wipers do not obstruct the view from the low driving position. The knock-off wire wheels are an optional extra.



POWER.—The 3-litre engine fills most of the available space but leaves the major components accessible for servicing. Two large semi-downdraught S.U. carburetters feed a cylinder head with six separate inlet ports.

The AUSTIN-HEALEY 3000 HARDTOP

produces some scream from the Dunlop Road Speed tyres. With the extra 6 lb./sq. in. all round which is recommended for prolonged driving at speeds over 85/90 m.p.h., tyre noise is very hard to provoke, the steering is light, roll negligible and wheel adhesion and behaviour of the Panhard-rod-located back axle on bumpy roads remains extremely good. Quite heavy use of the throttle induces very mild oversteer and enables a series of bends to be negotiated very fast with relatively small movements of the steering, so that the close driving position necessitates little passing of the wheel from hand to hand. On wet and slippery roads, however, the accelerator must be treated with some discretion to avoid sudden breakaway at the back.

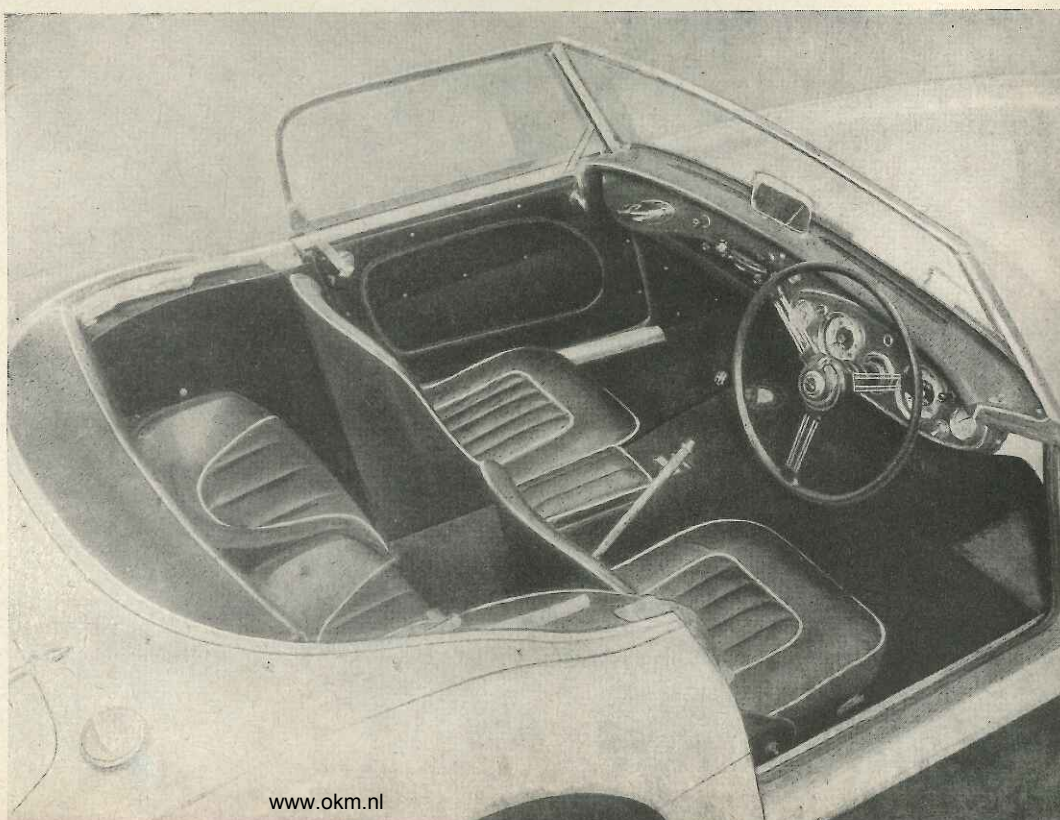
Although the steering displays very little feed-back from bumps and camber changes, the driver is aware of continual movement of the wheel in his hands due to a slight lateral shake from which the scuttle suffers on bad roads, and which also causes some bonnet movement and chattering from the sidescreens in open form, particularly with the high tyre pressures. Comfortable riding qualities, however, have not been sacrificed to gain good roadholding and the notable freedom from roll; although fairly hard when travelling slowly, the ride flattens out at high speed to give an excellent compromise, free of pitch, too well damped for float, and transmitting sharp vertical movements only on substantial irregularities when the suspension approaches the end of its fairly limited travel.

Very easy to start from cold, the engine is rather slow to warm up and tends to spit back through the carburetters for the first mile or two unless the choke, which has a fast idling interconnection with the throttle, is pulled out slightly; thereafter it is notable for the effortless ease with which it produces a very impressive performance. Tuned for high torque in the low and medium speed ranges, it will pull strongly and smoothly from very low speeds although, driven in this unusual way, there is mild pinking at full throttle using ordinary premium grade fuel. This disappears with the use of 100 octane fuel or if the lowest part of the r.p.m. range is avoided by means of the gearbox. At the other extreme, the engine runs quickly and smoothly up to the limit of 5,200 r.p.m. which is marked with a red line on the tachometer.

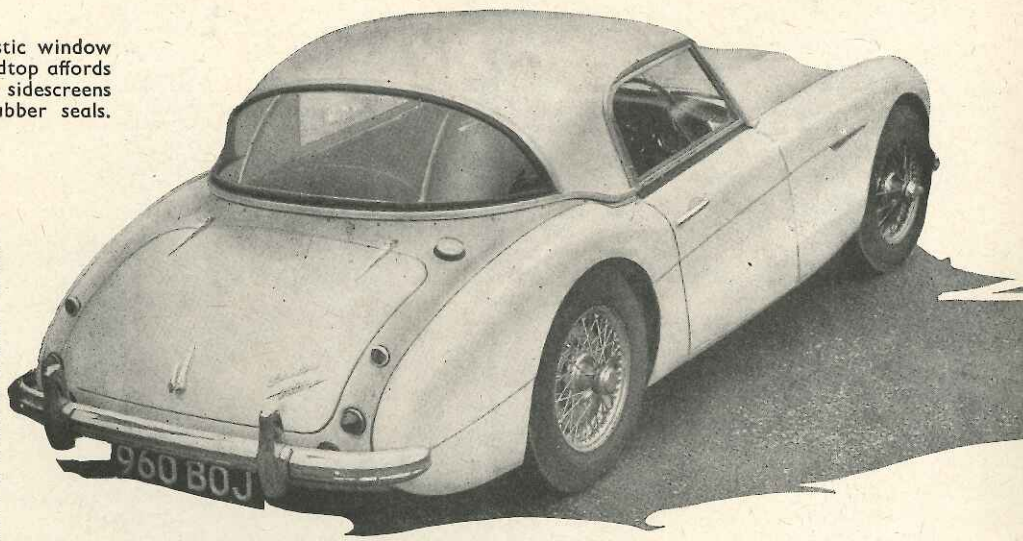
Mechanically, this is a very quiet unit, but this advantage is rather negatived by a hard and purposeful exhaust note from the twin pipes which, although intrinsically pleasing, attracts a lot of attention and raises the internal noise level to a point where it can become tiring on a long, fast journey, particularly with the hardtop in use. The small "pancake" air filters do little to eliminate carburetter intake roar, and sudden throttle opening is accompanied by a pronounced gasping noise.

The quiet gearbox has very satisfactory close ratios, but at first it was not found light to operate. To some extent this was caused by the stiffness that is common with new boxes, and later in the test it became freer to the extent that leisurely changes slipped through very easily, but to force through a really quick change against the effective synchromesh still called for some effort.

The amount of gear changing required, of course, is greatly reduced by the wide torque range of the engine and by the optional Laycock overdrive fitted to the car submitted for test and which provides an immediate 18% reduction in engine speed. Operated by a facia switch, which is most convenient for finger-tip operation without moving the right hand from the wheel, this overdrive is very smooth in action. Available on top and third gears only, an interconnection prevents engagement on the overrun with a completely closed throttle, whilst full power changes were perceptible by little more than the change of exhaust note.



ACCOMMODATION.—The hood folds away neatly and remains permanently on the car whether the hardtop is fitted or not, and a tonneau cover, with central zip fastener, is supplied. The pockets in the doors will accept quite large flat parcels.



VISIBILITY.—A very large plastic window in the smooth and elegant hardtop affords an excellent rear view. The sidescreens close on to very effective rubber seals.

First impressions of the Girling brakes (disc front) suggested that a servo might be desirable to reduce the pedal pressures. It soon appeared, however, that a little warming up of the linings improved the efficiency very considerably and normal fairly hard driving keeps them at a temperature where they are pleasantly light to operate. As with many disc systems, gentle use sometimes caused a high-pitched squeal, but much more important was the fact that the heaviest operation in road use never produced any loss in braking power or balance.

Pedal Points

On a car of this sort, heel and toe operation of the accelerator and brake is a most useful facility which the Austin-Healey layout did not permit; the operation of the accelerator could have been improved by elimination of initial free play together with more progressive opening thereafter. Other minor points which the driver may criticize include a mirror mounted too near the windscreen so that it chatters against the glass when correctly adjusted, and a fuel gauge which is extremely sensitive to acceleration or gradient.

A spell of warm weather which coincided with our test revealed that ventilation, even with the sliding windows open, is not adequate for these conditions. However, in the circumstances most owners would remove the hardtop, which is a very rapid and simple process involving two quick-action toggles and two wing nuts. Refitting is almost equally easy, and it is probably quicker to fit or remove the hardtop than it is to raise or lower the hood which, although quite straightforward, necessitates some care in stowing the fabric to ensure that it folds neatly into the space allotted. The doors rise as they open to avoid high kerbs and have been fitted with rather stiffly set friction hinges to hold them at any position. When closed, the side windows seat on soft rubber seals which are effective in excluding rain and draughts.

Although the occasional back seats look small, they are in fact adequate for two adults sitting rather high in the airstream when the car is open, but with the hardtop fitted, headroom is enough only for small children. In many cases this space will be used for carrying extra luggage as the boot itself is fairly small. A most useful feature is the fitting of a battery master switch inside the boot, which is the only part of the car which can be locked, so that valuable articles can be left in the boot and the whole car immobilized when it is parked.

A little attention to seating comfort and a few modifications to some of the minor controls would still further improve a car which now offers quite extraordinary performance in relation to its cost, taking performance in its broadest sense to include acceleration, maximum speed, roadholding and braking. The winning of the team award, amongst other striking successes, in the recent Alpine Rally, shows that durability is another attribute that must be added to this list.

Specification

Engine

Cylinders	6
Bore	83.36 mm.
Stroke	88.9 mm.
Cubic capacity	2,912 c.c.
Piston area	47.1 sq. in.
Valves	Pushrod o.h.v.
Compression ratio	9/1
Carburetter	Two S.U. H.D.6
Fuel pump	S.U. electric
Ignition timing control	Centrifugal and vacuum
Oil filter	Tecalemit full-flow
Max. power (net) at	124 b.h.p. at 4,600 r.p.m.
Piston speed at max. b.h.p.	2,680 ft./min.

Transmission

Clutch	Borg and Beck s.d.p. 9 in.
Top gear (s/m)	3.91 (overdrive, 3.20)
3rd gear (s/m)	5.12 (overdrive 4.19)
2nd gear (s/m)	8.02
1st gear	11.45
Reverse	14.78
Overdrive	Laycock-de Normanville
Propeller shaft	Hardy Spicer open
Final drive	Hypoid 11/43
Top gear m.p.h. at 1,000 r.p.m.	19.0 (Overdrive, 23.1)
Top gear m.p.h. at 1,000 ft./min. piston speed	32.5 (overdrive, 23.1)

Chassis

Brakes	Girling disc front, Girling drum rear
Brake diameters	Discs 11¼ in. dia. Drums 11 in. dia.

Friction areas: 112 sq. in. of friction surface working on 383 sq. in. of rubbed area.

Suspension:
Front: Independent by coil springs and wishbones.
Rear: Rigid axle with semi-elliptic leaf springs and panhard rod.

Shock Absorbers:
Front: Armstrong hydraulic lever-type.
Rear: Armstrong hydraulic lever-type.

Steering gear	Cam and peg
Tyres	5.90-15 Dunlop Roadspeed

Coachwork and Equipment

Starting handle	Yes
Battery mounting	Off-side of boot
Jack	Screw type
Jacking points	Under front and rear suspension.

Standard tool kit: Jack and handle, starting handle, plug spanner and bar, ignition combination tool, valve key, copper hammer.

Exterior lights: Two head, two side/indicator, two tail/stop/indicator, rear number plate.

Number of electrical fuses	2
Direction indicators	Flashing, self-cancelling
Windscreen wipers	Lucas single speed self-parking
Windscreen washers	Tudor Manual
Sun visors	None

Instruments: Speedometer with decimal trip distance recorder, revolution counter, fuel gauge, oil pressure and water temperature gauge.

Warning lights: Dynamo and headlamp main beam.

Locks: With ignition key	Boot
With other keys	None
Glove lockers	None
Map pockets	One in each door
Parcel shelves	One below facia
Ashtrays	One on transmission tunnel
Cigar lighters	None
Interior lights	None

Interior heater: Optional extra. Smiths fresh air type with demisters.

Car radio: Optional extra. H.M.V. Push button.

Extras available: Hard top, overdrive, wire spoked wheels, heater, radio.

Upholstery material	Hide
Floor covering	Rubber-backed carpet

Exterior colours standardized: 6 single, 5 two tone.

Alternative body styles	Open 2-seater

Maintenance

Sump	11⅞ pints, S.A.E. 30 (including filter)
Gearbox: 5 pints, S.A.E. 30 plus 1½ pints for overdrive.	
Rear axle	3 pints, S.A.E. 90
Steering gear lubricant	S.A.E. 90
Cooling system capacity	19 pints (2 drain taps)

Chassis lubrication: By grease gun every 1,000 miles to 14 points.

Ignition timing (static)	5° b.t.d.c.
Contact-breaker gap	.014-.016 in.
Sparking plug type	Champion N.3
Sparking plug gap	.025 in.

Valve timing: Inlet opens 5° b.t.d.c.; Inlet closes 45° a.b.d.c. Exhaust opens 40° b.b.d.c.; Exhaust closes 10° a.t.d.c.

Tappet clearances (Hot): Inlet	.012 in.
Exhaust	.012 in.
Front wheel toe-in	1/16-1/8 in.
Camber angle	1°
Castor angle	2°
Steering swivel pin inclination	6½°

Tyre pressures: Front 20 lb. Rear 23 lb. (or 26 lb. with full load).

Brake fluid	Girling

Battery type and capacity: 12 volt, 57 amp. hr.