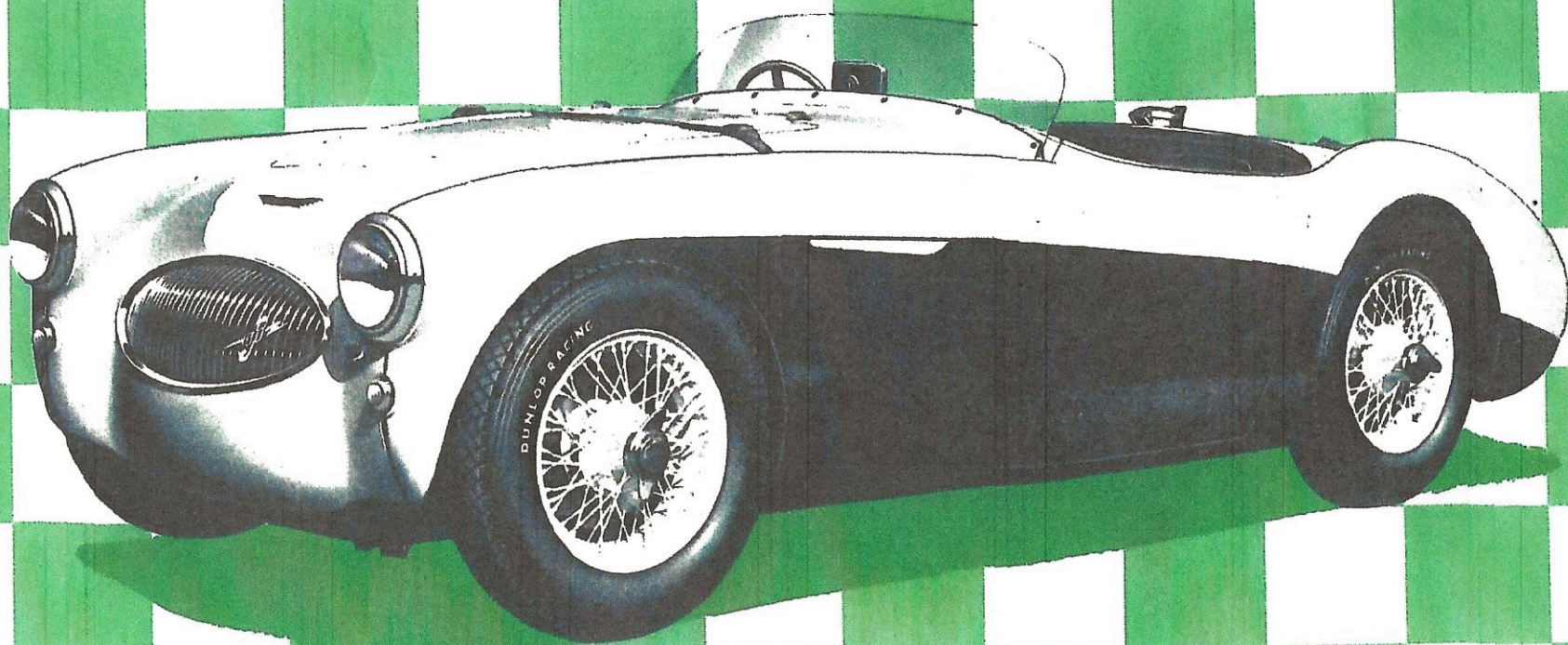


THE *Austin Healey* 100S



Built for Racing — by Racing Specialists

A.A.A. CERTIFICATE



of the
American Automobile Association
 Washington, D. C.

CERTIFICATE OF PERFORMANCE

The undersigned Certify in the name of the
Contest Board, American Automobile Association
 that

AN AUSTIN-HEALEY 100-0 WAS DRIVEN BY DONALD HEALEY,
 OF ENGLAND, OVER THE 14-MILE STRAIGHT-AWAY COURSE ON THE
 BONEVILLE SALES PLANT, (PAID, U.S.A.), ON AUGUST 22, 1934 TO
 ESTABLISH FROM A FLYING START THE FOLLOWING PERFORMANCE:

DISTANCE	WIND	M.P.H.
1 KILO	14.047	132.82
1 MILE	20.412	132.12

* AVERAGE OF SPEED IN BOTH DIRECTIONS IN THE 1 HOUR

MOTOR OIL USED - CASTROL XL 70
 TRANSMISSION LUBRICANT - CASTROL XL
 REAR AXLE LUBRICANT - CASTROL HEAVY-DUTY

TIRES USED - DUNLOP GOODYEAR
 FUEL USED - SHELL FLUOR
 LEAD FUEL - CHAMPION EX 12
 IGNITION - DUCO

Sanction No.
 14574

James H. Leach
 Technical Representative

James H. Leach
 The Secretary

Donald Healey
 Official Representative

Donald Healey
 Chairman of the Board

THE AUSTIN MOTOR COMPANY LTD. (ENGLAND)
 27-29 WEST 57th STREET, NEW YORK 19, N.Y.



THE AUSTIN MOTOR COMPANY (CANADA) LTD.
 737 CHURCH STREET, TORONTO, ONTARIO

In Association with the DONALD HEALEY MOTOR COMPANY LIMITED, WARWICK

Printed in England by Hudson & Son Ltd., Birmingham 3.

Publication No. 1172/U.S.A. & Canada.

RECORDS

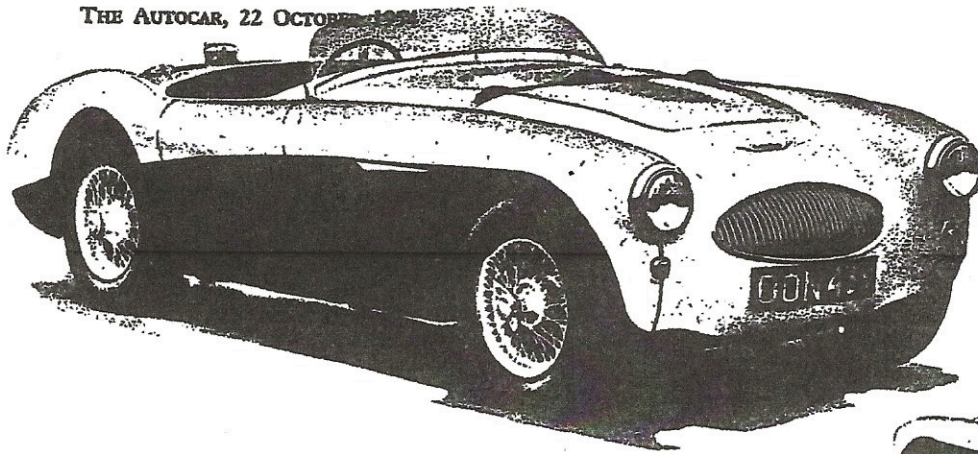
broken by the Austin-Healey "100 S"

INTERNATIONAL CLASS "D" (2,000-3,000 c.c.)

Standing	1000 Kilo	...	...	132.81 m.p.h.
"	1000 Mile	...	...	132.59 m.p.h.
"	2000 Kilo	...	...	132.72 m.p.h.
"	2000 Mile	...	...	132.38 m.p.h.
"	3000 Kilo	...	...	132.18 m.p.h.
"	3000 Mile	...	...	132.16 m.p.h.
"	4000 Kilo	...	...	132.02 m.p.h.
"	5000 Kilo	...	...	132.27 m.p.h.
"	6 Hour	...	...	133.06 m.p.h.
"	12 Hour	...	...	132.47 m.p.h.
"	24 Hour	...	...	132.29 m.p.h.

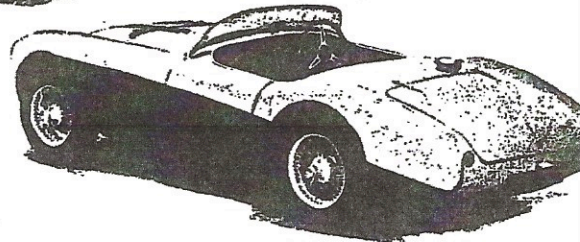
AMERICAN NATIONAL CLASS "D" (2,000-3,000 c.c.)

Flying	1000 Kilo	...	...	132.99 m.p.h.
"	1000 Mile	...	...	132.70 m.p.h.
"	2000 Kilo	...	...	132.80 m.p.h.
"	2000 Mile	...	...	132.44 m.p.h.
"	3000 Kilo	...	...	132.25 m.p.h.
"	3000 Mile	...	...	132.21 m.p.h.
"	4000 Kilo	...	...	132.06 m.p.h.
"	5000 Kilo	...	...	132.30 m.p.h.
"	6 Hour	...	...	133.21 m.p.h.
"	12 Hour	...	...	132.54 m.p.h.
"	24 Hour	...	...	132.33 m.p.h.
Standing	200 Mile	...	...	133.74 m.p.h.
"	250 Mile	...	...	133.84 m.p.h.
"	300 Kilo	...	...	133.74 m.p.h.
"	300 Mile	...	...	133.95 m.p.h.
"	400 Kilo	...	...	133.83 m.p.h.
"	400 Mile	...	...	134.10 m.p.h.
"	500 Kilo	...	...	133.95 m.p.h.
"	500 Mile	...	...	132.62 m.p.h.
"	1000 Kilo	...	...	132.81 m.p.h.
"	1000 Mile	...	...	132.59 m.p.h.
"	2000 Kilo	...	...	132.72 m.p.h.
"	2000 Mile	...	...	132.38 m.p.h.
"	3000 Kilo	...	...	132.18 m.p.h.
"	3000 Mile	...	...	132.16 m.p.h.
"	4000 Kilo	...	...	132.02 m.p.h.
"	5000 Kilo	...	...	132.27 m.p.h.
"	3 Hour	...	...	134.10 m.p.h.
"	6 Hour	...	...	133.06 m.p.h.
"	12 Hour	...	...	132.47 m.p.h.
"	24 Hour	...	...	132.29 m.p.h.



NEW CARS AT EARLS COURT

With its low, Perspex deflector screen and louvred bonnet, the new Healey has a very rakish appearance. The large racing type fuel filler cap runs into a 20-gallon fuel tank in the luggage locker. There are no hood and sidescreens but the car is provided with a tonneau cover.



PLUS A HUNDRED

AUSTIN-HEALEY PRODUCE A SEBRING MODEL—THE 100S

BASED on the well-known Austin-Healey 100, a new competition car has recently emerged from Warwick called the 100S—the S stands for Sebring, the car being developed from those used for that race—at present available for export only. Compared with the standard car, the 100S has a more powerful engine and a different gear box; the chassis has improved dampers and Dunlop disc brakes, and in place of steel, light alloy is used for the bodywork.

The four-cylinder Austin A.90 engine has been redesigned. Distributor and drive have been moved from the right to the left-hand side; all the crankshaft bearing surfaces are nitride hardened, and indium-coated lead-bronze bearings are used for both mains and big ends. The pistons have solid skirts and two upper rings are for compression control, the third being an oil-control ring. The pistons are flat-topped and work in conjunction with a heart-shaped combustion chamber similar to that used on other Austin engines.

Separate Porting

A new cylinder head is cast in light alloy, and in place of siamesed ports for the inlets and numbers two and three exhaust ports, separate porting is now provided for all valves; because of the cylinder-head material, valve seat inserts are used. The new engine has inlet and exhaust valves of 1½ and 1¼ in diameter respectively, the corresponding throat sizes being 1⅞ and 1⅞ in. The exhaust valves are produced from KE.965 steel. The mixture is supplied by twin horizontal S.U. carburettors fed with fuel by twin pumps, and there is a dual exhaust layout. The compression ratio is 8.3 to 1.

A new camshaft provides a valve lift of 0.435 in and the valve timing overlap has been increased so that the inlet valves now open 10 deg before top dead centre and close 50 deg after bottom dead centre, and the exhaust valves open 45 deg before bottom dead centre and close 15 deg after top dead centre. These modifications result in a very worthwhile increase in power output, the engine now producing 132 b.h.p. at 4,700 r.p.m. compared with 90 b.h.p. at 4,000 r.p.m. for the standard unit.

To increase reliability under arduous operating conditions the lubrication system includes an oil cooler of finned cylindrical light alloy casting placed across the front of the car; this unit also contains a full-flow filter.

A specially designed steel flywheel is attached to the crankshaft and from this the drive is continued via a racing-type dry single-plate clutch to the Healey version of the new B.M.C. gear box. This has four forward ratios, with synchromesh on top, third and second gears. The gear box casing is in cast iron and has a side cover plate, and for the Healey this contains the gear change selector mechanism, a short remote control type of lever being built straight into the box side cover. The standard rear axle ratio is 2.92 to 1, but alternative ratios of 3.66, 4.125 and 2.69 to 1 are also available.

The basic structure of the new Healey is very similar to that of the standard production model, but front end modifications have been made primarily to withstand the possible increase in reaction forces that might be brought about by the use of disc brakes. The suspension springs have been modified to suit the new car and improved damping is provided by the use of double-acting Armstrong RXP spring dampers.

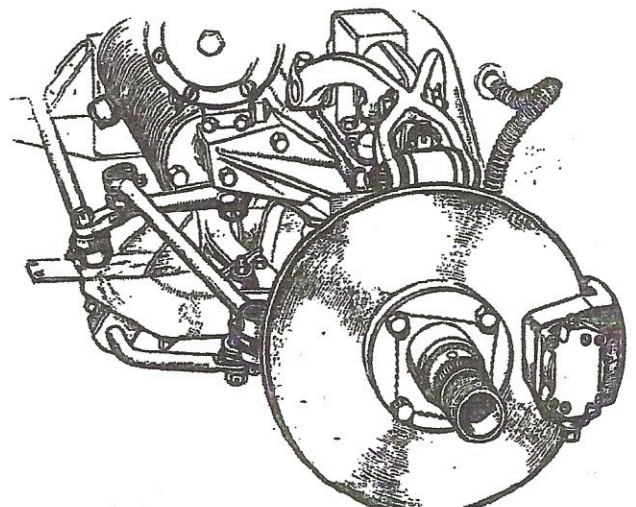
As mentioned previously, the car has Dunlop disc brakes, with one pair of pads per wheel and no servo assistance, the

distribution of braking between front and rear wheels being obtained by varying the diameters of the wheel cylinders. The discs are 11½ in in diameter, the pads 2½ in.

Light alloy is used in place of steel for all panels and structural body members. To improve the streamlining the nose of the car has been restyled, so that it extends slightly forward and has a rather more pleasing contour. The air intake grille is smaller and lower down, but still retains a slightly modified version of the familiar Austin-Healey radiator grille. To assist ventilation of the engine compartment, louvres are cut in the top of the bonnet, and in place of a remote control catch, which might prove embarrassing if the cable broke in the middle of a race, the bonnet is held in place by a leather strap and two simple but effective external catches. Because of the layout of the rear of the car—the petrol tank takes pride of place in the luggage compartment—the spare wheel is housed underneath the rear deck just behind the passenger seat, the rear end projecting into the luggage compartment.

The cockpit is very well laid out; there is a racing type of steering wheel with light alloy spokes and a slender wooden rim, and the bucket seats are light in weight but comfortable. Slots are cut in the seat backs to improve ventilation.

The 100S has independent front suspension with wishbones and coil springs, the arms of the upper wishbones being attached to Armstrong RXP dampers. The combined oil filter and cooler can be seen in the background. Dunlop disc brakes, with one pair of pads per disc, are used.



SPECIFICATIONS

ENGINE: Bore 3.4375 in.; stroke 4.375 in.; capacity 162.2 u. in. (2,660 c.c.); horse-power 132 at 4,700 r.p.m.; maximum torque 168 lb. ft. at 2,500 r.p.m.; compression ratio 13.5. Maximum B.M.E.P. 157 lb./sq. in. at 2,500 r.p.m.

Cylinders: Four cylinders cast integral with crankcase. Full-length water jackets. Aluminum alloy cylinder head and valve seat inserts.

Crankshaft: Forged-steel, counterbalanced crankshaft supported in three detachable steel-backed tri-metal bearings. Crankshaft nitride hardened.

Connecting Rods: Forged steel with detachable steel-backed tri-metal big-end bearings. Fully floating Wrist Pin.

Pistons: Solid skirt type in low expansion aluminum alloy with aluminate finish. Two compression rings and one oil control ring fitted. De Dykes compression rings.

Camshaft: High-lift forged-steel, supported in three detachable steel-backed white-metal bearings. Cams of patented design for quiet operation. Driven by Duplex roller chain from crankshaft with oil catchers to maintain chain lubrication.

Valves: Overhead valves operated by push-rods. Large inlet valves of silicon chrome steel; exhaust valves in "KE.965" steel designed to resist corrosion from leaded fuels.

Lubrication: Pressure gear pump forces oil to all main, connecting rod, camshaft and overhead-valve rocker-shaft bearings. Holes in the connecting rod bearings provide for jet lubrication of the cylinder walls, and the front camshaft bearing provides a controlled feed of oil to the timing chain. Both main and connecting rod bearing oil feeds are of patented design which ensures longer crankshaft life. A full flow oil filter with renewable filter element is fitted. Oil capacity approximately 11½ Imp. pints (14 U.S. pints).

Cooling: Circulation by centrifugal type of pump. Fan-cooled pressurized radiator. Water is directed to spark plug bosses and exhaust port walls. Cooling system capacity 20 Imp. pints (24 U.S. pints).

Fuel System: Fuel from a rear tank of 20 Imp. gallons (24 U.S. gallons) capacity is fed by two S.U. large capacity electrical pumps to twin S.U. carburetors fitted with cold air intake pipe.

Exhaust: High efficiency twinpipe system.

Ignition: Coil and battery ignition with automatic advance and retard and additional vacuum control.

Generator: 12 volt fan-ventilated unit with compensated voltage control.

Starter: Operated by push-button solenoid type of switch.

CLUTCH: Flexible dry single-plate Borg & Beck clutch is fitted with spring cushion drive. Clutch diameter 10 in. Specially constructed for racing.

TRANSMISSION: Four forward speeds and reverse controlled by a short central gear shift and with synchromesh engagement for high, 3rd and 2nd gears. Oil capacity 3 Imp. pints (3.6 U.S. pints).

PROPELLER SHAFT: Hardy Spicer propeller shaft with needle roller bearing universal joints. Lubrication nipples to each joint.

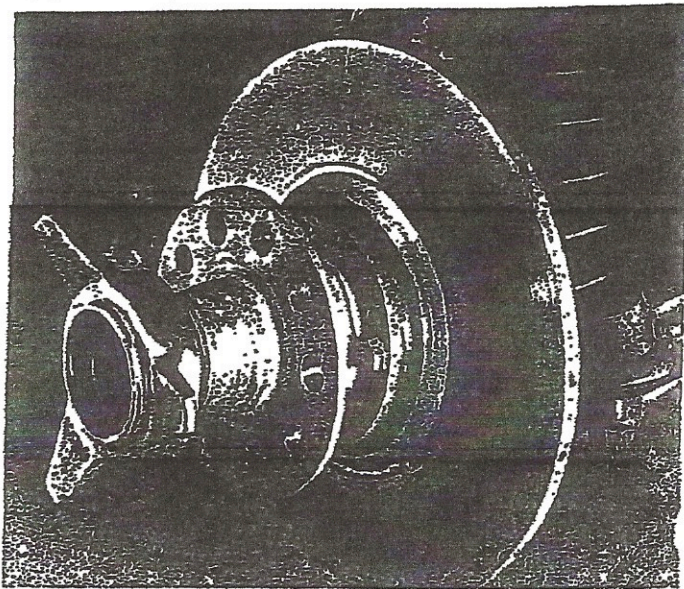
REAR AXLE: Spiral bevel three-quarter floating in a full casing. The pinion is carried by pre-loaded taper roller bearings. Oil capacity 2½ Imp. pints (3 U.S. pints). Final ratio 2.92, alternative ratios available 3.66, 4.125 and 2.69 to 1.

OVERALL GEAR RATIOS: 8.98, 5.57, 3.88 and 2.92 with 12.2 reverse.

STEERING: Burman cam and lever steering gear. Adjustable steering wheel with aluminum alloy spokes and wooden rim.

SUSPENSION: Front—Independent coil springs controlled by double acting Armstrong R.X.P. hydraulic shock absorbers interconnected by an anti-roll torsion bar. Rear—Semi-elliptic springs controlled by double acting Armstrong R.X.P. hydraulic shock absorbers and anti-sway bar.

BRAKES: Dunlop disc brakes on front and rear wheels. Hand brake operates on rear discs only.



Dunlop disc brake as installed in the Austin-Healey 100 "S".

WHEELS AND TIRES: Wire spoke knock-on wheels with 5.50 x 15 Dunlop racing tires.

Quick-lift jacking points and racing jack.

ELECTRICAL: One 12-volt 38AH battery; positive ground strap; built-in side and twin tail-lights; twin horns; Le Mans type headlights. Spark Plugs, Champion NA.10.

INSTRUMENTS: Fuel gauge; oil pressure, oil temperature and water temperature gauges; 140 m.p.h. speedometer; 0-6,000 r.p.m. tachometer.

COACHWORK: Open two-seater with individual bucket seats; all aluminium body; one piece perspex windshield.

OVERALL DIMENSIONS: Wheelbase 90 in.; tread at front 49-5/8 in.; tread at rear 50-3/4 in.; overall length 148 in.; overall width 60-1/2 in.; height over scuttle 35-7/8 in.; height over windshield 42 in.; ground clearance 5-1/2 in.; turning circle 35 ft.

WEIGHT: Dry, 1,888 lb.

Curb, with water, oil and 5 gall. of petrol 1,988 lb.

PERFORMANCE DATA:

Piston Area 37.2 sq. in.

Top Gear M.P.H. per 1,000 r.p.m. = 26.6

AUSTIN-HEALEY 100S

The year 2004 marks the 50th anniversary of the Austin-Healey 100S, a special limited-production model made by the Donald Healey Motor Company.

The 100S model was the culmination of a project undertaken by the Donald Healey Motor Company (DHMCo) independently of Austin. Following the success of the lightly modified standard cars that acquitted themselves so well at Le Mans in 1953, and which led to the 100M model, the DHMCo continued development of Austin-Healeys for racing and record-breaking to help garner publicity. In addition to the success achieved at Le Mans in 1953, they also modified a standard car for a record-breaking attempt at the Bonneville Salt Flats in Utah that year. This car had a special aluminum cylinder head designed by Harry Weslake, and it may be considered to be the first 100S prototype.

Continuing in 1954, the DHMCo also produced five "Special Test Cars" that were also essentially prototypes of what was to become the 100S. (It is these five cars, when added to the 50 100S models made in a production run the following year, which account for the figure 55 100S models often

cited.) Additionally, "Streamliner" prepared for the 1954 record-breaking attempt at Bonneville made a total of seven cars that may be considered 100S prototypes.

One of the Special Test Cars was entered by the DHMCo in the 1954 12-hour race at Sebring, Florida, and after finishing in third place overall, the model had a name: 100S - S for *Sebring*. The DHMCo entered these cars in additional races that year, and then in the fall at the London Motor Show they officially introduced it as a new model.

Beginning in February 1955 the DHMCo began a production run that lasted until November. Fifty examples were produced. These fifty 100S models were all Right Hand Drive, even though fully half of them were exported to the United States and just six were sold in the "home market" (the UK). The rest went to various destinations worldwide, including one sent to Madagascar.

The major differences from the regular production cars were many:

- All-aluminum outer body and substructure on a steel frame
- Small, oval grille
- External opening fuel filler feeding a 25-gallon tank
- No bumpers fitted

- Louvered bonnet with leather bonnet strap
- Low-profile Perspex (plastic) windscreen with no wipers fitted
- Special seat design with vertical slots in the back rests
- Wood-rimmed steering wheel
- No weather equipment supplied (no top or side curtains)
- Dunlop disc brakes all around
- Dunlop 5.50-15 racing tyres
- Aluminum Weslake cylinder head with individual porting
- Finned alloy combined oil cooler and filter
- No overdrive fitted

Additionally, some examples that were entered as "works" (factory) cars in various races by the DHMCo were also fitted with:-

- Dunlop centre-lock magnesium alloy wheels
- David Brown (Aston Martin) four-speed gearbox
- Weber carburetors
- Alloy radiator

Today, fully 45 of the original 50 production cars are accounted for. Six are known to have been written off (destroyed), and 39 are confirmed to still exist. Five examples are as yet unaccounted for.