The Motor Road Test No. 22/60

Make: Daimler **Type:** SP250 Sports (with hard-top)

Makers: The Daimler Co. Ltd., Coventry.

Test Data

CONDITIONS: *Weather. Mild and dry, light wind initially with gusts up to 20 m.p.h. later. (Temperature 50°-58°F., Barometer 29.4-29.7 in. Hg.) Surface: Damp tarred macadam and concrete, becoming dry for acceleration and braking tests. Fuel: Premium-grade pump petrol (approx. 96 Research Method Octane Rating).*

INSTRUMENTS

Speedometer at 30 m.p.h.	accurate
Speedometer at 60 m.p.h.	5% fast
Speedometer at 90 m.p.h.	4% fast
Speedometer at 120 m.p.h.	3% fast
Distance recorder	accurate

WEIGHT

Kerb weight, (unladen, but with oil coolant and fuel for approx. 50 miles)	20 cwt.
Front/rear distribution of kerb weight	54/46
Weight laden as tested	23¾ cwt.

MAXIMUM SPEEDS

Flying mile

Mean of six opposite runs	123.7 m.p.h.
Best one-way time equals	126.3 m.p.h.

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

Mean of four opposite runs	115.4 m.p.h.
Best one-way time equals	117.6 m.p.h.

Speed in gears (at 6,000 r.p.m.)

Max. speed in 3rd gear	100 m.p.h.
Max. speed in 2nd gear	71 m.p.h.
Max. speed in 1st gear	42 m.p.h.

FUEL CONSUMPTION

40½ m.p.g. at constant	30 m.p.h. on level.
40½ m.p.g. at constant	40 m.p.h. on level.
37 m.p.g. at constant	50 m.p.h. on level.
32½ m.p.g. at constant	60 m.p.h. on level.
28 m.p.g. at constant	70 m.p.h. on level.
25½ m.p.g. at constant	80 m.p.h. on level.
23½ m.p.g. at constant	90 m.p.h. on level.
20½ m.p.g. at constant	100 m.p.h. on level.
17¼ m.p.g. at constant	110 m.p.h. on level.

Overall Fuel Consumption for 2,713 miles, 118.0 gallons, equals 23.0 m.p.g. (12.3 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). 25 m.p.g.

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

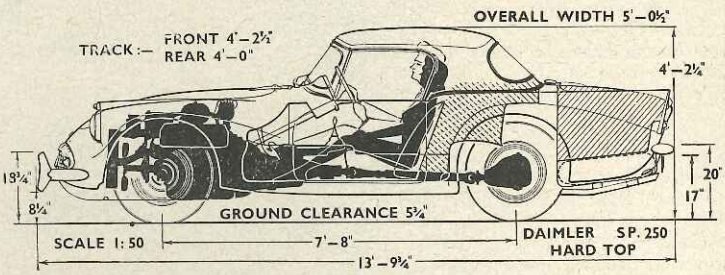
STEERING

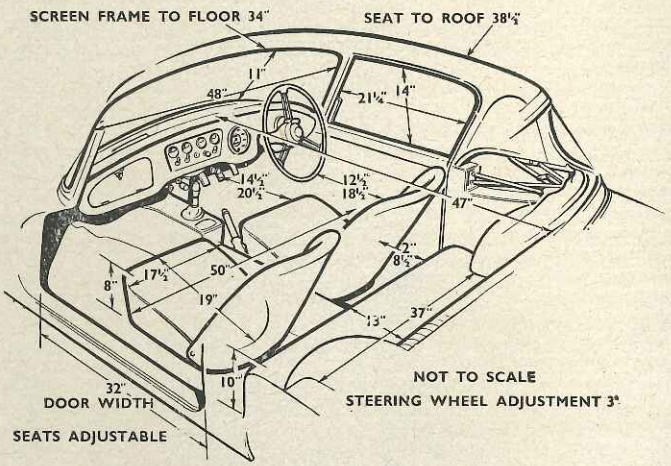
Turning circle between kerbs:

Left	31½ ft.
Right	31½ ft.
Turns of steering wheel from lock to lock	2¾

BRAKES from 30 m.p.h.

1.00 g retardation (equivalent to 30 ft. stopping distance)	with 140 lb. pedal pressure.
0.91 g retardation (equivalent to 33 ft. stopping distance)	with 125 lb. pedal pressure.
0.75 g retardation (equivalent to 40 ft. stopping distance)	with 100 lb. pedal pressure.
0.62 g retardation (equivalent to 48½ ft. stopping distance)	with 75 lb. pedal pressure.
0.46 g retardation (equivalent to 65½ ft. stopping distance)	with 50 lb. pedal pressure.
0.23 g retardation (equivalent to 131 ft. stopping distance)	with 25 lb. pedal pressure





ACCELERATION TIMES from standstill

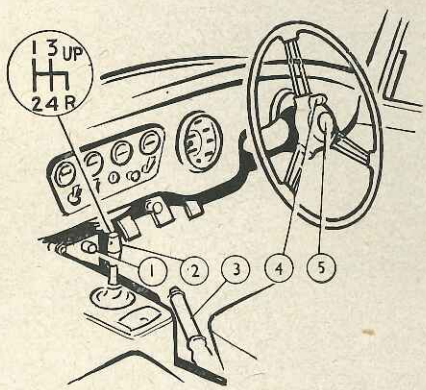
0-30 m.p.h.	3.2 sec.
0-40 m.p.h.	4.6 sec.
0-50 m.p.h.	6.8 sec.
0-60 m.p.h.	8.9 sec.
0-70 m.p.h.	11.2 sec.
0-80 m.p.h.	15.3 sec.
0-90 m.p.h.	19.5 sec.
0-100 m.p.h.	25.6 sec.
0-110 m.p.h.	35.7 sec.
Standing quarter mile	17.0 sec.

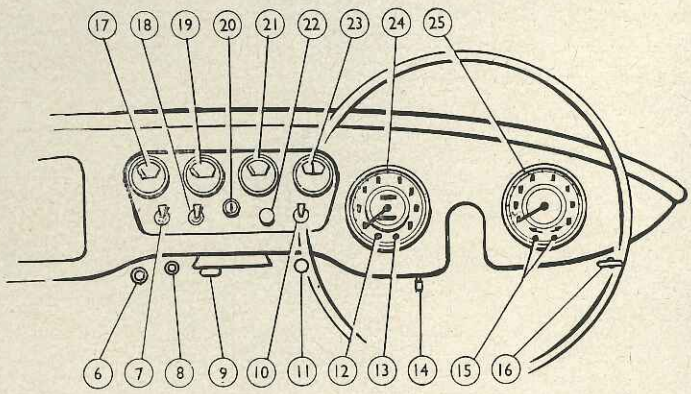
ACCELERATION TIMES on Upper Ratio

	Top gear	3rd gear
10-30 m.p.h.	7.3 sec.	5.7 sec.
20-40 m.p.h.	6.9 sec.	5.4 sec.
30-50 m.p.h.	6.8 sec.	5.6 sec.
40-60 m.p.h.	7.7 sec.	5.9 sec.
50-70 m.p.h.	8.3 sec.	6.2 sec.
60-80 m.p.h.	8.5 sec.	7.0 sec.
70-90 m.p.h.	9.3 sec.	8.2 sec.
80-100 m.p.h.	12.1 sec.	10.4 sec.
90-110 m.p.h.	17.7 sec.	—

HILL CLIMBING at sustained steady speeds

Max. gradient on top gear	1 in 7.5 (Tapley 295 lb./ton)
Max. gradient on 3rd gear	1 in 6.0 (Tapley 370 lb./ton)
Max. gradient on 2nd gear	1 in 3.9 (Tapley 560 lb./ton)

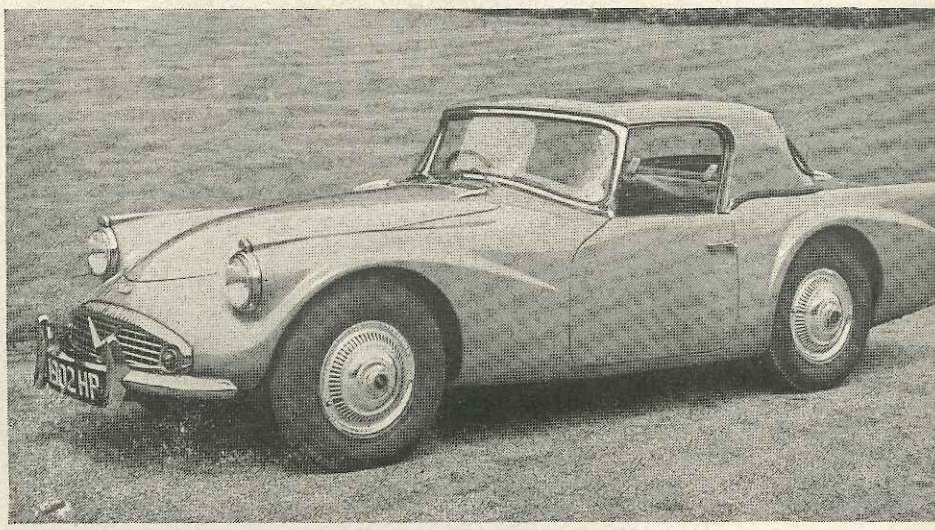




1. Headlamp dip-switch. 2. Gear lever. 3. Handbrake. 4. Direction indicator switch. 5. Horn button. 6. Petrol reserve tap and warning light (extra). 7. Lights switch. 8. Windscreen washer button. 9. Heater temperature control and fan switch. 10. Windscreen wipers switch. 11. Heater air distribution control. 12. Headlamp main beam indicator. 13. Dynamo charge warning light. 14. Trip re-setting knob. 15. Direction indicator warning light. 16. Bonnet catch release. 17. Fuel contents gauge. 18. Panel light switch. 19. Water thermometer. 20. Ignition and starter switch. 21. Oil pressure gauge. 22. Choke control. 23. Ammeter. 24. Speedometer. 25. Tachometer.

The DAIMLER SP250 Sports

High Speeds Behind a Smooth New 2½-litre V-8 Engine



SMOOTH power from a V-8 engine propels this low-built hard-top Daimler at well over 120 m.p.h. Wheel discs and front bumper on the test model are extras on a very competitively priced model.

THIS is not so much a Road Test Report upon a car as upon an engine. Applying lessons which were learned on vertical twin-cylinder motorcycle engines, a V-8 power unit of 2½-litre size has been produced, which is quite exceptional in its torque output and in its turbine-like smoothness over an incredibly wide range of speeds. Other aspects of this car are overshadowed by the performance, both quantitative and qualitative, which the engine provides, for although the car as a whole can be fun to drive and fits sensibly into the price-performance spectrum of fast two-seaters, its chassis and coachwork are made to seem undistinguished by the engine which propels them.

Two bucket seats, and a tiny back seat where one person can sit transversely if necessary, are provided inside this car's body of resin-bonded glass fibre, the weatherproof comfort of a car with wind-down glass windows being augmented during our performance tests by a removable hard-top beneath which the usual folding hood remained furled. A very orthodox X-braced chassis has coil spring i.f.s., half elliptic springs which locate a rigid rear axle, and Girling disc brakes which in response to rather high pedal pressures give reassuringly good retardation at all times.

Priced at a tax-paid £1,395, exclusive of heater and hard-top, this sports two-seater is capable of such notable performance figures as acceleration from rest to 100 m.p.h. in 25.6 seconds, or from 30 m.p.h. to 50 m.p.h. in top gear in only 6.8 seconds, and attains a maximum speed (the average of timed runs in opposite directions) in excess of 123 m.p.h. This sort of speed and acceleration is provided for a very moderate fuel consumption rate: petrol of 96-octane rating was used for our performance tests, but as mileage accumulated pinking at speeds below 1,000 r.p.m. became more evident and we changed over to 100-octane fuel.

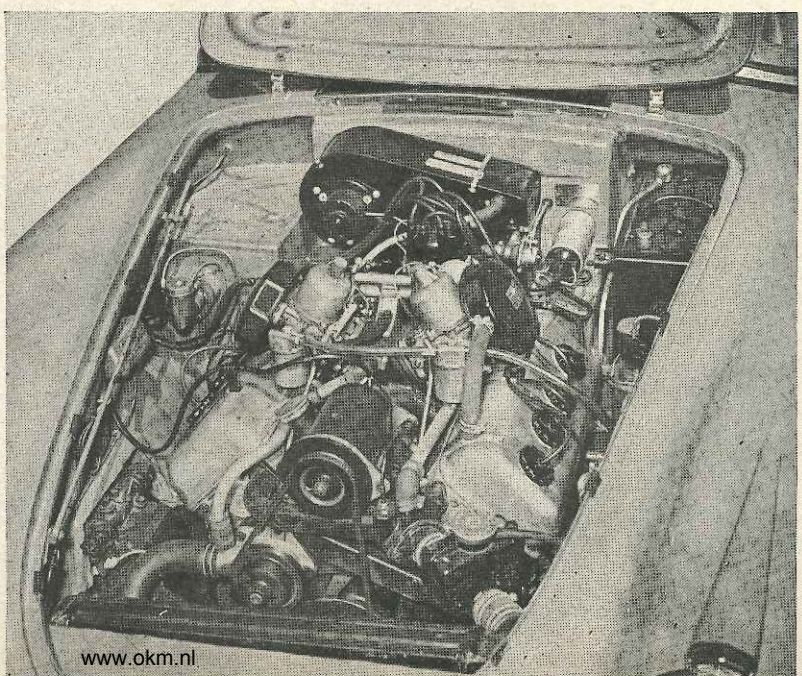
There is little of the traditional Daimler character about this SP250 model, but the engine has a smoothness and freedom from mechanical clatter recalling sleeve-valve Daimlers of thirty and more years ago. This quiet smoothness is apparent at very low speeds in top gear, and extends in quite astonishing fashion over the whole range up to 6,000 r.p.m. at which there is a red line on the rev. counter. It would be hard to find an engine which is more free from vibration, and running it with the bonnet open emphasizes that it is a very quiet engine mechanically and not merely insulated with sound-absorbing material: the exhaust note also is subdued enough to permit uninhibited use of the available performance whenever this is safe.

From cold, the engine started easily after the car had spent cool early-summer nights in the open air, but even with some use of the choke it took some while to warm up the water-jacketed induction manifolds enough for throttle response to become normal. Once warm, this engine re-started promptly after short or long stops without any need for choking, and top gear could be used down to very low speeds—only if full throttle was used below 1,000 r.p.m. did a trace of pinking suggest that such treatment was not entirely appropriate to a fast-revving sports engine. At the opposite end of its speed range, this engine never hinted that sustained high r.p.m. represented any kind of ill-treatment, always idling regularly with good oil pressure (although hard braking to a standstill could stall the engine as a result it seemed of fuel surge in the two S.U. carburetters weakening the mixture) and the engine used a pint of oil per 150 miles when driven fast in hot weather.

A maximum speed of 123.7 m.p.h., and a top gear ratio low enough to provide acceleration from 30 m.p.h. to 50 m.p.h. in 6.8 seconds or from 80 m.p.h. to 100 m.p.h. in 12.1 seconds, represent a

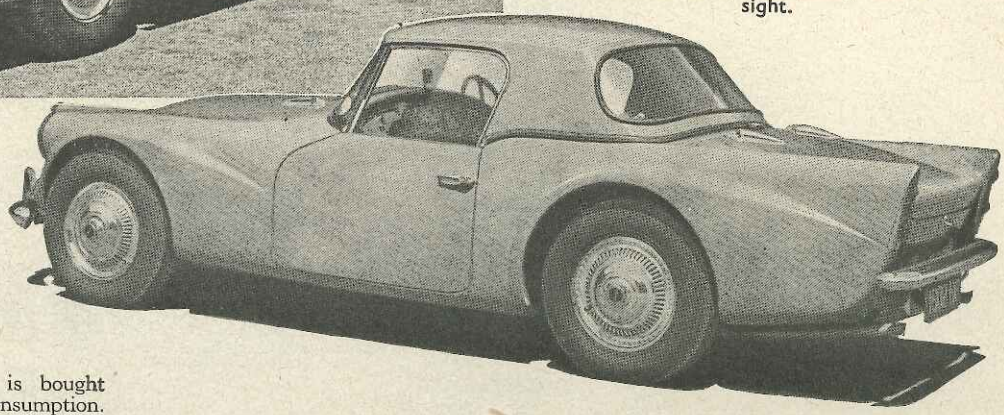
In Brief

Price (including hard-top as tested)	£1,050 18s. 3d. plus purchase tax £439 0s. 1d. equals £1,489 18s. 4d.
Price without hard-top (including purchase tax),	£1,395.
Capacity	2,548 c.c.
Unladen kerb weight ...	20 cwt.
Acceleration:	
20-40 m.p.h. in top gear ...	6.9 sec.
0-50 m.p.h. through gears	6.8 sec.
Maximum direct top gear gradient	1 in 7.5
Maximum speed ...	123.7 m.p.h.
"Maximile" speed ...	115.4 m.p.h.
Touring fuel consumption ...	25 m.p.g.
Gearing: 20.6 m.p.h. in top gear at 1,000 r.p.m.; 45.0 m.p.h. at 1,000 ft./min. piston speed.	



ACCESSIBILITY of the main engine components is evident in this photograph which shows the ignition distributor, carburetters, sparking plug covers, and even the timing pointer on a crankshaft-nose vibration damper.

TWO WAYS of driving the Daimler are shown here, the hard-top fitting over the furled hood when desired, and providing extra stiffness for a scuttle structure undercut by big doors as well as giving complete weather protection. Glass side windows drop completely out of sight.



The DAIMLER SP250 Sports

performance such as usually is bought at the cost of heavy petrol consumption. In this instance however, such fuel consumption figures as 32½ m.p.g. at a steady 60 m.p.h., 20½ m.p.g. at a steady 100 m.p.h., and 23.0 m.p.g. for some 2,700 miles of varied fast driving are extremely reasonable, especially as the engine does not insist on 100-octane petrol.

In unit with this engine are a perfectly orthodox single-plate clutch, and a four-speed gearbox with the usual sports car type of remote control which forms a narrower intrusion in the cockpit than is nowadays usual. The clutch has an awkwardly long pedal travel but copes smoothly with whatever is asked of it (rear axle tramp occurs if too fierce starts from rest are attempted) but the indirect gears make a much more audible whine than is nowadays usual and 3rd gear occasionally disengaged itself on the overrun. Effective synchromesh is used only on the upper three ratios, which are closely spaced together in true (but all too rare) sports car fashion, speeds of 42 m.p.h., 71 m.p.h., and 100 m.p.h. being quickly and easily reached in the three indirect gears. Whilst this car gets along more than briskly if driven almost exclusively in top gear, free use of 3rd and 2nd ratios produces acceleration at any out-of-town speed which can astonish other owners of quite fast cars.

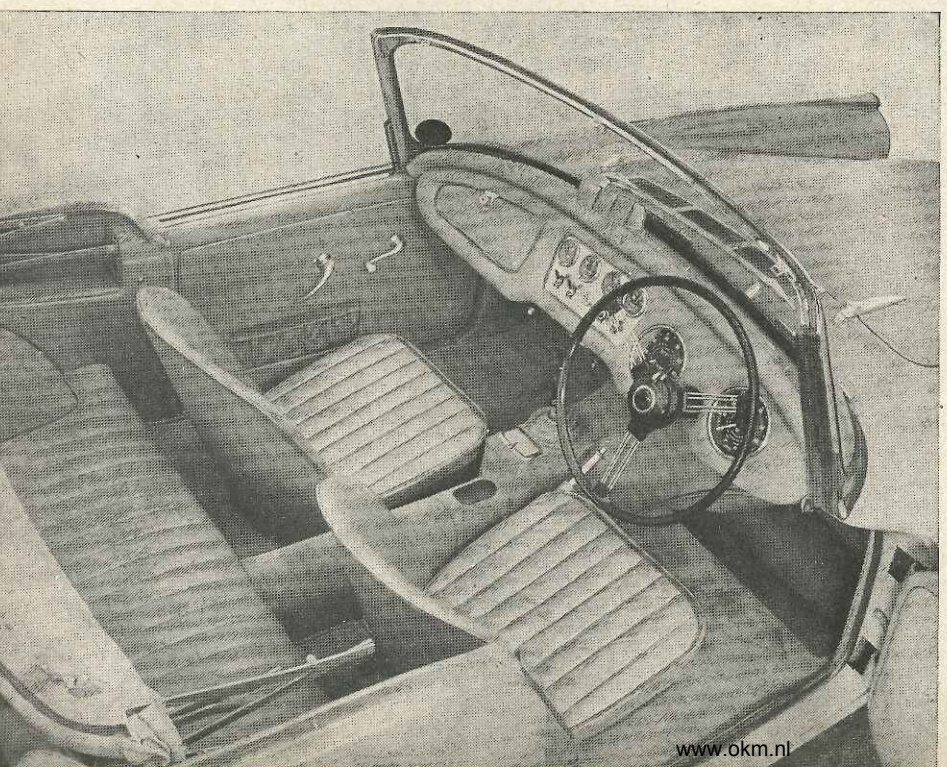
Although the road springs of this car are soft enough to let it be moved up and down by hand when it is at rest, the riding qualities on bumpy roads leave something to be desired. It is a comfortable enough car for the good main road surfaces which are common in England, but rides harshly over potholed lanes, and can jerk the driver out of his seat if the sort of rough road which remains common outside England is negotiated fast. The suspension is appropriately sporting in the sense that cornering speed must be quite high before any body roll or tyre squeal is induced.

Steering which at low speeds is surprisingly heavy for a one-ton car becomes reasonably effortless once the car is doing 30 m.p.h., and the friction in its mechanism prevents any unwelcome kick-back. The brakes also need rather more effort applied to them than is nowadays usual, so that in flying parlance the Daimler's controls could be described as "well harmonized." At two miles a minute the SP250 was completely stable, even with a damp road surface and some cross-wind, a true 110 m.p.h. being a quickly reached and easily sustained cruising speed at which the driver could concentrate upon what lay ahead without being distracted by any tendency for his car to wander off course. At such speeds, the level of wind noise inside the hard-top body is rather high.

Since early examples of this model were demonstrated, the cornering qualities have improved and it is possible to get along a winding British road very fast indeed, a certain untidiness about the behaviour of the rigid rear axle under extreme conditions giving plenty of warning before the limit is overstepped: although an unexpected bump on the apex of a fast corner, or use of too much power in 2nd gear on a sharper turn, could make the rear wheels hop, the car should never embarrass a capable driver, and on wet roads any power slide which was induced was fully controllable.

Like the chassis, this model's reinforced plastic bodywork already shows improvement since its introduction, and it has now reached a satisfactory standard of quality, even if it is necessary to think that this is not the traditional Daimler, but is rather the fastest car which can be bought for about £1,400. The plastic structure is reasonably well finished externally, even if the visible glass-fibre reinforcement seen on "the wrong side of the material" when the bonnet or boot are opened looks rough, and the car as a whole now feels as rigid as are most other open two-seaters although occasionally very hard cornering on a bumpy road caused a front-hinged door to go from its tight closed position on to the "safety" first notch of its locking mechanism. Thinly padded and covered with leathercloth, the facia has a tidy instrument layout and the minor controls are reasonably easy to find after dark, but most owners will surely want to add a "flasher" switch for the none-too-powerful headlamps to such a fast-cruising car as this.

Winding glass windows, held firmly by guides at their forward edges but otherwise frameless and so invisible when



TWO SEATS shaped to wrap around the hips of occupants are supplemented by a small, cushioned rear compartment. Instruments and minor controls are tidily arranged on a padded facia covered in leathercloth.

lowered, prevent the doors being hollowed out to provide elbow room, but this is a comfortable enough two-seater car. Use of a full width rear cushion is surprising, as there is no legroom for a rear seat passenger to sit other than transversely, for which purpose a half-width cushion would be more practical. The door openings extend right down to floor level and also well forwards, making this an easy sports car to enter, but the passenger would be more comfortable during fast cornering if there were an angled toeboard against which his or her feet could press, and if the battery box did not come so low above the near-side floorboards. Individual seats have plenty of adjustment range, which can be supplemented as an optional extra by a telescopic steering column, but tall drivers did not find the seats as comfortable for long journeys as did shorter-limbed members of our staff. The tail of the body houses a sensibly shaped and quite capacious luggage locker (with the spare wheel beneath a trapdoor in its carpeted floor) and a 12-gallon fuel tank above the rear axle gives quite a good cruising range, helped if the optional reserve tap is fitted because this makes it possible to run down to a low petrol level before refuelling.

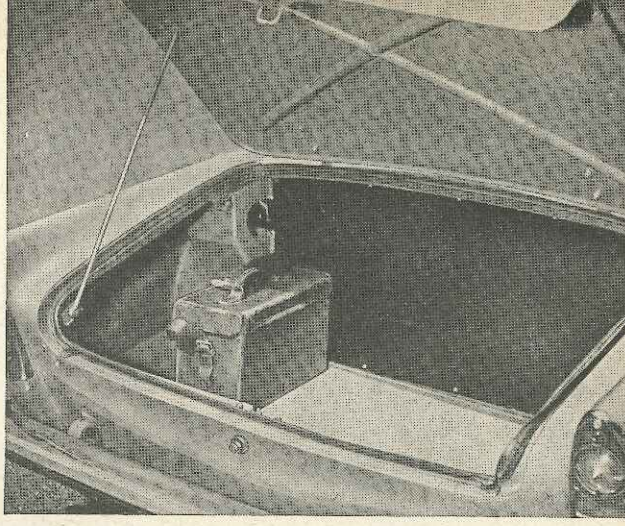
Waterproof

A very low bonnet line, which gives the driver an excellent forward view between conspicuous front wings, has only been made possible by mounting the engine's cooling fan on the nose of the crankshaft instead of in the customary higher position. We were however able to experiment in a long stretch of road flooded with several inches of water, repeatedly going up to speeds high enough for a "bow wave" of spectacular proportions to be generated, and although water was sprayed over the engine the screened ignition system never missed a spark. The only water to enter the car was found, unexpectedly, inside the ashtray on the central transmission tunnel, and after leaving the flood water full braking power was almost instantly regained. Whilst it was noticeable that fast negotiation of an S-bend could increase pedal travel of the self-adjusting disc brakes, enough travel for full braking remained even after limit-of-adhesion cornering forces had been applied alternately in each direction, and this rather unwelcome effect disappeared if the pedal was "pumped" once or twice. Some cars with disc braking on all four wheels have lacked handbrake power, but even the quite abnormally severe test of parking on a 1 in 3 grade was passed successfully by this car's fly-off handbrake when it was applied by a strong left arm—"fly off" is in this case an inexactitude as the lever had to be pushed down when it was released.

Having been asked to use the "hard top" whilst making our performance tests, we also did most other driving in this trim, but we also covered some hundreds of miles with the car open. With two pairs of hands, removal of the "hard top" is easy enough, and re-fitting it to tight-fitting mountings need not take more than five minutes. The flexible hood is easily raised or lowered, although folding it neatly requires more knack, and a tonneau cover is provided with a central zipper so that a driver travelling alone can have three-quarters of the car covered.

As an open car, the Daimler shows the usual rather marked back-draught behind its curved windscreen, gearbox noise ceasing to evoke criticism and a gentle burble from the exhaust becoming audible. Extremely disappointing is the amount of sideways shake from which the scuttle and steering column suffered at town and suburban speeds when the stiffening or damping effect of the roof was removed.

As the lowest-priced 120 m.p.h. car on the market, the Daimler appeals primarily as very good value for money. If the qualities of its chassis and bodywork are average rather than particularly commendable, a smoothly potent engine allied to a gearbox providing notably well-chosen ratios can be named as singularly attractive features.



LOCK AND KEY protection for large suitcases is provided in the conveniently shaped boot of this open car.

Specification

Engine

Cylinders	V-8
Bore	76.2 mm.
Stroke	69.85 mm.
Cubic capacity	2,548 c.c.
Piston area	56.6 sq. in.

Valves: Inclined o.h.v. operated by pushrods and rockers.

Compression radio	8.2/1
Carburetters	Two inclined S.U. type HD6
Fuel pump	S.U. electrical (rear mounted)
Ignition timing control	Centrifugal and vacuum
Oil filter	Full flow
Max. power (gross) 140 b.h.p. (135 b.h.p. net) at	5,800 r.p.m.
Piston speed at max. b.h.p.	2,660 ft./min.

Transmission

Clutch	Borg & Beck 9 in. s.d.p.
Top gear (s/m)	3.58
3rd gear (s/m)	4.41
2nd gear (s/m)	6.236
1st gear	10.50
Reverse	13.50
Propeller shaft	Hardy Spicer open
Final drive	Hypoid bevel
Top gear m.p.h. at 1,000 r.p.m.	20.6
Top gear m.p.h. at 1,000 ft./min. piston speed	45.0

Chassis

Brakes	Girling discs, hydraulically operated
Brake diameters	10⅝ in. front, 10 in. rear

Friction areas: 18.6 sq. in. of pad working on 438 sq. in. rubbed area of discs.

Suspension:
Front: Independent by coil springs and wishbones.
Rear: Rigid axle and ½-elliptic leaf springs.

Shock Absorbers:

Front	Armstrong telescopic
Rear	Armstrong lever-arm hydraulic
Steering gear	Cam Gears, Ltd., cam and lever.
Tyres	5.90-15 Dunlop Road Speed (tubed)

Coachwork and Equipment

Starting handle	None
Battery mounting	On left side of scuttle
Jack	Screwed pillar type

Jacking points: Two sockets under trap-doors in cockpit floor.

Standard tool kit: Jack and handle, wheel-brace, hubcap remover, four double-ended spanners, sparking plug spanner and tommy bar, screwdriver, pliers, tappet feeler gauge, contact breaker screwdriver-feeler gauge, brake bleeding tube and container.

Exterior lights: 2 headlamps, 2 sidelamps, 2 stop/tail lamps, number plate lamp.

Number of electrical fuses	2
Direction indicators	Amber flashers, self-cancelling
Windscreen wipers	Lucas two-blade electrical, self-parking
Windscreen washers	Optional extra (Lucas electrical)
Sun visors	None

Instruments: Speedometer with total and decimal trip distance recorders, rev. counter, fuel contents gauge, oil pressure gauge, coolant thermometer, ammeter.

Warning lights: Dynamo charge, headlamp main beam, turn signals.

Locks:

With ignition key	Ignition/starter switch and driver's door
With other keys	Luggage locker and glove box
Glove lockers	One on facia, with lockable lid
Map pockets	Two in doors
Parcel shelves	None
Ashtrays	One in gearbox cover
Cigar lighter	Optional extra
Interior lights	Instrument panel lighting only
Interior heater	Optional extra fresh air heater and screen de-mister.
Car radio	Optional extra Ekco CR1901

Extras available: (a) Wire wheels, white-wall tyres, adjustable steering column, leather-covered steering wheel, front bumper, rear bumper (replacing over-riders only), tonneau cover, removable hard-top, petrol reserve switch and warning lamp, cigar lighter and automatic transmission may be ordered as original equipment; (b) Windscreen washers, wheel discs, exhaust pipe finishers, trickle charger socket, badge bar, safety belts, fog and driving lamps, wing mirrors and heater/de-mister available as accessories.

Upholstery material: Leather on seats, and matching leathercloth.

Floor covering	Carpets
Exterior colours standardized	Four

Alternative body styles: None (removable hard-top fits open body).

Maintenance

Sump	12 pints, S.A.E. 10W/30
Gearbox	1½ pints, S.A.E. 30
Rear axle	1½ pints, S.A.E. 90 hypoid gear oil
Steering gear lubricant	S.A.E. 90 hypoid gear oil

Cooling system capacity: 22 pints (one drain tap and two drain plugs).

Chassis lubrication: By grease gun every 1,000 miles to 16 points, and every 5,000 miles to 5 further points.

Ignition timing	10° before t.d.c. static
Contact-breaker gap	0.014-0.016 in.
Sparking plug type	Champion N8, 14 mm.
Sparking plug gap	0.025 in.

Valve timing: Inlet opens 13° before t.d.c. and closes 65° after b.d.c.; Exhaust opens 55° before b.d.c. and closes 23° after t.d.c.

Tappet clearances (Cold):

Inlet	.012 in.
Exhaust	012 in.
Front wheel toe-in	⅛"
Camber angle	2°
Castor angle	2°
Steering swivel pin inclination	7°

Tyre pressures:
Front 22 lb. Rear 24 lb. Add 6 lb. for sustained speeds above 90 m.p.h.

Brake fluid	Girling Crimson
Battery type and capacity	12 volt, 51 amp. hr.