

# The Motor Road Test No. 6/60

**Make:** Sunbeam **Type:** Rapier Series III (with overdrive)  
**Makers:** Sunbeam-Talbot Ltd., Ryton on Dunsmore, Coventry

## Test Data

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**CONDITIONS.** Weather: Cool and slightly damp with light wind. (Temperature 42°-47° F., Barometer 29.3 in. Hg.) Surface: Dry and damp tarred macadam. Fuel: Premium grade pump petrol (approx. 96 research method octane rating).

### INSTRUMENTS

Speedometer at 30 m.p.h. . . . .	4% fast
Speedometer at 60 m.p.h. . . . .	5% fast
Speedometer at 90 m.p.h. . . . .	8% fast
Distance recorder . . . . .	1% fast

### WEIGHT

Kerb weight (unladen, but with oil, coolant and fuel for approx. 50 miles)	21 cwt.
Front/rear distribution of kerb weight	56½/43½
Weight laden as tested	24¼ cwt.

### MAXIMUM SPEEDS

**Flying Mile**

Mean of four opposite runs . . . . .	91.7 m.p.h.
Best one-way time equals . . . . .	95.6 m.p.h.

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

Mean of four opposite runs . . . . .	85.9 m.p.h.
Best one-way time equals . . . . .	86.5 m.p.h.

**Speed in Gears** (at 5,500 r.p.m. recommended limit.)

Speed in direct top gear . . . . .	84 m.p.h.
Speed in overdrive 3rd gear . . . . .	75 m.p.h.
Speed in direct 3rd gear . . . . .	60 m.p.h.
Speed in 2nd gear . . . . .	39 m.p.h.
Speed in 1st gear . . . . .	25 m.p.h.

### FUEL CONSUMPTION (Overdrive top gear)

43.0 m.p.g. at constant 30 m.p.h. on level.
38.5 m.p.g. at constant 40 m.p.h. on level.
35.0 m.p.g. at constant 50 m.p.h. on level.
31.5 m.p.g. at constant 60 m.p.h. on level.
27.0 m.p.g. at constant 70 m.p.h. on level.
22.5 m.p.g. at constant 80 m.p.h. on level.
<b>(Direct top gear)</b>
37.5 m.p.g. at constant 30 m.p.h. on level.
34.5 m.p.g. at constant 40 m.p.h. on level.
31.5 m.p.g. at constant 50 m.p.h. on level.
28.5 m.p.g. at constant 60 m.p.h. on level.
24.0 m.p.g. at constant 70 m.p.h. on level.

**Overall Fuel Consumption** for 1,498 miles, 63.4 gallons, equals 23.6 m.p.g. (12.0 litres/100 k.m.)

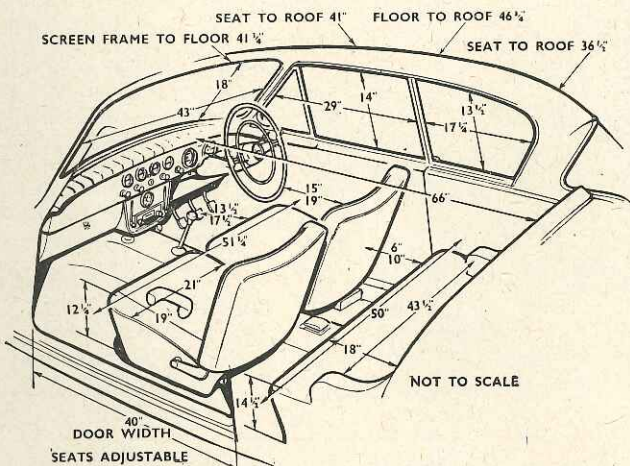
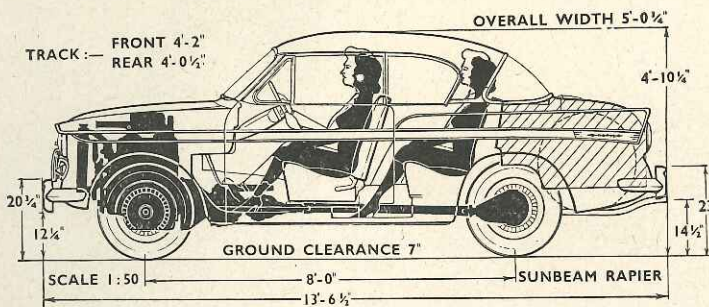
**Touring Fuel Consumption** (m.p.g. at steady speed midway between 30 m.p.h. and maximum, less 5% allowance for acceleration). 29.5 m.p.g. Fuel tank capacity (maker's figure) 10 gallons.

### STEERING

Turning circle between kerbs	
Left . . . . .	34½ feet
Right . . . . .	34½ feet
Turns of steering wheel from lock to lock	3

### BRAKES from 30 m.p.h.

0.97 g retardation (equivalent to 31 ft. stopping distance) with 100 lb. pedal pressure.
0.83 g retardation (equivalent to 36 ft. stopping distance) with 75 lb. pedal pressure.
0.54 g retardation (equivalent to 56 ft. stopping distance) with 50 lb. pedal pressure.
0.25 g retardation (equivalent to 120 ft. stopping distance) with 25 lb. pedal pressure.



### ACCELERATION TIMES from standstill

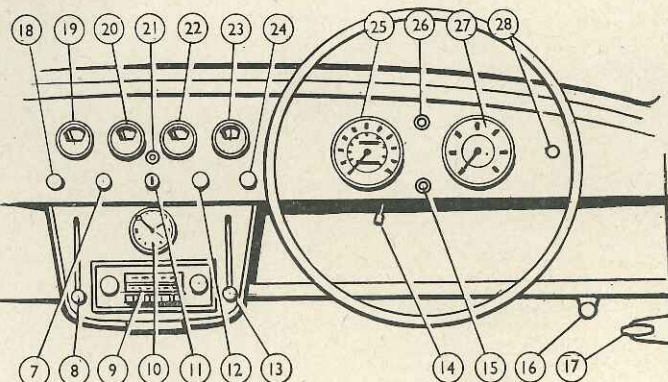
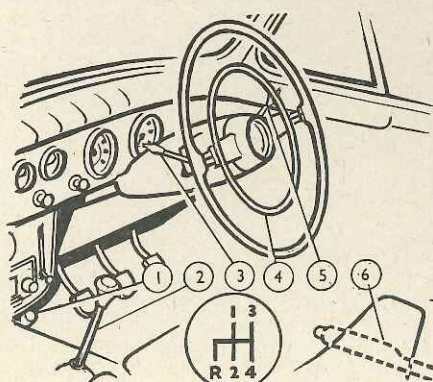
0-30 m.p.h. . . . .	5.2 sec.
0-40 m.p.h. . . . .	7.8 sec.
0-50 m.p.h. . . . .	11.7 sec.
0-60 m.p.h. . . . .	16.6 sec.
0-70 m.p.h. . . . .	23.2 sec.
0-80 m.p.h. . . . .	37.6 sec.
Standing quarter mile . . . . .	20.9 sec.

### ACCELERATION TIMES on Upper Ratios

	Overdrive Top Gear	Direct 3rd Gear	Overdrive 3rd Gear	Direct 3rd Gear
10-30 m.p.h.	15.8 sec.	11.0 sec.	10.3 sec.	7.4 sec.
20-40 m.p.h.	16.5 sec.	10.9 sec.	10.1 sec.	7.3 sec.
30-50 m.p.h.	18.3 sec.	12.0 sec.	10.9 sec.	8.5 sec.
40-60 m.p.h.	21.1 sec.	13.6 sec.	12.8 sec.	—
50-70 m.p.h.	30.9 sec.	20.2 sec.	—	—
60-80 m.p.h.	—	—	—	—

### HILL CLIMBING at sustained steady speeds

Max. gradient on overdrive top gear	1 in 14.1 (Tapley 150 lb./ton)
Max. gradient on direct top gear	1 in 10.6 (Tapley 210 lb./ton)
Max. gradient on overdrive 3rd gear	1 in 9.1 (Tapley 245 lb./ton)
Max. gradient on direct 3rd gear	1 in 6.9 (Tapley 320 lb./ton)
Max. gradient on 2nd gear	1 in 4.6 (Tapley 475 lb./ton)



1 Dip switch. 2, Gear lever. 3, Direction indicator switch. 4, Horn ring. 5, Overdrive switch. 6, Handbrake. 7, Choke control. 8, Demister control. 9, Radio. 10, Clock (optional). 11, Ignition and starter switch. 12, Cigar lighter.

13, Heater temperature control and fan switch. 14, Trip re-setting knob. 15, Direction indicator warning light. 16, Cold air vent. 17, Bonnet catch release. 18, Panel light switch. 19, Water thermometer. 20, Fuel contents gauge. 21,

Dynamo charge warning light. 22, Oil pressure gauge. 23, Ammeter. 24, Lights switch. 25, Speedometer and distance recorder. 26, Main beam indicator. 27, Tachometer (optional). 28, Windscreen wipers switch.

# The Sunbeam Rapier III (with overdrive)



FOR the third year in succession, a Sunbeam Rapier competing in the Touring Car category was in 1960 best placed of all the British competitors in the Monte-Carlo Rally's general classification. Consistently good performances such as this have built up the Rapier's well-deserved reputation as a car with more speed, stamina and controllability than are usually expected from a finely furnished 1½-litre 4-seat saloon which can be purchased (without overdrive or heater) for a tax-paid price below £1,000. We tested the 1960 model shortly before it scored its latest Rally success, and noted that a large number of fairly inconspicuous changes have made the Series III Rapier much more attractive than its predecessors in almost every respect.

Basically the Sunbeam Rapier remains what it has been in recent years, the most sporting of three Rootes-built makes of car which share the same basic dimensions of engine and wheelbase; the way in which extremely neat appearance is matched by good quality furnishing would ensure a demand for this model even if its technical

A 1½-litre Four-seater which Excels in Performance, Refinement and Quality of Furnishing

specification were far short of what is actually offered. But, though the two-door body is now smarter than ever, internally and externally, it is the numerous mechanical improvements which really distinguish the 1960 version. The engine introduced for the Sunbeam Alpine two-seater is now used (with ample additional silencing) to give a top speed genuinely in excess of 90 m.p.h. and to trim 14% off the time which a Series II car needed to reach 60 m.p.h. from a standstill. A new gearbox with re-arranged ratios and a central remote control makes it easier to use all the available power, and disc-type front brakes make it safe so to do. Surprisingly, a higher standard of silence and smoothness at leisurely touring speeds has also been built into the car.

As hitherto, this is purely and simply a four-seat car, with overall dimensions of 13 ft. 6½ in. length and 5 ft. 0¾ in. breadth which allow conventional good looks to be combined with reasonable ease of parking. Two wide doors put the emphasis on ease of entry to the front seats, which are individually adjustable (over a range which very long-legged men may not think adequate), smartly trimmed in good looking leathercloth, and quite comfortable for anyone who accepts a fairly upright seat backrest as appropriate to this sort of car. For reasonably easy access to the back seat, the driving seat backrest tilts forwards and the back of the passenger seat can be folded completely flat.

Although many people choose two-door cars because children in the back compartment are safely out of reach of door handles, the Rapier's rear seat is certainly not meant

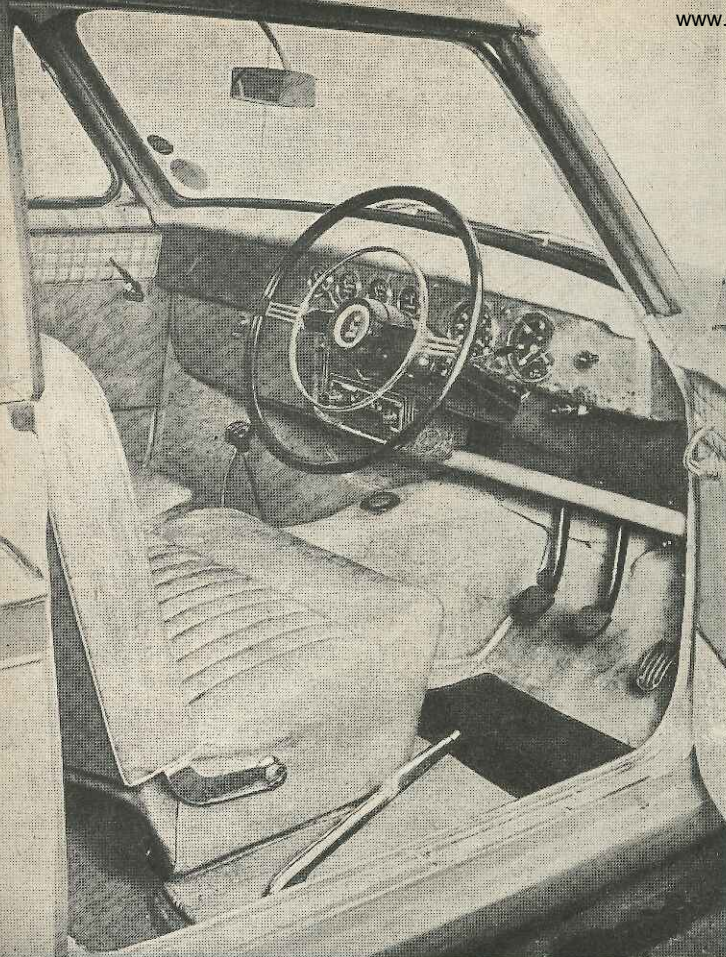
only for children. Fixed side armrests and a central hard-spot in the seat cushion above the transmission line are noted, but four adults can be comfortable in this car for journeys of any length. Always a pillarless model, with four side windows which disappear completely from view and leave no frames visible, the Rapier is now notably improved by a slimming down of the windscreen pillars, despite which it gives a greater impression of structural rigidity than ever before when driven fast along a badly surfaced road.

It would be hard to find a production car of equal compactness which could better the Rapier's interior furnishing, the high standards which are set being typified by the perfect fit (and secure fastening) of underfelted carpets. Padding along the fascia top is covered in pleated leathercloth; the lower edge of the fascia is shaped as a large-radius curve opposite the passenger seat, and padded along the edge of a parcel shelf which faces the driver. There is a polished wood fascia panel, which carries such items as an oil pressure gauge, water thermometer and ammeter as standard equipment and makes provision for a clock and a rev. counter. The one item of questionable taste is the use of a grained mock-wood finish for a pressing below the main fascia panel which accommodates the controls of such optional items as the radio and the interior heater.

The new Sunbeam engine with its reinforced structure, new cylinder head and different pistons proved hard-working and viceless, running happily on any brand of 96-octane petrol and using scarcely any oil. Both the carburetter

## In Brief

Price (including overdrive as tested)	£737 10s. plus purchase tax £308 8s. 4d. equals £1,045 18s. 4d.
Price without overdrive (including purchase tax),	£985 14s. 2d.
Capacity	1,494 c.c.
Unladen kerb weight	21 cwt.
Acceleration:	
20-40 m.p.h. in top gear	10.9 sec.
0-50 m.p.h. through gears	11.7 sec.
Maximum direct top gear gradient	1 in 10.6
Maximum speed	91.7 m.p.h.
"Maximile" speed	85.9 m.p.h.
Touring fuel consumption	29.5 m.p.g.
Gearing: 15.2 m.p.h. in top gear at 1,000 r.p.m. (overdrive, 19.0 m.p.h.); 30.4 m.p.h. at 1,000 ft./min. piston speed (overdrive 38.0 m.p.h.).	



Both inside and out the Rapier is excellently finished, not only in paintwork and trim but also in fittings and furnishings. The latest version has slimmer windscreen pillars than the Series II, adding to the already good visibility. Sensibly-shaped seat, central gearchange, powerful handbrake and good instruments are features which evoke immediate praise from discerning drivers.

## The Sunbeam Rapier III

intakes and the exhaust are most effectively silenced in this installation, and the useful speed range is wide, mechanical noise only becoming evident at very high r.p.m. It is only below 1,000 r.p.m. that throttle response feels slightly "flat," yet at the other end of the speed range the engine is pulling hard right up to the recommended rev. limit of 5,500 r.p.m. Solely concerning "startability" must slightly adverse comment be made, instant response depending on the driver using a little throttle as well as pulling out the choke if the engine is cold, but conversely upon his not "pumping" the accelerator pedal (which controls accelerating pumps on two big carburettors) if the engine is hot. With the optional overdrive in use, 85 m.p.h. corresponds to no more than 4,500 r.p.m. and only 2,250 ft./min. piston speed of the slightly over-square engine, this car seeming happy to cruise far faster than most other 1½-litre models on a Motorway if the driver is not discouraged by a rather high level of wind noise around the body. For cars without the optional overdrive, a slightly higher axle ratio which gives approximately 71-72 m.p.h. at 4,500 engine r.p.m. is supplied.

At first acquaintance, the Rapier does not seem to have quite the positive and highly responsive steering which might be expected from its sporting record, the latest steering gear with recirculating ball bearings representing a great improvement over what went before but some flexibility and friction remaining evident.

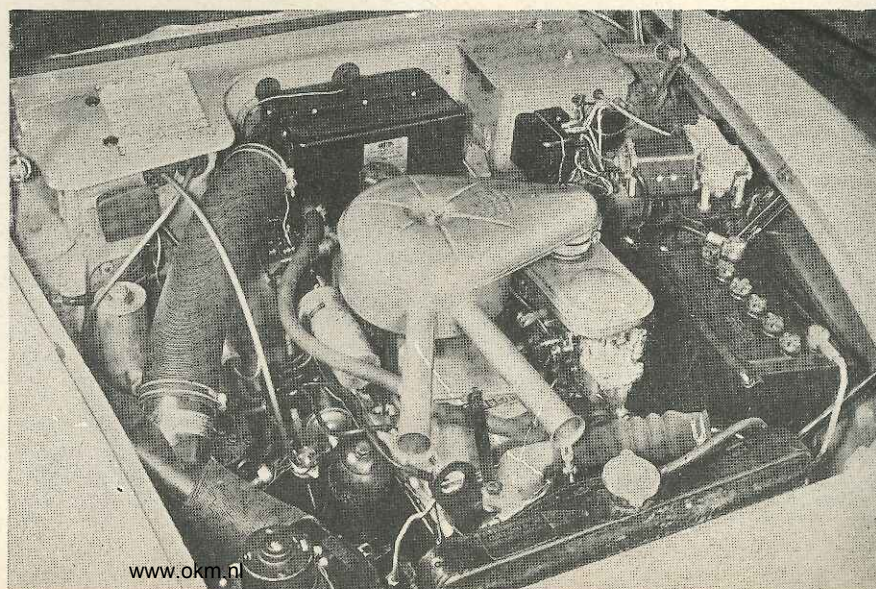
Now developing 78 b.h.p. (gross) thanks to a new cylinder head and other improvements, the Rapier's engine yet remains docile and reasonably tractable, and is very tolerant of varying fuel quality despite a 9.2/1 compression ratio.

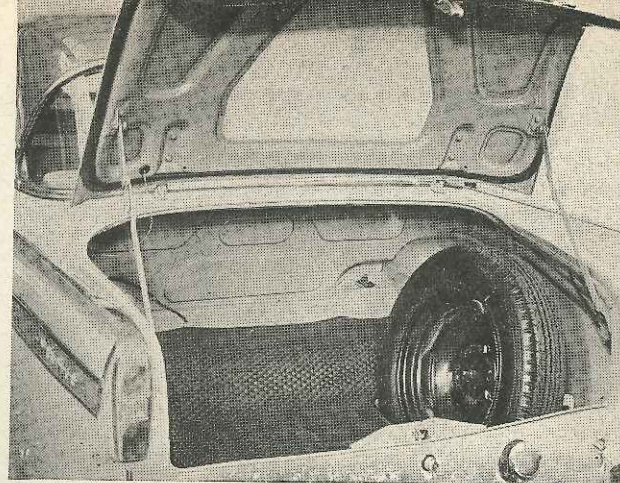
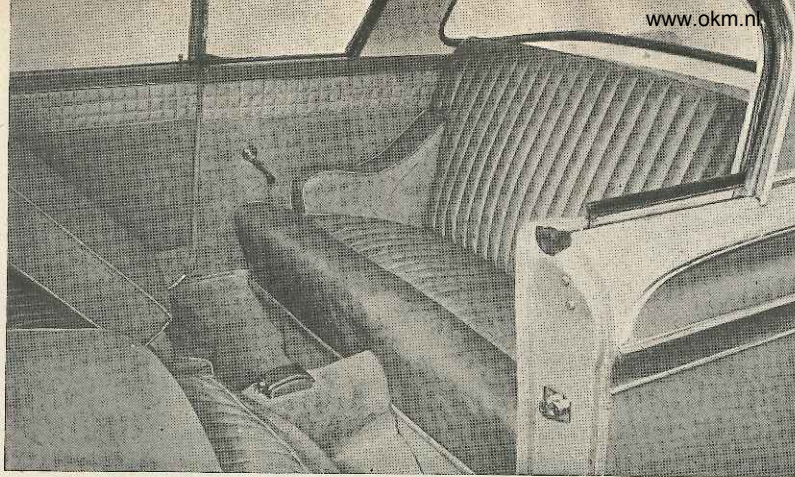
Experience proves that this is in fact a car with very safe and viceless handling characteristics, capable of responding to emergencies far more competently than first impressions might suggest—it is this aspect of its behaviour which has brought so many successes in the unpredictable conditions of high-speed Rallies to a car which cannot claim to have racing performance. Steering with a little more of the two-seat Sunbeam Alpine's lightness and precision, and suspension which allowed less body roll on corners, would nevertheless still seem welcome as further improvements to future versions of what is already a very attractive car.

Comfort has not been sacrificed in the quest for road-holding, and although the damper characteristics seem to be such that the suspension stiffens as the car goes faster it never becomes harsh. At town speeds, the not unusual observation may

be made that riding comfort is better in the front seat than at the back, but on the open road rear seat passengers travel very comfortably indeed. Concerning the new braking system, using discs at the front and drums at the rear, it is difficult to find any comment which should be made, there being apparently unlimited reserves of smoothly progressive stopping power available in response to pedal pressures which are neither uncomfortably high nor embarrassingly low; the pull-up handbrake on the driver's right is well able to hold the car on a 1 in 3 slope.

On this last-mentioned exceptionally steep gradient, 1st gear in the new gear-box is just low enough to let the car be coaxed away from rest with two passengers aboard, and most drivers will regard this rather than 2nd gear (which provides about 35 m.p.h. at 5,000 r.p.m.) as their normal starting-from-rest ratio. The central remote control gear lever feels disappointingly vague when a change down from 3rd to 2nd gear is being made, but otherwise the new gearbox works quietly and well, its ratios being much more progressively spaced than were those of earlier Rapiers and altogether more appropriate to a sporting car. When the optional overdrive is fitted, it operates in conjunction with top and third gears, controlled by a switch (conveniently placed just behind the steering wheel rim) which is inoperative when the gear lever is in 1st, 2nd or reverse positions;





Wide doors and fully-folding squabs make access to the rear seat relatively easy for a two-door car. All side windows can be wound down into the body to provide near-open motoring.

appropriately, the friction clutches which engage overdrive or direct drive act firmly, not allowing any slip to persist even when the upward change from 3rd to overdrive 3rd gear is made with the throttle wide open, the price of this unhesitant engagement being the possibility of some jerkiness if the control switch is misused. As 3rd gear will maintain the Rapier's speed up a gradient steeper than 1 in 7, and overdrive 3rd gear gives about 75 m.p.h. at 5,500 r.p.m., immense possibilities exist of fast travel on secondary roads using only these two ratios between which the change is a clutchless action of merely moving a switch.

At night, we found the headlamps of our test car disappointing, the lateral spread of light which can be so helpful to a driver on Britain's winding roads having been sacrificed in favour of only slightly

above-average illumination brightness directly ahead of the car. Wet weather demonstrated the exceptional effectiveness of two-speed wipers in clearing a major part of the windscreen area. A foolish feature of the otherwise convenient arrangement of minor controls was the placing of a pull-out lighting switch alongside the similar knob of a cigar lighter on the fascia, so that if headlamps were wanted in a hurry it was easy to pull the wrong knob in error. In frosty conditions, the optional interior heater was quite powerful, but uneven air distribution seemed apt to leave the driver with one hot and one cold foot.

As we tested it, with the overdrive, heater, clock, rev. counter and starting handle as optional extras and including purchase tax, the Sunbeam Rapier costs approximately £1,076. Its running costs depend to a substantial extent upon how it is driven, free use of its over-90 m.p.h. performance producing an overall fuel consumption of 23.6 m.p.g. during a 1,500-mile test but 30 m.p.g. being well within the bounds of possibility for gentler driving. This is not in any sense an

The height to which the boot lid opens is an object lesson to some other manufacturers whose cars have this shape of lid; the floor is rubber-covered and the spare wheel is accessible without disturbing luggage, though it takes up a fair amount of room.

economy model, but its purchase and running costs are comfortably within the reach of a great many business and private motorists. It is not one of the outstandingly compact cars which have been designed with prime regard for utmost ease of parking, but is moderate enough in size to offer many and great practical advantages over bulkier cars which are comparable with it in price and speed. Smart appearance, excellent furnishing, smoothness and comfort of running, and the ability to make fast point-to-point journeys safely, are characteristics of the Rapier for which it is hard to find a match except amongst models which are bulkier, more expensive or both.

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## Specification

<b>Engine</b>			
Cylinders ... ..	...	...	4
Bore ... ..	...	79 mm.	
Stroke ... ..	...	76.2 mm.	
Cubic capacity ... ..	...	1,494 c.c.	
Piston area ... ..	...	30.4 sq. in.	
Valves ... ..	...	Pushrod o.h.v.	
Compression ratio ... ..	...	9.2/1	
(For certain export markets, 8.4)			
Carburettors ... ..	...	Two Zenith 36 WIA2	
Fuel pump ... ..	...	AC mechanical	
Ignition timing control ... ..	...	Centrifugal and vacuum	
Oil filter ... ..	...	Tecalemit full-flow	
Max. power (gross) ... ..	...	78 b.h.p.	
		(73 b.h.p. net)	
at ... ..	...	5,400 r.p.m.	
Piston speed at max. b.h.p. ... ..	...	2,700 ft./min.	
<b>Transmission</b>			
Clutch ... ..	...	Borg & Beck 8-in. s.d.p.	
Top gear (s/m) ... ..	...	4.778 (overdrive, 3.835)	
3rd gear (s/m) ... ..	...	6.651 (overdrive, 5.338)	
2nd gear (s/m) ... ..	...	10.227	
1st gear ... ..	...	15.987	
Reverse ... ..	...	20.251	
Overdrive (optional extra) ... ..	...	Laycock-de	
		Normanville	
Propeller shaft ... ..	...	Hardy Spicer open	
Final drive ... ..	...	Hypoid bevel	
(Cars without overdrive have 4.55/1 ratio)			
Top gear m.p.h. at 1,000 r.p.m. ... ..	...	15.2	
		(Overdrive, 19.0)	
Top gear m.p.h. at 1,000 ft./min. ... ..	...	30.4	
		(Overdrive, 38.0)	
<b>Chassis</b>			
Brakes ... ..	...	Lockheed hydraulic, disc front and drum rear	
Brake diameters:			
Front discs ... ..	...	10.81 in.	
Rear drums ... ..	...	9 in.	
Friction areas: 80.5 sq. in. of lining area working on 311 sq. in. rubbed area of drums and discs.			
<b>Suspension:</b>			
Front ... ..	...	Coil springs, wishbones and anti-roll torsion bar	
Rear ... ..	...	Semi-elliptic	
<b>Shock absorbers:</b>			
Front ... ..	...	Armstrong telescopic	
Rear ... ..	...	Girling or Woodhead Monroe telescopic	
<b>Steering gear:</b>			
	...	Burman F-type recirculating ball	
Tyres ... ..	...	Dunlop tubeless, 5.60-15	

## Coachwork and Equipment

Starting handle ... ..	Optional extra
Battery mounting ... ..	Alongside engine on left
Jack ... ..	Screw pillar type
Jacking points ... ..	4 external sockets on bumpers
Standard tool kit: Tool roll, jack, wheel nut spanner, nave plate extractor, sparking plug spanner and tommy bar, 4 double-ended spanners, adjustable spanner, pliers, screwdriver, distributor screwdriver/feeler, tyre valve key, feeler gauges, grease gun.	
Exterior lights: 2 headlamps, 2 side/turn indicator lamps, 2 stop/tail lamps, number plate lamp.	
Number of electrical fuses ... ..	Two
Direction indicators: Self-cancelling flashers (white front, amber rear).	
Windscreen wipers: 2-speed electrical twin-blade, self-parking.	
Windscreen washers ... ..	Optional extra
Sun visors ... ..	Two, universally pivoted
Instruments: Speedometer with total and decimal trip distance recorders, fuel contents gauge, oil pressure gauge, ammeter, coolant thermometer.	
Warning lights: Dynamo charge, headlamp main beam, direction indicators.	
Sump: 7 pints, plus 1 pint in filter, S.A.E. 20/20W.	
Gearbox: 2½ pints, plus 1½ pints in overdrive, S.A.E. 30.	
Rear axle: 1½ pints, S.A.E. 140 E.P. gear oil (below freezing, S.A.E. 90).	
Steering gear lubricant ... ..	S.A.E. 90 E.P. gear oil
Cooling system capacity: 12½ pints, plus 1 pint in heater (2 drain taps).	
Chassis lubrication: By grease gun every 1,000 miles to 23 points.	
Ignition timing ... ..	5°-7° b.t.d.c. static
Contact-breaker gap ... ..	0.014-0.016 in.
Sparking plug type ... ..	Champion N5, 14 mm.
Sparking plug gap ... ..	0.025 in.

<b>Locks:</b>	
With ignition key. Ignition/starter switch and either front door.	
With other keys. Glove box and luggage locker.	
Glove lockers ... ..	One on fascia panel
Map pockets ... ..	None
Parcel shelves: One behind rear seat (also one on fascia if radio is not fitted).	
Ashtrays: One on fascia, one on transmission tunnel between rear seats.	
Cigar lighters ... ..	One on fascia
Interior lights: One roof lamp with courtesy switches.	
Interior heater: Optional extra fresh air heater and screen demister.	
Car radio: Optional extra Ekco or Radiomobile	
Extras available: Starting handle, heater, clock, rev. counter, windscreen washers, overdrive, radio, white-wall tyres and full range of Rootes accessories.	
Upholstery material ... ..	Vynide leathercloth
Floor covering: Rubber mats at front, carpets at rear.	
Exterior colours standardized ... ..	Six
Alternative body styles ... ..	Convertible coupe

## Maintenance

Valve timing: Inlet opens 14° b.t.d.c. and closes 52° a.b.d.c.; exhaust opens 56° b.b.d.c. and closes 10° a.t.d.c.	
<b>Tappet clearances (hot):</b>	
Inlet ... ..	0.012 in.
Exhaust ... ..	0.014 in.
Front wheel toe-in ... ..	½ in.
Camber angle ... ..	¾°
Castor angle ... ..	13°
Steering swivel pin inclination ... ..	5¼°
<b>Tyre pressures:</b>	
Front ... ..	24 lb.
Rear ... ..	24-28 lb. (according to load)
Brake fluid ... ..	to S.A.E. Spec. 70 R.3
Battery type and capacity ... ..	12 v., 38 amp. hr.