

# The Motor Road Test No. 3/60

**Make:** Singer

**Type:** Gazelle Series IIIa Saloon  
(with Easidrive transmission)

**Makers:** Singer Motors Ltd., Coventry

## Test Data

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**CONDITIONS.** Weather: Dry, cold, light wind. (Temperature 40°F., Barometer 29.7—29.8 in. Hg.) Surface: Tar macadam; damp at first, dry later. Fuel: Premium grade pump petrol (approximately 96 Research Method Octane Number).

### INSTRUMENTS

Speedometer at 30 m.p.h. .. .. 9% fast  
Speedometer at 60 m.p.h. .. .. 10% fast  
Speedometer at 80 m.p.h. .. .. 9% fast  
Distance recorder .. .. 3% fast

### WEIGHT

Kerb weight, (unladen, but with oil, coolant and fuel for approx. 50 miles) .. .. 21½ cwt.  
Front/rear distribution of kerb weight .. .. 57/43  
Weight laden as tested .. .. 25 cwt.

### MAXIMUM SPEEDS

#### Flying Quarter Mile

Mean of four opposite runs .. .. 80.2 m.p.h.  
Best one-way time equals .. .. 81.1 m.p.h.

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

Mean of four opposite runs .. .. 78.3 m.p.h.  
Best one-way time equals .. .. 79.0 m.p.h.

#### Speed in Gears

Max. possible speed in 2nd gear .. .. 61 m.p.h.  
Max. automatic speed in 2nd gear .. .. 48 m.p.h.  
Max. automatic speed in 1st gear .. .. 22 m.p.h.

### FUEL CONSUMPTION

#### Top Gear

37 m.p.g. at constant 30 m.p.h. on level.  
35 m.p.g. at constant 40 m.p.h. on level.  
31 m.p.g. at constant 50 m.p.h. on level.  
27½ m.p.g. at constant 60 m.p.h. on level.  
24 m.p.g. at constant 70 m.p.h. on level.

**Overall Fuel Consumption** for 1,999 miles, 78.0 gallons, equals 25.6 m.p.g. (11.0 litres/100 km.)

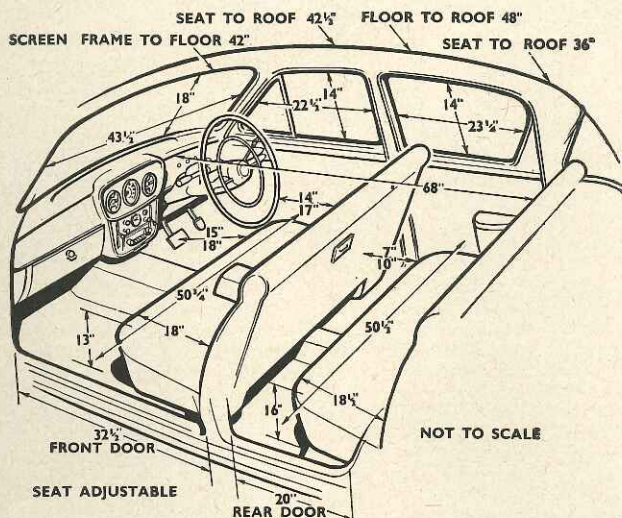
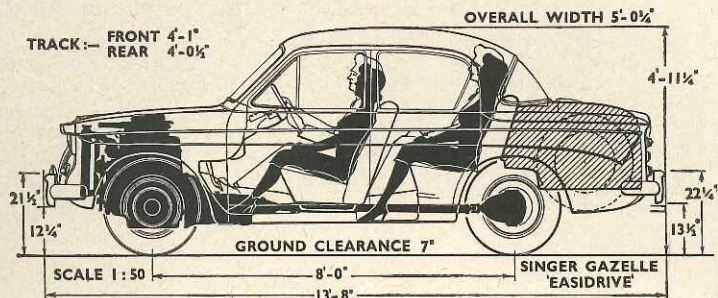
**Touring Fuel Consumption** (m.p.g. at steady speed midway between 30 m.p.h. and maximum, less 5% allowance for acceleration). 27.9 m.p.g. Fuel tank capacity (maker's figure) 10 gallons.

### STEERING

Turning circle between kerbs  
Left .. .. 34½ feet  
Right .. .. 35½ feet  
Turns of steering wheel from lock to lock ¾

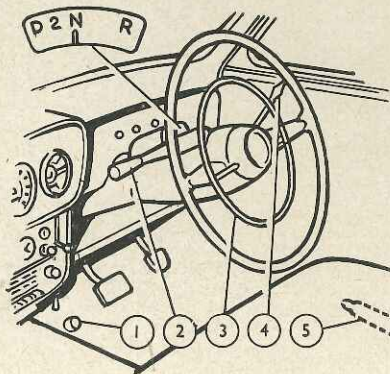
### BRAKES from 30 m.p.h.

0.90 g retardation (equivalent to 33½ ft. stopping distance) with 100 lb. pedal pressure  
0.79 g retardation (equivalent to 38 ft. stopping distance) with 75 lb. pedal pressure  
0.55 g retardation (equivalent to 54½ ft. stopping distance) with 50 lb. pedal pressure  
0.31 g retardation (equivalent to 97 ft. stopping distance) with 25 lb. pedal pressure

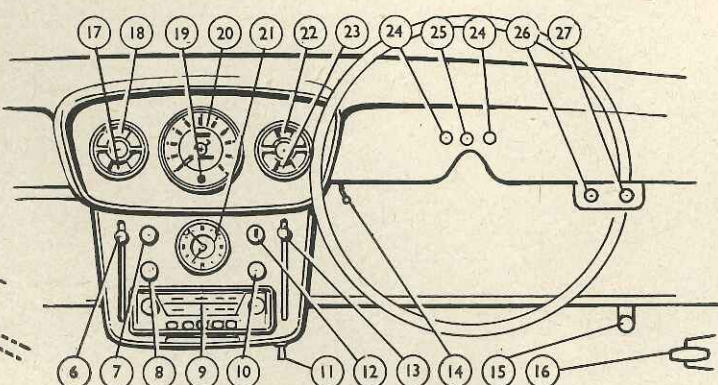


ACCELERATION TIMES from standstill				ACCELERATION TIMES on Upper Ratios			
		Drive Range				Drive Range	
0-30 m.p.h.	.. ..	7.8 sec.	.. ..	0-20 m.p.h.	.. ..	3.6 sec.	6.2 sec.
0-40 m.p.h.	.. ..	11.4 sec.	.. ..	10-30 m.p.h.	.. ..	5.5 sec.	6.6 sec.
0-50 m.p.h.	.. ..	16.4 sec.	.. ..	20-40 m.p.h.	.. ..	7.8 sec.	7.2 sec.
0-60 m.p.h.	.. ..	25.1 sec.	.. ..	30-50 m.p.h.	.. ..	8.6 sec.	8.7 sec.
0-70 m.p.h.	.. ..	37.3 sec.	.. ..	40-60 m.p.h.	.. ..	13.7 sec.	-
Standing quarter mile	.. ..	23.8 sec.	.. ..	50-70 m.p.h.	.. ..	20.9 sec.	-

**HILL CLIMBING** at sustained steady speeds  
Max. gradient on 2nd gear 1 in 6.2 (Tapley 355 lb./ton)



1, Headlamp dip-switch. 2, Transmission selector lever. 3, Horn ring. 4, Direction indicator switch. 5, Handbrake. 6, Demister control. 7, Lights switch. 8, Choke control. 9, Radio controls. 10, Windscreen wipers switch. 11, panel light



switch. 12, Ignition and starter switch. 13, Heater control and fan switch. 14, trip adjuster. 15, Cold air vent control. 16, Bonnet catch release. 17, Fuel contents gauge. 18, Oil pressure gauge. 19, Dynamo charge warning light. 20, speedometer

and distance recorder. 21, Clock. 22, ammeter. 23, Water thermometer. 24, Direction indicator warning light. 25, Headlamp main beam indicator. 26, Fog-lamp switch (option). 27, Windscreen washer button.

# The Singer Gazelle Saloon

(with automatic transmission)

SLIMMER pillars and a greater depth of windscreen glass are 1960 Gazelle refinements, applied to a four-seat car of high quality.



## A Lively and Likeable 1½-litre Family Saloon, Now Available with Fully-automatic Gearbox

THERE are some cars which are notable not so much for any one outstanding merit as for the fact that they fulfil their intended purpose extremely well. Such a car is the Singer Gazelle, a 1½-litre car for family or business use designed to offer very comfortable accommodation for four (or five at a pinch) within the garage or parking limitations that affect so many these days; to offer performance and handling qualities very well in keeping with modern requirements; and to offer those attractions of good looks, equipment and finish which will in every way justify a price roughly midway between the lowest and the highest in the 1½-litre price bracket. The fact that the Gazelle satisfies all these requirements so ably makes it a most likeable car.

This point is made at the outset because it must not be lost sight of in the emphasis which must inevitably be given in this report to one special feature of the particular Gazelle tried—the new Easidrive fully automatic transmission which is available as an optional extra at an inclusive additional cost of £124 13s. 4d.

This transmission, which is made by the Smiths concern and developed by Rootes engineers for use on Singer and Hillman models, is notable for the fact that, there being no fluid slip to absorb power, it can be allied to engines of 1½-litre size without

fear of performance or fuel consumption being adversely affected.

Very briefly, the system comprises a pair of electro-magnetic powder clutches working in conjunction with a three-speed synchromesh gearbox, one clutch being arranged to provide a direct drive for top gear and the other controlling constant-mesh first and second ratios. A free-wheel arrangement enables the lowest ratio to be over-run when second gear is in operation; a control box regulates gear selection on a combined basis of road speed and throttle opening.

The only part of the device which concerns the driver is the selector lever, which resembles a steering-column gear lever and is mounted in the same position; this provides Drive, 2nd, Neutral and Reverse positions, with a step between the two latter to prevent accidental engagement of reverse. The four positions are shown on an indicator segment which is visible through the steering wheel and illuminated at night. Two points to note are that the starter switch will operate only with the lever in neutral, and that when the lever is in the second-gear position, the intermediate ratio is retained from a stand-still to maximum engine speed, this arrangement, of course, being intended primarily to make engine braking available when descending very long hills.

All normal driving is done with the selector in Drive, in which position the car moves off with absolute smoothness when the engine is accelerated, and although heavy depression of the pedal will naturally result in a quicker take-off, movement away from rest is never jerky. Further acceleration results in the device changing into second gear and finally into top; the latter change is effected very smoothly but, if the throttle is opened rather wide, the former is marked by a slight bound forward such as one experiences with a normal synchromesh transmission during a quick upward change.

On the road speed being allowed to fall, the opposite takes place except that, on a closed throttle, the actual engagement of the next lower ratio does not normally take place until the throttle is opened again.

The speeds at which upward changes take place in the case of the Gazelle vary between about 11 m.p.h. and 22 m.p.h. from first to second, the first-mentioned figure applying to very light throttle openings and the latter to occasions when the accelerator pedal is kept fully depressed for maximum acceleration. Similarly, the top-gear engagement speeds vary from approximately 24 m.p.h. to 48 m.p.h.

Two further points remain to be mentioned. One is that the transmission is provided with a kick-down arrangement by which, within the speed range of the lower gears concerned, immediate changes down can at any time be effected for extra power or acceleration merely by depressing the accelerator pedal fully. The other is that, if second gear is required for

### In Brief

Price (including Easidrive automatic transmission as tested) £686, plus purchase tax £286 19s. 2d. equals £972 19s. 2d.

Price with synchromesh gearbox (including purchase tax) £848 5s. 10d.

Capacity ... .. 1,494 c.c.

Unladen kerb weight ... .. 21½ cwt.

Acceleration:

20-40 m.p.h. in drive range 7.8 sec.

0-50 m.p.h. through gears 16.4 sec.

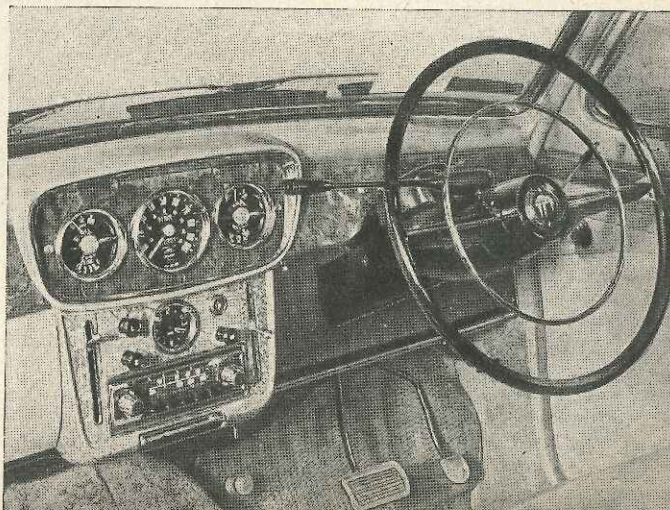
Maximum speed ... .. 80.2 m.p.h.

"Maximile" speed ... .. 78.3 m.p.h.

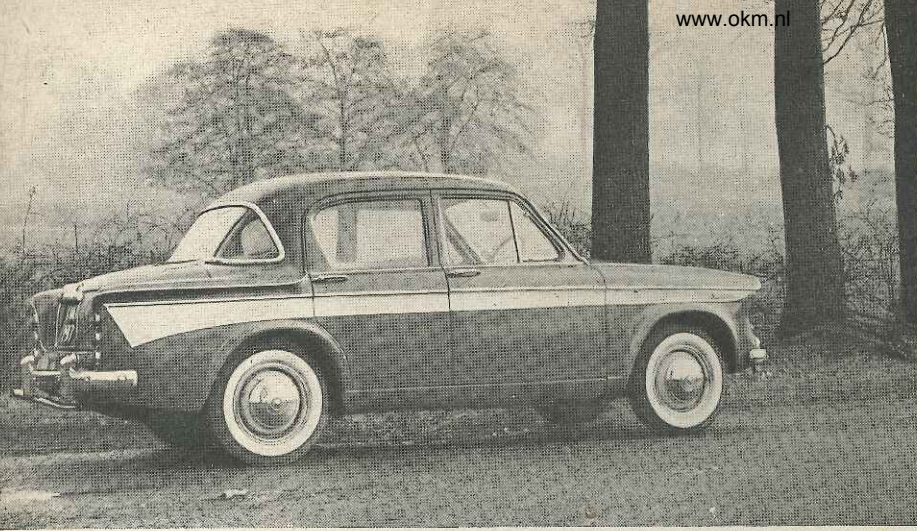
Touring fuel consumption ... 27.9 m.p.g.

Gearing: 16.0 m.p.h. in top gear at 1,000 r.p.m.; 32.0 m.p.h. at 1,000 ft./min. piston speed.

TWO PEDALS and a dip switch are seen on the floor, the forward - neutral-reverse selector resembling an orthodox gear lever. A full set of instruments is mounted on the polished walnut fascia panel.



## The Singer Gazelle Saloon



**THE TAIL** treatment of the latest Gazelle features out-turned tops to the rear wings. A wrap-around rear window facilitates parking of this four-door saloon.

engine braking on the move, it is necessary merely to move the lever from the Drive to the second-gear position, when the control mechanism will automatically speed up the engine as necessary and effect a smooth change, this applying to any speed up to the normal second-gear limit.

Inevitably, all this takes some time to describe but, in fact, it is all very simple and a strange driver very rapidly becomes accustomed to the arrangement. In practice, moreover, the system works extremely well and, for a very large proportion of drivers on the road, gives results which are better than they would regularly obtain themselves with a normal manual change—and, of course, with but a fraction of the effort.

For the expert (as with almost every automatic transmission so far devised) some very minor criticisms can be put forward. One is the relatively slow change from first to second which follows a brisk getaway from rest, and another is the automatic and unavoidable use of the intermediate ratio at speeds below approximately 24 m.p.h., this being slightly irritating when trickling along in a built-up-area traffic stream on a very light throttle opening—a condition in which top gear would often be used by most

drivers. The fact that the transmission is of the three-speed type serves to emphasize this, as the intermediate ratio is inevitably rather lower than the third of a normal four-speed gearbox. In the same way, limitation to three speeds also reduces the value of the highest intermediate ratio for main-road overtaking.

In all, however, it is true to say that this Easidrive transmission represents a big step forward in enabling the full advantages of two-pedal control to be brought within the range of light-car users. It should also have a very strong export sales appeal in markets (especially North America) where many motorists have never learned to use a clutch pedal.

To revert to other features of this very likeable car, the new two-carburettor version of the engine (introduced on this model last autumn without any price increase), starts easily from cold and, with the choke set for a fast idle, runs regularly without causing transmission creep.

Throughout the range the unit is sweet, willing and, in general, quiet. Indeed, the standard of silence achieved in the Gazelle is notably high for a car in this class and forms one of the Gazelle's most endearing qualities, this applying both to engine and road noises. There is, it is true, a slight

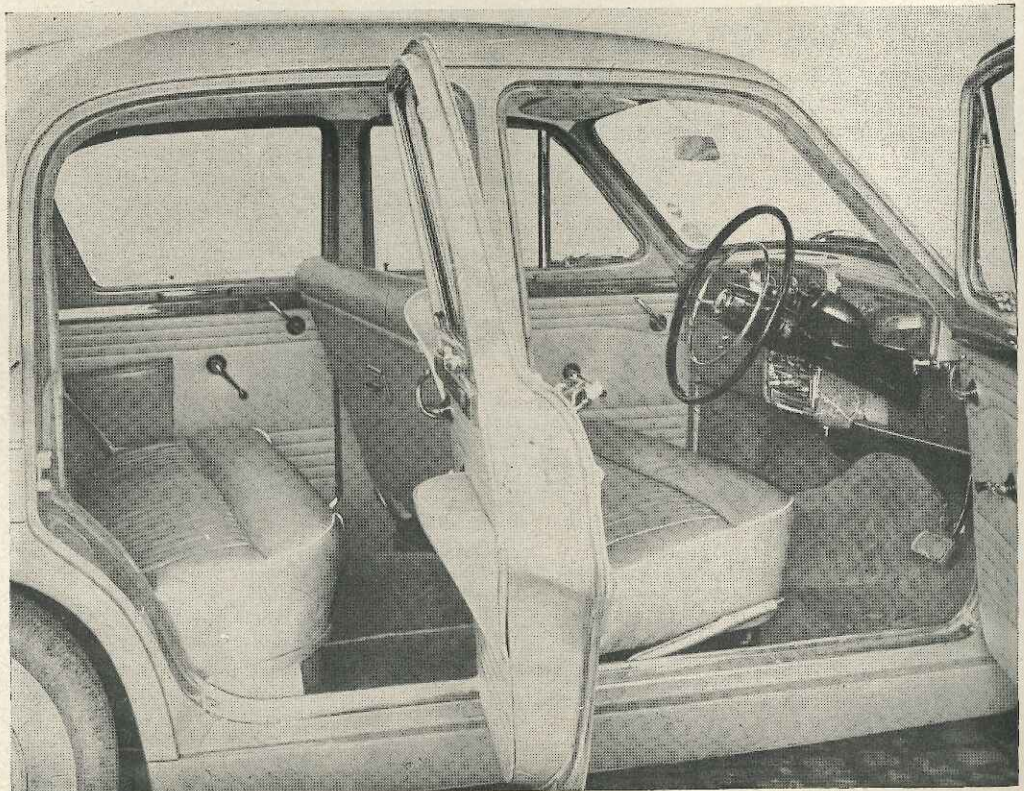
tendency to drone at around 60 m.p.h., but this is not unduly pronounced (it would probably pass unnoticed in a less-quiet car) and, in any case, disappears as the speed is increased to the seventies. The linkage between the accelerator pedal and two pump-type carburetters, with additional links and lost motion due to the automatic transmission, does involve a surprising number of minor pivots which need occasional oiling if sticky throttle action is not to spoil the car's smoothness of running.

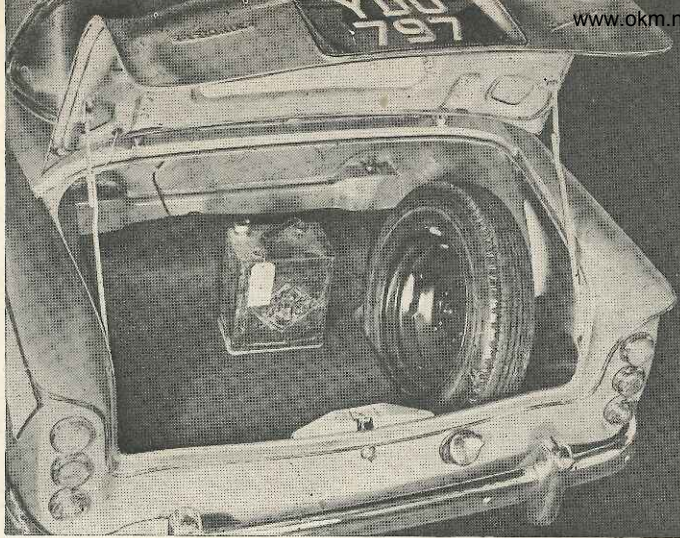
As will be seen from the data, the car offers pleasantly brisk motoring for a 1½-litre vehicle, with a maximum speed in excess of 80 m.p.h. Other facets of performance are also shown in the tabulated data, with the exception of engine oil consumption which was at the rate of around one pint per 300 miles. The brakes give good stopping powers with light pedal pressures, and a double-width pedal enables the foot brake to be operated by the left foot for re-starts if desired. The hand-brake—on the offside of the driving seat—is effective and convenient, but never in the way when entering or leaving.

The steering provides a satisfactory degree of accuracy but has a slightly dead feel at low speeds and, in these conditions, is not quite so light as some. Cornering and suspension both reach a very good average standard for a touring model, the cornering qualities showing a moderate, but not excessive, degree of roll and no unexpected vices. Good bump absorption combined with adequate damping are characteristics of the springing.

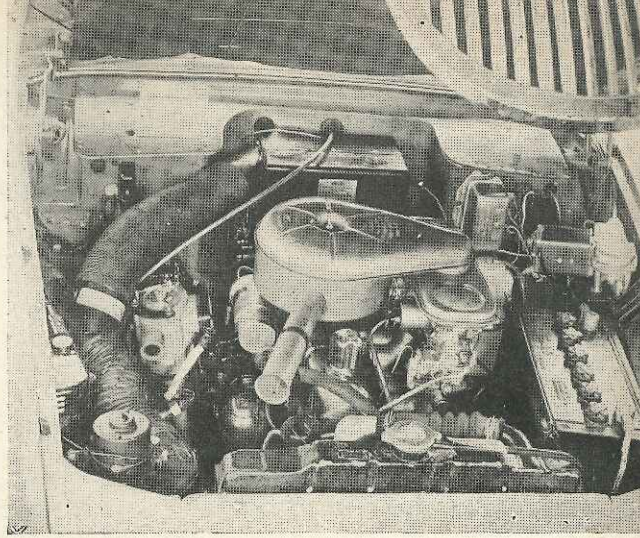
In general, the controls are well arranged but, in these days of motorways when so many drivers wish to use the headlamps as an overtaking signal, the double-pull side-and-headlamp switch cannot be regarded as ideal in either its operation or position. Other minor criticisms concerned speedometer and horn ring reflections at night. Praiseworthy, on the other hand, is the adequate room for the driver's left foot (where it rests naturally on the dipper switch) and the nicely graded illumination for both the instruments and the various indicator lamps. Irritating was a driver's door lock which, until two applications of oil eventually eased it, was embarrassingly

**COMPACT** in size but very comfortably upholstered, the body has walnut door filets, armrests on the rear doors, and a folding armrest at the centre of the bench-type front seat.





**CAPACITY** of the rear luggage locker is indicated by a two-gallon petrol can standing on the flat rubber-covered floor. Fuel tank capacity is 10 gallons.



**CROWDED** under-bonnet arrangements of the twin-carburettor power unit are seen here, with the control unit of the automatic gearbox visible to the left of the coil.

reluctant to accept (or relinquish) the key.

A feature of the 1960 Gazelle is a deeper and wider windscreen, and the general all-round vision is excellent, with both front wing tips visible from the driving seat. Minor points which please include sensibly placed sun visors, winding windows which disappear completely into the doors and a driving mirror placed centrally in the windscreen where it gives a good view to the rear although not, it must be admitted, without causing a slight obstruction to the forward vision of tall drivers.

The general seating arrangements are well planned, with adequate leg and foot room in both front and rear, whilst the upholstery is both deep and nicely trimmed. The front seat is of the bench type, with a central folding arm-rest, and provides a

comfortable position for both driver and passenger, although some drivers would perhaps prefer a slightly more upright squab. In the rear there are well placed arm-rests on the doors but no centre arm-rest.

So far as luggage is concerned, the boot provides plenty of room, with a sensible flat centre portion for suitcases. Another good feature is the boot lid which, like the bonnet, is spring-loaded. Inside the car, however, the space for odds and ends is not quite so good as on some cars, as no door pockets are provided and although a fairly large locker (with key) faces the passenger, the optional radio loudspeaker fills the parcel shelf opposite to the driver. At the rear, there is a very good parcel shelf behind the back squab.

Space, unfortunately, does not permit enumeration of all the pleasing details of this well-equipped car, but many are, of course, given in the accompanying data. In all, the Gazelle is a model with very strong appeal to a large number of people who require comfortable accommodation without unnecessary overall size, good performance and handling within modern touring car expectations, good appearance and equipment at a moderate price and, above all, a car which does what it sets out to do satisfactorily and effortlessly. With automatic transmission to broaden its appeal, the 1960 range of Gazelle models should prove very popular.

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## Specification

### Engine

Cylinders ... ..	4
Bore ... ..	79 mm.
Stroke ... ..	76.2 mm.
Cubic capacity ... ..	1,494 c.c.
Piston area ... ..	30.4 sq. in.
Valves ... ..	Overhead (push-rod)
Compression ratio ... ..	8.5/1
Carburettors ... ..	Two Solex downdraught
Fuel pump ... ..	AC mechanical
Ignition timing control ... ..	Centrifugal and vacuum
Oil filter ... ..	Tecalemit full-flow
Max. power (gross) ... ..	64 b.h.p. (60 b.h.p. net)
at ... ..	4,600 r.p.m.
Piston speed at max b.h.p. ... ..	2,300 ft./min.

### Transmission

(Easidrive fully automatic transmission.)	
Top gear ... ..	4.55
Intermediate gear ... ..	7.243
1st gear ... ..	13.497
Reverse ... ..	14.014
Propeller shaft ... ..	Hardy Spicer, open
Final drive ... ..	Spiral bevel
Top gear m.p.h. at 1,000 r.p.m. ... ..	16.0
Top gear m.p.h. at 1,000 ft./min. piston speed ... ..	32.0

### Chassis

Brakes ... ..	Lockheed hydraulic (2 l.s. on front)
Brake drum internal diameter ... ..	9 in.
Friction lining area ... ..	121 sq. in.
Suspension:	
Front ... ..	Independent (coil and wishbone)
Rear ... ..	Semi-elliptic
Shock absorbers ... ..	Garling or Woodhead Monroe telescopic
Steering gear ... ..	Burman recirculating ball
Tyres ... ..	5.60—15 Dunlop tubeless

## Coachwork and Equipment

Starting handle ... ..	Yes
Battery mounting ... ..	Under bonnet on left of engine
Jack ... ..	Screw pillar type
Jacking points ... ..	Four, under bumpers
Standard tool kit: Jack, wheelbrace, sparking plug spanner and tommy bar, distributor key, tyre valve key, navelplate extractor, tool roll.	
Exterior lights: 2 head, 2 side/indicator, 2 tail/indicator, 2 stop, rear number plate lamp.	
Number of electrical fuses ... ..	2
Direction indicators ... ..	Flasher type, self-cancelling
Windscreen wipers ... ..	Twin electric, self-parking
Windscreen washers ... ..	Tudor, hand-operated
Sun visors ... ..	2
Instruments: Speedometer (with trip), thermometer, oil pressure gauge, fuel gauge, ammeter.	
Warning lights: Direction indicators (2), main beam and dynamo charge.	
Locks:	
With ignition key ... ..	Either front door
With other key ... ..	Glove locker and boot

Glove lockers: On passenger's side of fascia board; also small centre cubby when radio not fitted.	
Map pockets ... ..	None
Parcel shelves: Below fascia board on driver's side and behind rear squab.	
Ashtrays ... ..	One front, one rear
Cigar lighters ... ..	None
Interior lights: Roof light (with front door courtesy switches) and instrument lights.	
Interior heater ... ..	Optional extra (Smith's fresh-air type)
Car radio ... ..	Optional extra
Extras available: Overdrive or automatic transmission, heater and demister, radio, individual front seats, whitewall tyres and full range of Rootes accessories.	
Upholstery material ... ..	Vynide
Floor covering: Rubber matting in front compartment, carpet in rear.	
Exterior colours standardized ... ..	7 duotone schemes
Alternative body styles ... ..	Convertible and estate car

## Maintenance

Sump: 8 pints S.A.E. 20/20W (above 90° F., S.A.E. 30; below 10° F., S.A.E. 10W).	
Gearbox ... ..	2½ pints, S.A.E. 10W/30
Rear axle: 1½ pints, S.A.E. 140 E.P. (below 32° F., 90 E.P.)	
Steering gear lubricant ... ..	S.A.E. 90 E.P.
Cooling system capacity ... ..	12½ pints (2 drain taps)
Chassis lubrication ... ..	By grease gun every 1,000 miles to 23 points
Ignition timing ... ..	6-8° b.t.d.c. (static)
Contact-breaker gap ... ..	0.015 in.
Sparking plug type ... ..	Champion N5, 14 mm.
Sparking plug gap ... ..	0.025 in.
Valve timing: Inlet opens 10° b.t.d.c. and closes	

45° a.b.d.c.; exhaust opens 46° b.b.d.c. and closes 9° a.t.d.c.	
Tappet clearances (hot):	
Inlet ... ..	0.012 in.
Exhaust ... ..	0.014 in.
Front wheel toe-in ... ..	¼ in.
Camber angle ... ..	0° 45'
Castor angle ... ..	1° 45'
Steering swivel pin inclination ... ..	5° 15'
Tyre pressures:	
Front ... ..	24 lb.
Rear ... ..	24 lb. (26 lb. fully laden)
Brake fluid ... ..	Lockheed S.A.E. 70 R1
Battery type and capacity ... ..	Lucas 12 v., 51 amp.hr.
Miscellaneous: Throttle and governor controls to be oiled at 1000-mile intervals.	