The Motor Road Test No. 30/59

Make: Holden **Type:** Special Sedan (FC Series)

Makers: General Motors-Holdens Ltd., Fishermen's Bend, Victoria, South Australia

(Test model made available by courtesy of Joseph Lucas Ltd. and Vauxhall Motors Ltd.)

Test Data

CONDITIONS: *Weather: Mild and dry with strong gusty wind. (Temperature 55°-57°F., Barometer 29.7-29.8 in.Hg.) Surface: Dry tarred macadam. Fuel: Regular-grade pump petrol (approx. 82 Research Method Octane Rating).*

INSTRUMENTS

Speedometer at 30 m.p.h.	Accurate
Speedometer at 60 m.p.h.	2% fast
Distance recorder	2% slow

WEIGHT

Kerb weight (unladen, but with oil, water and fuel for approx. 50 miles)	21¼ cwt.
Front/rear distribution of kerb weight	56/44
Weight laden as tested	25 cwt.

MAXIMUM SPEEDS

Flying Quarter Mile

Mean of four opposite runs	84.3 m.p.h.
Best one-way time equals	88.2 m.p.h.

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

Mean of four opposite runs	82.4 m.p.h.
Best one-way time equals	86.5 m.p.h.

Speed in gears

Max. speed in 2nd gear	60 m.p.h.
Max. speed in 1st gear	32 m.p.h.

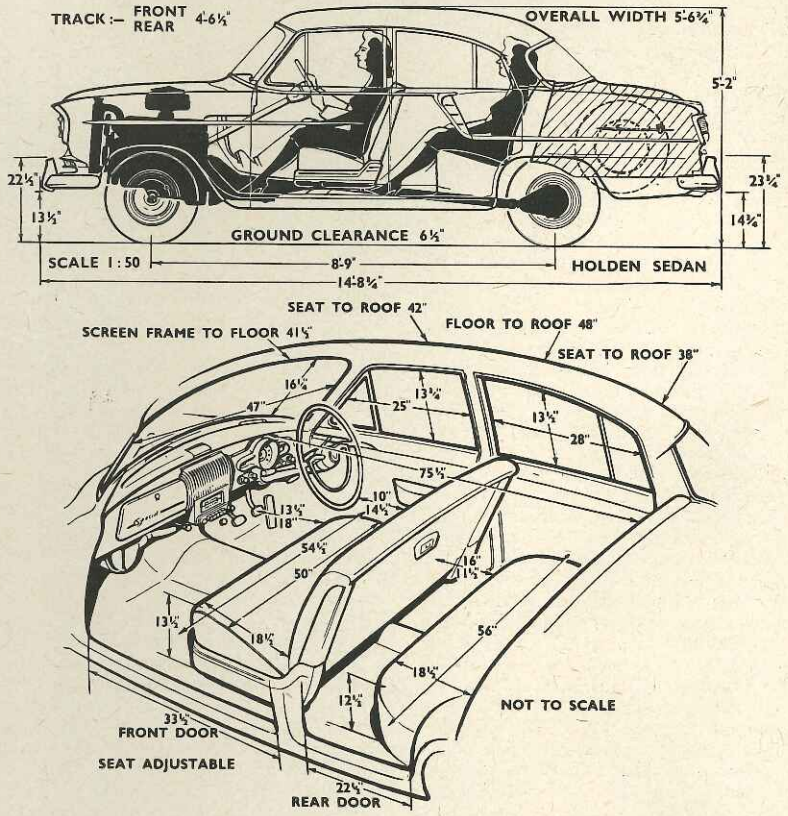
FUEL CONSUMPTION

38.0 m.p.g. at constant 30 m.p.h. on level.
32.5 m.p.g. at constant 40 m.p.h. on level.
29.0 m.p.g. at constant 50 m.p.h. on level.
25.0 m.p.g. at constant 60 m.p.h. on level.
21.0 m.p.g. at constant 70 m.p.h. on level.

Overall Fuel Consumption for 942 miles, 40.4 gallons, equals 23.4 m.p.g. (12.1 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) 24.7 m.p.g.

Fuel tank capacity (maker's figure) 9½ gallons



ACCELERATION TIMES from standstill

0-30 m.p.h.	5.0 sec.
0-40 m.p.h.	9.0 sec.
0-50 m.p.h.	13.4 sec.
0-60 m.p.h.	19.6 sec.
0-70 m.p.h.	30.3 sec.
Standing quarter mile	21.6 sec.

ACCELERATION TIMES on Upper Ratios

	Top gear	2nd gear
10-30 m.p.h.	9.3 sec.	5.6 sec.
20-40 m.p.h.	9.9 sec.	6.0 sec.
30-50 m.p.h.	11.2 sec.	7.5 sec.
40-60 m.p.h.	12.8 sec.	—
50-70 m.p.h.	18.6 sec.	—

HILL CLIMBING at sustained steady speeds

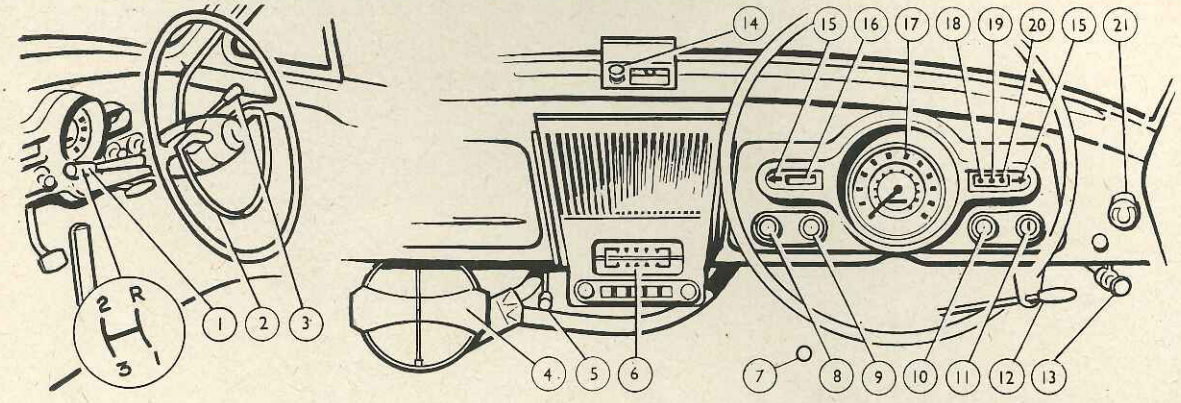
Max. gradient on top gear	1 in 9.1 (Tapley 245 lb/ton)
Max. gradient on 2nd gear	1 in 5.7 (Tapley 390 lb/ton)

STEERING

Turning circle between kerbs:	
Left	36 feet
Right	35¼ feet
Turns of steering wheel from lock to lock	3¼

BRAKES from 30 m.p.h.

0.91 g retardation (equivalent to 33 ft. stopping distance) with 120 lb. pedal pressure.
0.84 g retardation (equivalent to 36 ft. stopping distance) with 100 lb. pedal pressure.
0.71 g retardation (equivalent to 42½ ft. stopping distance) with 75 lb. pedal pressure.
0.50 g retardation (equivalent to 60 ft. stopping distance) with 50 lb. pedal pressure.
0.32 g retardation (equivalent to 94 ft. stopping distance) with 25 lb. pedal pressure.

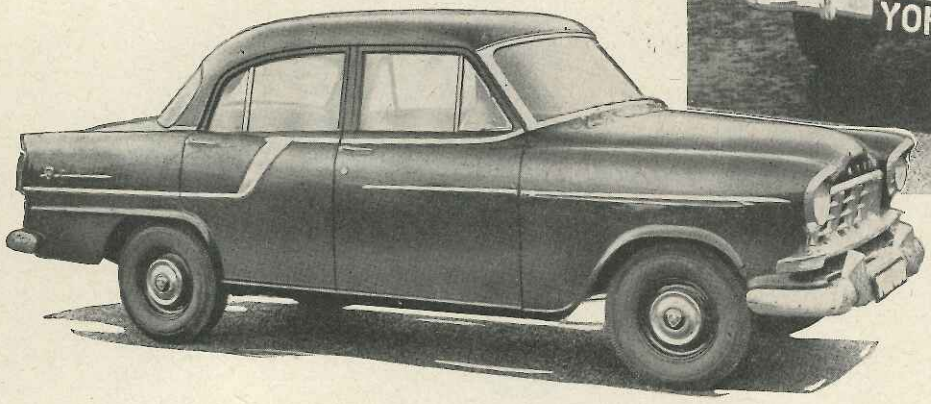


1, Gear lever. 2, Horn ring. 3, Direction indicator switch. 4, Heater and adjustable shutters. 5, Scuttle vent control. 6, Radio. 7, Headlamp dip switch. 8, Choke control. 9, Windscreen wipers switch. 10, Lights switch. 11, Lockable ignition/starter switch. 12, Handbrake. 13, Bonnet catch release. 14, Cigar lighter (in ashtray recess). 15, Direction indicator warning light. 16, Fuel contents gauge. 17, Speedometer. 18, Oil pressure warning light. 19, Dynamo charge warning light. 20, Water temperature warning light. 21, Heater fan switch.

The Holden Special Sedan

A Roomy and Easy-going "Six" which is the Best-selling Car "Down Under"

Against a background of new buildings in the City of London, the Holden shows off the business-like lines of its four-door, six-seat saloon bodywork.



AROUND half the cars which are sold in Australia are 2.2-litre Holdens, and a substantial part of the six-figure annual output of vehicles from Fishermen's Bend, South Australia, is being exported to such places as New Zealand and the countries of South-east Asia. So remarkable has been the success of Australia's own "General Motors" car, unveiled in November 1948 as a Detroit-designed prototype and in production since then at an ever-rising rate with periodical design improvements of a substantial but not fundamental nature, that we were recently delighted to seize the opportunity of testing a 1959/60 model Holden on British roads. It is not ornate or "glamorous," but after a thousand miles we were immensely appreciative of its solid worth as a roomy, comfortable and smoothly easy-going sort of car which seemed sturdy and certainly did not cost a lot to run.

For the majority of our readers who will not be personally acquainted with the Holden, a few details should be given of this model from "down under." It is a four-door saloon of chassisless steel construction with a wheelbase which in 1956 was increased from 8 ft. 7 in. to 8 ft. 9 in., providing a lot of legroom and headroom for all its passengers and wide enough to be a six-seater. The engine is a 2,170 c.c. "six" of perfectly straightforward push-rod o.h.v. design, slightly "under-square" and with a 7/1 compression ratio, happy on the cheapest grades of British petrol yet providing a genuine top speed of over 84 m.p.h. on level road. The suspension by a conventional coil-spring i.f.s. system and semi-elliptic rear springs is supplemented by tyres of generous 6.40-13 section, and there is comfortable clearance under the extremities of the body. Most important of all, it sells at a price only 5%-15% higher than those of Australian built 1½-litre 4-cylinder cars.

As a comparably dimensioned member of the international General Motors family, it is not surprising to find that the FC-series Holden Special Sedan (a more simply furnished model is also listed) has some similarities with the E-type Vauxhall Velox as produced between August, 1951 and October, 1957. The Holden has 2 inches more wheelbase and 3½ inches more overall length, an extra 1⅛ inches of front track to carry the same overall width, but is lighter by about 200 lb. Family likeness also extends to details such as a speedometer with no "trip" but decimals on its total mileage recorder, and a pull-out lighting switch which is turned to vary the brightness of instrument illumination. But likeness does not imply identity, and the Holden has its own distinctive merits which, obviously appropriate to the countries in which it is sold, can also be appreciated in Britain.

Above all else, the impression which the Holden left upon us after a thousand British miles was of easy competence. Our test car was painted in black (there is a plentiful choice of other colour schemes) and this perhaps accentuated its business-like appearance. It is quite a big car, but this is because there is a lot of room inside it and not because overall length has been exaggerated by styling tricks. The interior has two-tone trim and a certain amount of bright metal, but the box-pleated upholstery, rubber floor covering and painted metal facia look durable and practical rather than glamorous. One can fault anything, and on our test car the lock for a ventilator panel had failed, but in general the seats, controls and fittings all gave an impression of sturdiness.

Easy to enter, even though the four doors do not open quite as wide as might be wished, the body has an almost flat and quite low floor, shaped at the rear so that passengers have their feet in a comfortably natural attitude. The seats are simple bench-type units without central armrests, but their high-back shape and Z-spring upholstery proved thoroughly comfortable,

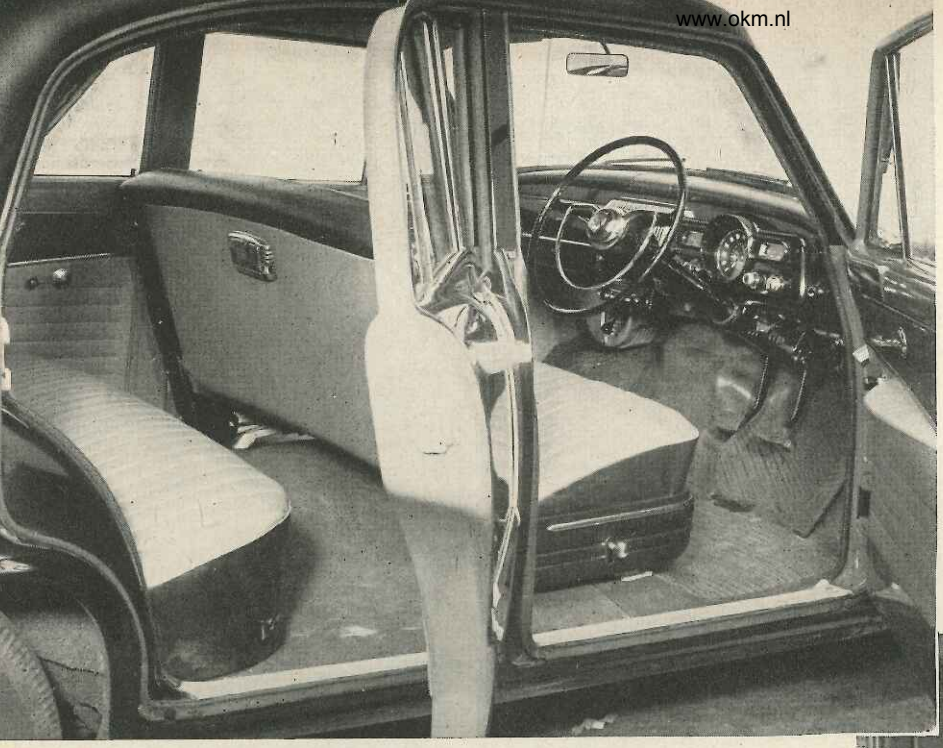
In Brief

Price in Australia £A1,173 including sales tax. Sterling equivalent £938.

Capacity	2,170 c.c.
Unladen kerb weight ...	21¼ cwt.
Acceleration:	
20-40 m.p.h. in top gear ...	9.9 sec.
0-50 m.p.h. through gears	13.4 sec.
Maximum direct top gear gradient	1 in 9.1
Maximum speed	84.3 m.p.h.
"Maximile" speed	82.4 m.p.h.
Touring fuel consumption ...	24.7 m.p.g.

Gearing: 18.15 m.p.h. in top gear at 1,000 r.p.m.; 34.8 m.p.h. at 1,000 ft./min. piston speed.

The Holden Special Sedan



UNCRAMPED roominess for big people is provided inside the Holden, at both front and rear. The painted metal facia carries a hooded circular-dial speedometer with rheostat-controlled lighting, plus fuel and temperature gauges.

whilst the amount of space provided does not cramp adult men: in the rear seat the Holden's roominess is most notably superior to what many other modern cars offer. The luggage locker is big, and its rubber-covered floor is unobstructed.

The measured figures for acceleration, maximum speed, top gear hill-climbing ability and fuel economy which appear on our data page are creditable rather than exceptional, and fall short of what recent 6-cylinder Vauxhalls have achieved. Plain figures do not, however, tell by any means the whole story. The Holden runs happily on commercial grades of petrol, so that on a cost-per-mile basis it is the equal of cars doing another 2½ m.p.g. on premium-grade petrol. The 6-cylinder engine pulls so smoothly down to 10 m.p.h. and below in top gear that there is less need to change gear than in many cars which have greater torque but less flexibility. The Holden's acceleration through the gears from a standstill benefits from good medium-speed torque rather than from its power at high r.p.m. in 2nd gear, so that the normal getaway from a traffic check is comparable with many larger cars. On a good road, a cruising speed of 75 m.p.h. is in no way fussy.

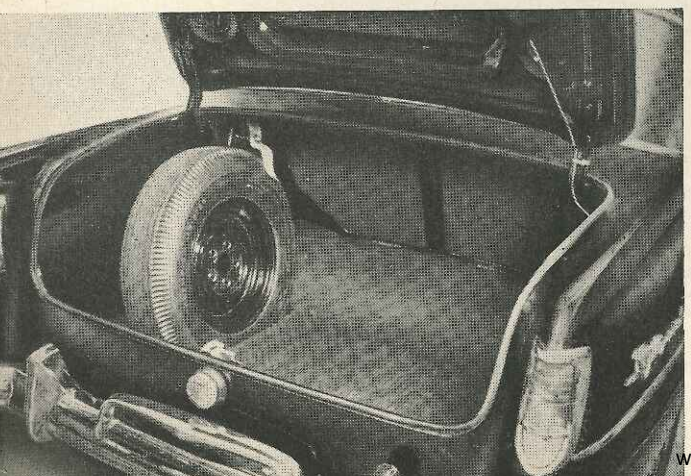
The three-speed gearbox has a steering column control, and synchromesh on the upper two ratios is highly effective at the expense of resisting very fast changes of ratio. Middle gear is reluctant actually to start the car from rest, but provides smooth and brisk pick-up from a very slow walking pace, whilst at the opposite end of the engine's speed range it is still reasonably quiet up to the 55 m.p.h. or so change-up speed at which top gear is engaged by a driver in a hurry.

So long as the road wheels are turning, the steering of this car is comfortably light, the high-set steering wheel being well clear of the driver's knees at all times. Most drivers would praise this car for an attractive combination of inherent stability on the straight with willingness to corner at quite a brisk pace. Pushed towards the upper limit of its speed range, the Holden felt a little less secure, needing more definite guidance from the driver if it was to follow an accurate line, and its wheels showing a skittery tendency on corners, but only an over-75 m.p.h. motorist discovers these effects which might have been minimized by more accurate balancing of the wheels and tyres.

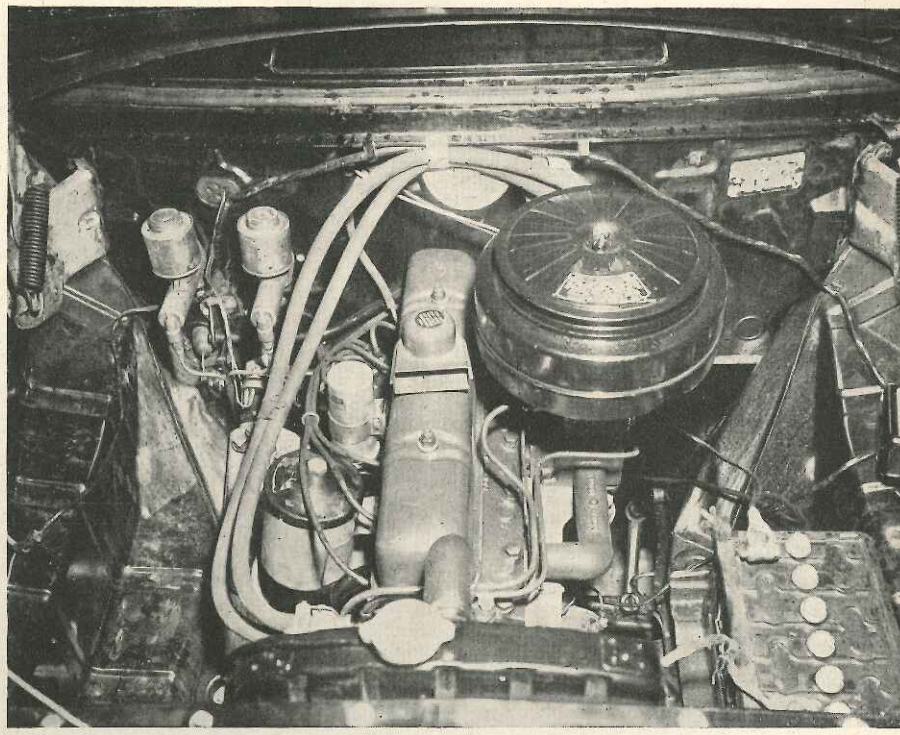
Perhaps because of their modest dimensions in relation to engine and car size, the 8-inch clutch and 9-inch brakes were the least praiseworthy features of our test car—no doubt London traffic and English winding roads test both these components more severely than would conditions in a larger and less crowded country. The clutch does little to complement the engine's low-speed smoothness, and the brakes, whilst responding well to light pedal pressures, were prone to grab if used hurriedly at town speeds, yet needed a very firm pressure on the pedal when a check from 70 m.p.h. or so was necessary. The twist-to-release handbrake was thoroughly effective on hills of the 1-in-4½ order.

Riding comfort over very varied surfaces at all sorts of speeds was commendably good, whether judged by the driver or from the back seat, even though the springs are firm enough to suit a car which can carry a heavy load of passengers and luggage. Aided by an anti-roll torsion bar at the front, these springs allow a car which is not especially low-built to corner with very little body roll or tyre squeal. Fine weather predominated during our test, but despite its conventionally nose-heavy weight distribution the wide-track Holden seemed to have quite good traction on loose-surfaced hills.

Perhaps one can regard climatic differences between Australia and England as explaining the provision of a fine cold-air ventilator (with controllable intake shutter below the windscreen) but only an optional



LUGGAGE accommodation in the rubber-carpeted rear locker is generous. The spare wheel is mounted at one side, and there is a 9½-gallon petrol tank with central filler. Our test model had its British number plate mounted on the locker lid instead of on the rear bumper.



ORTHODOX in design and tuned to develop maximum torque on low-priced grades of petrol, the six-cylinder engine is narrow and thus accessible despite being partially recessed into the scuttle.

recirculatory interior heater with none-too-effective windscreen de-misting jets. Quiet when the variable-speed fan was set to run slowly, the heater coped well with cool autumn weather, and as a partly-open scuttle ventilator delivered its cold air quite near to the recirculatory heater, the use of both together provided a rather patchy form of fresh air heating. Our test car carried the optional Air Chief radio, with five press-buttons and manual tuning, operating only on the medium waveband but with a very large speaker built into the centre of the facia: this radio was pleasantly little troubled by interference, and the volume control could be turned up to give output almost worthy of a public address system without the quality of reception becoming seriously distorted. A cigar lighter, under the same lid as a big ashtray, is part of the facia panel's normal complement of gadgets. A ring on the steering wheel controls a rather poor horn, and a mechanical pump prevents vacuum-operated windscreen wipers stopping during acceleration, but the wiped areas are disappointingly small.

Temperatures during our test did not sink quite to freezing point overnight, and the engine started much more readily from cold if the accelerator pedal was "pumped" once than if the choke was used. With a thermostat-controlled hot-spot in the inlet manifold it was immediately ready for work, and would idle regularly almost at once. The presence of an accelerating pump on the carburetter did not introduce any difficulties in starting a hot engine. Oil consumption of the test model during quite hard driving was slight, a pint being added after about 600 miles.

If there is any single reason for the Holden dominating Australia's motoring scene in a way for which it is hard to find a counterpart anywhere else in the free world, it must be that General Motors-Holdens Ltd. offer Australian customers a lot more car for their money than do other manufacturers. The one size of car on which they concentrate obviously appeals to a great proportion of Australian motorists as providing a sensible combination of roominess and performance with moderate running costs. The practical advantages secured by developing one basic design for more than 10 years have, in Australia, obviously outweighed the commercial advantages which lead manufacturers elsewhere in the world to introduce new models with greater frequency.

Specification

Engine

Cylinders	6
Bore	76.2 mm.
Stroke	79.4 mm.
Cubic capacity	2,170 c.c.
Piston area	42.4 sq. in.
Valves	Pushrod o.h.v.
Compression ratio	7/1
Carburetter	Bendix-Stromberg BXOV-1 downdraught
Fuel pump	AC mechanical incorporating vacuum pump
Ignition timing control	Centrifugal and vacuum
Oil filter	Suction gauze on pump (by-pass filter optional extra)
Max. power (gross) at	70 b.h.p. at 4,000 r.p.m.
Piston speed at max. b.h.p.	2,080 ft./min.

Transmission

Clutch	Borg & Beck 8-in. single dry plate
Top gear (s/m)	3.888
2nd gear (s/m)	6.18
1st gear	11.63
Reverse	11.63
Propeller shaft	Single-piece open
Final drive	Hypoid bevel
Top gear m.p.h. at 1,000 r.p.m.	18.15
Top gear m.p.h. at 1,000 ft./min. piston speed	34.8

Chassis

Brakes	Hydraulic self-energizing
Brake drum internal diameter	9 in.
Friction lining area	96.6 sq. in.
Suspension:	
Front: Independent by coil springs, transverse wishbones and anti-roll torsion bar.	
Rear	4-leaf semi-elliptic springs and rigid axle
Shock absorbers	GMH Delco telescopic
Steering gear	Re-circulating ball
Tyres	6.40—13 tubeless (4-ply)

Coachwork and Equipment

Starting handle	None
Battery mounting	Alongside engine on left
Jack	Side-lift pillar type
Jacking points	One each side beneath door pillar
Standard tool kit: Tool bag containing screwdriver, combination pliers, wheel nut and sparking plug spanner with handle.	
Exterior lights: 2 headlamps, 2 sidelamps/flashers, 2 stop/tail/flasher lamps, number plate lamp.	
Number of electrical fuses	5 fuses plus 1 circuit breaker
Direction indicators	Self-cancelling flashers (white front, red rear)
Windscreen wipers: Vacuum-operated self-parking two-blade, with engine-driven vacuum booster pump.	
Windscreen washers	Optional extra
Sun visors	Two, universally pivoted
Instruments: Speedometer with non-trip decimal distance recorder, fuel contents gauge.	
Warning lights: Dynamo charge, oil pressure, water temperature, headlamp main beam, turn indicators.	
Locks:	
With ignition key: Ignition/starter switch (can be left free for use without key), either front door, glove box, luggage locker.	
With other keys	None
Glove lockers	One on facia with lockable lid
Map pockets	None
Parcel shelves	Behind rear seat
Ashtrays	One on facia, one behind front seat
Cigar lighters	One on facia
Interior lights:	One in roof, with courtesy switches on front doors
Interior heater	Optional extra re-circulating heater and screen de-mister
Car radio	Optional extra Air Chief
Extras available: Heater, radio, windscreen washers, windscreen sunshade, radiator grille emblem, rear window venetian blind, rear wheel covers, bonnet ornament, seat covers, mud flaps, exterior mirror, glove locker lamp, locking fuel cap, oil filter, second horn, fitted suitcases, luggage locker lamp, parcel shelf, etc.	
Upholstery material	Elascofab plastic
Floor covering	Rubber mats
Exterior colours standardized	Twelve colours (also two-tone combinations)
Alternative body styles: Standard sedan, business sedan, station sedan (also open and closed van bodies).	

Maintenance

Sump	6 pints, S.A.E. 20
Gearbox	1¾ pints, S.A.E. 90 gear oil
Rear axle	2¾ pints, S.A.E. 90 hypoid gear oil
Steering gear lubricant	S.A.E. 90 or 140 EP gear oil
Cooling system capacity	16 pints (2 drain taps)
Chassis lubrication: By grease gun every 1,000 miles to 16 points.	
Ignition timing	2° before t.d.c. static
Contact-breaker gap	0.012-0.016 in.
Sparking plug type	14 mm. AC type 46-514
Sparking plug gap	0.028-0.033 in.
Valve timing: Inlet opens 4° before t.d.c. and closes 40° after b.d.c.; exhaust opens 46° before b.d.c. and closes 6° after t.d.c.	
Tappet clearances:	
Inlet	0.008 in.
Exhaust	0.012 in.
Front wheel toe-in	0.062-0.188 in.
Camber angle	0°-2°
Castor angle	1°-2°
Steering swivel pin inclination	5°
Tyre pressures:	
Front	22-24 lb.
Rear	22-28 lb. according to load
Brake fluid	Nasco or Delco
Battery type and capacity	12 volt, 50 cmp. hr.