

# The Motor Road Test No. 20/59

**Make:** Austin

**Type:** Seven de luxe ("850")

**Makers:** Austin Motor Co. Ltd., Longbridge, Birmingham

## Test Data

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**CONDITIONS:** Weather: Warm and humid with slight wind. (Temperature 65°-67° F. Barometer 29.7 in. Hg.) Surface: Dry tarred macadam. Fuel: Intermediate-grade pump petrol, approx. 90 Research Method Octane Rating.

### INSTRUMENTS

Speedometer at 30 m.p.h. ... 4% fast  
 Speedometer at 60 m.p.h. ... 3% fast  
 Distance recorder ... 1/2% fast

### WEIGHT

Kerb weight (unladen, but with oil, coolant and fuel for approx. 50 miles) ... 11 3/4 cwt.  
 Front/rear distribution of kerb weight 62/38  
 Weight laden as tested ... 15 1/2 cwt.

### MAXIMUM SPEEDS

**Flying Quarter Mile**  
 Mean of four opposite runs ... 72.4 m.p.h.  
 Best one-way time equals ... 75.0 m.p.h.  
**"Maximile" Speed.** (Timed quarter-mile after one mile accelerating from rest.)  
 Mean of four opposite runs ... 70.6 m.p.h.  
 Best one-way time equals ... 72.6 m.p.h.

### Speed in Gears

Max. speed in 3rd gear ... 62 m.p.h.  
 Max. speed in 2nd gear ... 41 m.p.h.  
 Max. speed in 1st gear ... 25 m.p.h.

### FUEL CONSUMPTION

#### (Top gear)

58 1/2 m.p.g. at constant 30 m.p.h. on level.  
 53 1/2 m.p.g. at constant 40 m.p.h. on level.  
 46 1/2 m.p.g. at constant 50 m.p.h. on level.  
 40 m.p.g. at constant 60 m.p.h. on level.  
 29 1/2 m.p.g. at maximum speed of approx 72 1/2 m.p.h. on level.

**Overall Fuel Consumption** for 1,863 miles, 46.2 gallons, equals 40.3 m.p.g. (7.0 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): 43.5 m.p.g. Fuel tank capacity (maker's figure) 5 1/2 gallons.

### ACCELERATION TIMES from standstill

0-30 m.p.h. ... 6.4 sec.  
 0-40 m.p.h. ... 10.3 sec.  
 0-50 m.p.h. ... 17.0 sec.  
 0-60 m.p.h. ... 27.1 sec.  
 Standing quarter mile ... 23.6 sec.

### ACCELERATION TIMES on Upper Ratios

	Top gear	3rd gear
10-30 m.p.h. ...	14.8 sec.	8.8 sec.
20-40 m.p.h. ...	14.3 sec.	9.2 sec.
30-50 m.p.h. ...	16.4 sec.	11.0 sec.
40-60 m.p.h. ...	21.7 sec.	16.7 sec.

### STEERING

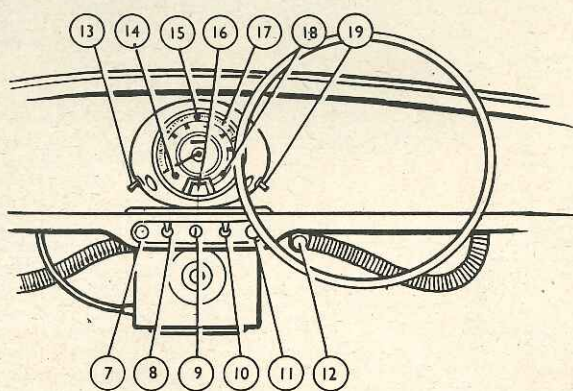
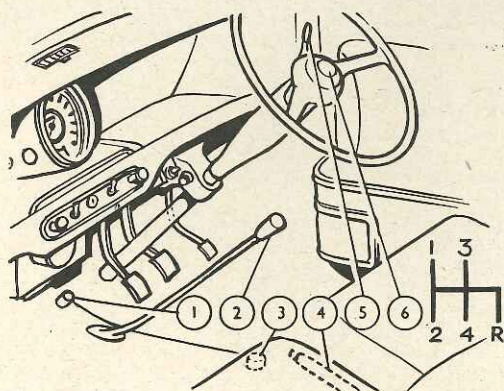
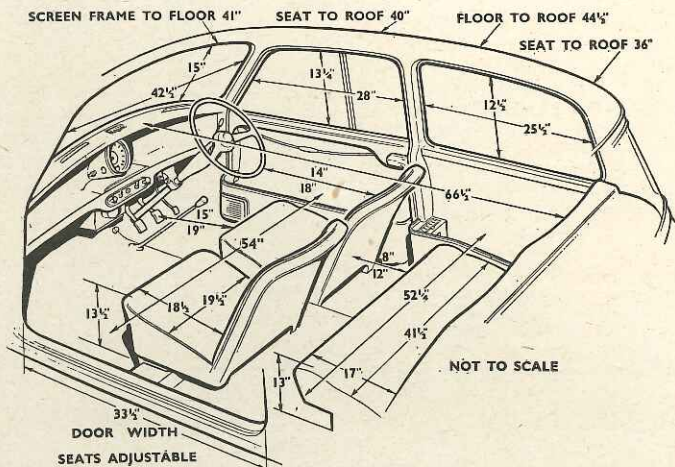
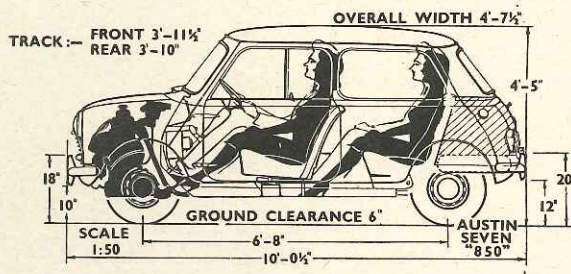
Turning circle between kerbs: left, 30 3/8 ft.  
 right, 32 1/4 ft.  
 Turns of steering wheel from lock to lock: 2 1/4

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

0.90 g retardation (equivalent to 33 1/2 ft. stopping distance) with 115 lb. pedal pressure.  
 0.87 g retardation (equivalent to 34 1/2 ft. stopping distance) with 100 lb. pedal pressure.  
 0.69 g retardation (equivalent to 43 1/2 ft. stopping distance) with 75 lb. pedal pressure.  
 0.49 g retardation (equivalent to 61 1/2 ft. stopping distance) with 50 lb. pedal pressure.  
 0.27 g retardation (equivalent to 111 ft. stopping distance) with 25 lb. pedal pressure.

### HILL CLIMBING at sustained steady speeds

Max. gradient on top gear ... 1 in 13.1 (Tapley 170 lb./ton)  
 Max. gradient on 3rd gear ... 1 in 8.4 (Tapley 265 lb./ton)  
 Max. gradient on 2nd gear ... 1 in 5.5 (Tapley 405 lb./ton)



1, Headlamp dip switch. 2, Gear lever. 3, Starter button. 4, Handbrake. 5, Direction indicator switch. 6, Horn button. 7, Heater control. 8, Windscreen wipers switch. 9, Ignition switch.

10, Lights switch. 11, Choke control. 12, Windscreen washer button. 13, Panel light switch. 14, Oil pressure warning light. 15, Main beam indicator light. 16, Fuel contents gauge.

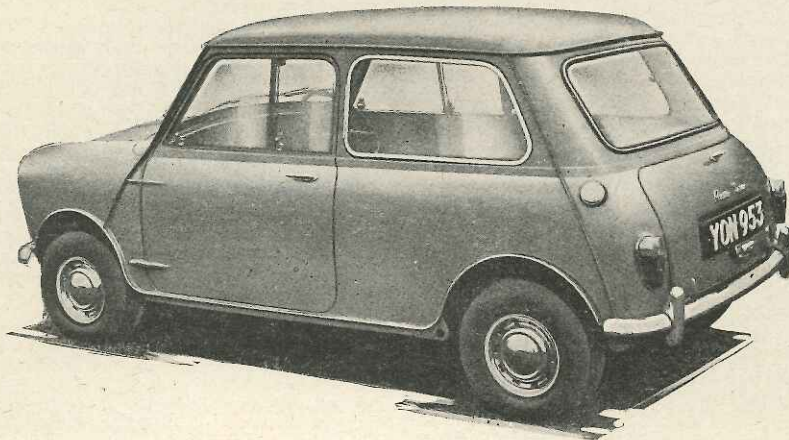
17, Speedometer and distance recorder. 18, Dynamo charge warning light. 19, Parcel shelf light switch.

# The Austin Seven "850" de luxe

Miniature-car Compactness Combined with Full-sized Performance and Roominess

**C**HARACTERISTICS which have often been thought utterly incompatible are combined amazingly well in the new 848 c.c. Austin Seven. It is an exceptionally low-priced car which costs little to run, and its overall dimensions are extremely compact. Yet, it carries four adults with space to spare, potters with conventional multi-cylinder smoothness or accelerates briskly up to a top speed of well over 70 m.p.h., rides comfortably and handles with exceptional precision. Such unconventional features as 10-inch wheels, rubber springs and front wheel drive from a transversely mounted engine have justified themselves by results, and an intensive trial of the car over 1,900 miles has left us without any reason to doubt its longevity.

Looking at this car, which is 16 inches shorter overall than the compact little Austin A35, 6 inches lower and about equally narrow, it is hard to see how four adults can possibly be made comfortable in it. Apart from skilful planning of details, the miracle of passenger-packing results from two features of the design:



the grouping of a transverse-mounted 4-cylinder engine and its four-speed synchromesh transmission under a very short bonnet indeed, and the use of unusually small-diameter wheels set at the extreme corners of the car where they intrude very little upon passenger space.

Opening either of the wide front-hinged doors and stepping into one of the individually-adjustable front seats provides a first indication of how roomy this car is. There can be enough legroom for tall men, recessed doors provide a vast amount of elbow space and the roof is well above the head of any normal person. Not only is there plenty of room, but the impression of roominess is enhanced by the fascia with its deep parcel shelf being well ahead of the seats, and by the absence of any appreciable central "hump" in the carpeted floor.

Getting into or out of the rear seat, past front seats which tilt bodily forwards and "stay put" until pulled back into place, is

less dignified than entry to higher built cars. Once a passenger has stooped to enter, however, he or she finds the back seat astonishingly roomy and comfortable. Praise is due to a backrest subtly shaped to steady two people during cornering, generous headroom, and a quite remarkable amount of elbow width over the two huge parcel wells which flank the seat cushion. When the front seats are adjusted as far back as possible, a man six feet tall has not got quite enough knee-room to sit facing absolutely straight ahead in the back compartment, but adjusting the front seats one notch forwards provides almost anyone with adequate knee-room (as well as generous height and width) in the back compartment.

Whichever seat it is judged from the new Austin Seven is a car which provides an excellent outlook, through big windows framed by slender pillars. It also has immense amounts of stowage space for picnic provisions, maps or suchlike odd-

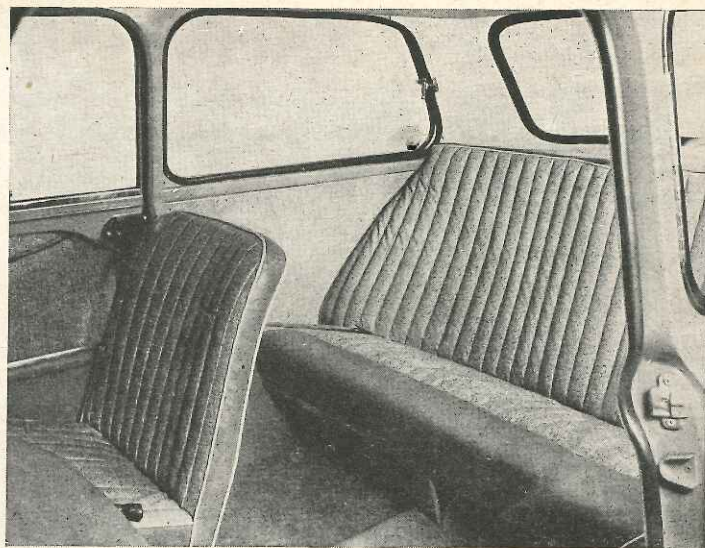
FLAT riding even when negotiating a roundabout at a brisk pace is demonstrated above, as are large-size windscreen wipers. Large area windows are used all round the body, and a hinged rear number plate allows for driving with the luggage locker lid open.

ments in four deep door and body-side wells and on two parcel shelves. Luggage capacity in the separate rear locker is not competitive with larger cars if measured in terms of cubic feet, but as the space is almost rectangular in shape it can accommodate bulky individual cases even without the let-down lid being left open; carriage of items such as perambulators on a roof rack is approved within a 35 lb. weight limit.

The unconventional all-independent springing of this car by means of rubber cones produces a somewhat "continental" effect, the springing being fairly firm, but

## In Brief

Price	£378 10s. plus purchase tax	
	£158 16s. 8d. equals	£537 6s. 8d.
Capacity	...	848 c.c.
Unladen kerb weight	...	11½ cwt.
Acceleration:		
20-40 m.p.h. in top gear	...	14.3 sec.
0-50 m.p.h. through gears	...	17.0 sec.
Maximum direct top gear gradient	...	1 in 13.1
Maximum speed	...	72.4 m.p.h.
"Maximile" speed	...	70.6 m.p.h.
Touring fuel consumption	...	43.5 m.p.g.
Gearing:	14.85 m.p.h. in top gear at 1,000 r.p.m.;	33.1 m.p.h. at 1,000 ft./min. piston speed.



BROAD internally, the two-door body also provides generous headroom and enough length for four adults. Parcels can be stowed below the rear seat, on a fascia-panel shelf, in door pockets  $3\frac{1}{2}$  in. wide and in similar pockets beside the rear seat.

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immune from "bottoming" and with low unsprung weight to eliminate shock on rough roads. Standing by the little Austin, it is impossible to bounce it on its springs as most other modern cars can be bounced; this suspension firmness is reflected in fast cornering which seems utterly roll-free when the driver is alone and which, even when a full load of passengers has raised the centre of gravity, is accompanied by remarkably little body roll.

Thanks to progressive stiffening of the rubber springs as the load on them is increased, this  $11\frac{3}{4}$  cwt. car gives an almost equally pitch-free ride whether it carries a driver only or a load which may well amount to 7 cwt. of passengers and luggage. The firm suspension shows up to excellent advantage in main road cruising at a brisk pace, and extremely bad surfaces are heard rather than felt. The ride is naturally livelier when no passengers are being carried than with the car laden, and there are very rare occasions when, on a wavy road, the tendency of a short-wheelbase car with firm springs to follow the road undulations is not very comfortable. On the other hand, experience of the back-seat

ride in very varied conditions emphasized that passengers enjoy far smoother riding in this car than in the back seats of most models costing twice as much.

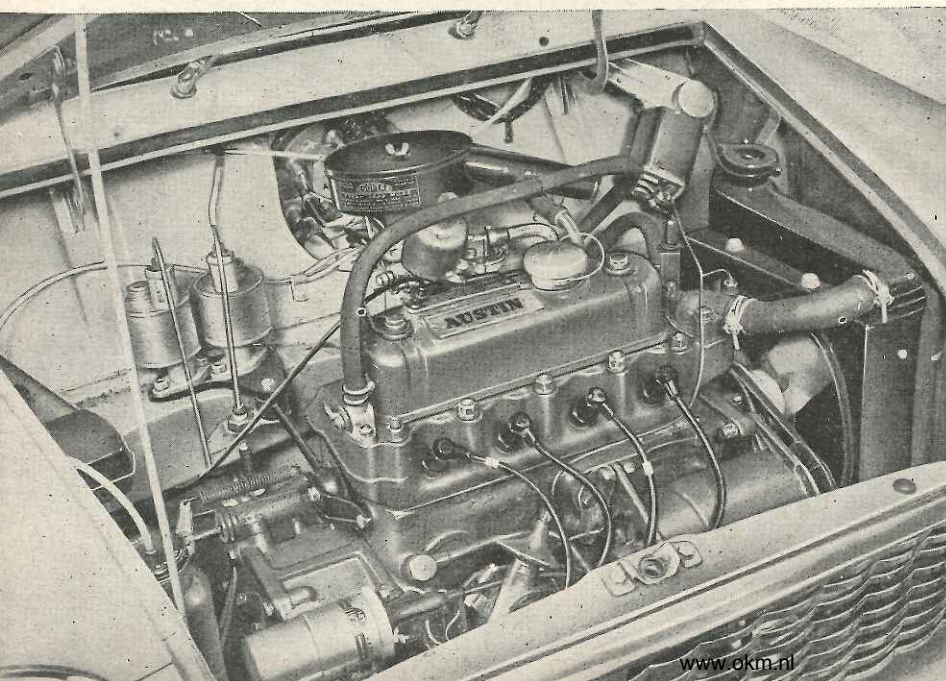
Comfort seems likely to be less important than controllability in endearing this new model to large numbers of motorists. Precise stability has been combined with astonishing responsiveness to small pressures on and movements of the steering wheel, and the small-diameter but broad-section tyres with their slight unsprung weight adhere tenaciously to wet or dry roads. The steering mechanism is a rack and pinion, with the system's usual merit of being entirely free from lost motion, and without the friction or kick-back which sometimes offset this great merit. Some people are at first rather shy of the unwontedly light and responsive steering, but in fact this is an immensely controllable little car and physically quite untiring to drive for long distances.

Many people could drive this car without ever realizing that front wheel drive is included amongst its unorthodoxies, there being for example no trace of the transmission "snatch" on full lock which has

afflicted several low-priced f.w.d. cars. The more discerning motorist will find differences, such as an increase in steering self-centring action if the car is accelerated hard whilst taking a sharp corner, and in the fact that acceleration emphasizes the car's "understeer" characteristic when cornering rather than having the reverse effect, but both these symptoms of f.w.d. are very moderate in magnitude. It would be hard indeed to spin this car by cornering too fast, the only method of disturbing its directional stability which could be discovered by deliberate attempts to find out a weakness, being to swerve with skid-provoking violence when on the over-run—otherwise, the only result of trying to corner rather too fast is a tendency for the car to run slightly wide. Fast drivers will find the handling of this model very much to their taste, and although the front wheels of our test model did not carry balancing weights, no "shake" intruded until the speed was pushed up to a downwind 75 m.p.h.

Seven-inch brakes housed within the small wheels proved very well up to their work, and the pressure-limiting valve which sets a "ceiling" to rear braking effort largely overcame the risk of lightly-laden rear wheels locking when the car was driven without passengers, although on very wet and slippery surfaces it could still be the rear wheels which locked first in a "panic" brake application. In fast main road driving the small 5.20-10 tyres seemed to become rather warm, but experimental descents of three of the longest hills in Somerset and North Devon, without using the gears to help retard a laden car, produced neither brake fade nor any evident increase (temporary or lasting) in brake pedal travel.

In terms of economy of operation, our test example of the new Austin Seven was comparable with the best orthodox "8 h.p." saloons in the results of steady-speed tests on the level, and at some advantage in overall m.p.g. thanks to its low weight reducing the amount of fuel consumed during acceleration and hill-



SQUEEZED transversely into a very short bonnet, the engine is above the gearbox through which it drives the front wheels, its unconventional position permitting ready access to tappets, ignition components, carburetter, clutch adjuster and hydraulic fluid reservoirs.

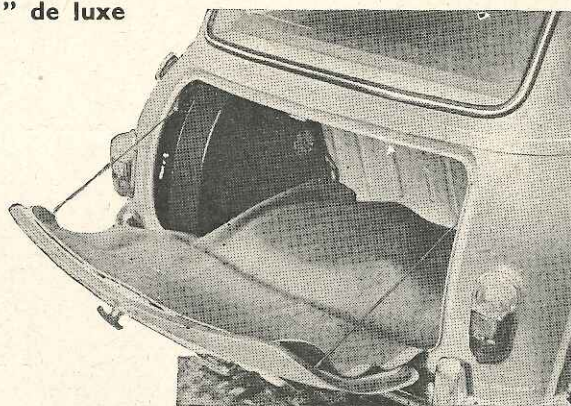
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climbing. As a last-minute change of mind by the factory about the coachwork specification of the car to be sent for test resulted in us being loaned a car with less than 900 miles on the speedometer, and which had not been given as thorough a "1,000 mile check" as many test models, it seems probable that many owners will improve on our m.p.g. figures which are approximately 10%-15% below factory claims.

So far as performance is concerned, the new Austin Seven promises to be something of a "giant killer," such figures as acceleration from rest to 50 m.p.h. in exactly 17 seconds and a top speed in excess of 72 m.p.h. (at less than 5,000 engine r.p.m. whereas maximum engine power is quoted at 5,500 r.p.m.) representing improvements upon what many more expensive cars can achieve. With the driver travelling alone, this light vehicle becomes even livelier than when carrying our usual test load of two far-from-light men and their apparatus. Our tests were run on intermediate-priced "mixture" grades of petrol with octane ratings around 90, the cheapest 82-octane petrols causing a certain amount of pinking if wide throttle openings were used below 40 m.p.h. in top gear but 98-octane premium-grade petrol proving in no way a necessary expense. Laden, the Austin proved easy to stop and re-start anywhere on Porlock or Lynton hills, spin of the front wheels on wet roads occurring only if the accelerator and clutch were treated roughly, second gear proving adequate for the major part of these famous gradients and the unsynchronized 1st gear re-engaging easily when required.

Transmission noise is not altogether absent from this car, but is evident mainly at the extremes of the speed range. Below 30 m.p.h. the gear lever can "tele-

**OVERFLOW** luggage capacity is provided on a let-down lid, but the locker is shaped to accommodate large individual cases. The fuel tank is evident in the background; beneath the rubber mat are the spare wheel and battery cover.



graph" gear noise into the car on the over-run, and as the speed rises above 60 m.p.h. a busy hum from the power unit begins to be heard. The fact that the car runs with little wind noise makes it easier to hear its drive gears, but in the vital speed range between 30 m.p.h. and 60 m.p.h. its standards of quietness seem very satisfactory indeed for an inexpensive model. In 3rd gear, the power unit begins to become fairly audible at 35 m.p.h., but for best acceleration this gear is used up to 55 m.p.h., and 60 m.p.h. can be reached in it. At the opposite end of the scale, the engine remains reasonably smooth right down to well under 10 m.p.h. in top gear. The gearchange, by a rather vague swept-back central lever, is far from being the best feature of this new model.

Whilst a fresh-air intake would be welcome, the front halves of sliding windows on the doors can be opened without admitting rain or causing much draught—opening the rear halves of these

windows or the hinged rear quarter windows produces an uncomfortably strong inrush of air at out-of-town driving speeds. In freakishly wet weather, the exposed-looking ignition system never missed a spark, and the bad weather in which we tested this car showed off to advantage twin windscreen wipers which run silently and cover broad overlapping areas of glass. Weather during our test was too warm for the recirculating-type heater to be tested thoroughly, but we noted that air is directed towards the rear compartment as well as towards the windscreen and front passengers.

Publishing an early test report upon a brand new model, it is sometimes necessary to make reservations about curable detail faults. Our first intensive trials of the new Austin Seven have shown singularly few such imperfections, and make it obvious that this compact car priced at only £537 6s. 8d. offers a remarkable combination of speed with economy, roominess with compactness and controllability with comfort.

## Specification

<b>Engine</b>	
Cylinders .. .. .	4
Bore .. .. .	62.9 mm.
Stroke .. .. .	68.26 mm.
Cubic capacity .. .. .	848 c.c.
Piston area .. .. .	19.3 sq. in.
Valves .. .. .	Pushrod o.h.v.
Compression ratio .. .. .	8.3/1
Carburettor .. .. .	S.U. inclined type HS2
Fuel pump: S.U. electrical type PD, rear-mounted.	
Ignition timing control: Centrifugal and vacuum.	
Oil filter .. .. .	Purolator full-flow
Max. power (net) .. .. .	34 b.h.p.
at .. .. .	5,500 r.p.m.
Piston speed at max. b.h.p. .. .. .	2,460 ft./min.
<b>Transmission</b>	
Clutch .. .. .	7 1/8 in. single dry plate, hydraulically actuated
Top gear (s/m) .. .. .	3.765
3rd gear (s/m) .. .. .	5.317
2nd gear (s/m) .. .. .	8.176
1st gear .. .. .	13.657
Reverse .. .. .	13.657
Propeller Shaft .. .. .	None (f.w.d.)
Final drive .. .. .	17/64 helical spur gears
Top gear m.p.h. at 1,000 r.p.m. .. .. .	14.85
Top gear m.p.h. at 1,000 ft./min. piston speed .. .. .	33.1
<b>Chassis</b>	
Brakes .. .. .	Lockheed hydraulic (leading and trailing shoes)
Brake drum internal diameter .. .. .	7 in.
Friction lining area .. .. .	67.5 sq. in.
<b>Suspension:</b>	
Front: Independent by transverse unequal wishbones and Moulton rubber springs	
Rear: Independent by trailing links and Moulton rubber springs	
Shock absorbers: Armstrong orifice-control telescopic	
Steering gear .. .. .	Cam Gears rack-and-pinion
Tyres .. .. .	Dunlop tubeless, 5.20-10

## Coachwork and Equipment

Starting handle .. .. .	Non-
Battery mounting .. .. .	In rear luggage locker
Jack: Bipod screw type operated by wheel-brace	
Jacking points .. .. .	2 external under body sides
Standard tool kit: Jack, combined wheel-brace and jack handle, tyre pump, tyre valve key, sparking plug spanner and tommy bar, brake adjusting spanner, ignition feeler/screwdriver, tappet/sparking plug gap feelers, grease gun, tool roll.	
Exterior lights: 2 headlamps with pilot bulbs, 2 stop/tail lamps, number plate lamp.	
Number of electrical fuses .. .. .	Two (35 amp.)
Direction indicators: Amber flashers, self cancelling.	
Windscreen wipers: Electrical two-blade, non self-parking.	
Windscreen washers: Manually-operated pattern standardized.	
Sun visors: .. .. .	Two, hinge-mounted
Instruments: Speedometer with non-decimal total distance recorder; fuel contents gauge.	
Warning lights: Dynamo charge, oil pressure, headlamp main beam, turn indicators.	
Locks: .. .. .	With ignition key: Ignition switch and driver's door.
Sump: (including gearbox and final drive) 7.6 pints to refill plus 1.4 pints in filter, S.A.E. 30 in temperate climates (Below freezing, S.A.E. 20W, Arctic weather S.A.E. 10W).	
Steering gear lubricant: S.A.E. 90 Hypoid gear oil.	
Cooling system capacity: 5 1/2 pints plus 1 pint in heater (2 drain taps).	
Chassis lubrication: by grease gun every 1,000 miles to 12 points.	
Ignition timing .. .. .	T.D.C. static
Contact-breaker gap .. .. .	0.014-0.016 in.
Sparking plug type .. .. .	Champion N5 14mm.
Sparking plug gap .. .. .	0.025 in.

With other key .. .. .	Luggage locker
Glove lockers .. .. .	None
Map pockets: Four very large compartments alongside front and rear seats.	
Parcel shelves: Full-width shelves below fascia and behind rear seat.	
Ashtrays: One on fascia panel, two alongside rear seats.	
Cigar lighters .. .. .	None
Interior lights: Twin lamps on front parcel shelf, 1 lamp in each rear "parcel well."	
Interior heater: Smiths re-circulatory heater and screen de-mister on de luxe cars.	
Car radio .. .. .	Optional extra (Radiomobile)
Extras available: Heater, radio, bumper overriders, under-seat baskets	
Uphostery material .. .. .	Plastic leathercloth
Floor covering .. .. .	Pile carpet
Exterior colours standardized .. .. .	Three
Alternative body styles: "Standard" saloon with rubber mats, cloth upholstery, no rear interior lamps or ashtrays, and other simplifications of equipment	
N.B. Morris Mini Minor "850" follows closely similar specification to Austin Seven "850"	
<b>Maintenance</b>	
Valve timing: Inlet opens 5° before t.d.c. and closes 45° after b.d.c. Exhaust opens 40° before b.d.c. and closes 10° after t.d.c.	
Tappet clearances (cold) .. .. .	Inlet and exhaust 0.012 in.
Front wheel toe-out: 1/4 in. at hub height and 1 1/4 in. span.	
Camber angle: 1° positive at normal laden height.	
Castor angle .. .. .	1 1/2°
Steering swivel pin inclination .. .. .	9 1/2°
Tyre pressures .. Front 24/25 lb. Rear 22/23 lb.	
Brake fluid .. .. .	Lockheed (S.A.E. spec. 70-R.1.)
Battery type and capacity: 12 volt 34 amp. hr. Lucas type GLTW7A.	