The ROVER 105R de luxe

Motor test reprint

Comfort and Quality Combined with a Most Effective Fully Automatic Transmission

CONVENTIONAL COVER.—An orthodox exterior conceals a high performance engine allied to a fully automatic transmission system.

FOR many years the Rover Co. have followed a consistent policy. They have avoided any great multiplication of models and at the same time have concentrated upon the production of well-engineered passenger cars outstanding in the quality of their workmanship and notorious for their reliability over great mileages and, in consequence, for their ultimate high resale value.

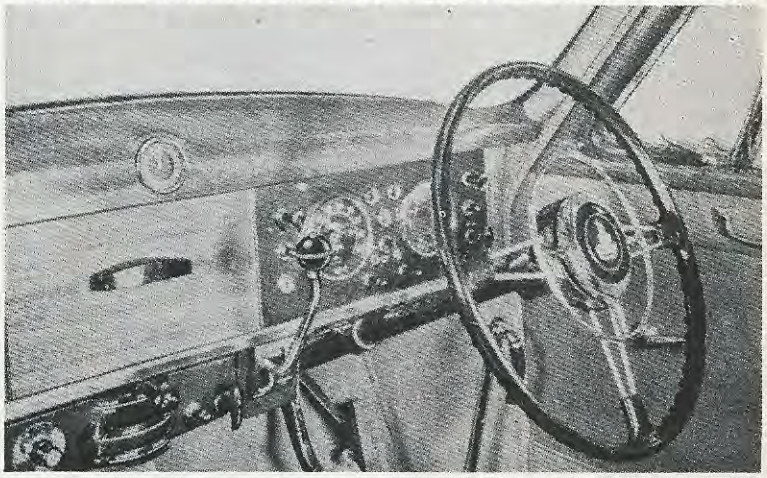
It is only in recent times, however, that high performance has figured much in the Rover scheme of things. The sober aspect of the cars attracted a conservative type of driver who did not need a maximum speed much in excess of 70 m.p.h. nor the several other characteristics which go to make a car handle successfully at such speeds. Perhaps the increasing popularity of touring abroad allied to the demands of the export field may have been responsible for the introduction of the current R and S models, but whatever the reason the results are both interesting and highly satisfactory.

The most important development in the car which we tested was obviously the automatic transmission known as the "Roverdrive." Whereas many car designers seeking to meet the current world demand for effortless motoring have adopted one or other of the proprietary units devised by specialists in the field of transmission, the Rover engineers, in keeping with their general principles in such matters, set themselves out to design and manufacture a unit of their own. Briefly, the system makes use of a torque converter and a fully automatic overdrive, in the following manner. The gear lever which confronts the driver enters through a small "gate" just beneath the facia panel. Three positions are provided and the engagement of any of these must be preceded by the driver depressing a small button in the gear lever knob, this action causing the operation of the clutch. As far as the motorist is concerned 99% of his use of the selector will be confined to the position marked "Drive" or the one marked "Reverse." The third location introduces an emergency low gear useful no doubt for starting on a steep hill when towing a trailer or for descending a mountain track where full use of the engine as a brake may be advisable.

The engine cannot be started unless the selector is in a neutral position, thus avoiding the risk of a sudden unexpected plunge into a garage wall, but having engaged the gearbox the results are smooth and satisfying. The car moves off with complete absence of fuss and if the throttle is kept hard on the floor the direct drive ratio is held right up to the limit of engine revolutions which means in this instance something in the region of 80 m.p.h. If, however, the throttle is eased momentarily at any speed from the early 30's upwards a smooth and progressive change into overdrive ratio takes place. The lower ratio can, however, be reclaimed by a kick down on the accelerator to a position beyond the normal travel of the pedal although we must record that the physical effort needed to achieve this was fairly pronounced.

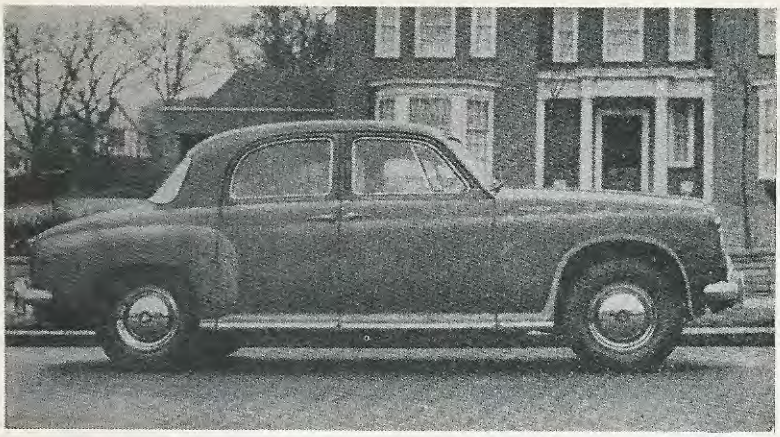
The car showed a readiness to take on steep ascents at crawling speed without any signs of distress from the torque converter. The difficulty sometimes experienced with a cold engine coupled to a torque converter was avoided most successfully by a combined choke and throttle lever. This enabled a tick-over speed slightly in excess of normal to be adopted without raising engine revolutions to a level which forced the transmission to take over against the hand brake or permitted

FUNCTIONAL COCKPIT.—Straightforward, well placed instruments and controls are mounted adjacent to a background of polished wood. A fitted tool drawer is retained beneath the left-hand locker as on previous models.



In Brief

Price: £1,130 plus purchase tax £566 7s. 0d. equals £1,696 7s. 0d.	
Capacity	2,638 c.c.
Unladen kerb weight ...	31 cwt.
Acceleration:	
20-40 m.p.h. in Drive gear	7.8 sec.
0-50 m.p.h. in Drive gear	17.4 sec.
Maximum direct drive gear gradient	Approx. 1 in 4
Maximum speed ...	... 93.9 m.p.h.
Maximile speed ...	... 88.2 m.p.h.
Touring fuel consumption ...	23.6 m.p.g.
Gearing: 21.7 m.p.h. in overdrive gear at 1,000 r.p.m.; 31.5 m.p.h. at 1,000 ft./min. piston speed.	



COMPACT CAR.—Modest dimensions and good all-round visibility render the 105R an attractive touring car.

the risk of a cold engine stalling, with the attendant annoyance of having to disengage the selector before being able to restart. The engine is, however, slow to warm up and does not deliver its full power for several minutes after starting from cold.

On the road the Rover showed itself to be a car of distinctive character. There is very little doubt that the majority of modern cars fitted with a synchromesh gearbox and driven in an enterprising manner would be first away from the traffic lights. What usually happens is that in the first 20 or 30 yards the torque converter Rover may drop slightly behind the "thruster" armed with the normal clutch. But as the smoothly progressive power of the R model comes into its own the picture changes and very soon the Rover is generally gaining hand over fist.

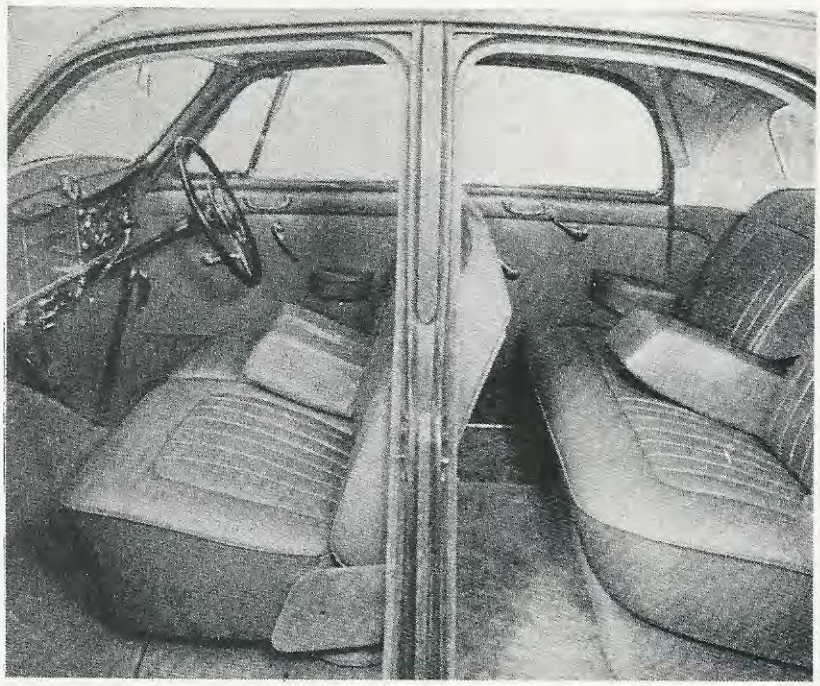
Smooth Driving

We have dealt at some length with the transmission aspect because the potential Rover owner will want to know what advantages he may gain by paying substantially more for two-pedal control when in fact a similar model with orthodox gearbox and overdrive is available. In heavy traffic the R type Rover is perhaps the most restful car that it is possible to own, despite the fact that the nature of the transmission makes the engine more obtrusive than on other models of the same make.

Modest overall dimensions and good visibility coupled to the flexibility of a steam engine insulate the occupants against the irritations of congested streets. Likewise the way in which the car surges along on the open road will be a source of great pleasure to many who have never hitherto experienced this type of work-free motoring. In the long run the active, gear-changing driver may well boast a higher average but it will be remarkable if he reaches his destination enjoying the same sense of complete relaxation as the driver of the R model.

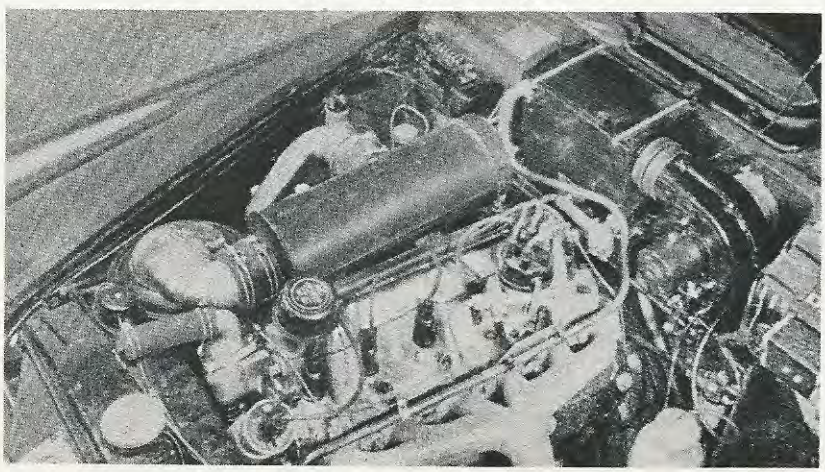
The Rover is at its best when being driven briskly as opposed to fast. The steering, which has a strong self-centring action, is precise enough in its action for normal needs and the car can be cornered in a reasonable manner on roads either wet or dry. When forced to the limit of its performance, however, the car tends to roll and requires a fair degree of concentration. As no one has ever pretended that it is a sports car this criticism is of little consequence. The Rover has a brace of beautifully comfortable, easily adjustable front seats equipped with individual armrests on both sides, the centre pair of which can be stowed in order to convert the seat into a three-place bench when required. Likewise there is ample headroom and a slightly lofty driving position which bestows so many advantages, particularly at night. In the rear compartment headroom and legroom are not generous for a car of this class.

Most of the criticisms which can be aimed at modern cars have been eliminated by the Rover engineers. Starting from the



ARMCHAIR COMFORT.—Folding armrests in the centre and adjustable fittings on the doors provide a steady ride in conditions of considerable leather-covered luxury.

ACCESSIBLE ENGINE.—The layout from the maintenance point of view of the power unit is well planned. Few cars are designed to run greater distances between routine service and this applies equally to the engine and chassis.

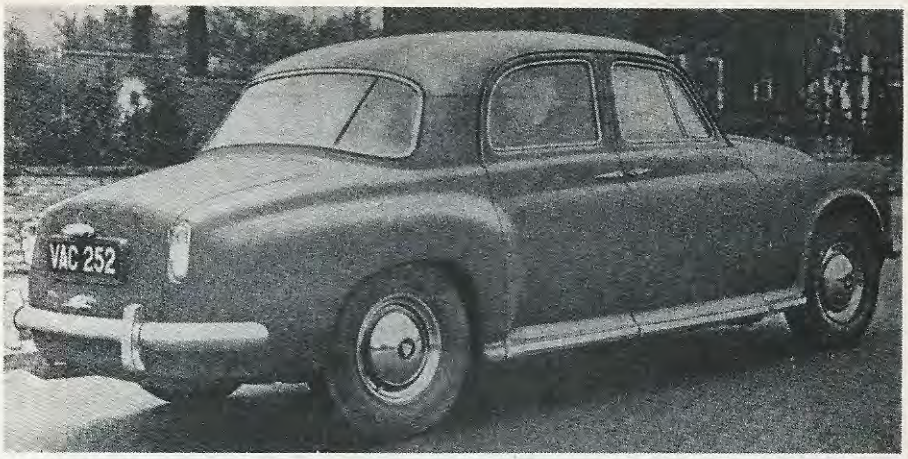


roof, the sun vizors are semi-opaque and the one on the passenger side incorporates a mirror at its back. Just beneath the curved windscreen is a sensibly mounted clock and from there on the amount of polished wood and sober instrumentation adds up to a picture delightfully reminiscent of the great motor vehicles of the past with all the essential modifications dictated by present-day requirements. Thus, the windscreen wiper starter is of entirely different shape and size to all the other easily reached controls. Likewise, the handbrake is of an exclusive pattern not found in any other motorcar and similarly the arrangements for the operation of air conditioning and lighting are all that the intelligent driver most requires.

The horn ring can be operated with delicacy by the fingers or (in emergency) with violence on the centre boss of the wheel. Polished wooden doors conceal very adequate locker space. Draught-free ventilation is most easily gained by use of the forward-pivoted window ventilators.

Fully Equipped

It goes without saying that in a car which is built in the Rover tradition ample equipment, bordering on the luxurious, is incorporated as standard. Both the front locker lids open down as tables for the inevitable English picnic when the weather has gone wrong. Interior lighting is reinforced by a map-reading lamp and the centrally mounted mirror gives a fine view rearwards through the wide wraparound back window. Indeed, the only point of criticism which we can raise in this connection is that under humid conditions this rear window does tend to mist up, a problem which could be overcome most easily by the provision of a strip heater.



As to the coachwork, the doors open and shut with the definition of a fine carriage, and despite hard driving over the poorest roads we failed to reveal a squeak or a rattle. The luggage boot is adequate for the size of the car and, if desired, the trap door which conceals the petrol filler may be locked from within the boot, a point of singular importance at the moment and at all times when touring abroad.

There remain the two essentials of engine and suspension. The former is the well-known Rover unit now developing 108 b.h.p. but despite a compression ratio of 8.5 : 1 entirely happy on normal first-grade fuel. As to the suspension, the Rover is positively continental in its ability to encounter unmade surfaces at 80 m.p.h. with only a rumble combined with surprisingly gentle motion. On normal roads the car is good without being in any way outstanding as to its ride but this ability to absorb the worst of surfaces at high speeds is a most valuable asset when reasonable averages on a long journey have to be maintained. The servo-assisted hydraulic brakes are well up to the performance of the car and did not, in the winter conditions of our test, give any anxiety as to fade when used aggressively.

In sum, the Rover 105R may be said to have achieved to a remarkable degree the target as conceived by its manufacturer. For a price which these days cannot in any way be called considerable, a vehicle of outstanding mechanical refinement and incorporating much of solid worth has been produced. The 105R Rover stands today as the senior member of an impressive range of fine motorcars and as such is most likely to appeal to senior men and women anxious to obtain transportation which combines speed, safety and reliability amidst the dignified accoutrements of first-class British engineering.

Specification

Engine

Cylinders	6
Bore	73.025 mm.
Stroke	105 mm.
Cubic capacity	2,638 c.c.
Piston area	38.9 sq. in.
Valves	Overhead inlet, side exhaust
Compression ratio	8.5/1
Carburetter	2 S.U. horizontal
Fuel pump	S.U. electric
Ignition timing control	Centrifugal and vacuum
Oil filter	AC-Delco, full-flow
Max. power at	108 b.h.p. at 4,250 r.p.m.
Piston speed at max. b.h.p.	2,925 ft./min.

Transmission

Torque converter torque multiplication (direct drive above 33 m.p.h.).	Rover, giving 2.18/1
Clutch	9-inch single dry plate, vacuum-operated
Overdrive gear	3.62
Direct gear	4.7
Low gear	8.18
Reverse	13.63
(Mechanical gear ratios, neglecting converter torque multiplication.)	
Overdrive	Laycock-de Normanville automatic
Propeller shaft	Divided open
Final drive	Spiral bevel
Overdrive gear m.p.h. at 1,000 r.p.m.	21.7
Overdrive gear m.p.h. at 1,000 ft./min. piston speed	31.5

Chassis

Brakes	Girling hydrostatic (2 trailing shoe front), with vacuum servo assistance
Brake drum internal diameter	11 in.
Friction lining area	176 sq. in.
Suspension:	
Front	Independent (coil springs and wishbones with anti-roll torsion bar)
Rear	Semi-elliptic (progressive rate)
Shock absorbers	Woodhead-Monroe telescopic
Steering gear	Burman variable-ratio recirculating-ball worm and nut
Tyres	6.00—15, Dunlop or Avon

Coachwork and Equipment (de luxe model)

Starting handle	Yes
Battery mounting	Under rear seat
Jack	Bevelift, tripod type
Jacking points	Two external on each side of body
Standard tool kit: Jack, tyre pump, wheel brace, screwdriver, 4 open-ended spanners, two box spanners, adjustable spanner, pliers, contact breaker key, tyre pressure gauge.	
Exterior lights: 2 headlamps, 2 sidelamps, 2 fog-lamps, 2 stop/tail lamps, number plate/reversing lamp.	
Number of electrical fuses	3
Direction indicators	Amber flashers, self-cancelling
Windscreen wipers	Two-blade electrical, self parking
Windscreen washers	Two-jet, with toe-operated pump
Sun vizors	Two
Instruments: Speedometer with decimal trip, clock, coolant thermometer, ammeter, fuel and oil contents gauge.	
Warning lights: Dynamo charge, oil pressure, direction indicators, headlamp main beam, choke.	
Locks:	
With ignition key	Ignition and driver's door.
With other keys	Glove locker, luggage locker
Glove lockers	Two on facia panel, with lids (one only if radio is installed)
Map pockets	Two on front doors, two behind front seats
Parcel shelf	Behind rear seat
Ashtrays	One front, two rear
Cigar lighters	One front
Interior lights: One above instruments, two in rear, all with manual and courtesy switches.	
Interior heater	Fresh-air type with de-misters
Car radio	Optional extra
Upholstery material	Leather
Floor covering	Pile carpet
Exterior colours standardized (combination of 2 colours at extra cost)	7 colours
Alternative body styles	None

Maintenance

Sump	24 pints, S.A.E. 20W winter, S.A.E. 30 summer
Torque converter	Supplied with oil from engine
Gearbox	4 pints, S.A.E. 20W
Rear axle	3 pints, S.A.E. 90EP gear oil
Steering gear lubricant	S.A.E. 140 gear oil
Cooling system capacity	21 pints (2 drain taps)
Chassis lubrication	By grease gun every 3,000 miles to 4 points
Ignition timing	3 b.t.d.c. static
Spark plug type	Lodge HLN, 14 mm.
Spark plug gap	0.029-0.032 in.
Contact breaker gap	0.014-0.016 in.
Valve timing: Inlet opens 9° b.t.d.c., inlet closes 45° a.b.d.c.; exhaust opens 42° b.b.d.c., exhaust closes 16° a.t.d.c.	
Tappet clearances (hot):	
Inlet	0.008 in.
Exhaust	0.012 in.
Front wheel toe-in	⅛ in
Camber angle	2°
Castor angle	2°
Tyre pressures:	
Front	28-30 lb.
Rear	24-30 lb.
(Increase by 4 lb./sq. in. for high speed touring.)	
Brake fluid	Girling crimson
Battery	12-volt, 51 amp./hr.