

# Rolls-Royce Owners' Club of Australia

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## Phantom II Road Test

*The following Road Test on a Phantom II is reprinted from "Cars of Today", October 1932.*

### ROLLS-ROYCE "PHANTOM II."

Specification:- Number of cylinders, 6; size, 108 by 139.7 mm; capacity, 7,668 c.c., nominal h.p., 43.3; number of main bearings, 7; overall forward gear ratios, 3.72, 5.06, 7.44, and 13.08 to 1; petrol capacity, 20 gallons; tyres, 33 by 6.75 in.; turning circle, right 55 ft. 7 in., left 49 ft. 6 in.; wheelbase, 12 ft. 6 in.; track, 4 ft. 10½ in. (front) and 5 ft. (rear); ground clearance, 9½ in.; weight of car, over 2 tons. Chassis price, £1,800.

The 40/50 h.p. Rolls-Royce "Phantom II" is designed to run smoothly, to accelerate quickly, and to work under a wide range of speed on top gear, rather than at the highest rates. It is very comfortable, and in the main simple and pleasing to drive.

The car submitted for test had done nearly 30,000 miles, mostly on experimental service and therefore of unusual severity. The body was a four-window four-door Barker saloon; one or two shortcomings, such as rather broad pillars in front, and a three-piece screen which was apt to cut one's view, have, I understand, been overcome in the latest model. The body was remarkably free from rattle and was comfortable. There is a luggage trunk behind and two spare wheels. The doors are taken almost down to the running boards.

The six cylinders are cast in two blocks but have a one-piece detachable aluminium head. The valves are over the head and have bronze seatings. Pushrods work the rockers, and the cup of the connection is on the pushrod and thus retains lubrication. Adjustment is by ordinary threaded bolt and lock nut. The valves have single springs, but the engine runs very quietly. The pistons are of aluminium alloy. A set of sparking plugs is on either side of the engine and can be worked with the independent ignitions or together. The lubrication is forced throughout the engine, even to the gudgeon pins, and over the valve mechanism is a cover held by four permanently attached hand screws. The exhaust manifold is on the near side and has three branches; the pipe connection is central. Behind the timing case is the generator, and at the back, driven by a long shaft with disc couplings, is the magneto. The make-and-break can be seen in a mirror if it is not desired to take out the floorboards. A vacuum pump driven off the camshaft takes the air from the autovac tank on the dash - this is better than being dependent on the induction pipe. The main petrol reservoir is at the back of the chassis and has the filler well to the near side. There is a petrol gauge on the instrument board, and a true reading can always be obtained by a small pump. The

sequence starter is built-in under the back bearer arm and therefore can only be got at from below with part of the undershield removed. The deep honeycomb radiator has shutters in front worked by hand from the dash.

On the offside there is the water pump. The gland is open for adjustment, but cannot very easily be repacked, but repacking should not often be necessary as the gland is double packed and has grease between. There is a handy drain tap to the system and should the pump go wrong the water can still circulate naturally. The inlet manifold has six branches and is of aluminium; the mixture is taken up behind it and brought down through a fan-shaped piece. The gas is water heated. The carburettor is the same as before and looks more complicated than it is. The coil is in a cool place in front of the engine and the make-and-break and distributor, being vertically driven, can be easily inspected. There is automatic advance and retard for the ignitions. The oil distributor can be got at under the bonnet and the filler is accessible in the rear bearer arm. There is no gauze here and a bottom plate must be freed from the sump to clean the filter. Drainage also must be done here by a plug. There is a good-sized petrol filter on the dash, and a metal bowl is better than a glass bowl as it cannot get cracked.

The steering-box, which contains worm and nut, is well forward, being below the carburettor and about midway in the length of the engine. The front hydraulic shock absorbers can be replenished under the bonnet. Engine, single-plate dry clutch, and four speed offside controlled gearbox are held at four points with an additional point at the back of the gearbox. The chassis has centralised lubrication and included in the system are such bearings as those of the clutch and pedal shafts. The speed lever works in a visible gate, and the hand brake lever, which works separate side-by-side shoes at the back, is on the off side of it. There is a filling plug at the top of the gearbox and a dip stick; on the near side is the mechanical servo for the four-wheel brakes. The propeller-shaft is open and has metal universal joints. The shaft is allowed sliding movement; and here is a grease valve, which with one on the front axle and one on the back are the only points in the chassis to be lubricated independently of the foot-operated half automatic system. The metal universal joints are said to contain enough oil for 5,000 miles.

The fully floating back axle has a hypoid bevel gear. It provides a low floor level without loss of ground clearance. The familiar cantilever suspension at the back has given way to very long half-elliptical springs, which pass below the axle, and are held out of centre. The front springs are flat and shackled in front. A little more travel is now allowed with a slightly longer shock absorber arm. The back springs also work with the Rolls-Royce hydraulic shock absorbers. The spring leaves are drilled and channelled and oiled automatically from the central system. The brake drums are enclosed, and each is adjusted by a locking nut and serrations on the arms; this arrangement is but moderately handy. The servo can be altered for travel of the pedal. The front brakes work by pullrods.

At 1,000 r.p.m. of the engine the vehicle speeds are given at 26.33, 19.29, 13.13, and 7.4 miles an hour on the four respective forward gears.

### **ON THE ROAD**

The engine is very well behaved with plenty of life, as it should be for its size and class, and is only a little vigorous when under very heavy and sudden load at really low rate. Otherwise, it is always silky and never gets in a fuss. The brake-horsepower is not stated. The cooling worked well. I put the comfortable highest speeds on second, third and top at about 45, 60, and 80 miles an hour. On dry roads and with two up, but a heavy wind almost dead ahead, 63 was reached on the stretch. On a short piece, with gradient and wind favourable, 75 was touched; the engine turned happily and quietly at this rate, and had I not looked at the speedometer, which appeared to be accurate, I might have thought that the car was doing not more than 50 or so. The rates on the new Dashwood Hill were 30 and 65 - a good performance with the wind. I tried a standing start for the old hill, on top, but with the high gear and the weight of the car (well over 2 tons) the clutch slipped. This also happened on third. With a standing start on second the car ran at its maximum of 45 all the way, and I had some reserve. Except for this slip the clutch action was good, and I liked the gearchange. I should prefer less responsive and firmer steering, but the lock is wide for the size of the car, and the action was always light. The suspension was effective, and the saloon cornered well. The indirect gears are as quiet as they have always been on this make; it is, in my opinion, one of the great merits of the Rolls-Royce. The engine governor makes starting from rest on an up-gradient simple. The hand brake was of use, and the four-wheel brakes were soft but amply powerful, well graded and even.

Note:- The radiator shutters are worked by a thermostat, and the mixture is exhaust-heated. A special cleaning oil filter is connected with the clutch pedal, the tyres are 32-inch, and a form of easy-change gear with a quiet third is now incorporated in the gearbox.

*Courtesy 'Beaded Wheels'*