

Light Cars of 1929 Reviewed in Detail.

# The Morris Minor

ALL ABOUT A MUCH-TALKED-OF CAR PRODUCED IN A WORLD-FAMED FACTORY. ITS BEHAVIOUR ON THE ROAD.

THERE are some men who possess unusual ability, a remarkable amount of foresight and boundless energy which will carry them through, once they have set their mind on anything. Any venture they undertake turns out a success, even though their activities may be many and various. Such a man is Mr. W. R. Morris, who from a modest beginning as a maker of bicycles has risen to the position of guiding spirit to the great concern known as Morris Motors (1926), Ltd.

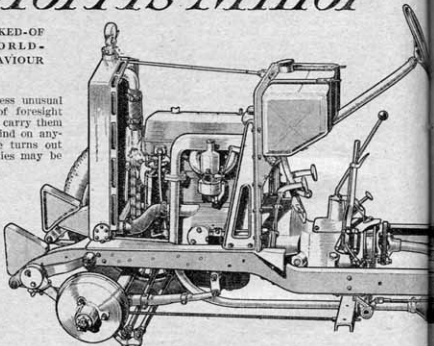
The public having come to regard Mr. Morris in this light, he had a doubly hard task when he decided to launch a model which would come not only within the economy class, but in the front rank of that class. Already it was catered for by more than one small car with a well-established reputation, and much more was expected of a small model from the Morris factory than would have been expected had the majority of other car manufacturers decided to turn their attention to this market.

Having now supplemented our examination of the car when it first came out with actual experience of one of the saloon models over about 1,000 miles, we can say without qualification that the public will not have any cause to find themselves disappointed in their expectations when the Morris Minor comes into their hands in large numbers.

The main specification of the car will already be familiar to most readers, but the chassis is interesting enough to merit a detailed description. One of the most noteworthy features of the whole vehicle is its amazing compactness; every inch of space has been turned to good account. In this matter the cleverness of the designer is particularly striking, for to produce a car of such modest overall dimensions that it can be housed in quite a tiny garage but at the same time to provide comfortable accommodation for four adults, is not by any means an easy matter.

It has been done with astonishing success in the case of the Morris Minor, however, and the car boasts of quite as much comfort as many distinctly larger vehicles.

Turning now to a consideration of the chassis, we naturally come to the engine as the starting point. Throughout, it has been built with careful attention to detail and, above all, with an eye to keeping its overall size as small as possible. Of the four-cylinder overhead-camshaft type, it has a bore and stroke of 57 mm. and 83 mm., giving a capacity of 847 c.c. and an R.A.C. rating which brings it within the £8 tax limit.



THE MECHANISM OF THE MINOR—A special drawing of the sturdy and businesslike engine.

The cylinder head is, of course, detachable, the cylinders, barrels and crankcase are one casting and the sump, together with a gauze filter which covers its entire upper area, is a separate unit. The valves are operated by an overhead camshaft, the drive for which is one of the most interesting features of the whole car. The vertical shaft which drives the camshaft via a pair of helical gears also forms the armature shaft of the dynamo which, of course, is vertical.

On the near side of the power unit are the exhaust and induction manifolds—which, by the way, are cast in one and so arranged that an efficient "hot spot" is provided—an S.U. constant-vacuum carburettor and a Lucas six-volt starter. The latter is spigoted direct into the clutch housing and is provided with a removable plug through which the pinion may be examined. The cut-out and fuse, which are mounted on the front of the dash, are also revealed by lifting the nearside of the bonnet.

On the off-side of the engine are the oil filler orifice and dip stick conveniently close together and readily accessible. Adjacent is the distributor, which is mounted at a particularly convenient angle for inspection. Unlike the well-known Morris-Cowley, the Minor is fitted with coil ignition—a system which is rapidly gaining favour.

The lubrication system gives a key to the thoroughness with which the engine has been designed, a pressure-feed system to all bearings and to the valve gear being employed.

Cooling is, of course, on the thermo-siphon principle,

## AT A GLANCE.

**ENGINE:** Overhead valves and camshaft, 57 mm. by 83 mm. (847 c.c.); R.A.C. rating 8.05 h.p. Tax £8.

**TRANSMISSION:** Single plate clutch, three-speed unit gear-box, central control, spiral-bevel axle with full differential.

**DIMENSIONS:** Wheelbase 8 ft. 6 ins., track 3 ft. 6 ins., ground clearance 7 ins., turning circle, right lock 31 ft. 5 ins., left lock 32 ft. 6 ins. Overall length 10 ft., overall width 4 ft. 3½ ins.

**MODELS AND PRICES:** Chassis, £100. Tourer, £125 (with Triplex screen, £127); Saloon, £135 (with Triplex screen and windows, £141 10s.).

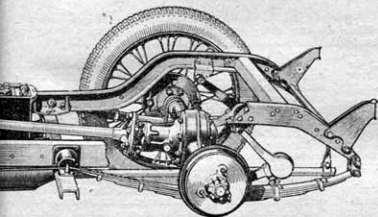
**MAKERS:** Morris Motors (1926) Ltd., Cowley, Oxford.

the engine being placed low in relation to the radiator head tank to promote good circulation. A two-blade fan driven by belt from the front extension of the crankshaft is provided and has the usual eccentric mounting to give ready adjustment. Other points in the engine specification which have not already been mentioned are aluminium pistons and a two-bearing crankshaft of robust design.

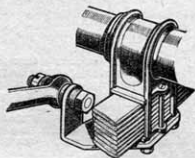
In the layout of the transmission conventional ideas have been followed out, a single dry-plate clutch with fabric lining and a three-speed gearbox being bolted up in unit with the engine. The gear ratios are 4.9, 8.97 and 17.5 to 1. Just behind the box is the speedometer drive and the hand transmission brake; thereafter an open propeller shaft, supported at each end by a Hardy fabric universal joint, transmits the power to a spiral-bevel back axle with full differential. No torque stay is used, the semi-elliptic springs being

In the design of the brakes the needs of the bulk of present-day drivers are met by the pedal being coupled to internal expanding shoes on all four wheels, whilst the hand brake is mounted on the transmission and is intended more for parking or for emergencies than as a "service" brake.

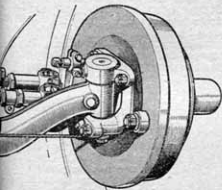
Cable operation is employed for the four-wheel brakes, the system having the advantage of simplicity and freedom from those annoying rattles which so often develop after a few seasons' use in systems employing rods. The brake pedal, which in common with the clutch pedal is mounted on the clutch housing, is connected to a cross-shaft mounted just behind the cross-member which passes under the rear end of the gearbox, the shaft carrying arms above and below it which transmit the pull to the cables for the rear and front brakes respectively. Particular care has been taken to ensure that the braking effect is not



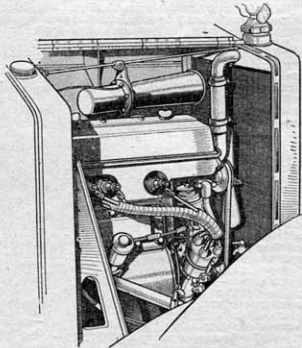
Minor chassis, showing practically all the more important features.



The rear spring anchorage and neat shock absorber mounting.



(Left) The steering head and front-brake operating gear. (Right) An off-side view of the engine, showing the compact arrangement and the accessible position of the distributor and oil filler.



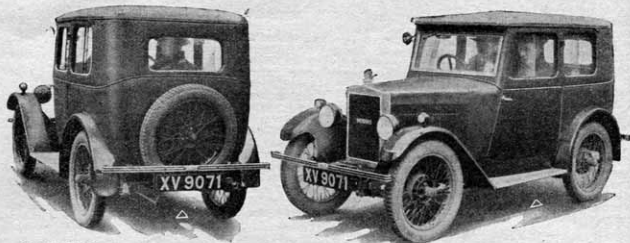
relied upon to take the reaction and to transmit the drive on the Hotchkiss principle.

The main frame of the chassis is composed of the usual channel-section steel members. They are of particularly robust size for a car of the dimensions of the Minor. The side-members are downswept from the rear of the dash, being unswept again at the back to allow sufficient clearance for the rear axle. Four cross-members are employed, whilst the clutch housing and rear engine bearer arms virtually form a fifth cross-member so that chassis flexure is reduced to an absolute minimum. On both the front and rear dumb-irons are triangular-shaped supports for the bumpers, which are supplied as standard.

The suspension system is by means of semi-elliptic springs at both front and rear, the front springs being noteworthy in that the axle is mounted forward of centre, whilst the rear springs are worthy of comment on account of their being unusually long. All four springs, incidentally, are provided with rebound leaves, and Smith shock absorbers are fitted all round in addition.

altered by movement of the axles; thus the cables to the rear shoes pass through eyes concentric with the forward shacklepins of the rear springs. The front cables pass over pulleys in line with the steering pivot pins so that the braking is not affected when the steering is locked over.

The steering gear, incidentally, although employing the conventional principle of worm and wheel, is unusual in that to keep the design compact the worm wheel is mounted at the side of the steering column and not beneath it, as is generally the case. The gear reduction, too, is unusually large for so light a car.



**OF PLEASING APPEARANCE.** — The lines of the Morris Minor are very nicely proportioned and the car has a well-tailored look from whichever angle it is viewed.

The layout of the chassis calls for no further description except to say, perhaps, that from front to rear it displays that thoroughness and attention to detail which characterizes all Morris products.

Convenience, too, has obviously been studied in the design of such items as the petrol tank, which is provided with a quick-release cap placed in a handy position for filling when the bonnet is raised. The battery is readily accessible, being slung in a cradle beneath the driver's seat, which can be lifted out in a second or so.

When one glances at the complete car, particularly the saloon model, the exclamation, "What a pretty little job!" comes irresistibly to the lips. Everything is so well proportioned, and the lines give such a good compromise between sportiness and sedate dignity that the exclamation is well merited; moreover, although only 10 ft. is occupied, from the tip of the front bumper to the tip of the rear, the car does not look squat.

The body of the saloon is of the real fabric type, not metal panels covered with fabric. It appears to be unusually well built and capable of giving very satisfactory service.

A choice of either brown or blue, both pleasing shades, is given in the case of both models, but the tourer, of course, is metal-panelled and has a cellulose finish. The wings and wheels—of the wire type and shod with 27-in. by 4-in. tyres—are black.

The interior provides a surprising amount of room and is really large enough for four adults, this having been achieved largely by the use of deep wells, which increase the leg-room considerably. The front seats are of the bucket type, the backs in each case being hinged, whilst on the passenger's side the seat can also be tipped forward, making entry to the rear compartment almost as easy as if the body were of the four-door type.

The interior is attractively furnished and covered with leather cloth to match the exterior. All the windows—the body is of the four-light type—are of the sliding variety and provided with anti-rattle stops. The front screen is hinged at the top, and if desired can be swung out into an almost horizontal position.

Equipment is on a particularly generous scale for a car selling at £135. In addition to bumpers and shock absorbers, which have already been mentioned, a five-lamp lighting set with headlamps of really sensible dimensions is fitted. The radiator cap sports a decorative and useful thermometer and a mirror and suction-operated screen wiper are provided.

Inside one finds a neat oval panel on the fascia board housing a speedometer, oil gauge, ammeter and engine switches. Mention of the latter, incidentally, reminds one of the fact that a "half charge" switch is provided for the dynamo so that the output can be regulated to suit either winter or summer conditions. The instruments are lighted by a centrally placed dashlamp which can also be used to light the whole of the interior of the car by rotating the cylindrical cover. A mixture control for the carburettor and a screw-down hand throttle are disposed just under the fascia board, one on each side of the control panel.

Mounted on the steering column is the advance and retard control—a lever of sensible dimensions—and the horn switch, whilst conveniently placed

under the scuttle, where it can be reached by leaning forward from the driving seat, is a two-way petrol tap providing a reserve supply. Pockets are fitted to both doors and are of the pleated type which can be used for storing quite bulky packages, whilst the toolkit—a generous one, by the way—finds its home under the passenger's seat.

In the matter of tool accommodation one cannot help feeling that the manufacturers might have provided a little

more space, although where it could have been found it is difficult to say, as such good use is made of every available square inch.

When one takes the wheel one's optimistic expectations that one may have entertained are amply fulfilled; in fact, the car seems to convey an impression which is a strange mixture of that promoted both by a large and a very small car. In other words, the Morris Minor boasts of all those qualities of handiness in traffic that is so great a convenience these days, combined with the comfortable feel of a car of much greater size.



**NO GYMNASTICS** — are required when entering or leaving the driving seat despite the small proportions of the car.

The steering provides an excellent example of this. It is exceptionally easy, this being due, no doubt, to the fact that a considerable reduction is allowed, whilst the weight of the car is quite low. On the other hand, that annoying kick in the steering wheel which one often finds is entirely absent. The lock is exceptional and is rivalled only by that curious vehicle, the London taxicab.

In the suspension system the Morris concern has achieved remarkable results, for the car rides over rough surfaces with that pleasant cushion feeling that is to be found as a rule only on cars with a long wheelbase and flexible springs. At the same time there is no excessive rebound, the only conditions that seem to affect the car being exceptionally deep and wide potholes, which, naturally, produce some bucketing. Even this, however, is not so severe by any means as one would expect from a car with a 6-ft., 6-in. wheelbase.

### A Sweet Clutch.

All the larger Morris models are famed for their particularly sweet clutch, and, although a different type of mechanism from the Cowley is employed in the Minor, the result is equally effective, the clutch being very light and smooth in action, whilst the pedal movement is just right to suit the tastes of the average driver. The gearbox is fairly quiet on the indirect gears, but the change is not too easy. An attractive feature, however, is the quickness with which upward changes can be made. In addition, the ratios appear to have been chosen particularly happily, and the car boasts of a liveliness that is very fascinating.

This nippiness is due, of course, to the particularly

efficient power unit which, incidentally, produces no less than 20 b.h.p. at 3,000 r.p.m. Surprisingly good average speeds can be put up, the car maintaining a steady 40 m.p.h. in an effortless manner.

The brakes when the car was delivered were rather poor, but have improved considerably in service. No doubt, when thoroughly bedded, they will become more efficient.

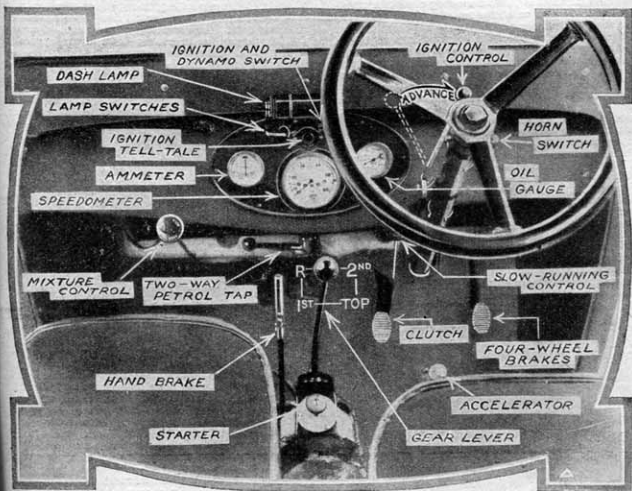
### Lively on Hills.

Hill-climbing is particularly good, the car pulling sturdily on top gear at slower speeds than one usually expects from a small high-efficiency engine; whilst if second is engaged, one can hum merrily up and pass much larger cars in a very pleasing manner. Bottom gear, of course, is seldom called for on hills, but when it is engaged one can confidently tackle the worst test hills in the country.

In addition to its flexibility, which has already been mentioned, the engine gets on with its job in a very convincing manner and without any noticeable vibration throughout its whole speed range. We found that over 80 miles could confidently be expected from a can of petrol, whilst oil consumption appeared to be in the neighbourhood of 2,000 m.p.g.

All-out speed on top gear is over 50 m.p.h., whilst 40 m.p.h. can be achieved in second. In bottom gear a useful limit is about 17 m.p.h., although this can be exceeded.

Altogether, then, the Morris Minor is a worthy addition to the Morris family. It is a sprightly young brother of the ever-popular Cowley and a young relative to the dignified Oxfords of which they may well be proud.



OF INTEREST TO THE DRIVER. — A view of the driving compartment of the Morris Minor, showing the various fittings and the layout and working of the controls.