★ VETERAN TYPES XXVIII

A 1914 "PRINCE HENRY" VAUXHALL

By Cecil Clutton

THE "Prince Henry" trials seem to have called forth the very best from designers in that great period of automobile design, now conveniently, if inaccurately, described as "Edwardian."

When Vauxhalls decided to enter the "Prince Henry" lists (which they did with notable success) they used a machine which was no more than a slightly developed edition of the original "A" type, which swept the board in the 1908 R.A.C. 2,000 miles trial and made Laurence Pomeroy's reputation overnight. That car had a 3-litre engine developing 40 b.h.p., in a 9-ft. 6-in. wheelbase chassis. In 1910 "Prince Henry" form the dimensions were unchanged, but the b.h.p. had been increased to 52. Further tuning produced 60 b.h.p. and, with a narrow streamlined body, the machine became the first 3-litre to attain 100 m.p.h., also in 1910. This prototype "Prince Henry" was known as the Type C.10, the B-type having been a touring 6-cylinder model of no particular note.

In 1912 the "Prince Henry" was first put into production, known as Type A.11C., being practically identical with the Type 10 C; 43 of these cars were sold at a price of £605 each. In 1913 appeared what is now generally thought of as the genuine "Prince Henry" Vauxhall, having a 4-litre engine measuring 95 by 140, and a 9-ft. 9-in. wheelbase chassis, known as Type C.12; 66 of these were made, and in 1914 a further batch of 66 were made, with 10-ft. 8-in. wheelbase, selling at £735 complete. This was known as Type C.

It will thus be seen that the total number of "Prince Henry" Vauxhalls produced for sale to the public was 175 and that none were made in 1911. All of them had the pointed radiator, in addition to the famous Vauxhall flutes, and it is amusing to see that the latest General Motor Vauxhalls have made a partial (and not uncomely) return to this ancient tradition. The reason for the V-shape was, of course, to combine a large cooling surface with low frontal area.

Carrying history forward a little, in 1914 was introduced the D-type, which had a flat radiator and what amounted to a detuned "Prince Henry" engine. This was the machine which gave such famous service as a War Department staff car in the 1914-18 war. After the departure of Pomeroy from Vauxhalls the D-type was endowed with overhead valves and became known as the 23.60 O.D.

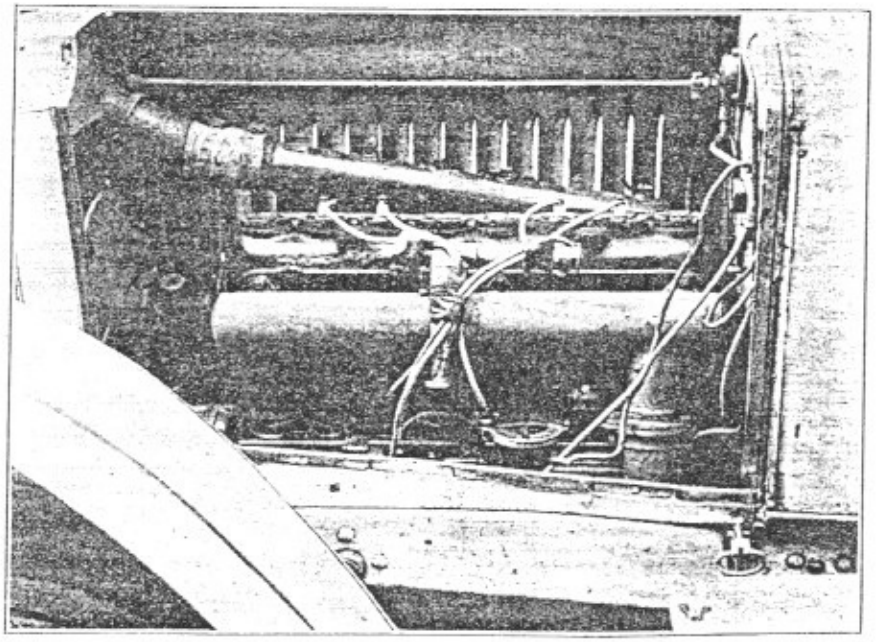
The story of how the Shelsley record-breaking E-type "30/98" was brutally developed from the "Prince Henry" is too well known to be repeated here. This prototype was probably indistinguishable from a "Prince Henry" in engine appearance, but the production E-type differed from it in a number of visible details. As compared with the 175 "Prince Henry" cars, more like 400 E-types were marketed in the years of their manufacture, from 1920-22. In 1923 the E-type was superseded by the O.E., which continued in production till 1927.

The construction and design of the A, C, D and E types followed closely similar lines, showing little change during the 14 years that they covered. The chassis was of conventional Edwardian pattern, highly flexible, with semi-elliptic springs at each corner. Transmission was *via* an open propeller tube, a torque arm locating the back axle. As will be seen from the illustration, the brake drums were of nominal diameter, but considerable width, which made them more powerful than might have been expected, and they were operated by the hand-lever. The E-type had much larger drums and, on it, the handle became the main instrument of retardation, the powerful, foot-operated transmission brake being reserved for panic procedure.

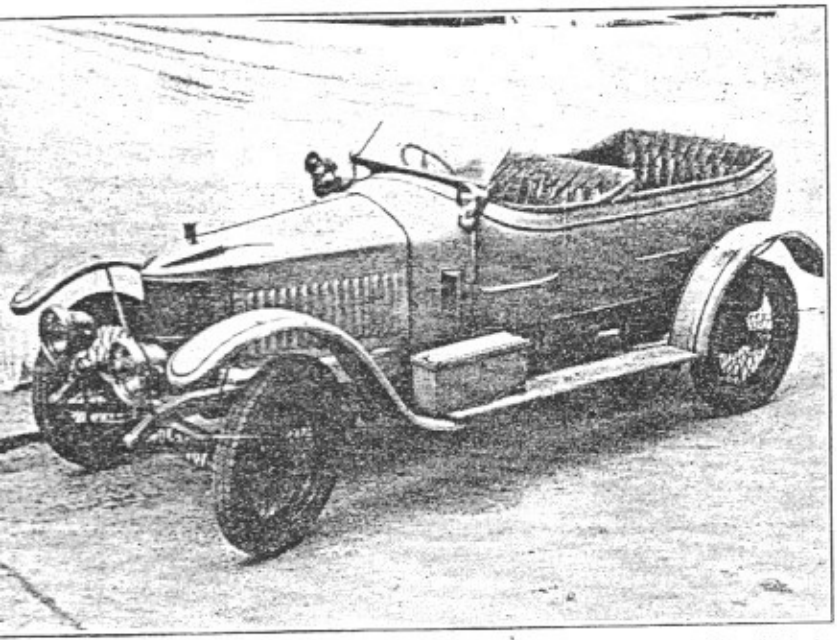
The engine and separate gearbox were mounted in a sub-frame which, while effectively insulating the engine vibrations, denied the chassis the valuable stiffening afforded by a rigidly-mounted engine. The engines were of completely straightforward design, although they were at first revolutionary by reason of their high crankshaft speed. All of the A, C and E-type engines peaked at 2,500 r.p.m. and had a permitted maximum of 3,000—a maximum effectively enforced by the breathing arrangements which made it practically impossible for the engine to go any faster. The aluminium crankcase supported an unbalanced crankshaft in five main bearings, and a monobloc top-piece had a fixed head with screw-caps for removing the valves. The inlet manifolding was cored through the block, the valves being situated on the near side and the carburetter on the off side of the engine. The clutch was a highly effective multi-plate device of Hele-Shaw pattern. The gearbox gave widely spaced ratios, increasing the engine speed by 50 per cent. between each pair.

In final form, the 4-litre "Prince Henry" engine had light-weight "Zephyr" steel pistons and the compression ratio must have been between 4½ and 5 to 1. The power output was stated to be 75 b.h.p. at 2,500 r.p.m., this being somewhat less, in proportion, than that of the E-type, which developed between 98 and 100 b.h.p. at the same speed, due to somewhat hotter camshaft, aluminium pistons and a 5-to-1 compression ratio. The overall gear ratios of the "Prince Henry" were 3, 4.35, 6.8 and 11 to 1. The total weight of the engine is only 500 lb.

The total number of "Prince Henry" Vauxhalls still in existence is very small, but what is probably the best preserved has fortunately, and most appropriately, come into the hands of the present Laurence Pomeroy. It was purchased new by Mr. Badgery, and is one of the 1914, long-wheelbase, C-type machines. For one reason and another it got very little use prior to the outbreak of the 1914 war, and was finally laid up in 1931, so that its active period was only a dozen years, during which time it covered the relatively modest total of about 150,000 miles. As is therefore only to be expected, the car is in practically mint condition. Many readers must have seen it when Mr. Badgery (then already nearer 70 than 60) brought it to Shelsley Walsh in 1938,



Efficient simplicity—the engine of the "Prince Henry."



urence Pomeroy's magnificent specimen of "Prince Henry" Vauxhall, which he used daily up to the end of last year.

t in 1943 he felt that he was unlikely have any further use for it and handed over to Pomeroy.

It was a plesant touch that in lieu of y purchase price, Pomeroy is having model of the car built, which will be mpeted for annually, under the adminis- ation of the Vintage Sports Car Club, d regulations to be announced later. e car, as illustrated, is in absolutely ginal form, the electric fittings being as pplied by the manufacturers; a hood never had. Both Mr. and Mrs. Badgery t that a hood would spoil the lines. e only modification was the very nsible one of rebuilding the wheels to ke 22 in. by 5.25 in. instead of the ginal 820 by 120 tyres. This has ghtly raised the effective gear ratios, nereby the maxima at 3,000 r.p.m. are w 26, 42, 65 and a theoretical 95 m.p.h. top. In point of fact, it does not pay exceed 2,500 r.p.m. in the indirects, ile in top the maximum, in touring im, probably never exceeded some m.p.h. Assuming the frontal areas to the same in the C and E-type, and lowing for the 25 per cent. less power tput, the C-type should be capable of m.p.h., the E-type having had a aximum of 85 m.p.h. in touring trim.

The change of ownership was quite an occasion," and Mr. Badgery's late hauffeur, Mr. Witt, came over to run r. Pomeroy round the houses, which he d to no mean effect, whipping round e narrow and twisty Worcestershire nes with an enthusiasm remarkable and raiseworthy in one of his years. Pomeroy onfesses that he accepted with reserva- on what then sounded to him somewhat oocryphal accounts of average speeds round 45 m.p.h. and petrol consumptions earing 30 m.p.g. Under 1939 conditions ey certainly would have been impossible, at under the present fairly traffic-free onditions Pomeroy has attained similar esults. Indeed, so impressed did he become with the car's complete practicability that he immediately licensed it, and for September and October used it as his everyday means of transport and going to the office. In London he gets a steady 22 m.p.g., and in the country he has had as much as 28 m.p.g., while a normal, fairly hard-driving consumption works out at 24-25 m.p.g. It is, incidentally, the thirty-first of the 1914 output, being numbered C.97 in the 4-litre series.

I recently had the very great pleasure of driving this completely charming machine, which fully confirmed a long-held view that for pleasure touring there is nothing to rival the charms of a high-grade Edwardian motor-car.

Starting from cold was an easy matter. A few strokes on the pressure pump brought petrol to the White and Poppe barrel-like carburetter, the engine subsequently maintaining pressure in the tank by a pump driven off the back-end of the camshaft. A rag was placed in the air inlet, and after two or three turns of the starting handle to "suck in" the ignition was turned on, and a single smart revolution of the handle set the engine going; this in a machine which has received no attention for 15 years, except a set of new H.T. leads.

Out on the road, the clutch is both light and smooth in operation, and it is by no means difficult to get away from rest in third gear. The flywheel appears to be a good deal heavier than on the E-type, as normal, clutchless upward gear changes call for an exceptionally long pause in neutral. On the other hand, by using the remarkably powerful clutch stop, instantaneous changes may be made, and the terrific momentum of the flywheel, as the clutch is engaged in the higher ratio, is felt in a most exhilarating manner. Downward changes are easily effected, the use of the clutch being quite optional, as fancy dictates. The foot-brake is remarkably powerful, and the lightest possible touch is sufficient for all normal requirements. In moments of crisis the stopping power of this car is such as to put very many 4-wheel-braked cars to shame. But, as with all Edwardians, the adjustment needs constant taking up, and a skilful driver will hardly use the brakes at all.

The engine beat is highly reminiscent of a "30/98," the peculiar (and, as far as I know, unexplained) firing order of 1, 2, 4, 3 producing a marked "off-beat," which had quite upset Pomeroy until I was able to assure him that it was entirely standard. The exhaust note is more pronounced than on a "30/98," especially at low speeds, and I confess that I found it rather obtrusive for what is essentially a touring, rather than a sporting, type of machine. But at over some 1,200 r.p.m. this is no longer felt, and as the car swings along lazily at 60 m.p.h. (less than 2,000 r.p.m.) the engine beat is altogether delightful.

As is so often the case when one sits fairly high off the ground, and engine revolutions are low, the performance seems disappointing, and it is only when one finds oneself prancing away from quite high-performance modern cars, despite their obviously best endeavours, that one realises that things are happening quite some. It is no exaggeration to say that any estimated speed is almost invariably 25 per cent. too low. Exact figures are difficult to obtain, since no speedometer was fitted on this particular car, and one has to be particularly careful when rolling through 30-m.p.h. limits at a mere 900 r.p.m. The 60-m.p.h. cruising speed is easily identified, as quantities of smoke start pouring into the driving compartment if it is exceeded! In its present condition, which, although remarkable, is obviously not quite 100 per cent., it has been timed at 72 m.p.h., and I myself attained a speed, under favourable conditions, which was certainly in excess of 70 m.p.h., the engine remaining absolutely smooth and effortless in performance. Indeed, since its maximum in "straight and level" can hardly exceed 75 m.p.h., which is barely 2,400 r.p.m. (giving a piston speed of only 2,250 f.p.m.), it can safely be said that it would be impossible to overdrive the car. In this connection, Mr. Pomeroy asked Mr. Witt, after his somewhat hair-raising trial run, what speed he and Mr. Badgery used to cruise at. Mr. Witt seemed rather at a loss to answer this question, but opined, after a moment's thought, that Mr. Badgery and he used to be "rare devils" on the car; I myself noticed that the accelerator had a slight tendency to stick fully open. It would be interesting to see what petrol consumption the car would return cruising at full throttle when the engine is, of course, at its most efficient. I believe that the results would be highly creditable.

It is the ability of the Edwardians to cruise at fairly high speed and low r.p.m. that is one of their most endearing characteristics, and while heavy flywheels are not compatible with modern practice, there is no doubt that they are a most valuable factor in easy cruising. At cruising speeds, petrol consumption may

be considerably improved with the extra air lever, and by following out the recommendation of the instruction book to "slip in to neutral on long hills, when the car will float down." Another pleasant comment in the instruction book is that if the teeth of the gearbox wheels are "burred or chipped a wrong method of gear changing has been adopted."

Although innocent of shock-absorbers, the comfort and roadholding of the "Prince Henry" are of a very high order throughout the whole of the speed range. The axles do not patter or shimmy, and the car settles down at once after traversing any large irregularity in the road surface. In this respect it seems superior to many E-types, and this is probably due in part to the excellent condition of the chassis, and in part to the extra foot on the wheelbase. But, in particular, it is mainly promoted by the exceptionally low unsprung weight of both front and rear axles, and affords a forceful reminder of the immense suspension difficulties that modern braking systems have brought with them.

The "Prince Henry" goes round corners in a way that is absolutely uncanny. A slight understeer is perceptible, but despite distinctly brutal handling I completely failed to provoke a breakaway. The car seemed veritably grappled to the road and invariably swept round either fast bends or sharp corners without a trace of roll or skid; it was a mightily impressive performance.

In view of the lack of a speedometer it was, of course, impossible to take any acceleration times, but as the weight is around 25-27 cwt. it can safely be predicted that it could be relied upon to cover a standing ¼ mile in 22-23 sec., and to accelerate from 0-60 m.p.h. in 16-17 sec., which are figures that it takes quite a respectable modern sports car to improve upon.

Despite the obviously excellent condition of both chassis and engine (the oil pressure never drops below 20 lb./sq. in., which is a remarkably high figure for this type of engine), Pomeroy is putting the car into John Wyer to have a thorough overhaul carried out, and all wear is to be made good. When this is completed, and the few existing slight shortcomings remedied, the machine will certainly appear as one of the outstanding products of the Edwardian era and a fitting memorial to its great designer. Its long wheelbase makes it more of a tourer than the E-type, and despite its creditable performance it is essentially as a tourer, rather than as a sports car, that it shines. As Pomeroy very aptly remarked, it would be extremely hard to find a more pleasurable machine in which to go to the South of France.