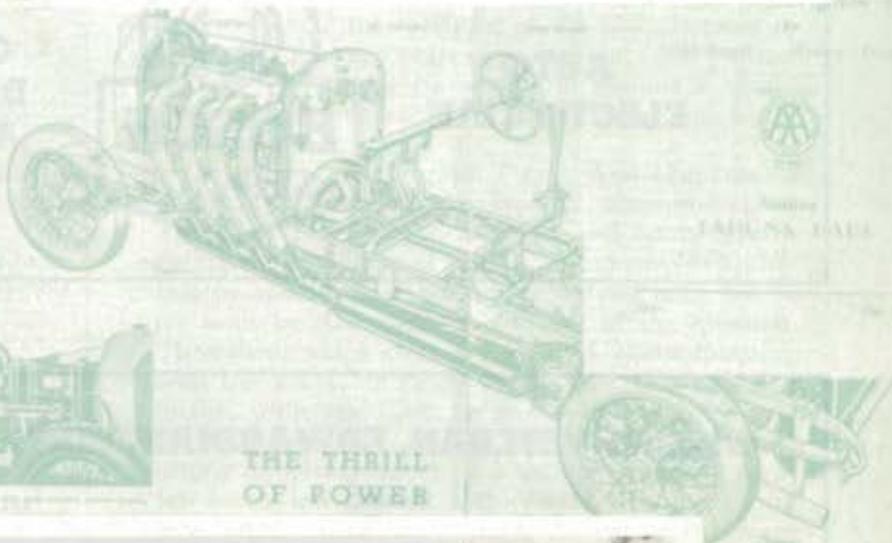


BEADED WHEELS

N.Z. VETERAN AND VINTAGE MOTORING

DECEMBER 1960



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Beaded Wheels is the voice of the Vintage Car Movement in New Zealand and of the Clubs whose efforts are fostering and ever widening the interest in this movement and form rallying points for that ever increasing band of enthusiasts. The fascination of age itself or revulsion from the flashy mediocrity of our present day is drawing an increasing number of motorists back to the individuality, solid worth, and functional elegance that was demanded by a more discriminating generation and it is to these that we dedicate—

BEADED WHEELS

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COVER PHOTO

The Brice Rolls at the 1958 Pennzoil Rally.

Editorial

The vexed problem of the Club keeping a "spares" register for members may be in the process of solving itself because of the formation of "One-owner" clubs throughout the country.

Your scribe sees this move as a possible solution to the ever present problem which has from time to time concerned the executive of the Club, because to date, after fourteen years of trying, the Club has not yet found the complete answer to keeping a spares register for members except at a colossal and to us, prohibitive cost.

Even our tyre register "went West" because of the time and expense involved in administering it. The Club Executive spent hours and hours investigating the possibility of setting up our own organisation to make certain veteran sized tyres here, but to no avail because the cost was out of the question. Then there was a great deal of work communicating with the V.C.C. of Great Britain over the topic and finally, while the Club keeps a watching brief over the problem of tyre supplies in general, it has proved utterly impossible to set up a second-hand tyre register much less operate an ordering department for new tyres. Somehow, members survive, or more correctly, are not yet on their rims.

The spares problem has always been far worse and yet now there appears a solution. The Rolls Royce Owners Club of N.Z. was formed recently in Wellington and it is hoped that other groups will follow suit. In this respect, the Club membership list should be of some assistance to others interested in founding a "One-make" club of the car of their choice. It is hoped to produce a revised copy of the list early in 1961. There is plenty of scope for the activities of one-make clubs within the field of Veteran and Vintage endeavour, and there should be little danger of such clubs interfering with or in any way prejudicing our way of life. On the contrary they should do much to add interest and variety to Veteran and Vintage affairs. It is to be hoped that they will use the columns of "Beaded Wheels" freely so as to keep all informed of their doings and encourage new members to their ranks.

ROLLS ROYCE, BIG AND LITTLE

by M. Hendry

After some years of "B.W." publication, the articles describing expensive machinery have resulted in a list of famous makes—Bentley, Napier, Cadillac, Stutz and Packard. Now, through the courtesy of both North and South Island owners, we can add Rolls-Royce to the list.

The R-R's described here are typical of the vintage Derby models, and one marks a definite change, or rather reversion, in the policy of the R-R Company. For the fifteen years previous to 1922 the firm had been producing one model only, the renowned Silver Ghost, which established the make's reputation. After the Kaiser war the ranks of wealthy gentlemen in England had thinned considerably and the awful decision was made to produce a smaller and cheaper R-R (a mere eleven hundred quid for the chassis, in 1931). This was the "Twenty H.P. (21.6 R.A.C.)" which was announced in 1922 among some criticism. A central ball-change, 2-wheel brakes, 3-speed gearbox, semi-elliptics all round, coil ignition and a 3.1 litre pushrod engine did not go down well with some admirers, and there were cries of "Buick" and various other uncomplimentary comments. Although R-R held, quite rightly, that a well-designed ballchange should be superior to a gate, they had to heed their tradition-loving customers, and a right-hand gate (with 4-speed gearbox and servo-assisted 4-wheel brakes) was fitted to the "20" in 1925. In 1929 the bore was enlarged to 3¼ ins. (82 m.m.) and the car was called the 20-25. It is a 1931 20-25 which is owned by the Brice brothers of Upper Moutere, Nelson, that is described first.

This car was imported from England in 1953 by a Wanganui lady and was sold to a well-known Christchurch motor enthusiast about a year later. The Brices obtained the car from a Christchurch dealer in 1958, just after the Picton Rally. The owners do not know the true mileage, but it is probably high (the speedo reads 58,000 odd). While in the



Photo by M. Hendry.

"Mr James Lifts The Bonnet."

Note that the front springs are shackled in front to enable movement of the drag link and axle to follow similar arcs—a layout used by R-R (and Packard) in opposition to almost every other make.

car dealer's hands, the car burnt a valve. The valve was built up and turned down, and some odd valve springs (one of which was broken) were appropriately replaced with Merlin valve springs. The body was taken off and during the five months it was separated from the chassis it was given a repaint, a very fine brush job being done on it. At the same time the chassis was closely inspected, the springs were dismantled and cleaned, and the clutch removed to burn out oil from the linings. The body was re-fitted a week before the 1958 Christchurch Rally, at which the car appeared. On the way down the Rolls towed a Model T 20 miles into Cheviot and continued to Christchurch with nine passengers, the T having run a big-end. On this trip the car averaged 18 m.p.g. cruising at about 45 m.p.h. (maximum setting on the hand throttle). The Brices have covered about 5000 miles with the car to date, and recently kindly allowed the writer to put some mileage on it to gather impressions for this article. Rolls-Royces have from the earliest days had

a reputation for extreme smoothness and silence, and this car was no exception. There is very little mechanical noise even with the bonnet raised when the engine is idling.

The body is a Maythorne-built limousine, with glass divisions and a microphone (wired to the battery) in the rear compartment, which has a skylight, blinds, and plush upholstery. The general lines of the body are in typically conservative English upright style—dignified and certainly distinctive, and a colour scheme in keeping—royal blue, and black above the waistline. The “disc” wheels are actually fakes, as they cover the genuine R-R type wire wheels. Head-on, the impressive R-R radiator dominates the appearance, crowned with the traditional mascot, given various misnomers by motoring writers, such as “Spirit of the Wind,” “Silver Lady,” “Rolls-Royce Goddess” etc. The correct title, as inscribed on the base of the statue is “The Spirit of Ecstasy”—R-R chauffeurs, however, preferring “Flying Floozie”.

The right-hand gate gear and brake levers are in an awkward position for entry and are quite short, making for a long reach from the steering wheel. The wheel itself is a very typical English vintage specimen with its true circular section rim finished in high quality black cellulose, and channel section aluminium spokes half covered with the same. The dashboard carries a clock, oil pressure gauge, ammeter, thermometer, speedometer and fuel gauge. In addition, there are the following unusual controls: a fuel tap, radiator shutter knob, starting carburetter lever, two-position ignition switch, the extra setting (ignition only) being used with a fully-charged battery. In addition to spark and throttle levers on the steering wheel hub, there is a mixture control, and on the floor a pedal for operating the chassis lubrication system.

The starting procedure, a little complicated, is as follows—turn fuel tap on, close radiator shutters, switch on, retard ignition, close the hand throttle, open starting carburetter and set the mixture control to strong. Then start the engine, and as it warms up, set the mixture control halfway between Strong and Weak for normal running. The mixture control and manual spark can be juggled to give

economical running by advancing the spark and leaning the mixture. The starting carburetter is used more or less like a choke only when starting from cold and never for more than 30 seconds continuously. The main throttle has to be closed completely when starting the engine, as the small carburetter's action depends solely on the induction being airtight. Again, when changing over to the main carburetter the throttle should be opened moderately and the starting carburetter turned off at the same time (reverse the process if engine hesitates). The manufacturers warn that “cases of piston seizure have been traced to excessive use of the starting carburetter,” due to the rich mixture washing away the oil from the cylinders, and that using the starting carburetter when hot will simply result in flooding the engine.

The car moves off very smoothly even when 1st gear in the 4-speed box is used (in contrast to some 4-speed machines) and although the box is of the crash type it is a constant pleasure to use, particularly when changing down into 3rd. Everything else is equally ultra-refined. The spark and throttle levers, spring-loaded and moving along notched quadrants, give the driver the impression he is handling a precision instrument like, say, a theodolite. One disappointing feature was the braking, which seemed little different from more ordinary mechanical systems both in “feel” and stopping power. This, however, may have been confined to this particular car, as the R-R braking system is modelled on the Hispano-Suiza and has the reputation of being very powerful. As might be expected, the engine is vibrationless, but at speeds above 45 the general noise starts to become noticeable (seemingly more from the transmission) and the car gave the impression that it was designed to be best at speeds between 40 and 50 rather than above 50 (doubtless this was where the larger 40-50 model took over). The ride was extremely good, probably due to shock absorbers that really worked and were made to last. Some quotations from actual “Autocar” road tests are of interest.

In 1926 a test was published on the 3.1 litre “20” with 4 speeds and servo braking. This was an open tourer weighing 28½

cwt. with gear ratios of 16.98, 10.62, 6.89 and 4.55. Speeds in the gears were 30 in 2nd, 40 in 3rd, and 60 in top, with a fuel consumption of 23 m.p.g. The brakes were found to be extremely powerful with light pedal pressure, except at low speeds when heavy pressure was required. In 1953 the "Autocar" tested a well-kept 1932 model very similar to the one described here, and found the servo brakes powerful but "performance was secondary to dignity. At 40-45 m.p.h. the driver could sit in state, cruising along at what was clearly a comfortable gait for the car, but at higher speeds the engine became less smooth, and the general handling required more attention." Fuel consumption was 17 m.p.g., and acceleration through the gears 0-30, 10.1 secs. and 0-50 35.4 secs.; maximum was not given. It can be seen that the performance was not startling. However, when modified and fitted with a lighter chassis, this engine was the heart of the very fast Rolls-Bentleys built in the years 1934-39.

The engine, according to D. Scott-Moncrieff in a recent article, is basically developed from a V-12 aero engine designed about 1918 but never put into production. The car engine is reputedly one block from this "Goshawk" unit. If true, the "Goshawk" must have differed considerably from the usual overhead-camshaft layout of other R-R aero engines because the car engine has pushrod valve gear. Additionally, the first R-R engine with monobloc instead of separate cylinders was, according to R-R literature, the "Kestrel" of the late twenties. The car engine of course has the monobloc casting. Perhaps some R-R enthusiast can clarify this. The Phantom I and II engines were more or less scaled-up versions of the original "20".

The bore and stroke are $3\frac{1}{4}$ ins. x $4\frac{1}{2}$ ins. (82 x 114, 3669 c.c., 25.3 R.A.C.). The valves are in line and vertical in the detachable head, and the cast-iron block is bolted to an aluminium crankcase, with an aluminium sump. The crankshaft runs in seven mains and the crankpin and main journals are all bored out hollow for lightness and sealed with cone-shaped caps held by through-bolts. There is pressure lubrication to all

bearings including gudgeons. The take-off drives at the front are all via fine-pitch helical gears to the distributor and water-pump on the right and to the camshaft and generator on the left. The generator drive is interesting, being taken from the front of the driving gear via a universal, thence back through the hollow gear hub via a shaft to a second universal at the front of the generator. On some models (whether this applies to the Brice model is not certain) a friction-damped spring drive is used on the front end of the crankshaft with coil springs mounted circumferentially as in many modern clutches. As the starting handle turns the crankshaft through this spring drive, the crankshaft has to be rotated from the flywheel end whenever timing the engine, and the starting handle must not have been used since the engine last ran.

The ignition system is another interesting feature. A normal coil and battery is used, with a refinement known as a ballast resistance which limits the current taken by the coil at low speeds or if the switch is accidentally left on! A magneto is also carried—purely as a standby in case of a flat battery. It has no high-tension distributor but a single high-tension lead which is inserted in the distributor of the coil ignition system

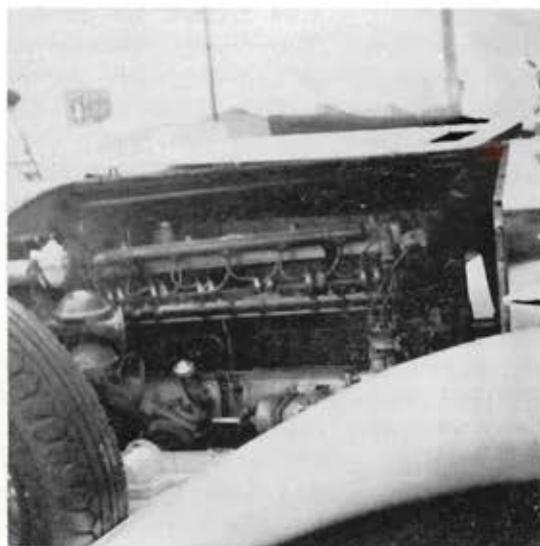


Photo by M. Hendry.

Left side of the Phantom engine. The mascot has to be turned east-west before lifting bonnet.

in place of the coil h.t. lead. The magneto is engaged by depressing a catch, and the car can then be started on the handle.

The fuel supply is vacuum type to the R-R side draft carburetter. The main carburetter has two jets, the low speed being always in operation and the high speed one working in conjunction with a vacuum-operated piston, starting at about 4 m.p.h. in top gear! The makers' handbook recommends that "the air valve and cylinder should be removed every 2500 miles and carefully cleaned. It must be emphasised that great care is necessary when handling these parts, as they have been machined to fit accurately and any slight distortion is liable to impair the working of the carburetter."

The starting carburetter is built into the body of the main carb. and can hardly be seen at first glance. It has its own jet and expanding choke tube, suction piston operated like the large one.

The single dry plate clutch and 4-speed gearbox are in unit with the crankcase. The sump holds 5 quarts and the gearbox 2 pints, SAE 30 being used all the year round in both. On the left side of the gearbox is mounted the disc-clutch type servo assister unit for the brakes. A cross-shaft worm driven from the gearbox rotates slowly all the time with discs which are engaged by depressing the brake pedal, a pull rod from the brake lever terminating on a lever which works a worm engagement for the brake clutch plate. Rotation of the clutch plate pulls on one or another of two pull rods attached to the brake balance beam, thereby applying the brakes. One pull rod is for forward movement and the other is for reverse. The balance beam equalizes the effort between front and rear brakes, and a further equalization between left and right drums, front and rear, is made by small bevel differential gears mounted on three cross shafts on the chassis, one each for front, rear, and hand brakes. The front brakes are operated entirely by the servo while the rear footbrakes have 25% manual and 75% servo action. In addition, there is separate hand braking on the rear wheels. There are three shoes per drum—not sixteen as was

erroneously stated in a previous "Beaded Wheels". Wing nuts are provided for finger adjustment. An open drive shaft with all-metal universals links gearbox to rear axle. As is usual with R-R practice the differential is stitched together with about double the number of bolts considered necessary by others.

Stays under the housing, together with truss rods under the chassis, give an "Edwardian" air.

The wheels are Dunlop detachable, wire spoked, 600 x 19's with inner and outer ball-races and the patented R-R centrelock hubs. These require a special spanner which unlocks the hub by depressing the central locking plate clear of its splines (these splines visible externally are the locking and not the driving ones). The hub nut can then be unscrewed, remaining held in the spanner, and the wheel can be pulled off its driving splines. (If a spanner is not available an excellent alternative is a tent pole held firmly in the central plate and the wheel removed with a pipe wrench (usually borrowed). Spanners, U.K., price £12 new.—Ed.)

The balance weights on the wheels are an example of the extraordinary care in detail typical of R-R. Three bolts at 120° are fitted around the wheel rim. Each bolt carries, starting from the rim: a rubber seal, a special steel washer as a firm base for the cover and lead washers, up to seven lead balance weights, another steel washer, a nut for retaining these, a cover, and a washer and nut for retaining the cover! The wheel bearings are ball front and rear, with a fully floating rear axle. The kingpins and stub axles are hollow for lightness and to facilitate lubrication of the kingpins. A roller race locates the top end of the steering knuckle, while the bottom end appears to incorporate a floating bush, to eliminate as much friction as possible. The steering box is also noteworthy. It is of the worm and nut type, in which the drop arm is moved by a nut travelling up and down the worm shaft as a nut does on a bolt. This, however, is no ordinary nut—its thread is lined with white metal, and the worm, after being ground and polished,

was run through the nut for several hours until the two mated perfectly. The nut is carried by two trunnions in a block in halves bolted together. As the block itself is carried in two further trunnions mounted in the webs of the drop arm shaft, the nut is universally mounted. To allow for the slight vertical movement of the worm shaft, a ball joint is placed near the top of the steering column, just under the dashboard.

All R-R's used this steering until about 1937, when it was replaced by a system similar to that of Ford V8's of the time. The chassis frame has channel section side rails with five tubular cross-members and a channel section cross-member near the rear axle, with the truss rods (like those on railway carriages) bolted underneath the side rails to reduce flexing. Instead of being rivetted or welded the chassis members are bolted together with special R-R designed and made tapered bolts having square heads so that only the factory spanners can be used. This construction was adopted, say R-R, because the normal type of rivetted chassis was found to be unsafe in tests conducted by the factory. This test consisted of anchoring a test chassis over large electrically driven cam wheels and pounding it to destruction, then strengthening parts that failed. Whereas other makes of international high standard cracked up in minutes, the R-R chassis withstood over 100 hours of the "bump test." (This, of course is according to R-R—actually there are numbers of non-Rolls vintage chassis in this country that underwent far greater tests in actual service than any ever devised in a laboratory, and their rivets, as anyone who examines them will find, are still quite O.K.). It appears that R-R reached their conclusions after making tests on welded chassis several years before World War I. Their statement that rivetted chassis are unsafe therefore carries little weight concerning vintage practice.

There are other unusual features of the Rolls, however, in which it can truthfully claim to be "best". Most prominent are materials and workmanship. For instance, the radiator was not merely given a good plated finish—it is solid nickel silver—very expensive, but a finish that lasts indefinitely.

This kind of finish was given to many other parts, for instance, the gear and brake levers, which were not electro-plated, but were given a layer of solid nickel, soldered on to the surface. This must not only have been costly, but also must have required great skill in execution—R-R had the craftsmen to do it. The engine is certainly not a very tidy-looking power plant, but the actual finish is faultless. The insistence on correctness in detail is carried almost to a fetish, as in the radiator shutters. These are far superior in quality to the most expensive contemporaries, such as Hispano-Suiza or 16-cylinder Cadillac, being mounted on ball bearings top and bottom and beautifully finished, and most unusual is the pivoting of the left eight shutters in opposition to the right eight. This quite unnecessary arrangement is done to give a balanced appearance, and is a case of almost defeating its own object, for at many angles the two centre shutters are out of harmony with the rest.

Internal parts such as crankshaft, rods and timing gears were not only machine finished—in addition, they were ground and polished. So much machining was done on the con-rods that the finished article weighed only a quarter of the original forging. The big-end bolts were even drilled for lightness! Every important part subject to stress was made with a special extension which was cut off and tested. If it failed, the part was scrapped. For instance, every single valve, crankshaft or con-rod made was tested, not, as common with most makes, one in 50 or 100 valves etc. Such exceptional care in manufacture enabled the company to guarantee its product for three years, something done by very few other makes. Doubtless some Rolls owners took advantage of this, traded in their Rolls every third year—and always drove a guaranteed motor car!

Contemporary with the 20 and 20-25 h.p. model from 1925 were the big 40-50 "Phantom" and "Phantom II". An exceptionally good example of a 1927 Phantom is owned by Mr A. James, chairman of the Bay of Plenty branch of the V.C.C. Prior to Mr James owning it, it had not had altogether sympathetic treatment, being capsized once,

and having had the pistons replaced backwards on another occasion. However, after spending "Rolls-Royce" sums of money, the owner has it back in proper Rolls condition. The body is a Hooper open touring double windscreen type, in aluminium, and finished in very pale blue of striking appearance.

The "Phantom" actually consisted of the Silver Ghost fitted with an o.h.v. engine modelled on the "20" but of 43.3 R.A.C. h.p. and therefore differs greatly in chassis layout from the "20" series, as the Ghost and Phantom I had separate gearbox, torque tube drive, cantilever rear springs and a different frame. However, the P.II introduced at the end of 1929 had a more powerful version of the P.I. engine in a chassis very similar to the "20". So the "20" was a forecast of design to come on the bigger models, and much of the foregoing applies to Mr James' car as well, for instance, the design of the steering box, wheels, R-R methods, etc. In contrast with the smaller Rolls, the Phantom has combined magneto and coil ignition, with a unique system of spark timing. Instead of the centrifugal governor directly advancing and retarding the ignition, it operates through an "oil-relay cylinder." The centrifugal governor operates a valve which admits oil under pressure from the engine to the relay cylinder, which then operates the ignition control. A beautifully-made but complicated linkage gives differing advance and retard to the magneto and coil distributors, and can be over-ridden by the hand lever.

Some slight imperfection in the ignition or carburetion not then traced was causing an odd backfire when throttling back to drive through towns after cruising on the main road—a most dreadful indignity indeed, sir!—but the car will oblige in the true Rolls manner by repeatedly starting on the ignition lever, even when stone cold after standing for several days, something that never fails to impress the onlookers, who in one case were stone cold themselves after standing for only half an hour. (Model T's will also start on the ignition lever, but the idle which follows is somewhat different).

The Phantom has all the performance that the small Rolls lacks (with twice the fuel consumption) and although pulling a 3.72 top gear and weighing about 50 cwt., it can be turned on full lock on this gear at 6 or 7 m.p.h. and will chuff away happily without a flat spot in the carburetion, even if the throttle is pushed right to the floor when straightening out and driving away. At about 15-20 m.p.h. the exhaust note smooths out and the car starts to accelerate pretty rapidly. There is a powerful but pleasant and refined burble from the tailpipe, and the driver inevitably gets a thrill out of looking down the classic bonnet and doing everything in the grand manner. The car is so magnificent that this poor crude colonial driving it in brilliant sunshine felt like some colonial administrator in the palmy days of the Empire.

Some of the controls are unusual. A governor is provided worked by a lever on the steering wheel. This will maintain the car speed at any given setting, whether going uphill or down, or on the flat. The gear lever invariably finishes up inside the driver's trouser-leg when stepping in, unless carefully avoided, and the gear gate has a slot for each speed, which requires an extra sideways final movement before any gear is home, a rather awkward arrangement which was abandoned on the Brice car. The headlights are mechanically dipped, but instead of dipping the reflectors only, the whole headlight swivels, requiring a ponderous linkage and operating lever the size of the gear lever!

An open 4-seater Phantom, also a 1927 model, was given an actual timed road test in an American magazine in 1959, and recorded the following times:

TOP SPEED	77.1 m.p.h. (estimated speed when new 80 m.p.h.).
3rd speed	51 m.p.h.
2nd speed	34 m.p.h.
1st speed	22 m.p.h.
STANDING ¼ MILE	24secs.
0-50	16.8 secs.
0-60	24 "
0-70	35.8 "
10-12 M.P.G. (U.S.)	equal to 12-14 Imperial.

Mr James gets 10 m.p.g. (perhaps U.S. drivers aren't as lead-footed as they think) and has seen the needle past 80 on occasions. This high performance (for 1927) is matched by powerful servo brakes, although the car gives the impression it is rather a handful at over 40 on country roads.

Some comparative dimensions for the two R-R's are:

	Phantom	20-25
WHEELBASE	144 ins.	129 ins.
TRACK	56 ins.	56 ins.
TIRES	7.00 x 21	6.00 x 19

GEARS

1st.	3.40	3.73
2nd.	2.21	2.33
3rd.	1.48	1.51
4th.	1	1

BORE 4¼ ins. 3¼ ins.

STROKE 5½ ins. 4½ ins.

Mr James and the Brice brothers are to be congratulated on the pride and care they take in maintaining their two contrasting but equally interesting models of the make claiming to be "the best in the world."

What is a Vintage Car Enthusiast?

By L. N. Wogan

(With apologies to "What Is A Boy?"—Ed.)

Somewhere, in between the blasé ignorance of youth and the supreme indifference of the very old, lies a wonderful creature, The Vintage Car Enthusiast.

Only he can be found rummaging through a wrecker's yard, clad in evening dress; only he can be discovered stretched beneath an oil smeared piece of mechanised junk while attired in cricketing creams, and only he can cram into one normal sized pocket the following: a radiator badge (make unknown), two valve springs, a wheel nut, twenty-seven pieces of paper of varying sizes and degrees of decomposition, containing vague rumours of the whereabouts of cars. ("Dunno what she is, Old Boy, but she's still there; 'course that *was* last year.") A copy of "The Vintage Car Pocket Book," a final demand notice from a spray painting firm, and one unidentified object ("Could be part of the brake drum off a chain drive Fiat, or, on the other hand, it might be off a Rolls Royce bulb horn!")

Truly the Vintage Car Enthusiast is a marvellous thing: he is, the thirst for adventure in a pin striped suit, the personification of mechanical knowledge—standing at the

'phone with a towel wrapped round his waist, and the quest for speed in a flat cap and golf jacket!

The Vintage Car Enthusiast is notorious for his untidiness.

You will find a Delage in the drive, a Gwynne in the garage, a Stutz in the shed, Bentley bits under the bed, and a Brough-Superior dismantled in the bathroom. You can lock him out of his workshop, but you can't keep him out of the wrecker's yard; you can hide away the "Cars for Sale" advertisements, but you can't hide his copy of "Beaded Wheels" and, you can stop him from going to the "Noggin and Natter," but you won't stop him from taking that trip to Omih after that 1914 "Bearcat." He is your master, your lord, your White Man's Burden; a tinkering, itchy-fingered, absent-minded, oil-be-spattered lump of humanity.

But, when you come home at the end of the day, with only the shattered remains of your hopes and dreams left, he can mend them like new, with just three little words, as he emerges from beneath a gaunt, mechanical skeleton to say, his voice-quivering with pride, "Listen, it's running!"

LUBRICATION OF VINTAGE CARS

The generally accepted definition of a Vintage car is one built prior to 1931 but if built prior to 1918 but after 1904 such cars are generally called Edwardian; Veteran cars are earlier still. This article, however, will apply generally to all vehicles built prior to 1930 so that the title is to this extent inaccurate.

Since those early days lubrication conditions have altered basically in three ways. First of all there have been changes in the design of the cars; secondly there have been changes in the roads and thirdly there have been changes in the quality and range of the lubricants. Each of these changes has an important influence in the lubrication of these old vehicles so an examination of these conditions and their influence is necessary.

Changes in Car Design:

The obvious change, of course, is towards markedly greater efficiency and higher powers from smaller engines. This has been very largely obtained by higher engine speeds. This has also resulted in higher loads on bearings so that these now have to withstand both higher speeds and loads. Increased power outputs have also directly caused higher loading of gears, transmission systems and cooling.

This improved efficiency and power output has, of course, only been possible with simultaneous other detail improvements. Significant points here are much better lubrication systems, ignition and carburation. Less obvious but in fact more important is the improved mechanical finish of running parts which has allowed much closer running clearances. The higher loading of cooling systems and the search for engine efficiency has forced improvements in the control of temperature both in preventing overheating, either local or general, and in minimizing the difficulties of operating a cold engine.

Along with the remarkable increase of power and efficiency there has also been a very marked improvement in the mechanical reliability of cars. It is difficult to say whether this has resulted in less wear or whether less wear has resulted in greater reliability

but undoubtedly wear and reliability go hand in hand.

Strangely enough from the point of view of lubrication the effect of all these changes is fairly simple because the basic feature, without which none could have taken place, is the closer running clearances and better mechanical finish. These closer clearances and finishes have two direct effects on lubrication. Firstly even a thin oil film, if not penetrated by the imperfections of the running surfaces, is perfectly adequate for lubrication. Secondly with fine clearances a heavy oil is not necessary to eliminate leakage either from a running surface or from the engine itself. Thus better mechanical finish gives not only better load carrying but also better oil control. This better oil control is also assisted by the better temperature control and the improved lubrication systems. The smaller movement within these closer bearings, quite apart from reducing noise, also has a minor effect on the load carrying capacity of the oil film and the bearing itself.

Changes on the Road:

Even in the last five years marked improvements in the quality of our main roads are apparent and the reduced number and increased radius of corners, the better surfaces and banking on corners have all permitted a noticeable increase in safe and comfortable cruising speed. This trend is even more marked when compared with conditions 30 years and more ago. In vintage and pre-vintage days sustained speed was virtually impossible except in a very few cases such as the Napoleonic roads on the Continent. These changed conditions have an enormous effect on an old model vehicle. Whereas we now think nothing of cruising at 40 miles an hour for 10 and 20 miles without a break, in those days one was lucky to be able to touch 40 miles an hour for as much as 200 yards at a time. By the time the average car had reached this speed on a road surface good enough, a corner forcing a reduction to 20 or 25 miles an hour would loom up. As a result, therefore, those early cars were not expected to

maintain continuously even moderate speeds for more than a minute or so at a time. Sports cars and the top quality large cars were exceptions and were capable of sustained high speeds and this feature was, in fact, a characteristic of Continental cars which had far more opportunities of relatively high speed cruising. But outside these exceptions it is to be expected that the vintage car treated even gently on a modern road might give lubrication failure in a comparatively short time. Major failures such as a melted big-end bearing or a seized piston are rare indeed on modern cars unless there is gross negligence such as a shortage of oil or a badly worn engine. In the early days of motoring, however, such failures were by no means uncommon and could directly follow overdriving, even on old time roads.

A striking illustration of the borderline conditions of engine lubrication in those days is given by the case of a certain racing car which at one stage in its career was very prone to big end failure until somebody noticed that it always occurred shortly after the car had gone over a certain severe bump on one part of Brooklands track.

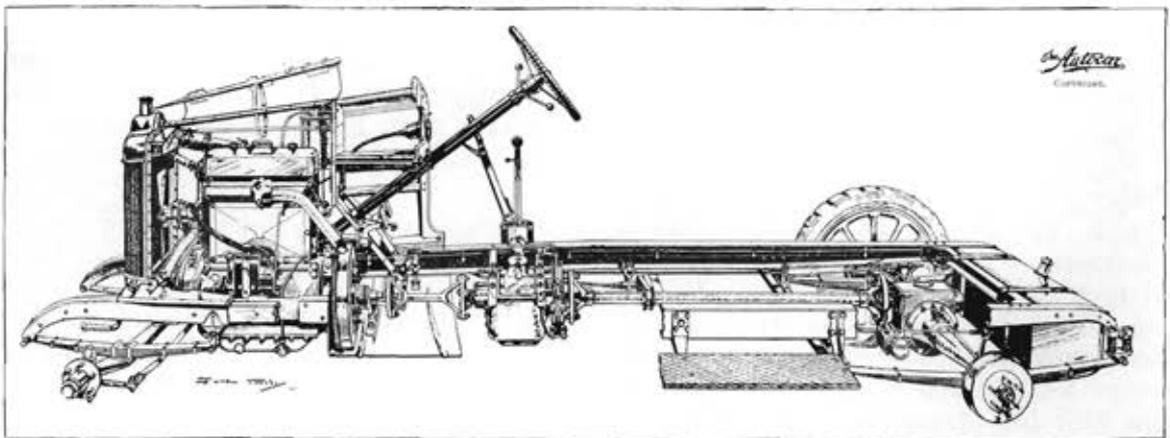
The effect of this single bump was sufficient to interrupt the oil supply for long enough to cause failure.

Another very important effect of road conditions on the car was the influence on running temperatures. Because of the enforced average low power draw-off the oil temperature neither in engine, gearboxes or back axle, ever became very high. However, even a small increase in the average speed markedly increases the power draw-off and has a very large effect on oil temperatures.

On the other hand cooling systems in early models also placed a limit on sustained high power output. It was not uncommon for an engine radiator to overheat and boil going up a long hill, particularly with a following wind, and this automatically enforced a stop while everything cooled down. A long sustained run at high power was therefore not possible. Contrarywise an old car running on a modern road may have the radiator far better cooled because of the higher road speed now possible up such a hill and this may be sufficient to prevent the radiator boiling and hence allow operation of the engine gearbox and back axle at a high power for a long period. This effect will again increase the work placed upon the lubrication system.

Changes in Lubricants:

The most striking change in lubricating oils over the years has been in respect of vis-



Cut-away chassis of the 11.6 h.p. Three Speed Standard.

This is a 1920 model and amongst many interesting features in it can be seen several which I mentioned particularly. Note for instance: (a) The overhead worm gear drive in the rear axle; (b) the transmission brake immediately behind the gearbox with the extremely simple linkage direct to the brake pedal; (c) the fabric type universal joints requiring no lubrication; (d) several external oil pipes on the engine—part of the oil circulation system; (e) grease cups on spring shackles.

cosity index. This characteristic is the measure of the change of viscosity of the oil with temperature. All lubricants thin out with increasing temperature. The ideal lubricant would, of course, stay of the same viscosity or consistency irrespective of temperature but there is no such ideal liquid; even water changes in viscosity with temperature in the same way.

The higher the viscosity index the less thinning out there is with rise in temperature. Likewise the lower the viscosity index the thinner the oil will be when cold, as for instance, when the cold machine is first started.

The most recent development in this direction has been with "multigrade" oils which have particularly high viscosity indices, and the following table contrasts high quality oils of the present day with high quality lubricants of 35 or 40 years ago. The viscosity is quoted in centistokes since these units are directly related to the true viscosity or thickness of the oil whereas the various conventional scales such as the Redwood and Saybolt are not directly proportional to the true viscosity.

Engine Oils:

	Viscosity-centistokes @		
	70°F	140°F	210°F
Old type light oil	220	22.2	6.5
Modern SAE. 10	83.8	15.9	5.8
10W/30 Multi-grade	149	29.2	10.1
Old type medium oil	460	35.2	9.5
Modern SAE. 30	345	41.9	11.8
20W/40 Multi-grade	337.5	47.6	14.5
Old type Heavy oil	1360	78.6	15.7
Modern SAE. 90 or 50	715	71.8	18.0

Gear Oils:

	70°F	100°F	210°F
Old type Transmission oil	4930	1475	32.7
Modern SAE. 90	740	232	17.3
Modern SAE. 140	2260	699	34.0
Modern SAE. 250	2960	1060	42.7

In interpreting the above table the following are the important temperatures:—

1. The normal operating temperature for the old type engine oil would be 140°F.
2. The normal operating temperature for the old type Gear Oil would be 100°F.
3. The SAE numbers are standardized at 210°F. This is in fact close to the normal heavy duty operating temperature nowadays of engines, gearboxes and back axles. The 10W and 20W grades are **additionally** controlled at 0°F.

Examining these significant temperatures in the table above, it is evident that modern cars now use lower viscosity oils. Furthermore the viscosity at the **operating** temperatures are far lower in the modern car than in the old car. The most striking example is to compare the old type Transmission Oil with modern Gear Oils. At working temperature in the old car the viscosity in the transmission would be 1475 centistokes. Most modern cars now use an SAE. 90 and at top working temperature this would be 17.3 centistokes. Furthermore in the old car at a working temperature of 100°F. even an SAE. 250 oil would not be as heavy as the old type lubricant. Exactly the same effect can be seen by examining the engine oil table.

Obviously the most important result of this viscosity disparity will be the inability of the modern oil to stay in the bearing or in the unit itself. The back axle will be the most obvious case because of the difficulty in preventing leakage on to brake drums of these elderly cars. Apart from direct loss of oil or leakage on to a brake, another troublesome effect is passage of oil into the combustion chamber past the piston rings with oiling-up of plugs. The ignition systems on these old cars were always likely to be temperamental and far more easily upset by excess oil. Of course improvements in spark plugs has provided very valuable assistance here.

There is, of course, a very marked advantage in the other direction, with these modern lubricants. When the vehicle is cold the reduced drag of the thick oil is particularly helpful in the engine and makes cold starting far easier. Also the reduced drag both in the transmission and in the engine makes the car far livelier during the warm-up period. Since these old cars invariably take a considerable time warming up this is quite a substantial advantage.

On the other hand the leakage problem is correspondingly magnified since the viscosity difference between the old oils and the new will be even greater when the lubricant is cold.

The characteristic of significance with these early oils, particularly the engine oils, was their relatively poor resistance to oxidation and their carbon forming tendencies. Whereas such oil deterioration is serious in modern high efficiency cars, they did not cause trouble in the older cars. On the contrary it was not uncommon for such deposits to be beneficial by filling up some of the running clearances and so compensating in some degree for the relatively poor mechanical finish and wear. In other words if some of these early engines were kept too clean they would not perform so well; they required fairly heavy deposits of carbon to fill up crevices and prevent leakages. In this respect the universal use of "detergent" or "carbon-suspending" additives in modern engine oils is of very great significance. These additive oils have been designed particularly to prevent such carbonaceous material from depositing in the engine. Not only is there less "carbon" formed because the oils are fortified but what little is formed is kept suspended in the oil and eventually removed when the oil is drained. It is now virtually impossible to obtain engine oils without these additives and their cleansing effect must be allowed for in choosing the appropriate grade to use.

Another characteristic change in modern lubricants is the use of extreme pressure additives for transmission oils. These additives, by increasing the strength of the lubricating film, enable modern cars to work with extrem-

ely high loading on gears and other vital running parts. These additives have no effect until extremely high loads are applied so that in the older car from this point of view alone they are neither of advantage nor disadvantage. On the other hand these additives by their nature do tend to attack chemically certain metals and alloys. When these additives were first adopted great care had to be taken to match their use by appropriate design of the equipment otherwise severe corrosion of some parts could be caused. However, the most modern additives are virtually entirely non-corrosive and in cars built from about 1925 onwards it is quite safe to use them without any worry. In some of the earlier cars, however, it is not entirely safe to rely on metals being resistant to their attack. Corrosive attack can be accelerated by the presence of moisture in the oil and the low running temperatures and poor venting of these early cars made moisture accumulation more likely. For the earliest cars, therefore, it is best to lubricate their transmissions with a non-additive, that is to say, a straight mineral oil lubricant.

An important change on the lubrication side although not directly affecting the quality was standardization of viscosity by SAE numbers. These became widely adopted about 1929 and provided a universally recognised range of viscosities. Prior to that the viscosity or consistency of the oils were described by vague terms such as light, heavy, medium, extra light and so forth and since individual oil and car manufacturers interpreted these terms in their own way, it was difficult if not impossible either to compare one oil with another or find the best grade for each vehicle. Although these SAE numbers do nothing except set out viscosity classifications, they have been of inestimable value and are now universally adopted. As mentioned earlier the viscosity ranges are defined at one temperature only and this is taken as the nearest standard test temperature to the normal operating temperature of the lubricant.

Special Cases:

From the general picture above, making allowance in each case, it will usually be possi-

ble to determine what modern oil can be considered as the suitable equivalent for the grade originally specified, by the vehicle maker. With the vast number of machines concerned it is impossible to attempt to give a complete lubricant list but there are a number of cases which are unusual and worthy of mention for that reason. A few of the more striking examples of this are mentioned below:

Knigh Sleeve Valve Engine:

This engine instead of the conventional poppet valve had two concentric reciprocating sleeves between the piston and the cylinder bore. These sleeves with the requisite apertures in them provided the openings for inlet and exhaust ports and valves. This engine was exceptionally silent mechanically and was, in fact, widely publicised as the "Silent Knight." The best known user was the Daimler but the engine was also fitted to the Willys Knight, the Minerva, and several other European makes. This double sleeve valve design was finally discarded around about 1932. The very large area of reciprocating surfaces comprising the piston, and the inner and outer surfaces of the two concentric sleeves, comprised a special lubrication problem. Friction was high and on the other hand oil consumption was also high. It was also difficult to avoid gas leakage and the overall performance of the engine was therefore very markedly affected by the lubricating oil film. If the oil was too heavy and thick, starting

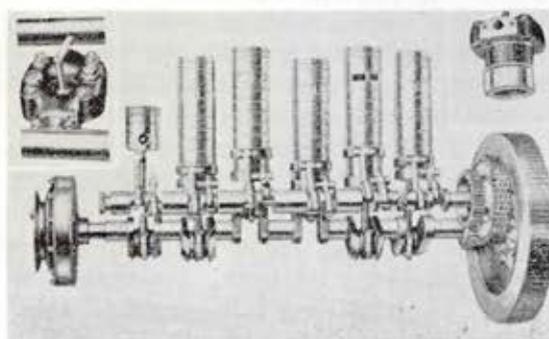


Fig. 4—Daimler Double Sleeve Valve Engine. Figures 4 and 5 show the system of operation of the Knight double sleeve valve engine system mentioned in the article as having been fitted to a large number of cars.

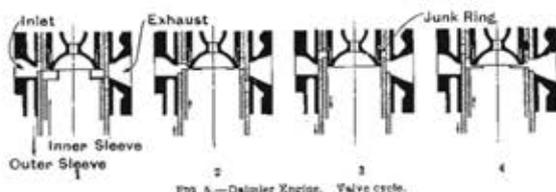


FIG. 5.—Daimler Engine. Valve cycle.

was extremely difficult, frictional loss high and the engine performance generally poor. Too thin an oil on the other hand gave insufficient sealing of the piston and sleeve clearances again causing loss of power and very heavy oil consumption. Lubrication was always a compromise and an oil of approximately SAE. 30 was generally used but oil consumption was high and it was characteristic of these cars always to show a continuous cloud of blue smoke from the exhaust.

The lubrication oil had another function, however, namely to supply carbon deposits to take up much of the running clearances between sleeves. Particularly when the engine was a little worn this carbon film was most important. Therefore a modern lubricating oil with very low carbon forming tendencies (let alone a detergent oil which would gradually wash away such deposits) could not be expected to give satisfactory performance. Apart from this difficulty a multigrade oil would be very suitable because of the reduced viscosity and drag when the engine was cold but as multigrade oils invariably have detergent additives this puts them out of court as a suitable lubricant. Probably the best oil would be a medium viscosity straight mineral machine oil.

Austin Seven:

The design characteristic of the Austin Seven which had some significance in the lubrication was the use of ball bearings for the crankshaft main bearings. In addition, particularly in the early models, the crankshaft was very light and therefore suffered from lack of rigidity. Unless the ball bearings were absolutely brand new this engine was very prone to noisy operation best described as a combination of rattle and rumble. A very marked quietening of this noise was effected by the use of a heavy oil—a modern SAE. 50 for instance being markedly better

in this respect than the SAE. 30 normally recommended.

On the other hand the drag of this heavy oil when cold could make starting difficult particularly in so far as the electric self starter was concerned. This engine therefore responds very effectively to the use of a multi-grade oil and the 20W/40 grade could be expected to give an exceptionally good performance.

Ford Model T:

This car had a very large number of most unusual design features. As far as lubrication is concerned the important novelty was the fact that engine, clutch and gearbox were all lubricated by a single oil held in the long one piece sump which extended from the starting handle right back to the torque tube anchorage at the back of the gearbox. The clutch, gearbox and foot brake was a combined unit using epicyclic gears with brake bands contracting outside the three main control brake drums. This whole unit revolved in the oil bath which was also the sump into which the returned oil from the engine drained by gravity. The oil pump consisted simply of a scoop placed near the top of the flywheel in such a way that oil was carried round by the flywheel and more or less splashed into this scoop from which it was lead by gravity into trays immediately under each big end. A scoop on each big end bearing cap dipped into these troughs and splashed oil throughout the interior of the engine. The lubrication of this engine and unit demanded a thin oil (and for those days it was exceptionally thin) corresponding closely to a present day SAE. 10 oil. This use of such a light oil was probably unique for any motor engine built in that period.

Hudson:

An unusual feature on this car was the wet clutch. This was a multi-plate unit running completely immersed in oil. A special lubricant had to be used for these since not only was the viscosity important but also the frictional qualities of the oil; in fact, this special oil was almost invariably a light mineral oil containing a vegetable or animal oil such as neatsfoot. If something other than

this special oil was used the clutch would almost certainly give unsatisfactory operation either through slipping or through fierceness in take-up. It was also most important not to overfill the clutch.

Packard Rear Axle:

Although strictly speaking just outside the vintage period, the Packard is worthy of mention because it was the first car ever to use a hypoid gear in the rear axle. It was in this respect many years ahead of all others and a special Packard hypoid gear oil had to be made for these vehicles long before such oils were commonly used. The modern E.P. Gear Oil is perfectly satisfactory for the lubrication of these early Packard models but the point is mentioned because it is the only early car which definitely required an E.P. oil.

General:

The above are specific examples illustrating special requirement but there were also a number of designs which were comparatively common but have now disappeared entirely. Two such items which are significant in regard to lubrication are the use of worm drives for back axles and the combination of gearbox with the differential on the back axle. The worm gear is always a difficult lubrication problem but the low engine powers and ample gear sizes in these early vehicles kept worm drives free of the usual troubles. Sometimes the worm was placed underneath the worm wheel and other times on top. The underslung position was easier to lubricate since the mating surfaces were completely immersed in oil but had the disadvantage of lowering the ground clearances considerably so that the overslung worm was used in many cases. In either case the important characteristic for the lubricant was plenty of viscosity. A thick oil must always be used otherwise the high speed sliding motion tends to remove the oil film from the teeth. No worm drive should be lubricated with anything lighter than a modern SAE. 140 oil. It should be noted that Extreme Pressure oils have no advantage whatever with worm drives since these additives do not function in this type of lubrication.

The combination of gearbox with differential on the back axle is not inherently a difficult lubricating problem except for the fact that a heavy oil (needed to prevent leakage on to brakes) was liable to make gear changing difficult simply due to the thickness of the oil, particularly when cold. On the whole, makers of such cars attempted to reduce the oil leakage problem as much as possible and a rather lighter oil would be employed. Even so nothing lighter than a modern SAE. 140 oil should now be used.

Transmission Brakes:

Much attention has been given here to the leakage of oils and undoubtedly this was a major problem with early vehicles. Another manifestation of this leakage characteristic of vintage designs was leakage on to the transmission brake. Such brakes were attached immediately behind the gearbox and operated on the propeller shaft. They were attractive because it was easy to obtain a powerful braking effect through using the reduction gear of the back axle. Also the operating linkage could be very simple. These brakes were often extremely sensitive to oil leakage from the gearbox and the power of the brakes

was such that fires could be started. Furthermore when the oil was burnt off the brake suddenly became very fierce.

Chassis Lubrication:

Lubrication of the chassis as distinct from engine gearbox, and back axle was almost invariably done with grease cups. There is no special problem of lubrication here and any reasonably soft modern grease will be quite satisfactory. For convenience the grease cups can be replaced with ordinary grease nipples but this, of course, does depart from genuine original design and may offend connoisseurs. In some of the earlier cars particularly of the Edwardian era grease was used for gear box lubrication simply because of the difficulty of preventing leakage of the oil. Modern semi-fluid greases which are readily obtained as industrial products would be the best lubricant to use and would, in fact, be markedly superior to the materials originally used.

T. T. N. Coleridge, B.E., M.I.Mech.E.,
M.N.Z.I.E., A.F.R.Ae.S.

Chief Technical Adviser,
Shell Oil New Zealand Limited.

June, 1960.

Denny De Dion - Restored

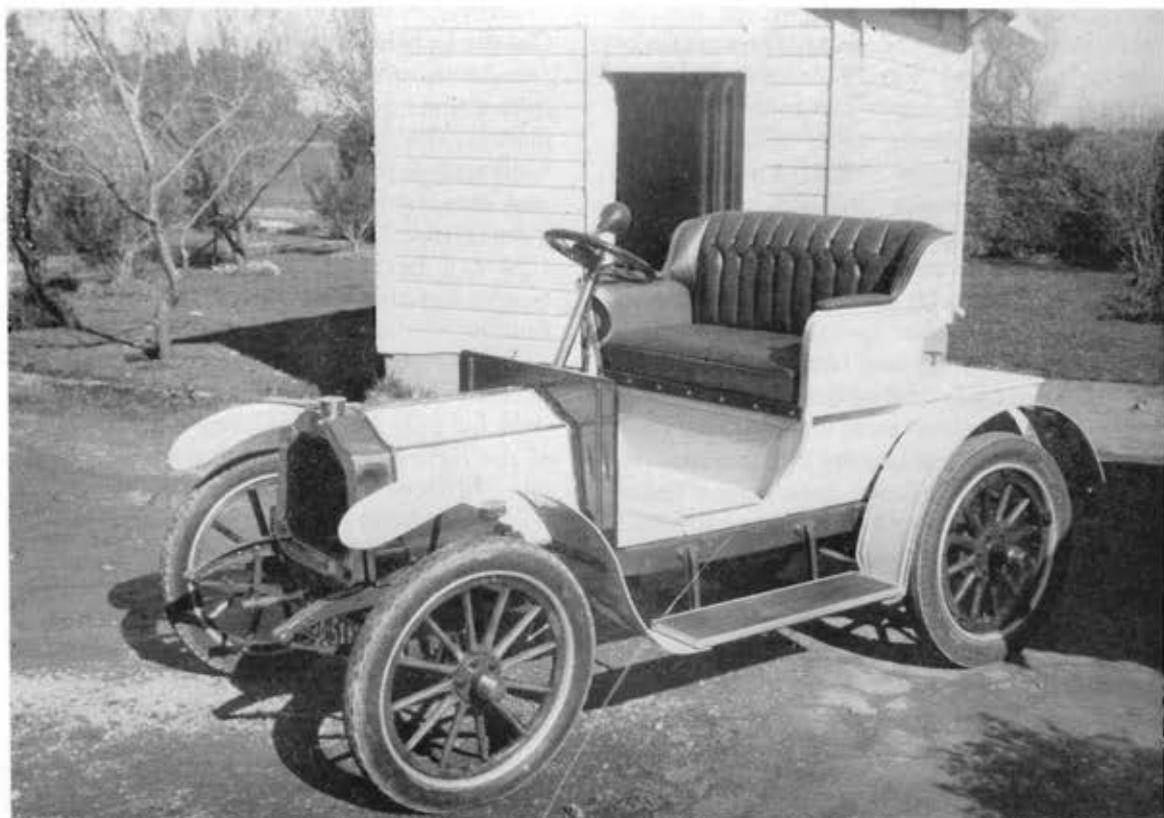
By Rex Porter

In March, 1958, "Beaded Wheels" told the story of bringing home the previous June, the bare rusty remains of a 1907 8 h.p. De Dion Bouton which a previous owner had christened "Denny." More than 1000 work-hours and some £70 later it was ready for the road. There were heart-breaks in the process, but final result was rewarding. Although completely re-built, at no time was everything dismantled all at once. Chassis was stripped bare leaving engine, radiator, gearbox-diff, steering-box, and axles as separate assembled units. This minimised loss of parts, and the job appeared less formidable than if all the "grief" had been known from the beginning.

The broken chassis was a straightforward job of welding, reinforcing, true-ing up and tightening. Rust was scraped, chipped, and wire-brushed. Sand-blasting, had it been available locally, would have saved a lot of work. "Fisholine" oil, thinned with petrol, was brushed all over and wiped dry an hour

or two later. Painting consisted of "Seachrome Primer," primer-surfacer, plenty of knifing compound to fill pits and hollows, a wet rub down, and colour-coat of chocolate-brown, all applied by brush. Dulux was used. All five springs were dismantled, cleaned, and reassembled and proved to be a tedious job. The four rickety wheels were dismantled by unbolting the hub flanges. ((What a hopeless heap a wood wheel looks when dismantled!)) Cracked and warped fellowes were steamed back to shape and repaired with "Aerolite" glue and small screws and nuts. Tapered sleeves on the hubs and thin wood wedges between some spokes produced a set of sturdy wheels. The wickedly sharp edges of the rim beads were fused to a harmless round shape with small oxy-acetylene flame.

Steering joints and hub brakes needed a lot of attention and some re-bushing. Steering-box was straightforward but called for a



"Denny" 1907 8 h.p. De Dion Bouton Model AV one cylinder.

Photo by R. Porter.



Wellington, not Hyderabad. A line of vehicles owned by members of the newly formed R.-R. Club.

Photo by J. Glover.

Review

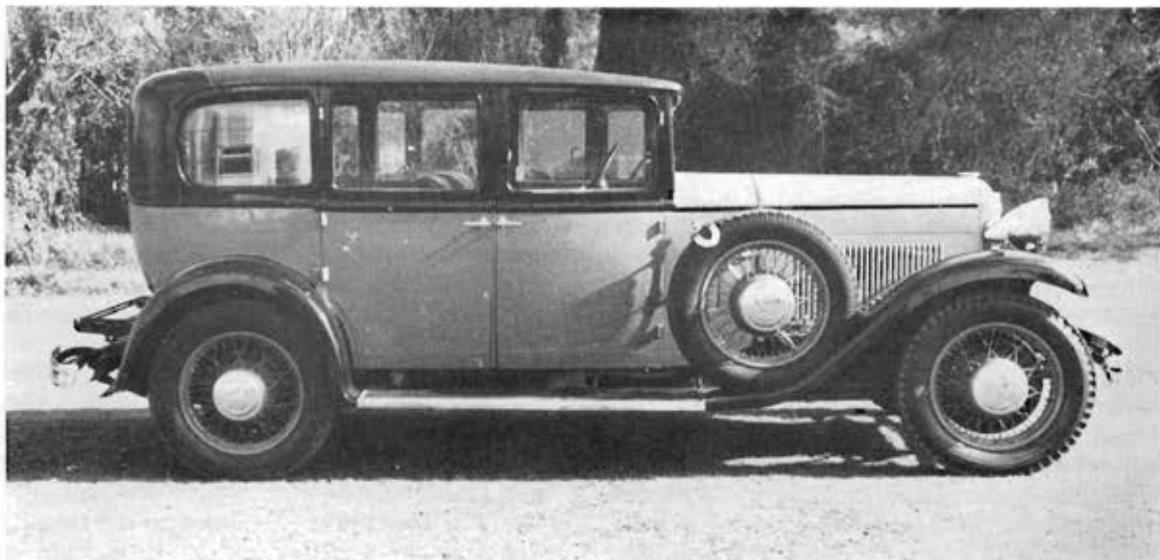


Photo by W. Bennett.

The immaculate 1930 Humber Snipe owned by Warren Bennett, which made its first Club appearance at the Hutt Rally.

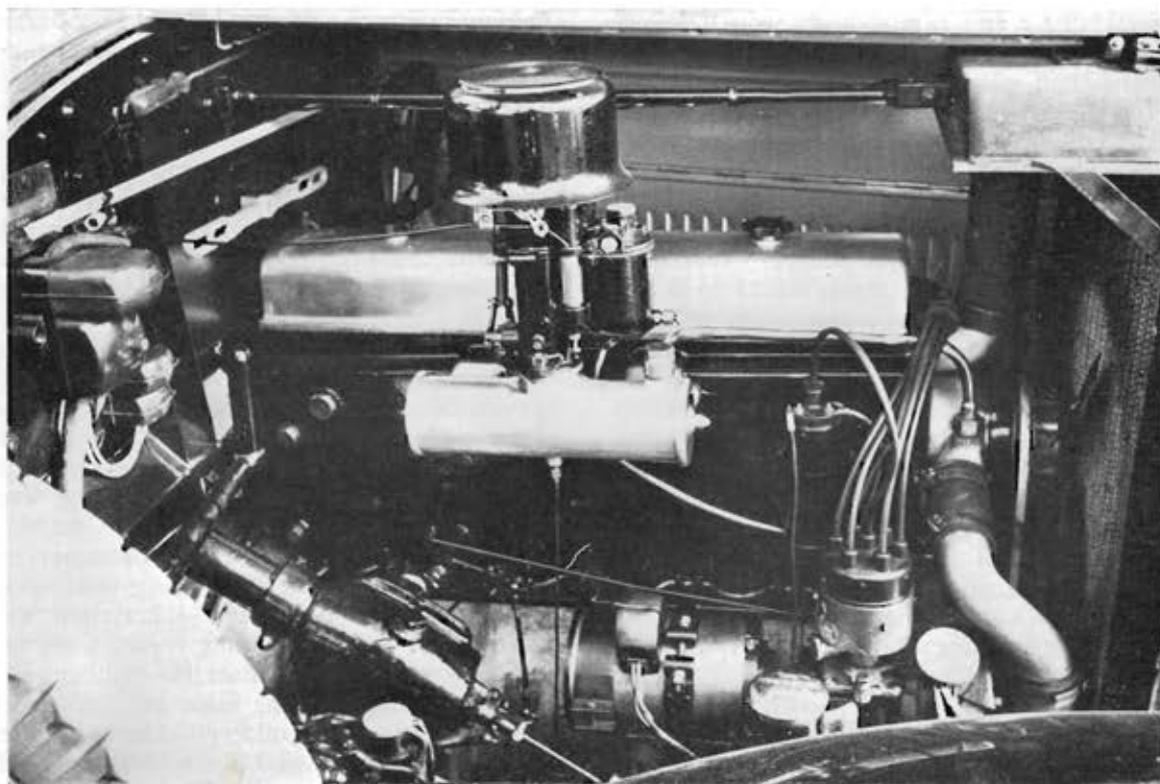


Photo by W. Bennett.

The Humber's motor. Obviously a credit to owner.

number of small parts for the spark and throttle controls to be made and case-hardened. Mahogany rim for the wheel took a bit of careful making but was worth it.

The engine was an interesting job. Frost cracks in water jacket were bronze-welded and the bore given a light honing. The cast iron piston was still useable after truing the ring-grooves to take two modern-width rings per groove. The rest consisted of new gudgeon, all new bushes, five neoprene oil seals in place of original ingenious but ineffective slingers, new valves and springs. Original carburettor and inlet pipe were missing, but with the plumber's help the long one inch diameter copper inlet was formed and a very early brass Zenith carburettor was fitted. The Bosch H.T. magneto, when cleaned, dried and re-magnetised, threw a splendid spark. The poor battered old radiator was temporarily patched and soldered enough to hold some water. The engine could now be given a test run and proved very sweet.

Clutch needed little attention apart from a set of new springs (Ford V8 exhaust valve springs proved ideal), and then the gearbox-differential unit was opened up. It was a mess! Low and reverse gears worn terribly, second gears not badly worn but reduced to barely half-width from crashing gear-changes, and the top gears (there is no direct drive) in quite good condition. The aluminium housing was so badly cracked that it was on the point of splitting in two. Crownwheel teeth were all chipped with loose flakes here and there, but the pinion was perfect. Differential bevel gears had come almost out of mesh due to worn thrust surfaces with consequent damage to the gear teeth. Following up a "clue," a visit to Havelock North produced a De Dion diff with sound gears but crownwheel minus numerous teeth. A bonnet and some spring leaves were also obtained there. These parts were all from a wrecked 10 h.p. four cylinder model of 1909. With slight modification, the diff gears could be used but the battered old original crownwheel had to be repaired. This was done by breaking off loose chips and grinding all damaged surfaces, then building up 42 teeth with low-temperature "Eutectic 185" work-hardening nickel-bronze. (Very big oxy-acetylene flame, no pre-heat, work fast, do one tooth and dip gear in water). Teeth were hand-filed to shape using a new file and being careful to

keep it cutting. Though not silent, it runs reasonably well and seems to be standing up to work O.K., lubricated with Shell Dentax 250 and a lot of colloidal graphite. The housing was repaired by the argon arc welding process but needed some tricky re-working afterwards. The missing transmission brake shoes and linkage were made of 1/8th steel bent to shape and welded. Low gear pinion teeth were built up with "tobin" bronze and hand-filed to shape. One new ball bearing and several neoprene oil-seals completed this unit.

With a packing case seat and a quart tin of fuel, "Denny" was taken out for a road test. Tremendous fun, until the mag failed ten miles from home. By closing plug gap to almost nil we managed to crawl back. Subsequently a lovely old Mea of about 1910 was fitted.

The foot brake is coupled to the throttle which it closes before the brake (transmission) is applied. The hand brake, which pushes on, disengages the clutch before applying the hub brakes. Main speed control is by hand throttle on steering wheel. The clutch proved very gentle but would not stop spinning unless one foot was used as a brake on the drive-shaft. This effect was probably due to the drag of the long spigot bushing at the clutch while there was no drag at all from the gearbox ball bearings and the upper shaft, the only one turning, not even having the drag of the oil. To get into low gear and to change up, called for a complicated acrobatic act with the spare foot serving as a brake on driveshaft. Changing down was as easy as a modern synchromesh job, and just as quick. No double de-clutch required. So, before a temporary box-wood floor was fitted, a very simple type of clutch-brake was devised and proved most satisfactory. Good gear changes could now be made both up and down, and some more road testing was done.

The local plumber made up a set of mudguards from sheet galvanised steel with number eight fencing wire rolled into the edges. They were faithfully copied from an old pair which came from H. Williamson's De Dion Bouton. The same vehicle served as model for body-building. On a visit to Christchurch, rough sketches were drawn and every possible dimension filled in. From these, scale drawings were made and con-

struction details worked out with the aid of numerous photographs.

Malayan hardwood (keroing) was found pleasant to work with. Curves were sawn out with an old-fashioned bow-saw. All joints were made with "Aerolite" glue (an excellent product giving a joint stronger than the parent wood) and screws where needed. Flooring was of resin-bonded white pine five-ply and body panels of keroing ply with a plastic veneer surface which provides a good surface for painting. The curved seat panel was of half-hard sheet aluminium which was given a light scratching with fine emery paper to provide a good "bite" for the paint. In fitting the half-round aluminium beading, the trick was to make the more difficult bend, edgeways, first. Place foot on beading flat on floor and bend it edgeways with the hands at area beneath foot. The amount of bend has to be guessed. The other easy bending is done on the spot it is to fit.

The bonnet from Hawkes Bay was dismantled and cut down to size, the brass beading and hinges buffed, reassembled and fitted.

Prime painting and undercoating (Dulux) was all brushed on, and wet-rubbed down to a good surface. Final colour-coat, ivory, was professionally sprayed. Brown "striping" was done with a borrowed roller striping tool finished off with a fine brush.

The heavy old solid brass fuel tank could now be installed under the seat and we were ready for a serious road test. All went well on the twelve miles flat run to Featherston, so we set off up the six mile climb on the Rimutaka Hill. Second gear howled like a banshee but we soon had to change down to low which was nice and quiet (bronzed teeth, no doubt). At barely half way up, the radiator was boiling madly and a bad knock developed. On stopping to investigate, the radiator emptied itself, but the knock was found to come only from low gear, so we headed for home. Through the inspection plate opening it was seen that bronze had cut through on one low gear tooth. Body was lifted off, gearbox-diff removed and opened up and some weeks of thought given to possible methods of repair. Finally it was decided there was nothing for it but to make new reverse, low and second gears. The low and reverse driving pinions were integral with the long upper shaft and this was turned out of a sound section of a broken tractor axle—a long

slow job. Reverse idler, low driven gear, and both second gears were separate units and these were turned out of old axle flanges. Not having access to gear-cutting equipment, the actual job of cutting the teeth had to be done professionally, and as the metal was particularly good it was thought not necessary or advisable to have the gears hardened. Subsequent test runs proved the gearbox now satisfactory, but what about the boiling? Thinking it advisable to fully restore the old radiator before making any modification such as adding a fan or more radiating surface, this unit was given the full treatment. Some 180 copper fins were cut and soldered to the lowest horizontal tube where the originals had all corroded away. All doubtful seams were melted out and re-soldered, and sundry bad dents removed by repeated annealing and bending a bit at a time. This "did the trick" as on the next attempt at the Rimutakas, Denny motored quite happily right to the summit with no sign of steam at all.

This successful test spurred on the formidable task of upholstery. It was found not necessary to call upon professional help, and a good reproduction of the authentic half-diamond pleating and buttoning was achieved at home. Old springs came from the car wrecker at 10/- the lot. They were dismantled and re-built to shape, covered with sacking, padded with flock from an old mattress, some sponge-rubber chips and sheet sponge plastic. The outer material was a heavy-weight Vynide type in rich reddish-brown with deep generous pleating so that all stitching was hidden.

Denny will be attending rallies this summer on a daylight warrant of fitness, but it is hoped eventually to find suitable lamp equipment.

Analysis of restoration:—

	Own work Hours	Purchases £
Chassis	290	2
Engine	155	8
Gearbox-diff	170	20
Radiator	60	—
Guards, body paint	246	27
Upholstery	107	4
Nickel-plating, brass buff- ing	8	9
Totals	1036 hours	£70

Book Reviews

Like the eternal "small boy" your reviewer first looked at all the pictures then read the text. The pictures clearly illustrate motor sport in all its varied forms and are both well taken and well re-produced.

The text is clearly written and is a suitable complement to the pictures. The reason—because the author is a person thoroughly familiar with all branches of motor sport from both the competitive and administrative points of view. A rare virtue indeed, but the result is the production, in 76 small pages, profusely illustrated, of a complete hand-book of all forms of motor sport for the amateur. The author gives a clear view for the would-be novice competitor of racing, trials, sprints, rallies, autocross, driving test and of course, vintage and veteran activities. There are a lot of useful tips, even for old hands, and a clear outline of what to do, expect, and how to do it, which should be most helpful to the beginner. It must be realized, however, that the book has been written for "Home Consumption" as all references are to the sport as existing in the British Isles. Nevertheless, for the price, the excellent illustrations, and the author's decidedly pro-vintage sentiments as expressed in most admiring tones, this is indeed good reading even for a "colonial."

The book in question: **DRIVING FOR SPORT**, by Martyn Watkins. Published by Autosport. Our copy by courtesy of Technical Book Co., 295-297-299 Swanston Street, Melbourne. Australian price 11/3. Postage 1/-.

This quarter we have received a most controversial book that comes in the form of an autobiography of A. F. C. Hillstead, whose book "Those Bentley Days" is amongst my favourites.

Hillstead with H. M. Bentley formed the old Bentley Company's sales team in the

early years of the firm from 1919 until the advent of the Barnato millions in May, 1926, thus taking a most active part in the founding and the bitter struggles of the early years of Bentley motors.

Having read with interest W.O.'s own autobiography, I must admit to having wondered whether the story Bentley himself tells really went quite the way he would have us believe. On reading this latest Hillstead book, it appears that W.O. himself has acquired slightly rose-tinted glasses when reviewing the early years of Bentley Motors.

It is obvious that Hillstead would have preferred to have his literary career start and finish with "Those Bentley Days" and this autobiography may quite well have been summoned up as some counterblast to "W.O."

Whatever the reason it makes uncommonly interesting reading, ranging from early flying at Brooklands with A. V. Roe and early Brooklands racing, to a most amusing interlude driving Commer trucks across the deserts of Patagonia in 1913! Joining the D.F.P. Agency, Bentley and Bentley, during the war he was, of course, on the ground floor when Bentley Motors was born in 1919. His story is most illuminating when he comes to discuss the battle he had as sales manager to get W.O. to give the Bentley a reasonable maximum speed by scrapping the Smith 5-jet carburettor and his troubles in staving off the 30/98 Vauxhall opposition.

An excellent book, well written and adding many new sidelights on the story of the finest sports car the world has ever seen.

FIFTY YEARS WITH MOTOR CARS—A. F. C. Hillstead. Published by Faber and Faber, London. Australian price 34/9 plus 2/- postage. Our copy by courtesy of the Technical Book & Magazine Co. Pty. Ltd., 295-299 Collins Street, Melbourne.

REGISTER AND DATING COMMITTEE

Hugh Foster, Chairman.

The Register and Dating Committee have been meeting every fortnight since June in an endeavour to catch up with the backlog of work and our efforts appear to be bringing results. Register and Dating Forms are still coming in steadily although in a lot

of cases members are not enclosing the detail photographs we have asked for.

A new Register of Vehicles is being compiled and before long we should be able to inform all vintage owners of their register number. This number will be perman-

ent as far as we are concerned for our records and members may if they wish and subject to their Branch Committee's approval use this number on their rally plates.

For the benefit of Veteran owners who have received their dating certificates, but who do not know their plate number, contact the Secretary, Register and Dating Committee, 63 St. Martins Road, Christchurch.

We have been asked to furnish specifications of the approved rally plates. Details are as follows: For Vintage—a plate bearing only the number and measuring 10 inches by 5 inches high be made of metal of adequate strength and finished in black enamel with white numerals 4 inches high and $\frac{3}{8}$ inch thick. For Veteran—a similar plate may be

used, alternatively for those who wish to have "Make" and "Year" on their plate, a plate measuring 11½ inches high and 8½ inches wide be made of metal of adequate strength, finished in black enamel with white numerals 4 inches high and $\frac{5}{8}$ inch thick, the make and year of vehicles to be in lettering 1¼ inches high and ¼ inch thick. A limited supply of these plates is available from the Register and Dating Committee priced at 10/- each.

I am very glad to say that our appeal for motoring books, etc., has not been in vain, and on behalf of the Committee I would thank Mr N. R. O'Connor and Mr J. D. McCraw for their very generous gestures.

—HUGH FOSTER.

Vintage and Veteran Motorcycle Notes by Geoff Hockley

Safety in Numbers.—At a comparatively early hour one recent Saturday morning, your scribe might have been observed proceeding briskly through a Christchurch suburb in the family sedan, with one hand on the wheel and the other clutching a slice of toast, and bearing evidence of a hurried toilet in the shape of unlaced shoes and one sock on inside-out. Why this departure from the age-old Saturday morning ritual of an extra hour in the sack? You may ask. No, we were not going to a fire, nor was it a dash to arrive in the nick of time to forestall the villainous mortgagee from foreclosing on the old homestead—'twas merely that we had noticed an ad. in the morning paper to the effect that the advertiser had for disposal a veteran motorcycle—to wit, a 1905 Indian—and we were determined to be first in the field in case it should happen to be worth picking up, though we were fully prepared to be disillusioned. Well, to cut a long story short, the "1905" model turned out to be the carcass of a 1915 model, which had been pretty well picked at by the buzzards, and we didn't spend very much time trying to convince the owner that he was ten years out in his estimate of the old bike's age. Driving home-wards at a more sober pace, it occurred to us that a list of Indian engine numbers might be helpful to any collector wishing to positively identify the year of manufacture of any early members of the Redskin tribe. Here is a list from 1901, Indian's first year of manufac-

ture, to 1920, compiled from authentic sources and which we think we're safe in guaranteeing to be correct. Drop us a line if you require information on post-1920 models—it would take too much space to list all models and years.

Year	Engine Numbers	Number of Machines Built
1901	1-3	3
1902	4-146	143
1903	147-523	377
1904	524-1119	596
1905	1120-2300	1181
1906	2301-3998	1698
1907	3999-6174	2176
1908	6175-9431	3257

1909 All engine numbers incorporated the letter "A," 1910 "B," 1911 "C," 1912 "D," 1913 "E," 1914 "F," 1915 "G," 1916 "H," 1917 "J," 1918 "K," 1919 "M," 1920 "R."

The Memories Linger On.—Looking through an automotive magazine recently, we noticed that Mr G. H. DuSell, sales engineer of the old-established Thor Power Tool Company of Aurora, Illinois, recently celebrated his 50th year with the company—a record to be proud of. What really interested us, though, was the fact that Mr DuSell started with the firm (in those days known as the Aurora Automatic Machinery Company and makers of the Thor motorcycle) in 1908, and by 1916 had risen to the position of ser-

vice manager. In that year, the company discontinued the manufacture of motorcycles and he transferred to the tool side of the business, a field in which he is now widely known in connection with several important inventions pertaining to pneumatic and power tools. We though we'd take the liberty of dropping him a line to congratulate him on his fine record, and also to tell him how interested we were to know of his link with the old Thor motorcycle, a specimen of which we happen to own. All of which we doubted would be of much interest to Mr DuSell, who, we imagined, had probably long ago forgotten his early association with the motorcycle business, and in any case could probably ill spare the time to reply to a letter on the subject—but how wrong we were! By return airmail came a long and cheery letter assuring us that although the writer's active association with motorcycles had ceased so many years ago, he still remembered with pleasure his old motorcycling days, and was especially interested to hear that we possessed a specimen of his company's old motorcycle products. "Your hobby of reconstructing old machines is intensely interesting," wrote Mr Du Sell. "Our company engineers recently reconstructed an old 1908 Thor single—a relic of the company's motor-cycle days—and we now have the machine standing in the lobby of our office building. I enclose a photograph of the old Thor, which is in running condition. I would be very pleased to receive a photo of your own Thor when you have completed restoring it."

Thor Thingamajigs.—Well, Mr DuSell's letter started us off again with a fresh burst of energy on our own Thor restoration project, which we must admit has been rather at a standstill of late. We have always had a burning curiosity to investigate the "innards" of the old bike's rear hub, a colossal contraption (the complete wheel would be a useful sea-anchor for the "Queen Mary") so, full of freshly-brewed enthusiasm, we set to work. About eight hours and two tins of penetrating oil later, the hub had yielded up its secrets, and strewn upon our workbench was an imposing array of gadgetry, including (1) two sets of planetary gears of sizes which wouldn't have disgraced a tractor, (2) a 9-inch diameter double-acting brake, which expands against a drum to act as the brake proper, and contracts on another drum to lock out



1908 Thor. In its day a big noise.

top gear and engage low, (3) a nest of steel clutch plates, plus springs, pawls, bearings, quick threads and other bits and pieces too numerous to mention. The engine, too, is full of unconventional features. Gear reduction between engine and rear wheel, for instance, isn't obtained by the usual chain from engine to countershaft and by secondary chain from countershaft to rear wheel sprocket, but by a reduction gear mounted on the crankcase, consisting of a large internally-toothed pinion driven from the engine mainshaft and running on a ballrace of heroic proportions. Mounted on the reduction gear are two sprockets, one driving the rear wheel by a single long chain, and the other carrying a short chain connected to the pedal sprocket for starting purposes. This, the 1915 model, was the last to feature this device, subsequent models being fitted with an extremely massive 3-speed gearbox and clutch. Yes, like its namesake, the Norse God of Thunder, the old Thor was quite a "big noise" in its heyday—and nobody could have accused its designers of being slaves to convention!

V. & V. Personalities.—To see Neil R. Sutton plonking placidly along on his spotless 1914 Triumph, puffing peacefully at his pipe with an at-peace-with-all-the-world air, nobody would ever dream that for years he has been nursing a secret sorrow. Yes, we know it sounds incredible, but recently, apparently inspired by our nice kind face and benevolent air, Neil confided to us just what was gnawing at him. (We really are beginning to think we have something that makes people want to unburden themselves to us—we remember once persuading a certain motorcycle factory representative to tearfully admit that the gearboxes on his machines were stinkers

—and if you know the average factory rep., you'll concede that this was no small feat.) Anyway, it seems that what has been niggling at Neil ever since he was first bitten by the V. & V. bug years ago, is that his parents very inconsistently bestowed "Raymond" on him as a second name, whereas for such a dyed-in-the-wool enthusiast at reconstructing old machinery as Neil, "Restorer" should have been the obvious choice. (Friend wife, who is looking over our shoulder as we type this, suggests that the initial of our own middle name—"W"—could appropriately stand for "Wrecker," because according to her we never progress further than pulling old machines to pieces—which is, of course, a libel). Anyway, we duly commiserated with Neil, and then got on to the more cheerful subject of his machines. We think that his 1914 Triumph deserves pride of place, for we should say that there are few, if any, examples of this famous old model in existence which equal Neil's in running and appear-

ance. En route to Hanmer and Ashburton rallies we rode in company with Neil and the old "Trusty" on several occasions, and the characteristic Triumph exhaust note, crisp yet subdued, could have been identified blindfolded. There's no doubt that these old direct belt drive jobs are remembered with affection by hundreds of old-time motorcyclists. Of a later era, yet equally as famous in its day, is Neil's 1921 Indian Scout, which is in the intervals when not being used as a ride-to-work hack, is undergoing the restoration treatment and should finally emerge as a fine specimen of its type. Oldest in the Sutton stable, and also being reconditioned, is a rare specimen in the shape of a 1910 Rex, which when completed should be one of the most interesting veterans in existence. Neil also mentioned that he has still another Triumph somewhere around the place—altogether, a most interesting collection in all and one of which any V. & V. enthusiast could be proud.

NELSON SECTION OF THE CANTERBURY BRANCH

T. D. King

The Nelson section of the Canterbury Branch shows steady progress though the loss of two interesting cars had meant a reduction in our all too meagre numbers of actually mobile vehicles. The Brice Rolls-Royce has gone to Canterbury owners, and recently Charles Scholefield's Scripps-Booth roadster was sold to a prospective member in Blenheim. However, both cars have gone to good homes and aren't lost to the cause. Two film evenings-cum get togethers have been held at the A.A. rooms at which much waffle was talked and information swapped in addition to enjoyment of excellent slides loaned by Dave Barker and Wanganui members.

An invitation was received from Marlborough Branch to support them at their exhibition in conjunction with the Marlborough A. and P. Show. Six vehicles travelled over the hills to Blenheim. John Kings 1915 Douglas motor cycle. Dick Nells very original 1928 Dodge 4 saloon. Charles Scholefield's 1918 Scripps-Booth roadster. Les Roberts 1927 Austin 7 chummy. Andy Beattie's desirable 1927 Vauxhall 20/60 tourer on its first club outing and the writer's 1915 Ford T tourer.

Our hosts extended the hand of hospitality in traditional style and everyone rated the weekend a complete success and certainly to be encouraged. The evening entertainment consisted of a showing by Colin Patchett of that classic "Genevieve." The programme was interrupted at appropriate intervals for the dispensing of libations of the fluid so necessary for the cementing of good relationships. During the evening opportunity was taken by President, Ted Lucas, to present to the writer "Blondie's Garter" for the biggest blue of the meeting, namely, running out of petrol on a circuit of the show ring. (A golden opportunity for the irreverend to offer advice such as "Get a Horse," or "put in a new flint." Most embarrassing.

A little explanation of "Blondie's Garter" may be appropriate at this stage. It, is a most elegant ladies blue garter embellished with a red rose and with an elusive odour of "Evening in Picton" or something. It was obtained by Trevor May on his last excursion to Nelson in his Model T, from a certain Blondie—with whom it is alleged he became entangled—on the pretext of needing it to replace a broken fan belt (some girls are gul-

libe aren't they). Anyhow, it is now for presentation to the member who makes the biggest blue at inter-Marlborough-Nelson outings, so if any of you aspire to the possession of a most intimate item of feminine apparel all you have to do is make a big fool of yourself like I did. Thank you Marlborough Branch for a most enjoyable outing.

Congratulations to John and Mary Hurley who were married recently in Motueka. The Bride of the Year I would say and appropriately the happy couple were conveyed from the church to reception per 1915 Model T Ford.

Ron Gellatly is very busy doing a complete restoration on his fine upright Model T Coupe, away up there in darkest Tadmor. Nigel Price has his hands very full with a brand new baby daughter and the restoration of a 1923 Ford T Tourer with interesting Hassler springs. Lin Mathias of Saxon fame

is still talking about getting started on his Alldays and Onions. I think we'll have to bury it with him. Les Roberts pursues a meticulous restoration of a dignified 1927 Vauxhall 20/60 saloon. Ernie Dawson is making slow progress with his 4 cylinder Essex colonial bodied roadster. Leo Brusewitz is in Auckland at the moment. He hopes to return with his immaculate Chrysler roadster (Walter P.) which was extensively damaged in an accident at Taupo last Xmas and which has been in Auckland ever since undergoing rebuild.

Ivan East's Marion is still restricted to purely local running owing to lack of tyres, 875 x 105. Can anyone help?

Many thanks to Bob Turnbull who assisted me to replace a con rod on the roadside on the return journey from Waiau recently.

Veteran and Vintage Car Club (WAIKATO) INC.

During the last three months, the Waikato Club has been rather more active than in previous winters.

In September, the Matamata Rally, held in connection with the annual Matamata exhibition, attracted 18 cars and included enthusiasts from Auckland and Bay of Plenty Clubs.

Three Aucklanders, Messrs A. B. Secombe (1930 4½ litre Bentley), A. R. Secombe (1924 3 litre Bentley) and E. Gill (1923 20/60 Vauxhall) had made a weekend of it by travelling to Katikati overnight and starting with the Bay of Plenty contingent on the Saturday morning. An observation test was carried out in connection with the morning run, and the winner on points was Barry Cornwall (SS II).

In early October, the Club supported the Melville branch of the Plunket Society in its annual fair, by providing two cars to give rides to children.

On October 15th three members travelled to Taumararui in a gale of wind and rain to take part in the borough Jubilee. The three, Norm Steel (1924 Buick), Roy Hicks (1927 Austin 7) and Ron Death (1928 Ford A) had a comparatively uneventful journey down and a most enjoyable weekend as the guests of the town, though the younger mem-

ber returned part of the way the following day on the end of a tow-rope with a most mysterious absence of sparks.

Members also attended the Auckland Club's "Hunua 100" held on Labour weekend, and Garth Hughes, in Roy Hicks' 1927 Austin 7), and Erny Brown (1923 Standard) tied for sixth place on results.

Roy Hicks had visited Invercargill for the basketball championships and while there showed some of our Rally films to the Southland Club. In return he was loaned the films of the Southland 1956, 1957 and 1959 Rallies, which the Club showed to its members and friends at a general meeting on October 18th. We were very impressed with the quality of the restoration of Southland vehicles and saw a number of makes strange to the North Island.

On November 12th the Club is providing several vehicles in the procession at Huntly for the Huntly Festival, and the week afterwards the Paeroa Rally will be held.

This takes the form of a morning run to Paeroa from Hamilton, Auckland and Tauranga, a parade through the town and a gymkhana, for which several new events have been devised, in the afternoon. A social evening follows, at which the gymkhana results will be announced.

To encourage attendance among its members, the Waikato Club instituted an annual Points Championship two years ago, and all the rallies and outings organised by the Club count towards the yearly total, the winner gaining the Waikato Championship Cup. The 1959 holder is Roy Hicks (1927 Austin 7) but the leaders on points so far this year are the Davison brothers (1930 Essex).

MORRINSVILLE RALLY 1961

The date for the Morrinsville Rally has now been confirmed at Saturday, February 25th and Sunday, February 26th, 1961, and is open to all veteran and vintage car and motorcycle enthusiasts who wish to take part. Regulations are expected to be issued very soon after the New Year holidays and the

one-and-a-half day event includes accommodation at Morrinsville for the Saturday night February 25th.

GOSSIP

The Club welcomes back from the South Island Alan Lake who has been working down there for some time past. A founder member of the Waikato Club, Alan has brought back with him a sleeve-valve Minerva.

Barry Thomas has acquired the ex-Tom Stancliffe 1922 Rolls-Royce and we hope to see both these fine cars gracing our future outings.

Twelve members have returned the hon. secretary's questionnaire signifying their wish to visit Hawkes Bay next Easter for the National Rally, 1961.

WELLINGTON BRANCH NOTES

By A. Dray

Secretary: A. Bruce

Since the last issue we have had two very enjoyable runs, both of which are described further on in this copy.

Our monthly meetings have received an average attendance of about 35 people. The ladies provided the full entertainment at one of these evenings and this proved to be quite a change from the usual run of affairs. A few quizzes were held and questions included knowledge on cooking and home hints. These stumped the majority of the men; meanwhile the ladies were having a great time. Also Mrs Southward showed us some very interesting slides of her recent trip overseas and some thought that a very nice shot of Wellington Harbour was Monte Carlo. A very interesting and most instructive talk was given to us on the Rolls Royce by Mr Craven who recently returned from England after a long absence. He has worked on these cars and attended many of the works courses. It is hoped to have many more evenings similar to this as we should be able to pick up many hints on restoring our cars through these channels. Two car badges have been designed in this branch and it is to be hoped that one of these will be accepted, when plans will be made to run several off.

Charlie Maxwell is still always willing to tell any interested persons that it was his Austin that won the Concourse de Elegance at the Morrinsville Rally.

PICNIC RUN

With minimum organisation and maximum sunshine, the Labour Day picnic rally to picturesque Carter's Bush was a thoroughly enjoyable event. Most cars started from Lower Hutt, crossed the Rimutaka Hill (1820ft) and headed 12 miles north on the lovely flat Wairarapa highway to Carterton where route instructions directed drivers over the final four miles to the bush reserve. There they were met and clocked-in by Rex Porter with his 1907 De Dion Bouton ("Denny"), making its first official appearance. The fifty miles timed run at nominated average speeds, with no intermediate check, certainly caused no headache for the organisers. Picnic lunch and an hour or two of talking, examining, and driving cars proved most enjoyable and a welcome change from the more intensely organised type of event which on occasion appears aimed more at entertaining the public than at providing enjoyment for members. Anyway, sixteen car loads were unanimous in their appreciation of the simple event and are looking forward to a repetition.

ANNUAL HUTT RALLY

Held Saturday, 12th November, once again was lucky with weather; if one can overlook a bit of wind, and saw a splendid muster of cars, including several first appear-

ances. A very tidy Overland 1925, a splendid Humber "Snipe" 1930 Palmerston North, and a typical example of that once popular car on the service car routes, a 1924 Hudson Super Six from Fielding.

In the veteran class, Les Jones in the neat little 1914 Morris Oxford won the time trial, and Charles Maxwell's 1913 Austin

took the concours trophy and also the major prize of the Rally, the Veteran Aggregate. Vintage class trophies: Reg Lee, Morris Cowley 1925, a good performance with the loss of only one point; and Ivan Benge, 1925 Overland, concourse. The Porter De Dion motored from Carterton—non-stop—in two hours.

Southland Notes

By D. W. Jordan

The Vintage Car Club of N.Z. (Inc.) Southland Branch.

Chairman: W. Brown.

Secretary: J. R. Lindsay, 32 Filluel St., Invercargill.

Active restorations seem to be rather few at the moment. The Ford of Lindsay Dawson, Barry Barnes' Peugeot and Willis Brown's Flanders being the only ones I can recall and even these may be some time before completion. However with Dunedin-Brighton in January many of the veteran car owners are busy preparing their machines.

On the 29th of October another run was held to Winton in conjunction with a gala day. Only about seven cars were present, somewhat less than the dozen or so that appeared at Teretonga Park a fortnight previously. The first prize, the annual Rose-bowl was won by Russell Lindsay in his 1916 Dodge. One thing noted about these runs was that vintage cars outnumbered veterans, rather unusual down here.

The November 5th run to Balclutha seemed to be enjoyed by all. It was nice to see the Invercargill cars so well turned out; much better than some of the others. Although not a concours event it is nice to see a well turned out veteran or vintage car. Entries from Invercargill who made the ninety mile trip (one way), were: Barry Lyons 1911 Ford, Ray Lindsay 1916 Ford, Warren Jordan 1925 Morris Cowley, Jim Lawry 1926 Buick, Willis Brown 4½ litre Bentley, Shack Sharp 1928 Chrysler Imperial and Jack Toomey who trailered up his 1914 Humberette.

Plans are now well in hand by club captain Alex Casey for the February Invercargill-Riverton run. This will be up to the usual standard and intending competitors are assured of a good weekend. Either vintage

or veteran vehicles are eligible for the run.

Recent vehicle discoveries seem to be few and far between at present. I have managed to acquire a twin cylinder Humber of around 1908 which although less body, gearbox and wheels, is otherwise complete. It is hoped that restoration will be started shortly. I think if I had seen these remains before joining the club I would have consigned them to the dump, but now it is a priceless treasure and of course quite (I hope) restorable. I also was rather interested in a single cylinder 1902 De Dion which had belonged in the one family since new. Someone had sawn the chassis in half and the bodywork was mostly gone but the owner had done quite an amount of work, although not a club member. Unfortunately the owner wouldn't part with it, but at least it is in good hands and stored under cover.

Another interesting "remains" I was looking at was Jim Lawry's Humber which seems to be about a 1904 model. The motor, a four cylinder, has each cylinder cast separately and is a T head, twin camshaft. This motor was designed by Louis Coatalen before he went to Sunbeams. The radiator is gilled tube and by the look of the chassis it would be rather a large machine. Not enough pieces are there yet for restoration to start but it certainly would be an interesting vehicle. The single spoke steering wheel similar to the modern Citroen and the same as on my own Humber twin goes to prove that there is nothing very "revolutionary" in modern machinery.

Hawkes Bay Notes

By M.M.S.

Sorry that there has not been any news from the Hawkes Bay Branch in the last couple of "Beaded Wheels," but we will endeavour to rectify this in the future.

The main events which were held in Hawkes Bay over the last two or three months were:

The Blossom Festival in which there were eight cars and eight motor cycles participating. This number being very good as a large percentage of vehicles are undergoing extensive restoration for the National Rally next Easter.

Havelock North held a Gala Day in which seven cars and four motor cycles plus a couple of floats made up a small scale procession round the Havelock North area with hopes of attracting a large crowd at the Gala, which it certainly did. The Club's Rolls Royce which was driven by Brian Lawrie was participating in the procession and drew many people's attention as it had originally come from Havelock North before being presented to the Club. Unfortunately only three of the motor cycles finished the procession as Rex Scarrott's Big X blew one of its 23 x 8 tyres out. Apart from that everything went smoothly.

On Labour day our annual run was held it being a gloriously sunny day and an excellent turnout of cars and motor cycles. The run was from the Marine Parade, Napier, via Westshore, Bay View, Seafield and Hedgeley Roads to Eskdale Park. Hedgeley Road, being a narrow, steep and very shingly road, Ken Reiper's Argyll had trouble getting up one of the steep grades and was assisted by children's power. This vehicle was the oldest vehicle on the run, it being 1909. Some of us in the higher powered and more modern cars were a bit concerned at the Argyll having to attempt this particular hill, but it just goes to show that the older cars can still make the grade. This was a very successful day with several events being held at the Park.

Early next year we hope to have our own Clubrooms built, on some land at Awatoto (between Hastings and Napier). This land has very kindly been presented to the Club by one of our members, Alan Loudon.

At the moment there is not much news with regard to the National Rally next Easter, but due to unforeseen delay we have not been able to get the entry forms out, but they will be in the post shortly.

General Notes

Many thanks to all those members who assisted Mr Bailey with his task of publishing September "Beaded Wheels" during my unavoidable absence. I was sorry to hand my task over without warning, but it has at least proved one thing. "Beaded Wheels" can survive without an Editor.

An interesting letter from Globe trotter Rob Gunnell who at the time of writing had reached Stockholm, after a fairly exhausting trip. Rob, wife and 12/50 ("Smokey") Alvis have just about broken all "modern" vintage records by driving from Bombay through the Kyber Pass, Afghanistan, Persia, Greece and on to Sweden. All told 20,000 miles, not quite trouble-free, we gather, but a wonderful performance by "Smokey" over impossible roads. Rob now intends to "cruise" around Southern Europe before heading for England. We are eagerly look-

ing forward to his account of this "Grand Tour."

Would all those unfinancial Club members please note that their subs are well overdue. As from 30th September, those subs are £2, not the usual £1. This scheme has been in operation now for two years and a plea of ignorance simply cannot be accepted unless in the case of very new members. Constant reminders are noticed in circulars and your secretary would be saved a considerable amount of work if unfinancial members would co-operate. At the same time the Club would be saved the unnecessary expense of additional reminders.

The Club extends its deepest sympathy to Reg and Olive Kilbey in the sudden loss of their small son Raphael who was tragically drowned in Napier last week.

R.R. CLUB OUTING

By F. C. Spencer

On Sunday, September 25, five Rolls Royce owners and their families took a run from Wellington to Otaki beach. Their hosts Mr and Mrs G. Banks of Lowry Bay, had prepared a morning tea and luncheon at their Otaki beach cottage, and a good time was had by all. In addition to the host and hostess were some of the foundation members of the Rolls Royce Club of N.Z. as follows: Mr and Mrs F. C. Spencer, chairman (1922 Silver Ghost); Mr and Mrs K. Boosey, secretary (1933 20/25 R.R. saloon) and their two sons; Mr and Mrs Craven, and their son Peter (1933 20/25 h.p.); Mr and Mrs A. G. Kellett (1935 20/25) and Mr and Mrs Banks (1938 Wraith). A birthday cake with a black R.R. badge done with icing (donated by Mrs Craven) was cut by the hosts. This event, and the photographs of the cars, and the various activities during the day, were taken by Mr John Clover, who journeyed up with Mr and Mrs F. Spencer. During the day Mr Clover made a 16mm. picture in Kodachrome, using F. Spencer's 16mm. H16 Paillard Bolex movie camera. This pictorial record is to be duplicated, and a copy for-

warded to the Rolls Royce people. Mr Clover is a professional movie man as well as a candid photographer. An interesting feature was Mr A. G. Kellett's Polaroid camera, which produces a permanent print immediately, that is, in a minute or so of the photograph being taken. Also giving his new Meopta 8 movie camera an airing was Mr J. Craven, and F. Spencer was also shooting with a Paillard Bolex 8mm. Various passers-by, on foot and in cars, also stopped and took pictures of the five Rolls Royces drawn up in line on the lawn. The Club now has 16 paid-up members, and has about 30 members around Wellington to interview to see if they are willing to join. Several are members of the Vintage Car Club of N.Z. already, and most of them will qualify for membership. The executive of the Rolls Royce Club are in favour of their members belonging to the Vintage Club as well, and it is hoped that the newer members will fall into line with this idea. Any R.R. owner wishing to join this Club, and partake of its social runs and various events, can get further information from the chairman, Mr F. C. Spencer, 25 Lorne Street, Wellington.

Correspondence

Dear Madam,—Few of us have the opportunity to come in contact with any of the really fine cars that have been made since 1931, so we warmly welcome the decision to take them under our wings where they will be more widely appreciated and will raise the standard of vintage living.

It has been said that it is hard to define a sports car but not difficult to say if a particular car can be so described. Even then it is not easy for all to agree on a certain car; PVTs are similar on both counts.

"Thoroughbred" can be defined as "bred from the best blood," usually horses' but at present referring to their mechanical successors. Our problem is lessened already, for as vintage enthusiasts, presumably we can agree sufficiently on the animal's pedigree to be able to name the outstanding vintage makes that continued after that period, all of which did so with cars of the highest order, neglecting for the present the adultery of Vauxhall.

Further consideration of the validity of the above definition leads me to think of one or two names that are associated with very advanced cars that barely reached the production stage. That a 1935 Squire is perhaps an exception to the hypothesis is of no consequence, for although often undoubtedly PVTs, white elephants present no problem for general classification. Nearer the borderline though are those early firms that produced excellent but not outstanding vintage cars which paved the way to remarkable machinery of advanced specification—Delahaye and Invicta come to mind. These also don't quite fit the general definition but show that good breeding leads to superb results. The acme of good cross-breeding must surely be the V-12 Lagonda which Bentley helped design.

In a very different class altogether are those firms who in vintage years produced bread and butter cars, which rarely developed into more worthwhile machinery (Triumph's improvement may have been aided

by pioneer use of hydraulic brakes) and never into outstanding motor cars. Stagnation set in for all time with dedication of style and economics from the sales department.

On the border are cars of individual merit which will present the biggest headache to those responsible for final classification. Riley, M.G., Jaguar, Talbot will have to be restricted numerically by considering none but immaculate examples. If a good Riley is admitted, to be consistent a very tattered Hispano-Suiza must be allowed in too, but it is to be hoped that the purist spirit of members will be extended to the later class.

Consideration should also be given to advanced specification by itself. A Speed 25 Alvis could be classed as a thoroughbred almost before taking it on the road, knowing that it has i.f.s. by transverse leaf spring in the best modern racing practice, synchromesh down to first gear—the box having its own oil pump—fully floating rear axle, adjustable shock-absorbers, vacuum servo brakes, centralised chassis lubrication, and so on. Modern cars fail after employing some of these as “new” feature carried out in an economic way via over-simplified design.

Disliking on principle the rigid division of motoring history into periods for purposes of administration—admittedly a necessary procedure in the case of pre-1932 cars—the writer hopes that the PVT class will stand unrestricted in time. Some vintage cars might feel happier classed as thoroughbreds than with their “inexpensive” contemporaries. At the other end of the period is the Aceca-Bristol whose vintage characteristics and fine performance place it among the greatest cars ever built—also among PVTs I hope. If a rigid line of demarcation has to be drawn, let it be based wholly on performance, specification, and/or character rather than a date, then we shall see, among others, Bentleys with more suitable competition.

The following better-known outstanding vintage makes are PVTs which may be considered as being ideal with which to compare others: Alfa-Romeo, Aston Martin, Bentley, Bugatti, Delage, Hispano-Suiza, Lancia, Mercedes-Benz, Minerva, Rolls-Royce and possibly one or two from across the Atlantic. Alvis, Delahaye, Invicta and Lagonda are PVTs with vintage grounding, again to which an American machine or two might be added—the writer admits prejudice on that matter.

These two groups inherently overlap but that is not so important as the latter group's merging into the borderline cases.

Many of us in the past regretted that certain post-vintage cars didn't come under vintage classification, for the word was originally applied to cars of worth above the ordinary and not those made within a definite period. We will now be satisfied, although some will consider that “PV” really stands for “Post-1931” and that PVTs are really vintage cars, in the widest sense of the word.

But it has always been evident that the vintage classification has already been extended far enough (a year more than in England) into the depression, and that we will never satisfy the familiar “Mine'll be a 'vintage' too, in a few years,” from the proud owner of a prize example of the rot of the 'thirties.

Sincerely yours,
MICHAEL ROSE.

(It is opportune to point out that the Club has not included PVTs in the classification for full membership, but Branches are empowered to make provision for them in events.—Ed.)

Dear Madam—Mr Nathan's article in the September issue “Overseas—Mexico City” states that there are no Duesenbergs in New Zealand. This is probably correct but was not always the case.

In Christchurch about 1944-45 there was a Model J Duesenberg Convertible Sedan with pale green body, dark green wings and fawn hood, it was often parked about Montreal and Gloucester Streets in the west end.

I remember this car as well as if I'd seen it yesterday, with its four exhaust stacks sprouting from the right side of the long bonnet. The Model J Duesenbergs were made between 1927 and about 1930 and this car was in mint condition, always immaculately polished. It was reputed to belong to an American wool-buyer, whom I saw once on a hot nor-wester day dressed in a white Palm Beach suit and panama hat. He was a stout little man with dark hair and a tanned face.

Yours faithfully,
H. A. B. NEVINS.

The Editor.

Dear Madam—As an ardent follower of American Classics I should like to make note of the following. Before me I have two Road

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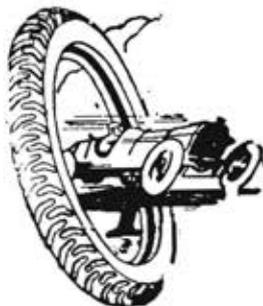


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Tests from "The Motor." 1934 V12 Hispano-Suiza built in France: 9.4 litre 574.6 cu. in. 220 B.H.P. at 3000 R.P.M. REAR AXLE RATIO 2.72 TYRES 700—20 top speed 103 m.p.h 0-60 12 seconds.

1932 Duesenberg S.J. Straight Eight: 420 cu in. 320 B.H.P. at 4200 R.P.M. second gear 104 m.p.h. 0-100 m.p.h. in 17 seconds.

Presuming the V12 is a better car than the 6 and unless Mr Adams is quoting a special racing version it seems the Hispano must look to its laurels with the Duesie locked in second gear.

Signed,

PIECE DE RESISTANCE.

Hamilton.

The Editor.

Dear Madam—I am a bit dubious about criticising Mr Adams in case he similarly applies his magnifying glass to my own articles. However, "Beaded Wheels" should be kept as accurate as possible, so here goes.

The incident of the Cadillac fire-engine gearbox had evidently gained something on the retelling by the time it reached Auckland. "All the gearbox cogs" (Including presumably reverse?) "were stripped and a new gearbox was found and fitted," says Norm. The actual repairs consisted of a made-up spacer in place of second gear, which was the only pinion damaged.

There was also a surprising statement in Norm's road test of the Hispano, when he refers to an alleged contest as a result of a wager, between a Hisso and a Deussenberg (Norm's spelling), which the Hisso is supposed to have won. (The spelling is more likely to be a proofing error, for which my apologies to both Mr Adams and Mr Hendry.—Ed.) I think Norm is confusing the winners of two entirely different contests.

In 1928 a bet was made between the head of the Stutz Co. (F. E. Moscovics) and C. T. Weymann (inventor of the Weymann body) and the result was a 24-hour run at Indianapolis between an 8 litre Hispano and a 4.9 litre Stutz, which, not surprisingly was won by the Hisso.

About three or four years later a somewhat similar contest took place at Muroc Dry Lake, California, as a result of an argument between two Hollywood film stars, Zeppo Marx who owned a supercharged Mercedes

(evidently a 36-220 or a 38-250) and Phil Berg (who had an unblown Duesenberg). Apparently they hired drivers for the occasion.

The Duesie won easily, but Mercedes enthusiasts have never conceded the defeat (putting up excuses about wrong spark plugs) and this leads us to another remarkable statement in the September issue by D. Nathan. He says he saw a "1928 Mercedes SSK" which belonged to Lord Howe and the records it made at Bonneville almost all still stand.

A perusal of the 1950 A.A.A. official record book fails to reveal any Mercedes records at Bonneville, although there are two or three pages of Duesenberg records made by an S.S. roadster fitted with a special body, and modified manifolding and rear axle ratio.

Since they still stand as F.I.M. records (Class B, 5 to 8 litres) they might interest Mr Nathan and Mr Adams and possibly others.

Here are two of them:

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Yours, etc.,

Blenheim.

M. D. HENDRY.

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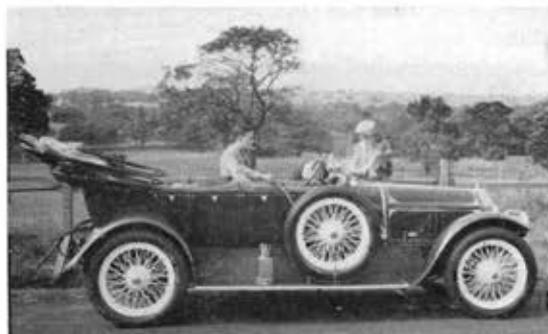
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QUIZ

What it was: The car in September issue was a Scripps Booth, taken somewhere in N.Z. That is the sum total of my information as no one came to light with anything further; consequently once again my bluff has been called. However, I note that we omitted to insert our usual notice of: Send your information into the Editor, 20 Hackthorne Road, Cashmere, Christchurch. I never get answers when I forget that address.



What is it? (This time we do know.)

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WANTED: Three copies March, 1958 "Beaded Wheels." One copy would help. Rex Porter, Anderson's Line, Carterton.

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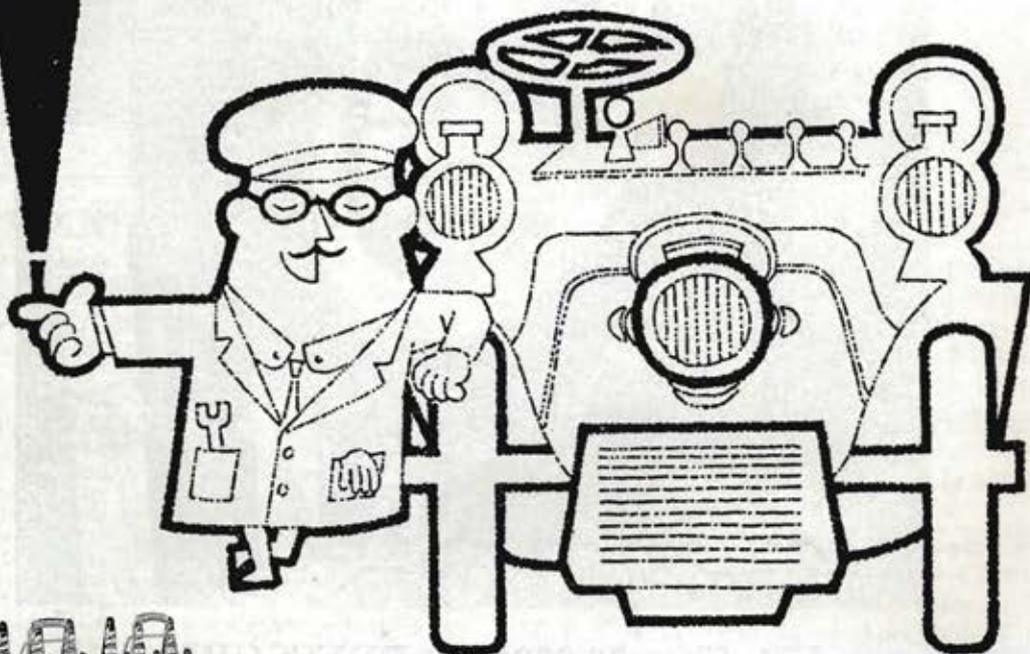


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