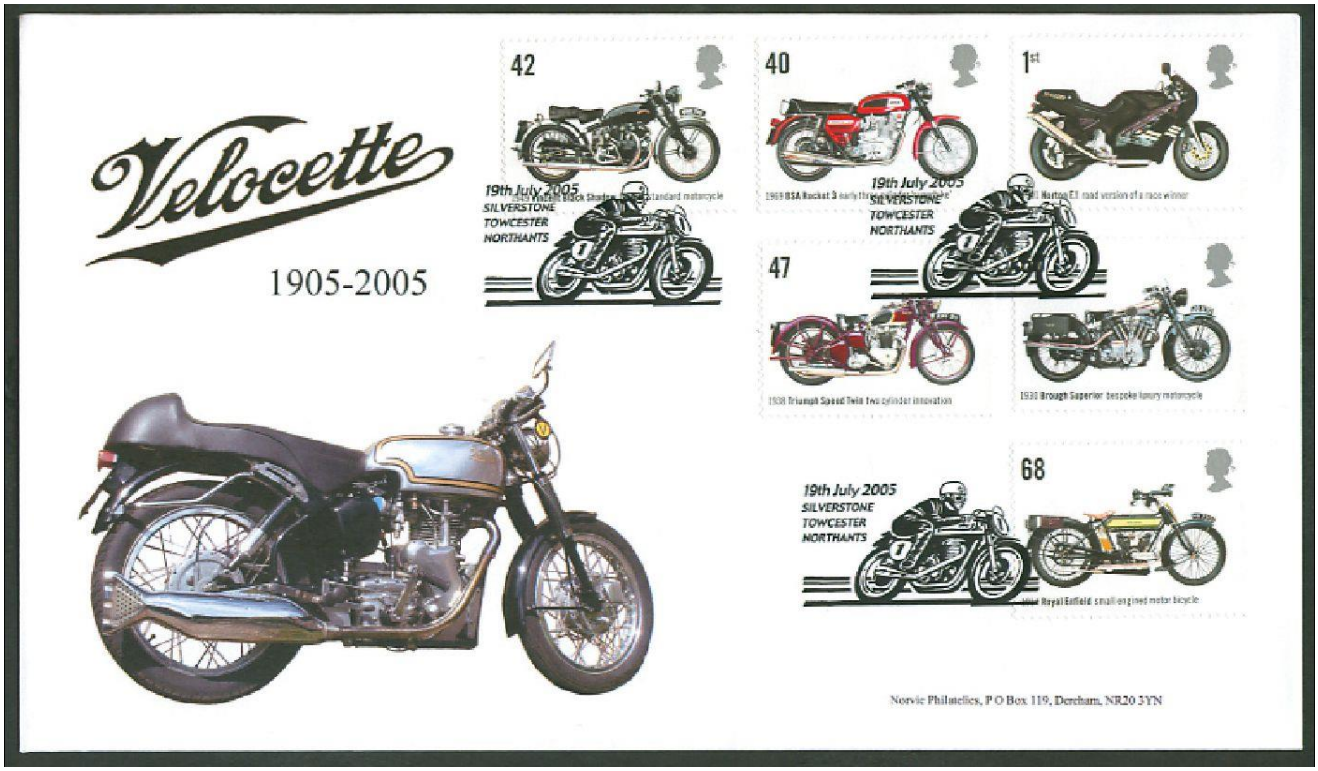
THE VELOCETTE OWNERS CLUB OF SOUTH AFRICA

Velocette motorcycles: a brief history. (Abridged version based on articles taken from “Motor Cycle Sport”, 1969-1970)



The founder, Johannes Gutgemann, immigrated to Britain from Germany at the age of 19 in 1876. He met and married Elizabeth Ore, the daughter of a reputable Shropshire watchmaker, and settled in Birmingham. His first business venture was the takeover of a patent medicine and pill-making firm known as Isaac Taylor and Co. This probably influenced Gutgemann to adopt the name John Taylor. By 1896 the bicycle boom was in full swing and Johannes ventured into the manufacture of bicycles and fittings. He met another cycle maker, William Gue and together they set up Taylor Gue Ltd in Birmingham, where they produced the Hampton bicycle and other cycle parts. The

Company prospered and among its customers for frame parts were the makers of the Ormonde motorcycle, which utilized a Belgian Kelecom engine. Paul Kelecom, designer of the engine (and subsequently designer of the FN four), joined Ormonde to make a new Ormonde Kelecomb, and Taylor Gue made the frames and parts of the engine.

In 1905 Taylor Gue produced their first machine and named it the “Veloce”, (a musical term meaning with great rapidity); perhaps a little extravagant for a rather undistinguished 500cc side valve with direct belt drive. It was not a success and after a few months, the firm of Taylor Gue folded. However, the name “Veloce” was salvaged and Johann started a new company, Veloce Ltd in the same year. It made cycle parts, roller skates and anything that anyone wanted, including rickshaw wheels. In time, sons Percy and Eugene joined the Company and in 1910 began with the revival of the simple 500cc side valve with direct belt drive and the option of a hub gear, but by 1912 they had a new and sophisticated lightweight 250cc in production. The first, all-Veloce engine unit was early proof of the brilliance of Johannes, Percy and Eugene as automotive designers. At a time when direct belt drive from engine shaft to rear wheel was the norm and adequate lubrication was considered to be oil dripped into the crankcase via an adjustable sight feed, the Veloce had two speeds, engaged at will by selective clutches operated by a rocking pedal foot change and positive lubrication. The engine was of the overhead inlet/side exhaust valve layout - this being perhaps best at the time to ensure reliability of the exhaust valve as little was known before World War 1 of alloy steels capable of retaining their strength under near red heat conditions. As war clouds heralded the beginning of WW 1, Johannes Gutgemann alias John Taylor applied to the Home Office to change his name to John Goodman (the English version of Gutgemann) by deed poll, as anyone of German extraction was liable to discrimination. The rest of the family also changed to Goodman in 1917.

In 1913 the Goodmans decided to concentrate on two-strokes for lightweights and launched the Velocette (it meant the diminutive Veloce). Percy had designed and developed a neat little motor with oil carried in a separate but integrally cast sump, fed under pressure from the exhaust system and controlled by an adjustable metering screw which fed via the drilled mainshaft to the phosphor bronze big-end (the first two-stroke with direct oil injection). It was offered in direct belt drive form at a competitive price of 25 guineas and in deluxe form, with a two-speed countershaft gearbox, at 30 guineas. The novel feature of the gearbox, apart from the fact that it was made from cast iron, and clamped to its platform by only one bolt, was that the

final drive was outside the primary sprocket. Here is the root of the design feature which thereafter made every chain drive Velocette different from all other makes. When the war ended, a modified and updated model was re-introduced in 1919 and in 1920 the frame used a dropped top tube and wedge-shaped tank and the “Works” models sported an internal expanding front brake. This brake was designed by Percy Goodman and sold to Webb, the fork manufacturers. It was the beginning of a long and successful business friendship between the two firms.

The 1920 model had significant competition successes. In 1919 Eugene Goodman won a Gold in the A.C.U. Six Days’ Trial and in 1920 a three-man team of Eugene Goodman, Stan Jones and George Denley all won Golds and walked off with the team prize from under the noses of machines of all capacities. This, in Denley’s words, “ put Velocette on the map”. The shape of things to come could also be seen at the 1921 Isle of Man TT. Velocette fielded four two-strokes which were technically ahead of most of their rivals and were to set the pattern for a production range up to 1927. Gone was the old horizontal top tube and box shaped tank, to be replaced by a nicely dropped tube to give a lower riding position and a stylish wedge tank. The engine followed the general construction principles of the original engine, being offset with an overhung crank, but was enlarged to a full 249cc (63x80mm). In a period when belt drive, clutchless, two speed gears and belt-rim brakes were common on racing machines, the 1921 Velocettes stood out from the rest. They had all-chain drive, a three-speed gearbox with clutch and internal expanding brakes on both wheels. It was at this time that the (in)famous Velocette clutch was born. For good engineering and racing reasons Velocette believed in the outboard final drive sprocket and therefore the clutch had to be narrow enough to fit inboard of this sprocket. This design was the basis for all the chain drive Velocettes produced thereafter. Detail improvements and further innovations that were to be passed on to subsequent models were seen when the 1922 race came round. The biggest improvement was in the engine, which now had an aluminium piston, detachable cylinder head and two exhaust ports with separate pipes to the coffee pot silencer. A special experimental engine was used in the 1922 TT. This engine, which was never marketed, had a detachable aluminium-alloy cylinder head and was the forerunner of the G model of 1923.

The model G was considered to be outstanding in design and performance and tuned versions were capable of 70 mph, while touring models turned in fuel consumptions of 150 to 200 mpg. The machine soon established an enviable reputation and it would be no exaggeration to say they were the “Rolls-Royce” of small two-strokes and their excellence and discreet black and gold finish gained them a following of connoisseurs.

However, the sophistication of the model G with its all-chain drive, internal brakes and twin port engine with mechanical lubrication by oil pump put it outside the price range of all but the well-off motorcyclist. A number of cheaper models were introduced, aimed at the lower end of the market which was being overrun by built-up motorcycles using dubious frames from small manufacturers, with proprietary engines such as Villiers, with belt drive or bought in gearboxes.

Of course there was a limit to which Veloce could compromise on price versus quality but nevertheless a model U (for utility) was introduced with a shapely saddle tank, long, twin exhausts with tubular silencers and the first Velocette two-stroke to have a roller big end bearing.
Another facelift followed - this was the USS, meaning Utility Super Sports, which had a larger saddle tank, better Webb forks and two huge exhausts.
It also had a new cylinder barrel with detachable head and the following year these components were to appear on a redesigned bottom end. Together they would later provide a much better machine in the form of the GTP which first appeared in 1929 at the Olympia show with a 3 speed hand change gearbox and a modified engine porting arrangement. In 1934 a 4 speed foot change gearbox was introduced together with further engine modifications and this model continued in production until 1946 when production was stopped in favour of the 4-stroke models which had started production in 1925.

The 4-stroke models.
The Veloce board had noticed the trend towards high perfomance overhead valve bikes which could outperform the 2-strokes and offer better reliability, so in 1924, Percy Goodman was given the task of designing an engine that could keep Velocette in the picture. He came up with a 348cc 74 x 81mm overhead camshaft motor, which in itself was quite novel in those days. The motor also had very narrow flywheels and hence narrow crankcase which gave great rigidity to the crankshaft. This was also done to enable the motor to be accommodated in the existing 2-stroke frame and transmission layout, where the clutch was mounted inboard of the secondary drive chain. The bike was exhibited at the 1924 Olympia motor show and such was the, interest, that two of the first model K's, as it was then known, were entered in the 1925 TT races. Not enough testing had been done however, and although the performance was great, they had lots of minor problems and neither finished. The 1925 TT learning experience resulted in several changes to Percy Goodman's original design, mainly in the cambox design where lubrication was a problem and the 1926 model K showed such promise that Alec Bennett, one of the best TT riders of the day,

offered to ride it in the 1926 Junior on the basis that if he didn't win, there would be no fee. History shows that Bennett won, Gus Kuhn came 5th and Fred Povey 9th. This was a huge step forward for the Velocette racing department and Veloce Ltd. had to seek larger premises to accommodate the orders that were pouring in for an over-the-counter racer. To raise the capital needed, they gave a seat on the board to Harold Willis, son of a wealthy Birmingham butcher and a mean rider in his own right. This was a significant move for Veloce, as it enabled them to purchase the famous Hall Green premises in York road, Birmingham and utilise the as yet unknown skills of Willis as a designer and developer.

1927 was not a good TT year for Velocette, who entered 3 model K's for Bennett, Willis and Fred Longman, with Bennett and Longman retiring with tappet adjuster failures and Willis finishing 6th. However they learnt from the failures and in 1928 it was a 1st and 2nd for Bennett and Willis. Willis, who was something of a joker, gave all sorts of names to the bikes he rode and christened the bike he rode in the TT Roaring Anna. Later in 1928 Roaring Anna was modified to run on petrol-benzol with a 10.5 compression ratio and a 4 1/2 gallon tank. With Willis in the saddle, Roaring Anna took the world record for one hour at 100,39 mph, the first 350 to top 100mph. Roaring Anna has survived and is still around today.

The successes in the TT encouraged Veloce to market an over-the-counter racer for the 1929 season, incorporating most of what they had learnt from the factory model K entries. Thus the first of the famous KTT series was exhibited at the 1928 Olympia show, based on Alec Bennett's 1928 TT winner. Special features included stiffening webs on the outside of the crankcases, steel flywheels, special cams, thicker cylinder base flange, straight through pipe and a 3 speed positive stop foot change gearbox, the first positive stop on a motorcycle. It was designed and developed by Harold Willis. Special braced front forks, designed by Webb for Veloce were also fitted.

The factory entered 3 bikes for the 1929 TT, riders were Bennett, Willis and Freddie Hicks. Among the 5 private entries was Don Hall from South Africa, who obtained one of the first KTT's sold to privateers. Hicks won the race, with Bennett 3rd and Hall 6th. In 1930 and 31 the factory experimented with a 4 speed gearbox and by 1932 this became standard on all KTT's. This box, designed by Percy Goodman, continued through the Velocette range with minor modifications for nearly 40 years.
Veloce caused a bit of a stir in 1932 when Harold Willis turned up for the TT with a supercharger on his KTT entry. Christened Whiffling Clara by Willis because of the sound of air leaking from the pressure chamber when the enginewas stopped, the bike

was a pig to ride. When the throttle was closed, the engine would run on and there was a delay when the throttle was opened again. Willis wisely decided to do more development and rode an ordinary KTT in the race. However with the motor developing 32 bhp, Clara assisted tremendously with further development. She was ridden in the Senior TT that year by a South African, JG Lind, but retired when lying 11th due to carburetion problems. Whiffling Clara was timed at 112 mph in this TT. In 2009, the President of the Velocette Owners Club in the UK, Ivan Rhodes, managed to purchase Whiffling Clara, who was in a very poor state. With the assistance of other VOC members, he has restored this famous racer to its original state and it is now in running condition.

Veloce continued to develop the 350 KTT from racing experience, but were now being pushed by Norton, with Stanley Woods in the saddle and Rudge. In 1933 Norton won, with Velos 4,5,6,7,8,9,10,13,14,15,16 and the team prize. For 1934 the KTT was further upgraded and now, as a Mk 5, had a redesigned frame with better gearbox mounting, bronze head with downdraught inlet port , hairpin valve springs, eccentric rocker spindles for valve clearance adjustment, improved lubrication and better brakes. The revised valve gear enclosure looked a bit like a dog kennel and Willis gave them the name of dog kennel engines. A 500cc engine, bore 81 and stroke 96mm was also built for the 1936 TT. In late 1935, Stanley Woods joined Velocette as leading rider and his skill at developing racing bikes immediately became apparent. The frame geometry was changed and rear springing was fitted to both the 350 and 500 bikes. A double overhead cam was developed for the 350, which Woods rode in the TT. An Oldham coupling failure put him out when leading, however Ted Mellors came third and Ernie Thomas 4th on the double knockers. In the senior TT, Woods on the 500 set fastest lap and was only beaten into 2nd place by Jimmy Guthrie's Norton on the last lap when a misfire slowed him.

At this stage Veloce limited were very busy with the M series pushrod engined bikes, the MOV, MAC and MSS. Being a small family concern, they decided to cut back on development of the racers. The double knocker motor was discontinued and work was focussed on the single knocker engine, which had better torque characteristics at lower revs. The result was the now famous Mk 7 model, with re-designed alloy barrel and head incorporating huge finning. On the works bikes, magnesium was also used for the crankcases and gearbox casings while all bikes had magnesium wheel hubs. Brakes were improved and the whole bike was lighter .The motor could run to 7000rpm without problems. At the same time the sprung frame was further developed and in 1939 put in an appearance as the Mk 8 KTT. The Mk 7 and Mk 8 were hugely

successful in the 350 class and to list the pre-war racing successes here will take too long. It is worth recording however that Woods ran 2nd in the Senior TT in 1937, won the Junior in 1938 and second in the Senior and in his last rides on the island, won the 1939 Junior, his 10th TT win and took 3rd in the Senior.

After the war, Veloce returned to racing with the Mk 8. However, increased competition from Norton and AJS forced them to do some more development and a new twin cam head was designed. The motor proved very successful, but with the girder forks and old frame, the bike was heavier than the opposition. Nevertheless, it was reliable and notched up a long line of successes in the hands of riders such as Les Archer, Ernie Lyons and Bob Foster, who became 350 world champion in 1950. Meanwhile, the venerable single ohc Mk 8 continued to be sold as an over- the-counter racer, incorporating many of the modifications that came from the works machines. The 7R AJS had by now caught up with the Mk 8, and with Veloce pumping money into the development of the LE and the alloy engine for the MAC, KTT production ceased in 1950. The last KTT to leave the factory was number 1090, while the first KTT, no 2, left the factory in 1929. In spite of the racing successes that Veloce had achieved, they remained a small firm without outside financial support and quite unable to match the resources of their competitors, especially as their only inexpensive road machine was the venerable 2-stroke GTP which still sold well, but was being challenged by a variety of cost-competitive 4-stroke powered motorcycles from several well established manufacturers. The road going overhead cam KSS-series was expensive to produce in large numbers so in 1932 a decision was made to design a pushrod 4-stroke motor which would be cheaper to produce and fit this motor to the frames, gearboxes and running gear that had been well proven by the K-series.

At this stage, a young engineer by the name of Charles Udall, joined Veloce. Like most key Velocette men he had come to them because he was a motorcycle enthusiast and started in the repair shop which was the only vacancy available at the time. This turned out to be a blessing in disguise, as it gave him a practical approach to design. Although he had been trained as an engineer, he had to wait until an opportunity presented itself for a better job. One day he heard there was a vacancy in the drawing office and approached Mr. Percy Goodman who asked him whether he could draw. “Yes”, he replied and Goodman said “ Then start on Monday “ One wonders whether Percy Goodman ever thought about the importance of this snap decision. Together with Eugene Goodman, Udall took on the task of designing a cheaper model than the K series ohc machines could ever be. Much of their design and development program was diverted to this end and it was thought the answer lay in a side valve weighing

less than 224 lb (low road tax). Many other manufacturers shared the same view and there was a short lived spate of little side valves made in the early thirties. The Velocette side valve engine was mounted for convenience in a GTP frame but the machine had a dismal performance and so another engine, this time with push rod operated overhead valves was designed by Eugene Goodman and installed in a new cradle frame originally intended for the side valve.

The MOV 250 cc overhead valve engine with 68 x 68 mm bore and stroke was introduced in 1933 and started a completely new line, the M series, which was to become one of the best loved Velocette lines of all time. It used a high camshaft design mooted by Eugene Goodman because he had been impressed with the high camshaft design of the engine of a Riley car. The MOV motor was a push rod design with two camshafts mounted high up in the block and had a hemispherical head. It was a brilliant feature, one that changed the fortunes of the Company and finally succeeded beyond all expectations in its post war guise as the Venom, Viper and Thruxton. The MOV was the first engine to have oil pump lubricated rockers and valve guides and was also the first production model to be fitted with a prop stand and positive stop foot change for the four speed gearbox. Two further features contributed to the success of the M range from 1933 onward. First, the excellence of the timing gears in terms of silence and long life and secondly the equally indestructible qualities of the overhead rockers. The unique feature of the M range timing gear was the use of helical gears of fine pitch, well supported independently of the outer cover by the crankcase wall on one side and a stout steel plate on the other side. The first MOV models produced in 1933 actually had spur gears but these were soon changed for helical gears. The overhead valve rockers were unique with their light, large diameter centres and light arms. The bearing area was unusually large at a time when bushed rockers working on fixed spindles of perhaps ½ inch were considered adequate. The result was that they were quiet and, enjoying pressure lubrication, were virtually everlasting. When asked about this feature, Udall simply replied: “ Rocker design is a case where some people will not take notice of the obvious “. He was not the kind of man who wasted words explaining what should be obvious. Udall, together with his mentors Eugene Goodman, Harold Willis and Percy Goodman had a design philosophy which sought to strike at the root of a problem and disregard the conventional approach.“ We did not believe anything we were told and only half of what we saw “. The result was that the MOV Velocette of 1933 was a complete success mechanically, but two-fifties were still frowned on as being miniatures. How about a three-fifty on the same lines?

Udall looked at stretching an MOV by lengthening the barrel and con rod to give a stroke of 96mm and the 350 cc MAC was born in 1934.

The result was a charming machine with light weight, bags of bottom end power and the characteristic M type silence and longevity. Like many good things in the motorcycle world, the MAC was born out of expediency rather than design. No one, of course, ever thought of racing the push rod models - it just was not done, except in Australia, where a tuner got an MOV to do over 100 mph, a claim which Hall Green frankly disbelieved at the time. After the commercial success of the small push rod models and the vindication of the high camshaft engine and its light weight valve gear, a five hundred version was an obvious step to widen the range. This time the basic design and general construction was retained. The third M type engine of 500 cc had an 81 x 96 mm bore and stroke and was designated the MSS. It was introduced to the market in 1935 and made use of the same frame, wheels and gearbox used on the KTS 350 cc ohc model produced from 1936. The MSS was not seen as a high performance sports machine but as a refined medium performance model for solo or sidecar use.“ I wanted a sweet, smooth, flexible machine. If I liked it, I felt sure others would also “, said Udall. The first experimental MSS was rather inflexible. An engine-shaft shock absorber helped, but it was still necessary for the rider to manipulate the ignition control lever intelligently. “Automatic ignition control was universal on cars, so I went to see Mr. Griffiths of B.T.H. and they designed the first auto ignition control for a motorcycle “ said Udall. The resultant MSS was a smooth, flexible mount which pleased countless motorcyclists who found a new experience in the docility of a low compression side valve allied with the top end performance of a contemporary overhead valve motor.

Around this point in the Velocette history, Eugene Goodman’s son, Peter, comes on the scene. After leaving school, Peter was apprenticed to Alfred Herbert, the Coventry engineers and soon began to nag his father for a motorcycle with a bit of steam. Eugene came up with an intriguing “one off” – typical of the specials which emerged from Hall Green. It was a tuned MSS engine with bronze head fitted in a KTT ex racing frame and known as the “Little Rough ‘un “. By all accounts this MSS – KTT special was quite a bike and with its 90 m.p.h. “sitting up” maximum, gave Peter a good grounding in high speed motorcycling. It could certainly move as Austin Munks demonstrated by winning the 1936 Manx GP on it. Peter Goodman was showing his talent as a racer and so his father provided a KTT which was prepared and tuned by the repair shop because the race shop was too busy. Peter did well on this bike when he beat the Velocette team of Woods and Mellor at the Dunlop International. With the

outbreak of WW 2, Peter joined the RAF and war work became top priority for Veloce, who started producing components for the Air Ministry. It was a task for which Eugene Goodman as production engineer was particularly well equipped. The years following were long, hard ones and not always rewarding financially. Motor cycle manufacture continued at a lower level through the production of a militarized version of the MAC, designated MAF, to which a number of practical additions were made. The engine and gearbox were unaltered save for the use of cast iron timing covers and gearbox end plates while a massive cradle lug was built into the frame to form a crankcase shield and rubber bump stops were fitted to the front forks. A new and very simple foot change pedal linkage was devised together with a folding kick start lever and instructions for clutch adjustment were written on the elaborate fully enclosed rear chain case. A total of some 5000 MAF models were made, most going to the RAF.

The logistics of resuming a normal production schedule for motorcycles after the War proved to be very difficult given the shortages of materials. Nevertheless, post war production was resumed during 1946 with a batch of 200 GTP two strokes, presumably assembled from mostly pre-war parts. These were the last of the two stroke line and all were exported. Thereafter the pre-war range of MOV, MAC, KSS and MSS was re-introduced and again these were manufactured in batches. The KSS was discontinued in October 1947. During the same year road racing resumed in Britain and Bertie Goodman took charge of the racing section while his cousin, Peter, understudied his father, Eugene, in production. The manufacture of models MOV, MAC and MSS with Dowty air-sprung telescopic forks continued in 1948 but production of MOV and MSS was halted in September, presumably to create capacity for the LE 150 horizontally opposed water-cooled side valve model which was exhibited at Earls Court in November. During the following year only the LE and MAC were produced but 1950 saw a number of changes made to these models. Engine capacity of the LE 150 was increased to 192 c.c. and major changes were made to the MAC which had been unchanged since its introduction in 1934.

These included telescopic forks of conventional design and Velocette manufacture, replacing the Dowty units on export models only at first. From July, the MAC was given a new, light alloy cylinder head with fully enclosed valve mechanism and an alloy jacketed cylinder. The cylinder head incorporated a deep, integral rocker box and the rockers, mounted in split alloy housings, were bolted to pillars rising up from the floor of the rocker box. Oil under pressure was fed to a gallery running across the rocker box cover from where it emerged to feed the two rockers. Orthodox double

helical valve springs, located by split cotters were employed. The object was not to raise engine performance so much as to modernize the unit by utilizing contemporary alloy casting techniques which Veloce had pioneered in the Mk2 KSS and later KTT models. The spring frame MAC was introduced at the Earls Court Show of 1952, although the rigid version remained in production until 1954, being preferred by American customers. The spring frame was based geometrically on the Mark 8 KTT's which it closely followed ahead of the swinging fork pivot, and the characteristic taper tube rear fork clamped to a cross shaft operating in plain bushes was virtually identical to the racer's layout.

To retain the advantages of the patented adjustable springing (the 1938 P.E. Irving and Veloce Ltd patent) and to provide a low riding position either by saddle or twin seat, the seat stays were swept down from the seat lug as on a rigid frame and then curved back to the lower cradle tubes. The pressings providing the curved slots for the adjustable spring mounting, were welded to the loop stays. This frame (designated the RS), was used on all the singles, including the Thruxton and can truly be said to have stood the test of time. The next milestone in Velocette history, and one which was to have far more significance than first appeared, was the redesign of the 500 c.c. MSS in 1953, resulting in a pleasant surprise at the November Show of a 500 c.c. all alloy engine in the pivoted-fork frame of the MAC. The new engine, designed by Charles Udall, embodied all that was best in the old designs plus the advantages of modern materials and technology. The crankcase remained virtually unchanged, as was the timing gear with its train of fine pitch helical gears leading to a cam wheel placed high and above the cylinder base flange, which had earned an enviable reputation for silence and longevity. The taper roller bearings supporting the flywheel assembly in the crankcase were unconventional but had been used with success in the later post war long stroke MSS engines. The use of taper rollers with a calculated pre-load was an unexpected application in a motorcycle engine though normal practice in heavily stressed car back axle differential units. The reason for their use in the Velocette engine was that, size for size, they had a higher load carrying capacity, were more able to withstand out-of-line deflections - inevitable with a flywheel assembly, better able to cope with end thrust generated by the helical timing pinion and with the final bonus that they could be given a pre-load which would eliminate play in the assembly over long periods.

One factor which formed a sound basis for future development was the detail improvement of the flywheel assembly. For the first time the crank pin was a press fit in the flywheels, a slow taper being employed so that the pin could be entered in the

wheels and then pressed up to the shoulder of the big end track. This greatly strengthened the assembly, for the flywheel bosses no longer had to be counter bored to make room for nuts. Careful thought had gone into the big end too – long and thick needle rollers utilized almost all the bearing surface of the crankpin, the cage being set into grooves in the steel flywheel cheeks so as not to waste any of the big - end bearing surface. Finally the oil was led out of a hole on the “inside” of the crank pin, so that oil would be centrifuged through the bearing and not out of it. The alloy head was machined flat above the top fin, leaving pockets for the valve springs. The pockets were now shallow troughs for hairpin springs, based on KTT experience to obtain the required strength with low overall height, and the valves were allowed to rotate, another lesson from KTT. A separate cam box was bolted down to a flat surface on the head. Softer cams than on the iron engine were employed in the interests of torque, fuel economy and silence though the power output was restored by using cam followers with a longer pad of greater radius which increased the effective opening period. The most obvious change in the new engine was the abandonment of the traditional long stroke in favour of a square 86 x 86 mm ratio. As announced in 1953, the engine turned out 23 b.h.p. with air filter on a compression ratio of 6,8 :1. Experience in America in up-rating the performance of the MSS for cross country work and marketing it in scrambler form showed that simple tuning, raising the compression, fitting a larger carburettor with consequent increase in port and valve size, produced a potent machine with a 100m.p.h. potential. Production of a super sports roadster therefore became an obvious move.

Appropriately named the Venom, it was introduced in December 1955. Alongside the Venom, a 350 version, the Viper, was developed. This was in no way related to the alloy MAC but was a small bore edition of the Venom and shared its cycle parts. In fact, the bottom ends of the two engines are identical and in order that a common crankcase be utilised, a loose collar was used to make up the difference between the size of the 350 barrel and the 500 version. The heads differ only in respect of hemisphere and port sizes. With a bore and stroke ratio of 72 X 86 mm, the Viper responded even better to the tuning technique, producing 27 b.h.p. at 7000 r.p.m. The Venom in road trim was good for 100 mph and the Viper for 90 mph and they opened a new chapter in Velocette history. In the final assessment, the redesigned MSS, developed through Venom and Thruxton stages and partnered by its little brother, the Viper, has gone down in history as a worthy successor to the immortal Percy Goodman “cammy” and the all- conquering Mark 8 KTT. With the Venom and Viper well in production, Velocette sprang a real surprise at the 1956 Earls Court Show by introducing the shaft driven transverse flat twin ohv 192 cc Valiant. This was a typical

Hall Green attempt to meet the growing demand for an under 250 cc sports machine, without a rehash of the old MOV single, which in fact the trade had asked for. In retrospect, perhaps this might have been a more successful commercial venture. For its time the Valiant was a sophisticated design which armchair designers had favoured since the demise of the 1920 transverse ABC and connoisseurs have revered in BMW guise. In all respects, save noise emission, the Valiant was regarded as a miniature BMW. Such an advanced layout would have been out of the question for most manufacturers because the tooling cost would have been prohibitive but it was within the bounds of possibility for Veloce who had the foundation in the LE. A duplex-cradle tubular frame was required to suit the existing LE forks and transmission and the gearbox was modified by adding an extra gear cluster and positive stop-operated rotary cam plate selector mechanism was added. For the engine, air cooled ohv barrels and heads were required along with a heavier crankshaft.

When the Valiant was first announced, a single Amal Monobloc carburettor was fitted, completely enclosed in a rather futuristic pressed steel or glass-fibre nacelle above the crankcase with the hooter grille set in the nose. Soon after it went into production, two carburettors were mounted direct on the cylinder heads with a balance pipe between them. On the road, the Valiant lived up to expectations. It was very smooth when revving, so smooth that the makers had to stipulate a limit of 7000 rpm in the gears because it was all too easy to let it buzz on and on. Steering, braking and suspension were of the race bred order expected of a Velocette. It was difficult to realize that the engine was under 200 c.c. for with its 70 mph maximum and 60 mph cruise, it behaved more like a 250. Altogether a delightful machine which never received the credit it deserved because so few were sold, mainly because the price of 200 pounds in 1957 could not compete with a 197cc Francis Barnett for 160 pounds and a 199cc Triumph Tiger Cub at 143 pounds. Throughout the history of motorcycle record breaking, there have always been natural landmarks of time and distance. The most significant of these have always been associated with the magic 100 mph figure – the first machines to do 100 mph briefly in various capacity classes. Then the first machines to average 100 mph for longer periods, the classic hour, 12 hour and 24 hours.

The immortal ohc K-series Velocettes had carved their niche in the list of century breakers as long ago as 1928 when Harold Willis, Veloce director, designer, tuner and rider, had lifted the 350 c.c. hour record to 100,39 mph and the record breaking sortie of that year had ended with the hour, 100 mile and 1000 mile records standing to a Velocette. And so the firm could proudly advertise “ The Fastest 350 in the World “.

These achievements were obtained on slightly modified though highly tuned production machines for the reason that in those days, most manufacturers, and Veloce Ltd. in particular, raced what they sold and sold what they raced. The gap between production roadsters and grand prix racers had not opened out to a chasm but gradually record breaking became a specialized publicity seeking enterprise for which only modified grand prix or “one off” machines were suitable. Against this background, it seemed unlikely, in the 50s or 60s, that any worthwhile speed record, and certainly a record with magic “ton” status, would ever be taken again by a modified roadster, let alone an “old fashioned” single cylinder.

It was therefore almost beyond belief when a 500 c.c. Velocette Venom, virtually the same as any private owner could buy and so modify, proceeded to take the world 12 hour and 24 hour records for all classes at the banked and oval Montlhery track in March 1961. The fact that the Velo took the 24 hour record for a 500 c.c. at 100,03 mph is a continuing tribute to the magnitude of its achievement in 1961. The machine was a rather second hand development motorcycle, a prototype of the subsequent Venom Clubman Vee Line. The engine had been bench tested and track tested at MIRA for 1400 miles at over 100 mph the preceding August, but had not been dismantled afterwards. It was not, in fact, dismantled again until the record had been taken and when finally stripped for measurement, was found to be in perfect condition. It ran on 94 octane Esso fuel because 100 octane was not then available in France. The oil was a 20/40 multi-grade mineral and was not changed during the run. The attempt at the record stemmed from an approach by Frenchman George Monneret to Veloce. In Bertie Goodman he found an enthusiastic supporter for the rather surprising suggestion that world records could be taken with a near standard roadster single. The idea appealed to Bertie because it was in the old Velocette tradition of co-operation between private runners and the factory. At first Bertie did not show much enthusiasm for breaking the 24 hour record as it stood at only about 85 mph, however, when it had been raised to 96,42 m.p.h. by a French team on a 500 c.c. BMW, he thought it would be worthwhile to top the 100 m.p.h. mark. A big factor in the final success was the contribution of the Avon “Vee Line” dolphin fairing. This was evolved by modifying a touring Avon fairing which added the best part of 10 mph to the speed and also gave the riders valuable protection.

The machine was developed to the point where it could bomb around a track seemingly for ever at well over 100 mph, bomb is the right word for the one concession made towards speed by the Montlhery regulations was freedom to use any type of exhaust system. Veloce used a KTT type megaphone with a 4¼ inch mouth.

With an Amal GP carburettor and a 34 inch exhaust pipe, the valve timing was set at that for the Mark 8 racing Velo. Seven experienced oval track riders were used together with Bertie Goodman himself, who was Veloce sales director, making eight in all. The daytime run, starting at just after 8 a.m., went gone off well, the Velo lapping in various hands at 110 to 112 mph., the average remaining at over 105 mph, despite changes of rider and a rear tyre. When darkness fell, riders Alain Dagan and Pierre Monneret kept up the schedule and the 12 hour record was taken at 104,66 m.p.h. – the previous being 102,3 m.p.h., set up by Fergus Anderson and Bill Lomas on a 350 c.c. Moto Guzzi in 1955.

Both tyres and the rear chain were changed before Bruce Main Smith set out on the night run with the track illuminated by car headlamps. This lighting caused hypnotic conditions and the riders were slowed down to such an extent that the 24 hour record was in jeopardy. However, Pierre Monneret, Bruce Main-Smith and Bertie Goodman restored the situation through the night and held out until dawn to complete the 24 hours at an overall average speed of 100,05 mph. In July 1963 an attempt was made using a Viper, on the 350 c.c. long distance records at the same venue with Bertie Goodman again as a member of the riding team. Regrettably ignition problems intervened after 6 hours, at which time the average speed was just over 105 mph and with no hope of achieving the 12 and 24 hour targets, the attempt was abandoned. During the years that followed production of Valiant, MSS, Viper and Venom continued with Clubman versions being added to the two last named models. In 1963, a high performance version of the Venom, developed by Veloce together with inputs from several riders and tuners who had successfully raced Venoms (including Rhodesian Alan Harris), was produced and aptly named the Thruxton, given the success of racing Venoms on the Thruxton race track. The public's first glimpse of this amazing high performance machine was at the 1964 Earls Court Show which drew great interest. Only 1108 of these fine machines were produced, the last leaving the assembly line during 1970.

The economic constraints of the late 60's forced Veloce to consider other motorcycling markets in order to boost sales. One such market was the scooter boom and Veloce decided to produce a machine that would appeal to the everyman who also needed a commuter. In spite of the expensive lessons learned from the production of the LE, a technically advanced 2-stroke flat twin shaft driven scooter named the Viceroy was designed and produced. Sadly, it proved to be a failure, not because of any technical issue, but it was too far ahead of its time. With a powerful, smooth and silent motor, larger wheels with good brakes and bodywork that provided adequate

weather protection, it proved to be too expensive at the time and very few were sold. Perhaps it would have been a sensation 10 years later when scooter enthusiasts were looking for better performance, braking and road holding. This then, was the end for Veloce Limited and the company was forced into liquidation in 1971, the assets being purchased by Matt Holder who renamed the company “The Velocette Motorcycle Company”. It is currently still operational in Coventry.