

VINTAGE MOTORCYCLE NEWS

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Velocette
Motorbikes



VINTAGE MOTORCYCLE NEWS
VMN

A motorcycle publication
for the vintage enthusiast.



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COVER PAGE

Velocette
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Notice

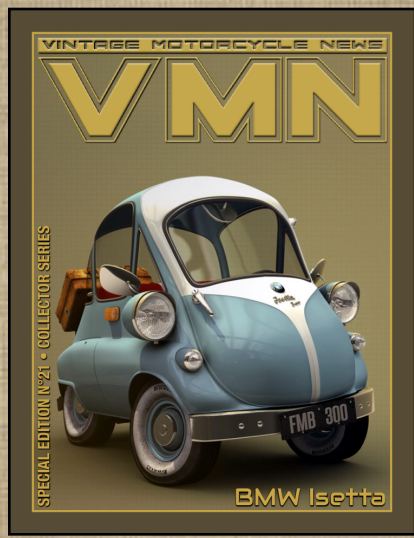
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NEXT EDITION

BMW built over 161,000 examples of the Isetta, the small cheap "bubble car" helped the country get back on its feet after WWII when money, fuel, and materials were in short supply.



FROM THE EDITOR'S DESK



When you think you are in control of your life... You are not! When it is not your professional life or private life, it is your retirement plan that goes haywire and suddenly you become that nutcase trying to pick up all the pieces that fell apart. Life sucks sometimes... Well, I am in that phase where I have to juggle the odds to be back on my feet. So sorry for the delay in releasing this newsletter

What I like about my age is that I was lucky enough to be born at the time when motorbikes meant something.

In those days, those two wheel machines were not a fashion statement like today. They were part of your day to day lives, mainly used to commute between your work and your home.

They were not flashy and reliable, actually you had to have some serious mechanical knowledge to use them. Often you were stranded on the side of the road and had to fix whatever problem happened, by yourself.

The motorcycle community was also quite friendly and would often stop to give you a hand and put you back on your wheels.

A friendly gesture became common practice between riders. You would gently raise your hand enough for the other rider to see it and he would do the same in return. It did not matter the size of your engine or the name on the badge of the bike, riders were just part of a big fraternity. Today it is a different story. The old geezers like me still wave at other riders whilst the new generation does not.

Velocette bikes in my days were fancy motorcycles and more expensive than the traditional BSA or Triumph. I do not recall seen a lot of them in Northern France where I grew up. Of course we knew the name and we could read about their many racing exploits in the specialized press, but that was it.

The Velocette name had some kind of mystic around it. They were fast, beautiful machines, that command a high resale value in today's classic motorcycle market. The Velocette and several other great British motorcycle companies went out of business as a result of cheaper but dependable motorcycles from Japan flooding the world market in the 60s and 70s.

Till next time... Ed.

Tire Valve Caps
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Velocette Motorcycle History



Velocette is a line of motorcycles made by Veloce Ltd, in Hall Green, Birmingham, England. One of several motorcycle manufacturers in Birmingham, Velocette was a small, family-owned firm, selling almost as many hand-built motorcycles during its lifetime, as the mass-produced machines of the giant BSA and Norton concerns.

Renowned for the quality of its products, the company was "always in the picture" in international motorcycle racing, from the mid-1920s through the 1950s, culminating in two World Championship titles (1949–1950 350 cc) and its legendary and still-unbeaten (for single-cylinder, 500 cc machines) 24 hours at over 100 mph (161 km/h) record. Veloce, while small, was a great technical innovator and many of its patented designs are commonplace on motorcycles today, including the positive-stop foot shift and swinging arm rear suspension with hydraulic dampers. The business suffered a gradual commercial decline during the late 1960s, eventually closing in February 1971.

Foundation

The company had its origins as "Taylor, Gue Co Ltd" founded in 1896 by John Goodman (born Johannes Gütgemann and later known as John Taylor before formally changing his name to

Johann Goodman) and William Gue, which initially made cycle frames and parts, but later made the frames for the Ormonde Motorcycle. In January 1904 they were working on a tri-car powered by a 3.5 HP water-cooled four-stroke engine, with 2-speed gearbox and novel clutch system. In 1904 Ormonde merged with the engine maker Kelecombe, and when this company failed Taylor Gue bought the assets, and in 1905 built their first motorcycle, the Veloce.

Later that year, John Taylor set up Veloce Limited, to produce cycles and related products and services, and business continued for several years producing Veloce Cycles, but with his sons Percy and Eugene he investigated the use of engines as the Veloce Motor Company and produced the V.M.C motorcycle in 1910, this had a 500cc side-valve engine with direct belt-drive and the option of a hub gear. In 1912 New Veloce Motors Ltd was formed, with J. Taylor and P.J. Taylor as shareholders, registered at Veloce Works, Spring Hill, Birmingham. This company may have been to separate the risks of venturing into motorcycle manufacture from the rest of the business, but New Veloce Motors was wound up during WW1.

Veloce Motorcycles

The original Veloce was produced for a very short time in 1905 by Taylor Gue Ltd after acquiring the assets of Ormonde and Kelecombe (possibly because Taylor Gue had not been paid for their work on cycleparts for Ormonde).

It was in 1910 that Veloce Motor Company launched the V.M.C. motorcycle, with a 3.5HP (500cc) side-valve engine (85mm bore and 88mm stroke). Transmission was by belt-drive with the option of an Armstrong 3-speed hub gear.

In 1912 they added a smaller motorcycle, which was exhibited at the Olympia show alongside their larger model on a joint stand with Wilton Cycle Co (sidecar manufactureres). The new lightweight model had an inlet over exhaust valve arrangement, which was unusually at the front of the engine with the inlet valve being mechanically operated. The show report listed the bore and stroke as 70mm by 76mm, with pump fed oil lubrication and an outside flywheel. The two speed transmission on the smaller model was integral with the engine, an early example of unit construction patented by Percy Taylor under UK Patent 24499 in 1910. A version of this machine (enlarged to 76mm bore) was entered in the 1913 T.T. with Cyril Pullin as rider, but an oil leak caused a poor performance due to the oil getting on the belt drive.

In 1913 Veloce again exhibited their motorcycles on the Wilton Cycle and Motor Co stand, the Veloce models continued alongside the new Velocette 2-stroke. A larger version of the lightweight Veloce 4-stroke rated 2.75HP used 76mm bore (like the previous year's T.T. model) was shown as ladies and gents models, the ladies model having a dropped frame and extra engine covers. The larger 500cc Veloce continued unchanged.

The success of the Velocette model that followed was such that when

in 1925 the overhead camshaft 350 was launched under the name Veloce - the dealers protested, and the name Velocette was henceforth used for all the motorcycles.

Velocette two-strokes

The first two-stroke, built in 1913, was called a Velocette. When The 'K' series reverted to Veloce, the buying public overlooked them, having become used to the Velocette name and associating it with quality products. The Velocette name was reprised, and used for all subsequent models. Between 1913 and 1925, Veloce produced expensive, high-quality two-stroke motorcycles of (nominally) 250 cc, which gained an excellent reputation and were entered in competitions such as the Isle of Man TT, with some success. The single-cylinder machines had many advanced features, such as a throttle-controlled oil pump, which set them apart from other manufacturers' products. (The introduction of this device was claimed erroneously, much later, by Suzuki). The factory gradually developed this machine from the "A" series and variants (A, AC2 - coil ignition, two-speed gearbox, AC3 - three-speed gearbox, etc.), then the "H" series, the model U and variants, culminating in the model GTP in 1930, which was produced until 1946. The GTP was a reliable lightweight motorcycle with good steering and power delivery.

Velocette 'K' series

In the early 1920s, Veloce realized that in order to grow as a company, it needed a new machine of advanced specification and developed an overhead camshaft (OHC) 350 cc engine, which became known as the 'K' series,

introduced in 1925. After a year of teething troubles with this new design, Veloce entered slightly modified 'K' models into racing events such as the Isle of Man TT and Brooklands races, and the reliability and sweet running qualities of their new engine led to a long string of racing successes, and the introduction of a production racing model, the KTT, built between 1928 and 1949. The 1929 KTT was the first production motorcycle to feature positive-stop, foot-actuated gearchange. The roadster models developed from this initial model K were the Velocette KSS (super sports), KTS (touring sports), KTP (twin exhaust ports), KN (normal), and a few variations. A notable change in engine design was introduced in 1935, the 'KSS Mk2' with a fully enclosed aluminium cylinder head. The OHC engine series continued for roadsters until 1948, when the final KSS Mk.2 versions were produced, with rigid frames and Dowty air-sprung telescopic forks. Accurate valve timing was accomplished through the pioneering use of stroboscopic lamps. The 'K' series showed an excellent turn of speed and reliability and soon the factory developed racing models to compete in the Isle of Man TT.

Velocette 'M' series

The K series was expensive to produce, requiring selective hand assembly of the shaft-and-bevel camshaft drive; it was determined that a simpler OHV design would be quicker to build and require less skilled labour to assemble and so the company decided to introduce a new line of overhead valve (OHV) machines, in order to cut production costs and make a more affordable motorcycle. The first of

these new machines, in 1933, was the MOV, using a 250 cc engine of 'square' dimensions (68 mm bore and 68 mm stroke). It was an immediate sales success, having lively performance for the time (78 mph or 126 km/h), and proved a reliable machine with excellent road manners. From this machine, by lengthening the stroke of the crankshaft, the Velocette MAC 350 cc was introduced in 1934. It proved even more popular than the MOV, and became a real money spinner for the company, bringing much needed capital into the firm. In 1935 an entirely new machine was introduced, based on the two previous OHV models, the Velocette MSS of 500 cc. A new, heavier frame was fitted, with the intention that the machine could serve as a sidecar hauler. This new frame was developed from the MkV KTT racing machine, and was shared with the KSS MkII of 1936-1948. The MSS also proved very popular and profitable for Veloce. A 350 cc version of the MOV was the basis for the company's World War II military motorcycles.

Post war

After the Second World War, the company sought to capture what it saw as a developing need for personal transport and created the LE model (for "Little Engine"). This was a 149 cc water-cooled flat-twin with side valves, a pressed steel frame, telescopic forks and a swingarm. Velocette's Director, Eugene Goodman, planned an innovative and radical design that would appeal to a new market that needed cheap, clean and reliable transport. Designer Charles Udall developed the Velocette LE as a "conceived-as-a-whole" design, with engine, gearbox, drive shaft and

bevel box in a single unit to do a specific job. It was sophisticated and expensive. It proved less successful than the firm had hoped and, although it became Veloce's best selling model ever, the high tooling costs for this all-new machine were barely recouped.

It did see widespread adoption by British police forces for urban patrol. At the time Metropolitan Police Officers on foot patrol were required to salute inspectors. With the introduction of the motorcycle patrols this became dangerous, requiring the officer to take his hand off the handle bars, and so the rider was to allowed to show his respect with a smart nod. It has been suggested that this is how Velocette LEs became known as "Noddy Bikes". However, Noddy (the popular cartoon character created by British children's author Enid Blyton) who famously had frequent run-ins with the Policeman Mr. Plod, is also credited with being the origin.

The market for sporting machines was still strong, and Velocette continued to produce the 348cc KTT for racing. At the 1947 Isle of Man TT the company won the first four places in the Junior race. In 1949 they were the first FIM 350cc World Champions, a feat which they repeated in 1950. In 1967 Neil Kelly won the first Isle of Man Production TT in the 500cc class on a Velocette Thruxton, with another Thruxton in second place.

Later models

The 1954 499 cc Velocette MSS proved a successful export to the American desert racing scene, prompting the development of scrambler and enduro versions of the bike, the 349 cc Viper and 499 cc Venom, both introduced in

1956. A 1958 review in *The Motor Cycle*, an English weekly paper, called the Viper "a remarkably fine motorcycle, all round performance well above the average" and declared it capable of speeds over 90 mph (144.84 km/h). In 1961 a Velocette Venom became the first motorcycle to cover over 2,400 miles (3,900 km) in a 24-hour period, at the banked, oval, Montlhery circuit in France with a team of eight riders including Veloce director Bertie Goodman and 'MotorCycling' staff writer Bruce Main-Smith, averaging 100.05 mph (161.01 km/h).

This record for up to 500cc capacity machines still stands to the present day. The machine still exists; although badly damaged in the disastrous fire at the National Motorcycle Museum in Birmingham, it was restored by Velocette Owners Club president Ivan Rhodes with assistance from club members.

In 1960, Velocette introduced the Viceroy, a very unusual 250 cc opposed twin two-stroke scooter. Unique to the Viceroy was the front-mounted twin-cylinder engine, and the fuel tank mounted under the front legshield. The engine itself was extremely compact, and connected to the rear-mounted clutch and transmission by a drive shaft from the engine-mounted flywheel. With electric start, 12-volt electrics, a very low centre of gravity, power over 15 hp (11 kW) and a reported comfortable cruising speed of 65 mph (105 km/h), performance, handling and features of the Viceroy were first class. The scooter came as market forces and rider preferences were changing, and the Viceroy was not a sales success. The late 1960s were the last years of

production for Velocette motorcycles, production for the Velocette Viper and Vogue ending in 1968, "Special", Scrambler and Endurance in 1969, and MSS Venom and Velocette Thruxton in 1970. Veloce Ltd. closed in February 1971.

Commercial failure

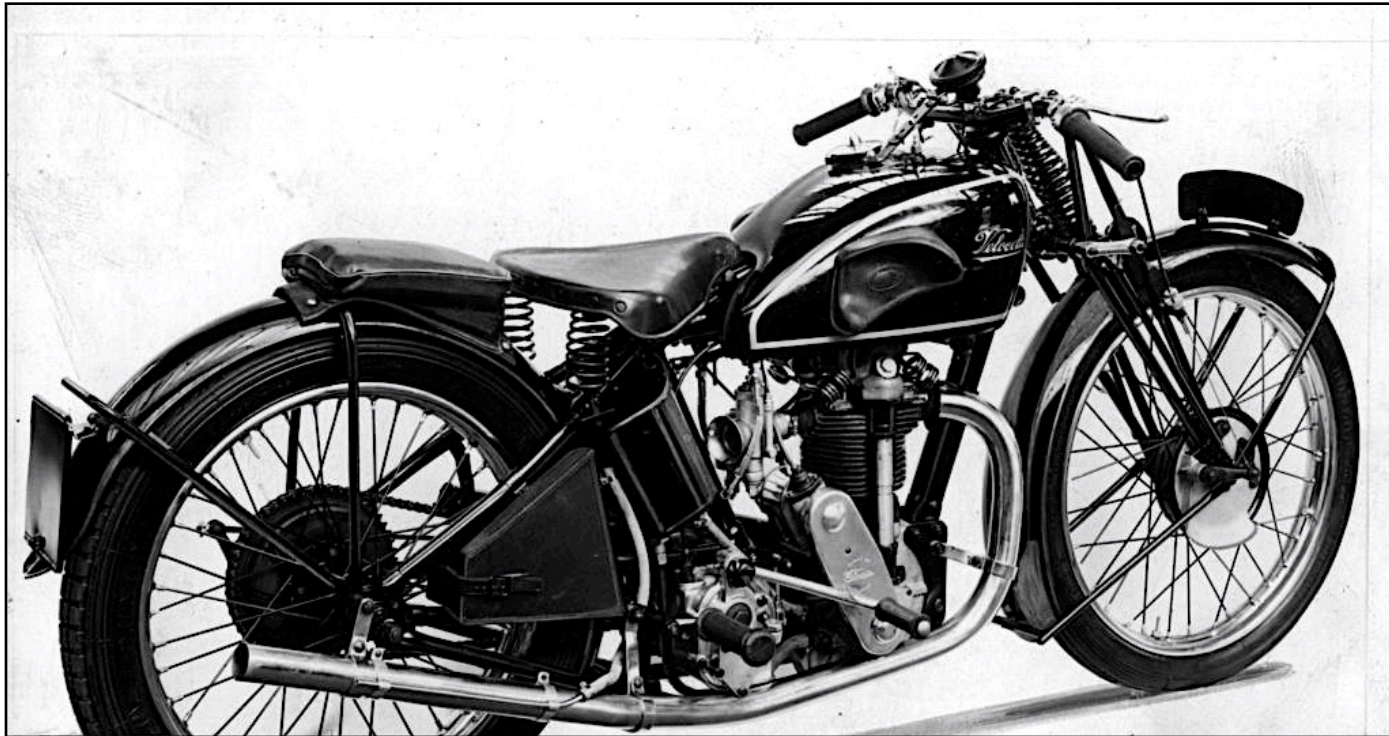
The business had struggled since 1956, with government changes to hire purchase legislation and fuel rationing during the Suez Crisis. Major losses incurred on the Viceroy scooter development from 1956 to marketing in 1960, followed by costs incurred by overstocking of redundant parts and the loss of capital due to development costs invested in another new model doomed to failure – the Velocette Vogue, an updated LE with a full fibreglass touring body. Sales were quoted as "a few hundred over five years", and development costs were never recovered either by Veloce or Avon, the bodywork manufacturer. All were key components in the financial decline.

The business commercially failed in the late 1960s, although profits from spare-part sales after the acquisition of the Royal Enfield spares operation in 1967 defrayed operational costs to such an extent that the company as a whole survived for another three years.

The workforce was sacked in February 1971, with C C Cooper, a local metals-recovery dealer, buying most of the machinery and continuing to produce limited spare parts by a small team of engineers. The rights to use the Velocette name and manufacture parts were then sold on to the Holder family, and the buildings at Hall Green were demolished.

My 1933 Velocette KTT mkIV: 'THE MULE'

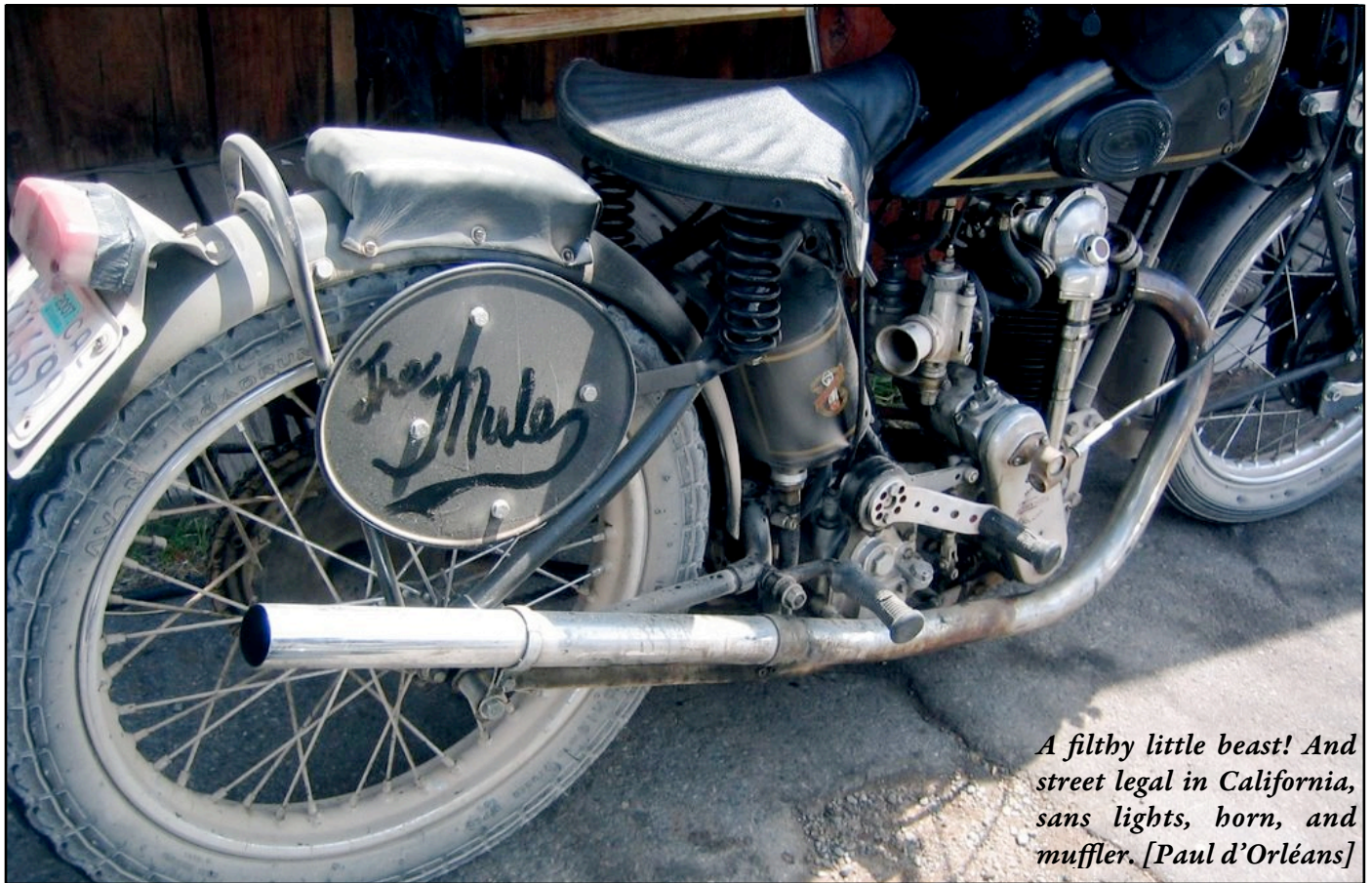
BY PAUL D'ORLÉANS in MOTORCYCLES



A 1934 Velocette MkIV KTT, as featured in the Sep. 1937 edition of MotorCycling. The MkIV earned many riders their Gold Star at Brooklands: this is a late version with a bronze cylinder head. Note the front and rear number plates: amateur racing (as at the Manx Grand Prix) required the motorcycle to be road registered. It was also possible to order a KTT with full road equipment, including lights and a generator! Several were delivered thus, especially the early versions. [Dennis Quinlan]



Paul d'Orléans with 'The Mule', his 1933 Velocette KTT MkIV, which he has ridden on 10 Velocette Summer Rallies, and in the 2012 Motorcycle Cannonball cross-USA rally! [John Jennings]



A filthy little beast! And street legal in California, sans lights, horn, and muffler. [Paul d'Orléans]

Here The Mule is pictured on a dirt road in Oregon in July 2005, during another 1000-mile Velocette Summer Rally. The map promised the dirt section would only be 8 miles, but it turned out to be 48 miles! The photos show how filthy the bike became, and because the open cambox sheds a bit of oil on the rear of the machine, dirt sticks well! Not many 75-year old motorcycles are ridden out on the dirt, but The Mule does surprisingly well on rough stuff. In 2012, I chose to ride her in the cross-USA Motorcycle Cannonball Endurance Rally, as she'd already done 12,000 miles of road riding, and another 3600miles seemed a piece of cake. That required a total strip-down of the machine, a change of gearbox as Eddie Arnold's choice of a MAC gearbox proved fragile, and a new camshaft. But as Eddie Arnold noted in the article below, MkIV camshafts are rare things, and my replacement did not arrive in time for the Cannonball, so I rooted through Eddie's spare parts stash for a suitable replacement, and installed what looked good. The story of that journey can be found elsewhere: here's the story on how KTT470 came to be.

Owning a Velocette KTT had been the object of my desire for many years, having read copious stories about them, and occasionally seen genuine examples. Velocette's production racing model has always been relatively expensive (compared to a road-going Velocette), and only 1000 were built between 1929 and 1950, when the last KTT rolled out of Veloce Ltd's Hall Green, Birmingham factory. The evolution of the KTT is a story in itself, as over its 20-year production run, enormous changes were made from the original 1928 MkI model with its rigid frame, 3-speed gearbox, and all-iron engine, to the last MkVIII models of 1938-49, which pioneered the swingarm rear suspension with shock absorber units, although they kept their girder forks to the end, as they simply steered better! The factory kept building 'works' racers for a

few more years with telescopic forks, and took the 1949 and 1950 350cc World Championships.

A 1934 Velocette MkIV KTT, as featured in the Sep. 1937 edition of MotorCycling. The MkIV earned many riders their Gold Star at Brooklands: this is a late version with a bronze cylinder head. Note the front and rear number plates: amateur racing (as at the Manx Grand Prix) required the motorcycle to be road registered. It was also possible to order a KTT with full road equipment, including lights and a generator! Several were delivered thus, especially the early versions. [Dennis Quinlan]

The MkIV variant was produced from 1933 to early 1935, with an engine numbering sequence of 'KTT 4xx'. The MkIV was distinguished by a new cylinder

head (which became bronze mid-way through its production run), new camshaft, bigger carb, new brakes, and a bolt-on lower frame rail from the crankcase to the rear axle that improved handling. While the MkIV was not a world beater, it was fast and handled beautifully, and was a perfect privateer racer. Many riders earned their Gold Stars at Brooklands with them, for 100+mph laps during a race, which was rare for a 350cc machine. They could be tuned to achieve over 105mph running on gasoline, and even more on alcohol, with an open exhaust pipe and high compression piston. I was timed at 105mph on my own KTT MkIV on a public road in 2000.

After years of searching, I was offered two KTTs from the estate for Velocette Club stalwart Eddie Arnold; a 1949 MkVIII (KTT929) and a 1933 MKIV, both of which he had restored and raced. By the time I drove from San Francisco to Pasadena to buy the MkIV, the MkVIII had already been sold to a known 'flipper', so I had arranged to buy the MkIV...and the rest of the contents of Eddie's garage, which included a 1948 Velocette GTP two-stroke in original paint condition, a 1950 LE MkI also in original condition, a large pile of mostly MAC 350cc parts, and a pile of genuine KTT parts. The MkIV cost \$15,000, and I can't remember

what I paid for the rest of the garage, from which the KTT spares proved invaluable. All else was sold along, after I got the GTP and LE running, which was simple. In hindsight, I should have kept them both, but my garage was overfull with cool old bike already. The KTT had been run on 'bean oil', Castrol R, which is proper for racing, but I intended to run the bike on the road, and Castrol R was already scarce in the late 1990s. I sourced a quart of 'conversion fluid', designed to flush out the Castrol R, and the KTT fired easily on the run-and-bump technique – it had no kickstarter as a proper racer. Thus began a 25 years (and counting) relationship with KTT470.

Only a few weeks after reviving KTT470 I rode her on one of the Velocette Club of North America's annual 1000-mile Summer Rallies. I soon discovered the machine was a revelation, weighing only 275lbs but having 35hp, with an instant power delivery that thrust the rider forward in total smoothness, like a very quick magic carpet. The handling was impeccable and totally intuitive, and I could run rings around brand new motorcycles on the twisty roads favored by the Velocette Club. A week in the saddle might sound torturous on a rigid-framed racer, but I thought it ideal, and fell in love with Eddie Arnold's creation. KTT470



KTT470, The Mule, at rest in 2006 during the Legend of the Motorcycle Concours ride. The Mule has no stand so leans where it rests. Visible are the drilled front brake anchor, and evidence of a fall on the fuel tank; fast riding on a light rigid machine on bad California roads... [Paul d'Orléans]

gained the nickname 'The Mule' on a Summer Rally (one of the ten it was used on), which I had organized. A map-making slip-up for the rally included a 'shortcut' in far northern California, through the mountains near Red Bluff, just off the legendary Highway 36. Mule Town Road was not really a road at all, more like a trials course, but as I'd laid out the map, I thought it prudent to take the road! Mule Town Road had no signage, and included several confusing branch routes, one of which I mistakenly took, and managed to kill the motor in the soft dirt. Starting a full-race motorcycle with no kickstarter and high compression requires a run-and-bump technique, pushing the machine with the clutch in and hopping on the saddle to gain traction for the rear wheel. Despite the 100deg F air temperature, KTT470 fired up immediately, we got un-lost, and all was well. After the day's ride, John Jennings, who was visiting from Australia, dubbed my machine 'The Little Mule' for its accomplishment – she's tough!

HISTORY OF KTT 470 – 'THE MULE'

KTT470 was originally dispatched from the Veloce factory on May 19th, 1933, and is one of 3 KTTs sold originally to the United States, although it was supplied as an engine only, to Mack's Motorcycles in Everett, Massachusetts. Only five KTTs were sold new in North America between 1928-49, the others being: KTT53 a very early MKI which I owned in the 2000s; KTT102, another MkI sold originally to 'Oglasud' in New York (and still in New York today); KTT 454, a MkIV sold to Otto Ling in NY (where now?), and the MkVIII KTT929, which Eddie Arnold owned. As 'road racing' was virtually nonexistent in the USA in the 1920s/30s, racing was on dirt tracks, just as it was in Australia, New Zealand, and South Africa – the largest foreign markets for Velocettes. The European customers (Italy, Germany, Austria, Holland, etc) generally raced on paved roads by the late 1920s, although there were plenty of dirt/pavé combos to race on as well. We English speakers share a 'backwater' history as dirt racers, a tradeoff to our wide open spaces and low population density, and long may it remain so!

A photograph owned by Rick Haner, and AMCA club member in Chico CA, showed his father racing a Velocette for Mack's Motorcycles before WW2, which is undoubtedly KTT470. Mack's was a motorcycle dealer and race sponsor, and KTT 470 was their 'tool' in 30:50cu" racing from 1933, installed in a 1928 KSS chassis, which is how it sits today. While the standard MkIV engine is reasonably fast when on alcohol, as

allowed on dirt tracks in the '30s, its competition would have been Harley-Davidson 'Peashooters', converted Indian Princes, or Rudge/JAP speedway racers. The Velo would have been the equal of any of these, at least in the 350cc capacity. Most speedway racing in the US was 500cc, and so the KTT was at a capacity disadvantage. How the KTT did in East Coast racing is something I'm still investigating.

By the 1970s, KTT470 sat in poor condition in a collection on the East Coast, but was rescued by Eddie Arnold of Pasadena, who restored it for vintage racing in California. Eddie Arnold had been a development engineer for Mustang Motorcycles, and built several 100mph Mustangs with their Briggs&Stratton sidevalve motors! Eddie Arnold built KTT470 using MkVIII KTT front forks and magnesium wheel hub/brake, while the rest of the chassis is pure KSS, including the rear wheel. It uses a 1928 KSS fuel tank, which is smaller than a MkIV KTT, and the replica KTT oil tank is fabricated from aluminum. It uses 19" wheels front and rear, instead of the 21" front and 20" rear wheels as standard, as it was not possible to find racing tires for the larger wheel sizes in 1981. With a 9:1 compression ratio and 400ccs, the engine produced 35hp, and the bike weighted 275lbs dry. The bike was geared for a top speed of just over 105mph, which it reaches easily.

MACK'S MOTORCYCLES, EVERETT MA

Clarence A. 'Mack' McConney owned Mack's Motorcycles in the 1930s-70s in Everett Massachusetts, a suburb of Boston, which was a Triumph dealership in the 1930s, among other brands. He was an active supporter of racing and racers, and built KTT470 as a racer in 1933 from the engine supplied from Veloce into a 1928 KSS chassis. It's unknown if he was a Velocette dealer at that early date, or whether he had simply followed the news of the KTT's racing successes in Europe, and wanted a hot motor. The racing history

The Mack's Motors International sign from the 1960s. [The Vintage Archive]



of KTT470 under the sponsorship of Mack's Motors is still being researched; apparently Erwin 'Pop' Haner raced the KTT in the 1930s. Mack was member #1 of the East Coast regional AMA district, and sponsored many races and field events over the years. From his June 5, 1996, obituary in Cycle News:

C.A. 'Mack' McConney, 99, died in Amesbury, MA, on May 23rd, 45 days before his 100th birthday. McConney was an integral part of early New England road racing in the area and was a member of the original committee that first brought the Laconia races to Belknap Park in 1938. McConney participated in the sport of motorcycle racing on many levels including dirt track, race promotion, as well as sponsoring and tuning for racers through his successful Triumph dealership in Everett, MA.

EDDIE ARNOLD

A founder member of the Velocette Club of North America, Eddie was a passionate collector of Velocettes and other British motorcycles. He finished restoring KTT470 in the mid-1970s, and only when he attempted to race her did he begin the process of improvement that made her into a winner. Here's Eddie's take on that process from the Jan/Feb 1983 edition of Fishtail West, the Velocette Club of North America's magazine:

"A Vintage Racer the Hard Way"

I spent six or seven years getting all the parts together for the '32 KTT, both in England and here in the US. Parts were not as hard to find in the early 1970s as now. Add to

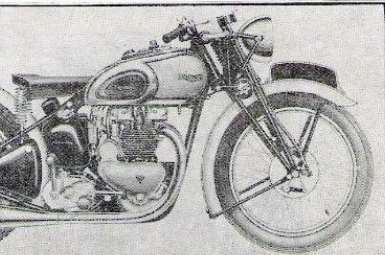
Mack's Motorcycles was established in 1917 in Everett MA, and was a Triumph dealer by the 1930s, as this advert shows. [The Vintagent Archive]

that another year for restoring it between more important things like cutting the grass, painting windows and all the other crap that comes before one can restore a bike in peace and quiet. I was proud of the finished bike and took it to all the rallies and classic shows. I even took it to riding it around the parking lots, making noises like everyone else. Somehow, the parking lots just didn't get it. I wanted to really race it. You know, turn it on and scare the hell out of myself and anyone riding near me. I joined the ARRA racing club in Southern California along with my friends Paul Adams and Richard Ong. Paul, 'Mr Norton', was riding a Velocette and so was Richard. The first vintage race was at the 'Big O'; Ontario Motor Speedway. Big, fast and very smooth with banked turns, that's Ontario. On the first outing I learned that a lot of things would have to be changed if I wanted to be in the running or even finish a race. Six laps on a two-and-a-half-mile track doesn't sound too far, but following a bunch of Gold Stars and watching the nuts and bolts bouncing along the track, I wondered what was happening to my bike? At least there was no one behind me to see my parts falling off! I remember seeing Paul go past in a turn, wide open with both wheels drifting. I could even hear the valves hitting the piston. Flying fighter planes and getting shot off aircraft carriers by steam catapults has definitely affected his mind.

Back to the problem at hand. Being in last place did have some advantages; no one was trying to run over me and I could evaluate the bike, but then everyone in last place says that. I noticed things such as at 5500 RPM

Eddie Arnold with KTT470 at a CAMA (California Antique Motorcycle Association) rally in 1975, just after he had restored it. [The Vintagent Archive]

"MOTORCYCLES FOR THE DISCRIMINATING"

CLARENCE A. McCONNEY

JUST TAKE A LOOK ! YOU'LL WANT ONE RIGHT OFF !

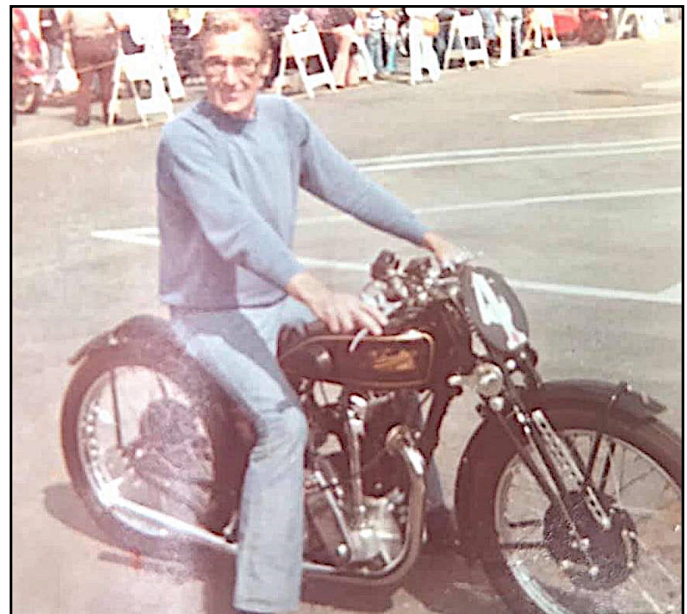
Triumph -- Tiger

"80" AND "70" MODELS FULLY EQUIPPED

Here's a "bike" that will make you the envy of the crowd! A beauty to look at and a marvel on the road. All the flash and speed you'll ever want, and easy to handle. "TRIUMPH" — All that the name implies.

MACK'S SALES AND SERVICE

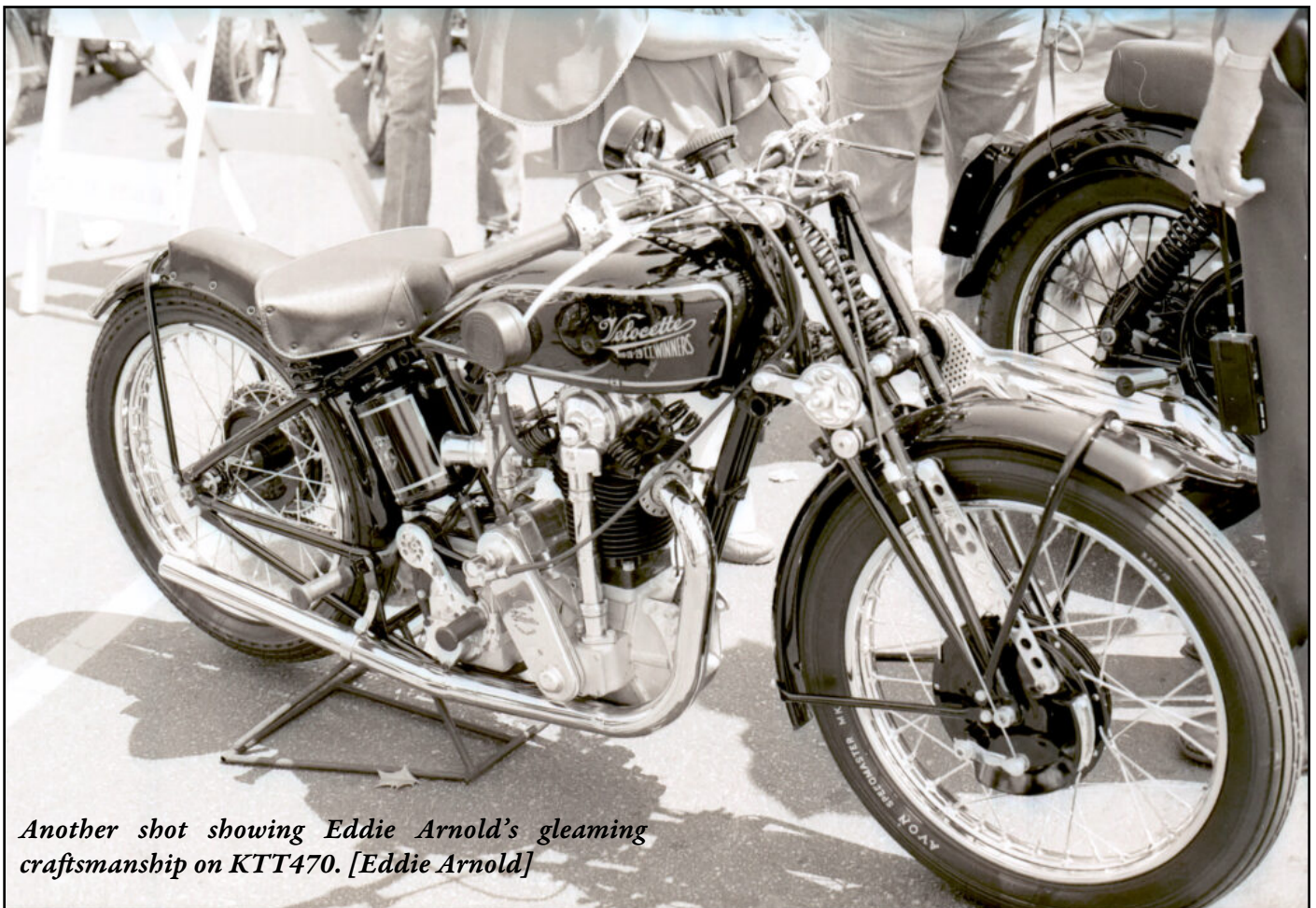
C. A. McCONNEY, Prop. 359 Broadway, Everett, Mass.



the engine started to vibrate and at 6000 the handlebars felt like watermelons. The gearbox was all wrong and the horsepower I had in the parking lots just wasn't there on the long straights. Coming off the banking and into a tight right hander the brakes weren't too good, and by the third lap there weren't any at all. By the 5th lap the revs had dropped to 4000. I found out later that half of the exhaust valve hairpin spring had broken. I ended up asking myself why I was trying to race a 50-year old that you can't even get parts for, and why I hadn't stayed a parking lot racer. About all I can say for that first outing is that it sure was fun.

Fix time: I took the engine down to the flywheels, which seemed like a reasonable place to start, and checked the balance factor. At 65% it was just right for a tractor. I do remember Jack Connors, 'the provider of the engine', saying something to the effect that had been used for a dirt track or Speedway engine in the '30s. I changed the balance factor to 71% and took a pound or so off the outside of the wheels. The KTT already has a short rod to help in the midrange. I raised the compression ratio using a mark 8 piston. After cutting the inside drop of the head and some off the cylinder to parallel it, the compression ratio is 9.12: 1.

A new manifold was made up for the head, and I ported it to take a 1 3/16th" inlet valve and an Amal 10TT9 carb. Cams were the biggest headache. Racing cams for the MkIV are just not available anywhere. The cams that came in the engine were of the 30-60-60-30 variety; tractor cams. Starting with early MkVIII cams and using a Norton Radiack, I cut the intake from the exhaust and relocated the exhaust to 75 - 45 timing, I then cut a new keyway for it. I now had the MkVIII timing but with less overlap. The MkIV rockers have 1/8 inch less cam-side length, giving the effect of 'ratioed rockers' which give too much of everything, overstressing the valve springs. I made up new rockers from billet, leaving just a little ratio in them. I used MkVIII hairpin valve springs, setting them at 125 pounds seating pressure. I changed the gearbox to close ratios and laced a 19" front wheel to a MkVIII hub for better stopping power. On the back I used Richard Ong racing brake lining, it won't lock and won't fade either. I won't go into all the changes I made to keep the oil in the engine oil off the rear tire.

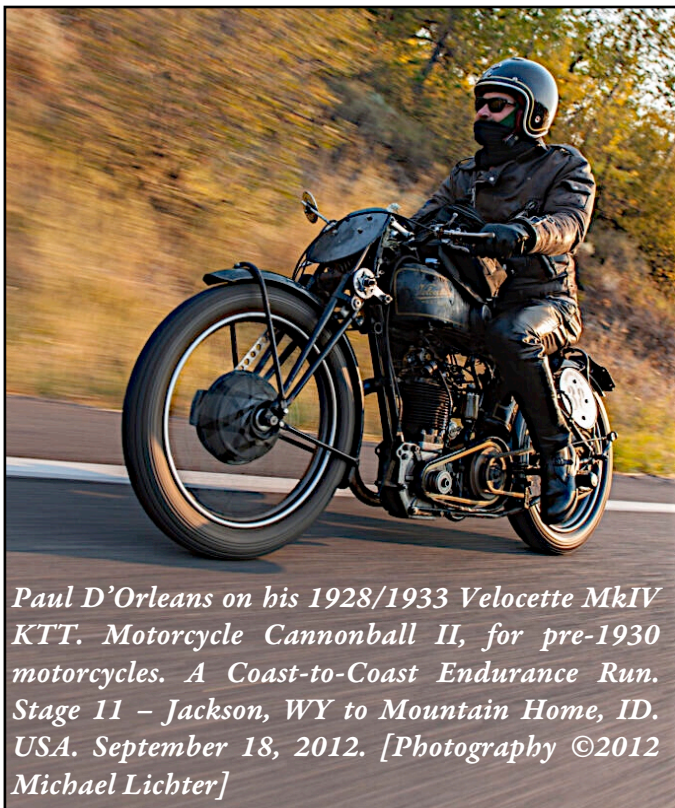


Another shot showing Eddie Arnold's gleaming craftsmanship on KTT470. [Eddie Arnold]



Velocette importer from the 1960s, Lou Branch (right) and Ellis Taylor at a CAMA rally in 1975, with KTT470. [The Vintagent Archive]

Next race, Willow springs, 1979. Fast uphill, downhill 100mph turns for them that got it. A very unforgiving track; leave it and you get 100 yards of rock of all sizes. If the rocks don't get you, the things that live under them will. When you get older you think about things that way. In practice the bike ran beautifully at 7400rpm with no vibration. Braking was excellent and



Paul D'Orleans on his 1928/1933 Velocette MkIV KTT. Motorcycle Cannonball II, for pre-1930 motorcycles. A Coast-to-Coast Endurance Run. Stage 11 - Jackson, WY to Mountain Home, ID. USA. September 18, 2012. [Photography ©2012 Michael Lichter]



Paul d'Orléans crossing Sonora Pass on a Velocette rally in 1999. [John Jennings]

the gearbox felt just right. In the six-lap race that followed the little '33 ran perfectly. Paul still passed me in the turns but I could zap him on the straight. It's easy to win when the bike does all the work. I ran the 1980 season and won all the races entered. For the '81 season they changed the rules and let Triumph 3s, Commandos, Hondas and just about anything else compete. So I retired the bike from racing. It's not right to expect a 50-year old machine compete with stuff like that. Besides who needs 100 yards of rock... So the next time you ride your bike around the parking lot and wonder what it would be feel like to race it, give it a try. It's a lot of fun and there's nothing like old bikes and good friends. Racing does improve the breed."

Paul d'Orléans
is the founder of TheVintagent.com



He is an author, photographer, filmmaker, museum curator, event organizer, and public speaker. Check out his Author Page, Instagram, and Facebook.

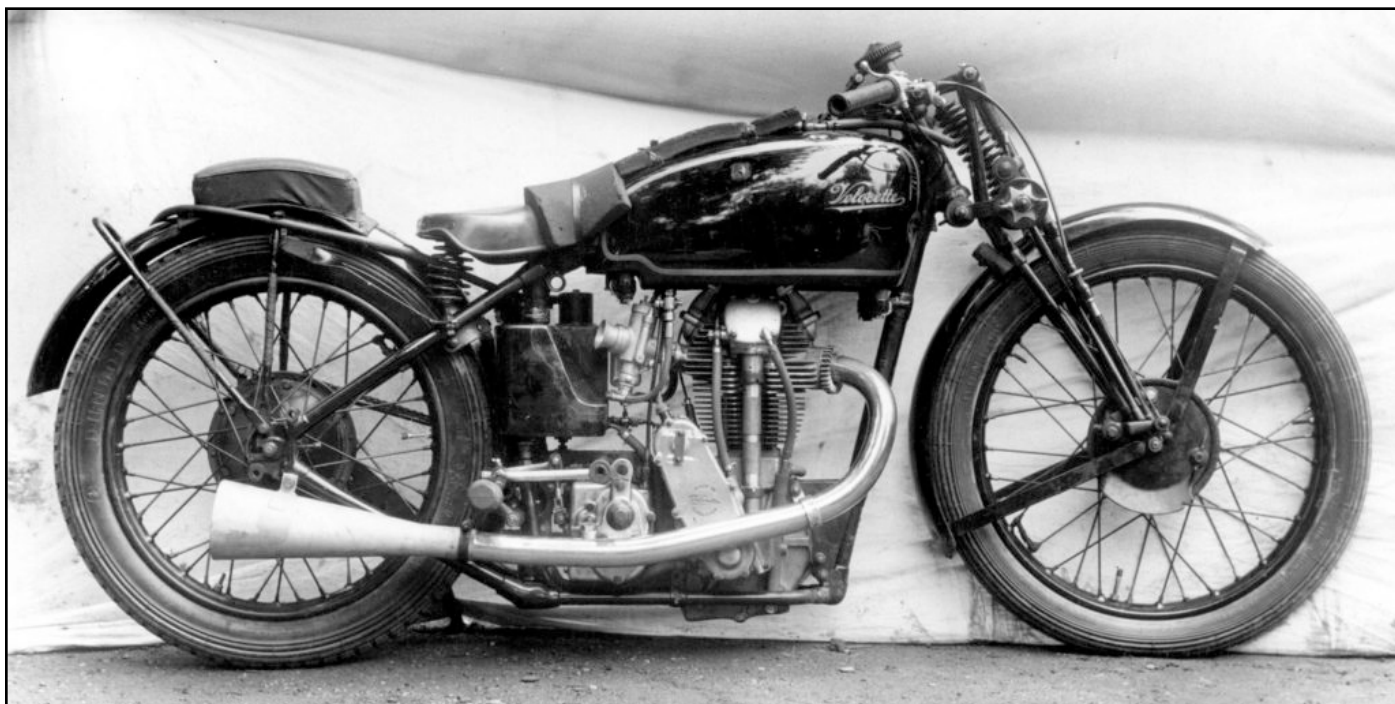


(c) Paul Blute

Velocette

The Mysterious "Mark 6"

Words: Dennis Quinlan and Paul D'Orléans in MOTORCYCLES



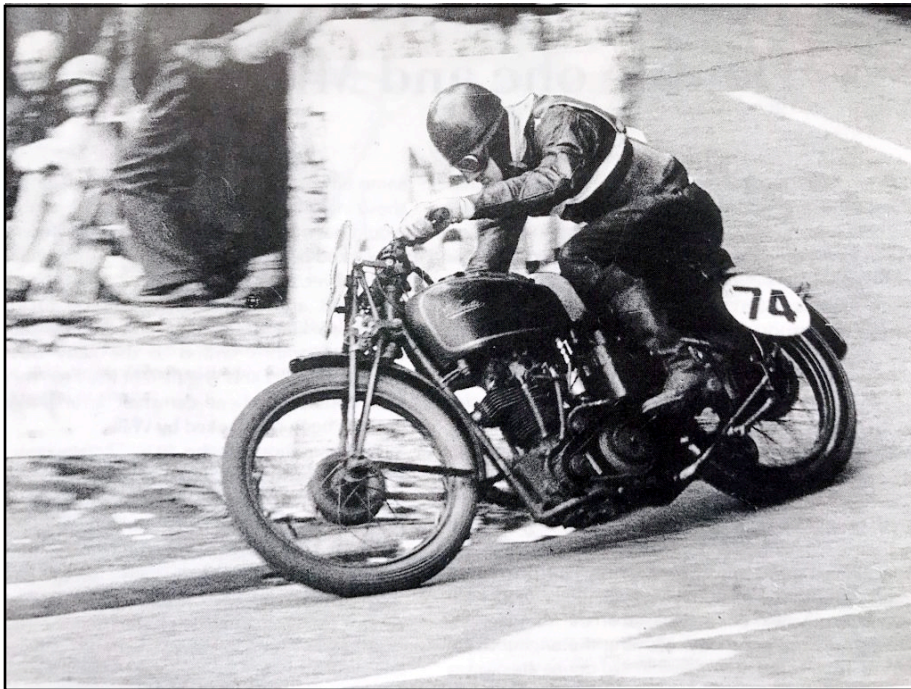
The Veloce factory built motorcycles from 1905, but their first models of inlet-over-exhaust engine construction were typical for the day, and produced in very small numbers. In 1913 they designed a 220cc two-stroke single of rare quality, called the Velocette, which the factory developed continuously through 1946! Veloce leaped to the forefront of motorcycle technology in 1925, introducing an overhead camshaft (OHC) single cylinder Model K, a 350cc machine of peerless handling and excellent performance. A factory-tuned Model K racer won the 1926 Isle of Man TT, which created huge demand for the roadster model. In 1928 another racing K took the one-hour speed record over the 'ton' at the Montlhéry Autodrome, with a 100.3mph average speed; this effort would be multiplied by 24 in 1960, when their pushrod Venom 500cc model took the 'ton for a day', also at Montlhéry.

Veloce made a series of TT Replicas between 1928 to 1951, production racers that were copies of their successful factory machines that were busy winning TTs and GPs around the world – the Velocette KTT models. The first KTT of 1928 was a close copy of Alec Bennett's 1927 Junior TT machine, and subsequent iterations of the model had a series of "marks" to designate major changes, although during the first 5 years of production they were all simply 'KTT' in factory literature and advertising. The first catalogued change to the line appeared in 1932, with the 'Mk4' KTT for 1933/4 seasons; thus the earlier machines were retroactively 'Marked' 1 thru 3. The KTT had major changes on each model from 1934 onward; the Mk5 (1935) had a new frame and bronze cylinder head, the Mk7 (1937) had a completely new all-alloy engine and new frame, and the final version, the Mk8 (1938-51) had the

Velocette invention of a swing-arm rear end with two suspension units – a setup recognizable to any motorcyclist today.

But there's a 'missing' KTT – the Mk6, which was never advertised and never appeared in the factory literature. Did Veloce simply skipped over the number 6? Like the Loch Ness Monster, rumors have swirled since 1936 regarding



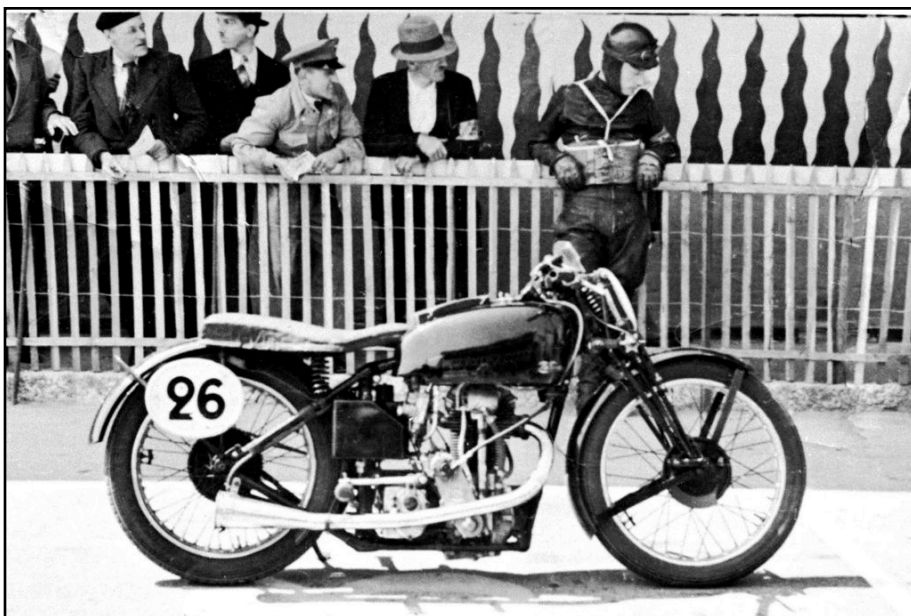


the existence of a Mk6 KTT. Contradictory reports from published sources haven't clarified the historical record, and readers of the Velocette 'canon' are forgiven their confusion. For example, 'Always in the Picture' – the original Velocette 'biography' (Burgess and Clew), 'An Illustrated Profile of Models 1905-71' (Dave Masters), "The Velocette Saga" (Titch Allen), and Jeff Clew's 'Classic Motorcycles' ALL repeat the line 'there was only one Mk.6 KTT, ridden by Austen

Munks to a Junior Manx GP victory in 1936; it was never used in the IOM TT'.

All of the individuals involved with the 1930s Veloce race team are now dead, but with photographic research, race entries, and clues from the Works records, we can ferret out the story of this elusive beast. And from all this, we can conclude that there was not one but three Mk.6 KTTs, all ridden in the 1936 Isle of Man Junior TT.

It's reasonable to assume these



were the prototype for the Mk.6 KTT model, as production of the Mk.5 KTT finished in October 1935 with engine number KTT620. The factory records show a gap of 17 months before the first Mk.7 KTT was built, with engine number KTT700, which was dispatched to Australia.

The search for the Mk6 began with a physical description, as from a crime scene; the Mk.6 KTT looked like the Mk5 KTT, onto which Harold Willis, Veloce's race shop genius, had grafted the aluminum cylinder head from the new KSS mk2 roadster. Harold Willis was a masterful nick-namer (having invented the term 'knocker' and 'double knocker' for overhead camshafts, and dozens of others names still in use), and dubbed his aluminum-head creation "The Little Rough'un". Another useful snippet of information appears in Les Higgins' delightful book 'Private Owner', about his years racing Velocettes. Describing his racing in 1936, Higgins says (p.41): "another machine was difficult to come by, because Veloce Ltd. had temporarily ceased manufacture of the KTT model. The last machine made in any quantity were the Mk.5 models. A few Mk.6 machines went out to approved customers and the concern was now busy evolving something new to provide an answer to the International Norton".

The 'approved customers' of the three Mk.6 KTTs at the Isle of Man in 1936 were H.E. Newman, Billy Tiffen and Roger Loyer. Photos from 1937 show Ernie Thomas, Les Archer and his son, and one unidentified rider, all circa June 1937; because of the date these are likely from the '37 IoM TT races. An extract (below) from



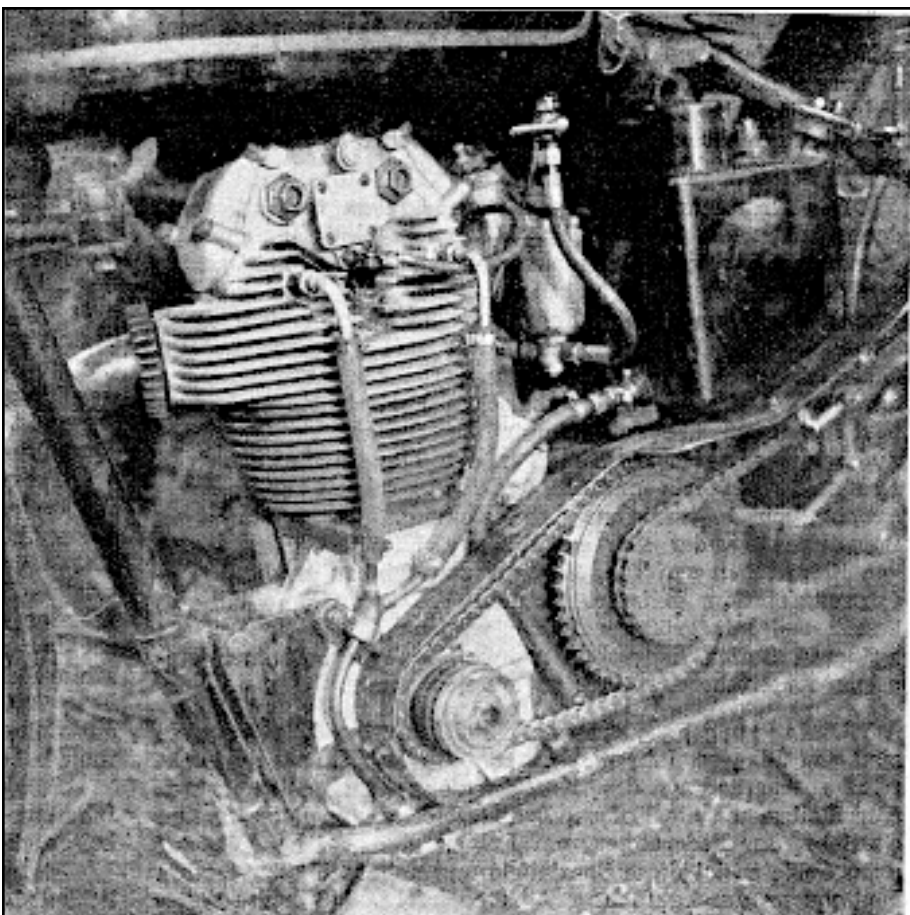
the Velocette factory KTT records gives the following notations: June 1936: Veloce for H.E. Newman for TT – engine #KTT621, frame 6TT3. June 1936: Veloce for W.T.Tiffen Jnr for TT – engine #KTT622, frame 6TT4. June 1936: Veloce for Loyer for TT – engine #KTT623, frame 6TT5.

The reference “Veloce for TT” is used in the factory records to indicate a special Works-prepared racer, tuned in the factory race shop for designated riders, as opposed to the standard KTTs offered to the general public. Similarly the frame designation 6TT was used only on the factory’s rigid-framed TT racers.

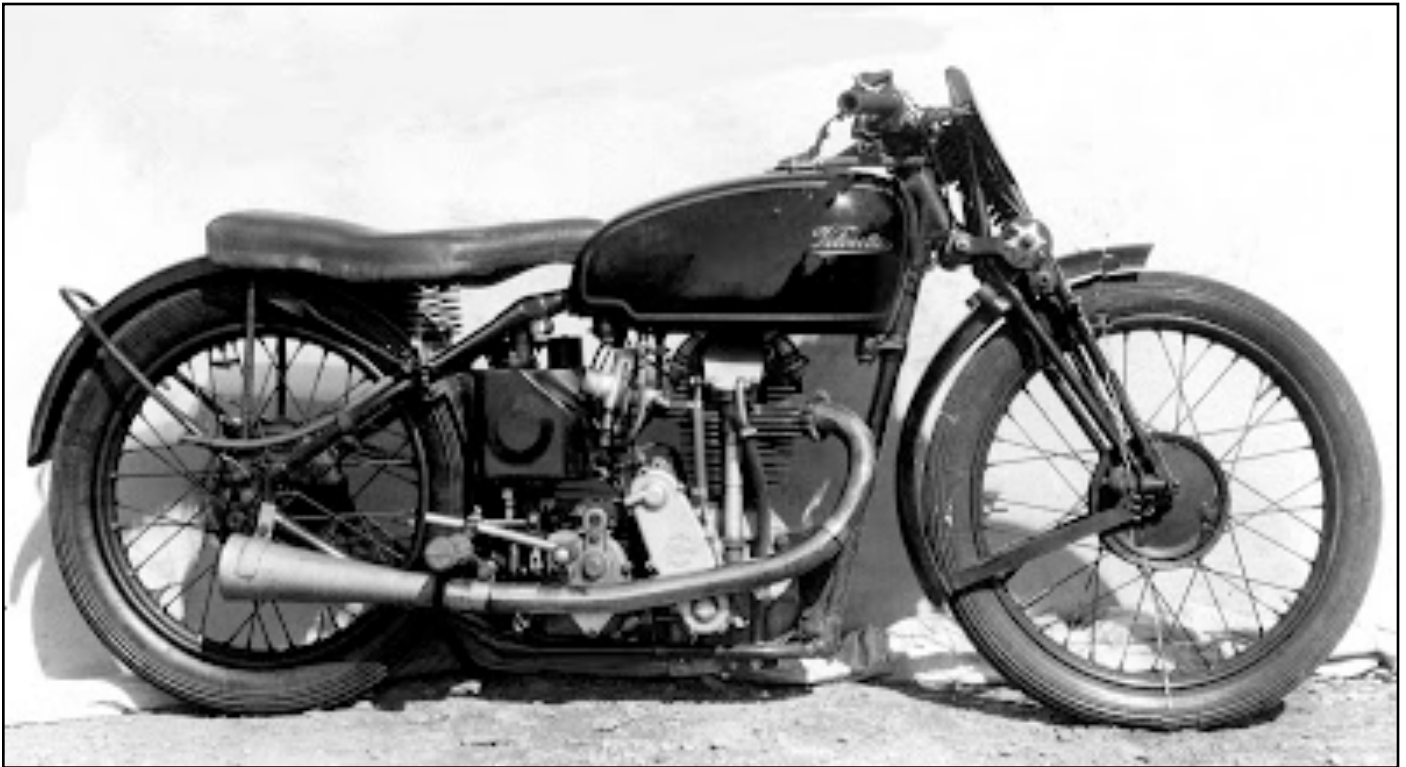
Interestingly, in *Das Motorrad* of April 18, 1936, two photos of Ted Mellors’ Mk6 KTT are included. The engine number is obscured, but the publication date of the magazine pre-dates the mk6 factory notations above. Mellors was occasionally engaged by Veloce to race their motorcycles, and the machine in these photos certainly looks like a factory racer, as the bevel box drain is not the same as a KSS Mk2. The mystery deepens...

Could this have been the first testbed of the new cylinder head? The weekly motorcycle paper “MotorCycling” of June 17, 1936, in the “Straight from the Island” article, included this interesting snippet, previously overlooked by historians: “One or two of the lads who are riding Velocettes, notably H.E Newman, will be mounted on advance KTT jobs for 1937. These are standard products, but they can motor very rapidly”.

How did they fare in the TT itself? Billy Tiffen retired at the end of lap three with a broken front fork spring and Roger Loyer (usually



Das ist die Velocette von der anderen Seite. Der Kopf ist außerordentlich stark verrippt. Beachtenswert die Kettenschmierung und die Ventilschmierung. Die Hinterradkette läuft außen neben der Primärkette, dadurch kommt das Kurbelwellenritzel dicht an das Gehäuse. Man braucht also nur einen kurzen Wellenstumpf, Primärkette freiliegend, aber gut geschmiert und dazu ein kräftiger Stoßdämpfer. Fotos: Bönsch-Rambucher.



entered by Boudene, the Velocette agent from Paris) stopped soon after his 5th-lap pit stop and retired with “lubrication trouble of an irremediable kind”. That left Newman, who came in 10th, the third Velocette to finish, with Ted Mellors in 3rd place and Ernie Thomas in 4th place, both mounted on very special factory DOHC 350s; definitely not ‘production prototypes’!

Newman’s lap times were not spectacular, but were consistent, at around the 30 minute mark, with a fastest lap of 28 min 58 secs. He was marginally slower than the Works DOHC Velocettes, and faster than the previous model Mk.5 KTTs, as ridden by Noel Pope, Gledhill and Chas. Goldberg from New Zealand.

Development of the Mk6 seemed to continue, as a photo of Ernie Thomas mounted on a Mk.6 KTT in the 1937 Junior IOM TT seems to be Newman’s 1936 machine, now with a different type of seat. And as mentioned, the Archers,

well-known Velocette agents, also rode a Mk.6 KTT in the 1937 TT.

Obvious changes to the Mk6 includes the seat and fuel tank – the new “dual” seat (an industry first) was dubbed the ‘Loch Ness Monster’, and was introduced on factory racers in 1934, while the larger petrol tank was used on factory bikes starting at the ’36 TT. The rear wheel of Archer’s Mk.6 KTT has a conical hub fitted; this can only have come from a ‘Works’ racer, as such a hub wasn’t publicly available until the Mk.8 KTT appeared in April 1939.

With reasonable results in the TT, why didn’t the Mk.6 continue into full production? Perhaps with the introduction of the massive square-finned alloy SOHC engine (10” x 10”) to the factory bikes, and the subsequent improvement of lap times, Harold Willis felt this new all-alloy racing engine was the future. Stanley Woods was lapping over 1min.17secs. a lap faster than Ernie Thomas in the 1937 Junior TT, despite the development time

spent on the Mk.6 during the intervening year – Thomas’s best time was only marginally better than Newman’s the year before. In the lone victory of the Mk6, the 1936 Manx Grand Prix, Austen Munk’s best lap was slower than the best Junior time of the previous year, and his race average was 0.1mph faster than Newman’s ’36 TT time.

Why was the Mk6 so much slower than the Works bikes? A more detailed review of factory literature reveals a few drawings of parts for the Mk6 KTT: drawing KO2716 (part no. K27/16), is the piston, described on the drawing as for the KTT Mk.6; drawing KO2805 (part no. K28/5) is the connecting rod for the KTT Mk.6. Both give clues to the engine’s weak points. Inspection of a piston from a Mk.8 KTT (part no.K27/16) reveals it to be identical with the Mk6 piston drawing. A hard look at period photographs reveals the cylinder barrel of the Mk.6 KTT is the same alloy barrel of the Mk.7 and Mk.8



KTTs, making the Mk.6 in effect a Mk.7 engine type, but with a KSS Mk.2 cylinder head fitted. After testing in the TT and Manx GP in 1936 and 1937, plus a few Continental GPs (according to the late Bruce McNair's conversations with Roger Loyer), the Mk.2 KSS head was found inadequate for full-throttle use, and replaced by

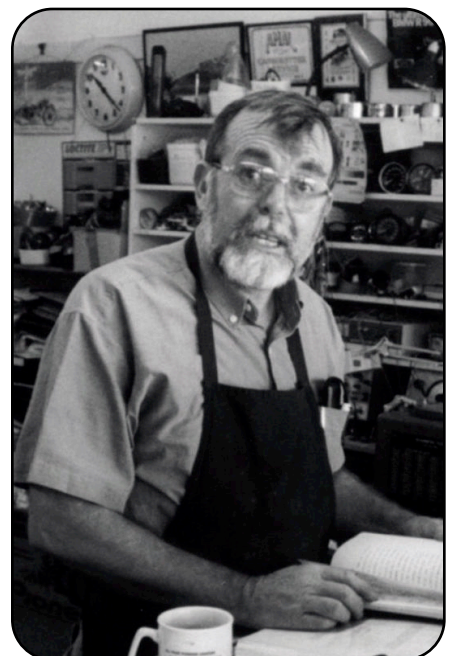
the Mk.7/8 type with larger finning. These cylinder heads were nearly the same as the 'Works' 1937 cylinder heads, although only 9" x 9" square; the resultant machine was then offered to the public as the 'Mk.7' in 1938.

What was the problem of the KSS Mk2 cylinder head? The combustion chamber shape of the

KSS head is virtually identical with the Mk.7 KTT head; the valve sizes are the same, but the inlet tract is a bit larger. Perhaps there was trouble with the coil valve springs inside the enclosed Mk.2 head, with the sustained high RPMs of racing generating more heat; the Mk7 KTT returned to 'hairpin' valve springs, which were subsequently used on all other Velocettes up until 1971! Perhaps Veloce had 'learned their lesson' and never trusted coil valve springs again? The relatively scanty finning on the Mk.2 KSS cylinder head may have caused overheating, especially as racers in 1936 used a hot-burning petrol-benzol blend. Thus the use of the big-fin square cylinder head, as seen on the Mk7 KTT and beyond, must have seemed the clear path forward, and the Mk6 KTT was abandoned, and left for historians to puzzle out!

Thanks to Dennis Quinlan for his exhaustive primary research!

Dennis Quinlan is a long-time devotee of Velocette motorcycles and a retired expert on the repair of Smiths motorcycle instruments.





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www.velocettemotorcycles.com

1937 Velocette KSS

350cc 1 cylinder OHC





DWA 249

ALTON, The Modern Technology For Velocette



“Situated in Le Relecq Kerhuon, near Brest on the northern tip of Finistère, Alton is a small but innovative company specialising in the conception, design and manufacture of a range of products aimed exclusively at the British bike owners.”

The idea of working on British bikes started early for brothers Paul and Herve Hamon. Their first bike was a Royal Enfield WDCO ex-forces machine found in a barn. And that’s where a lifelong passion for British bikes began.

This first contact roughly coincided with the birth of Brittany Ferries in the 70’s. It was from then on considerably cheaper, quicker and more fun to take the ferry from Roscoff to Plymouth than to go to Paris to get parts. So they regularly crossed the Channel and set out on various voyages of discovery all across the UK in search of parts and old bikes to restore.

Realising quite quickly that the standard electrics on British machines left something to be desired, the idea was born to create a new product that would change things for the better. The first Alton generator was on the drawing board. In the early days Paul worked on the first Alton alone but today the company employs 6 staff members and exports its products worldwide.

The range of Alton products is also growing and now includes 12 different generators and three electric starter kits, Norton Commando MKII, Velocette and Vincent Comet.

With other products in the pipeline, Alton has planned a new launch of product for end of 2023.

Generators and starter conversion kits for British classic motorcycles

British bikes are special, full of character, charm, offering a riding

experience that no modern bike can equal. They may not be the fastest machines on two wheels but once you’ve got the bug, it’s the start of a lifelong love affair!

But they are also stubborn, temperamental and demanding... who hasn’t found themselves stuck on the pub car park after everyone else has long gone – no lights, or no spark, flooded motor.

Kicking up a big twin can be hard work too – what was fun at 20 isn’t at all the same thing at 50...

Alton designs a range of products, generators and electric starter kits, that help you overcome the little eccentricities of your much-loved British motorcycle.

Based in Brittany, we design, manufacture and export our products worldwide directly or through our network of authorised distributors.

Peter Bateman's KSS in RS Frame project



My story of the assembly of a KSS engine into an RS frame starts some 15 years ago with a determination to hear my KSS engine run again after a complete 1936 KSS, all £15 of it, was partially overhauled back in the late 1950's and stored away for many years due to events such as marriage, mortgages, children etc. I made it a project after a MAC and Venom were purchased in later life when funds became available.

The engine came from a 1936 complete KSS that I acquired in 1958 and did a partial restoration on but it eventually had to be stripped into large lumps and stored away in various locations due to my father needing extra room in his workshop.

Over the passage of time everything except the engine disappeared, this being kept by me in a dustbin bag until the time came to do something with it around 2007. It was out of the question to find all the parts to complete it as a pukka 1936 KSS Mk2 so installation into a Velocette RS spring frame route was chosen.

The engine had been treated to new big end, mains, rebore and piston back in about 1959 and on dismantling it all appeared OK however the camshaft had been stilled and reground by hand on the tool grinder at my place of work as an apprentice as it was very badly worn. I thought it had to be sorted correctly so the cams and rockers were professionally refurbished. On advice from others I had the cams rebuilt and reground to K17/8

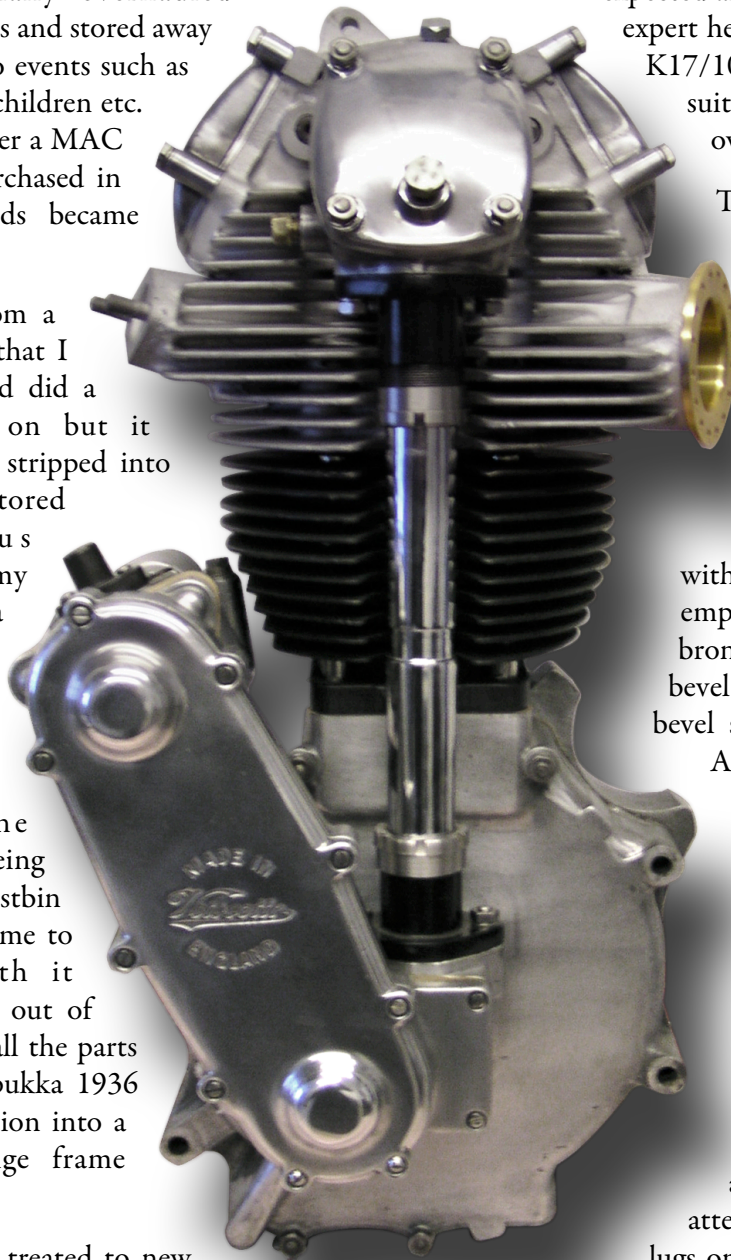
profile and the followers to the smaller radius as it was said a bit more power would offset the difference in weight between the KSS rigid frame and the later swinging arm frame. Once the bike was up and running I found that the K17/8 cam didn't perform as well as expected and on discussing this with a cam expert he advised reverting to an original K17/10. This was found to be more suitable option giving a much better overall performance.

The cylinder head was overhauled with new valves and guides, with the later 1937 larger inlet valve and the inlet opened up to suit a 1 1/16 Monobloc carburettor. Some broken fins were repaired and the head bead blasted. The camshaft bushing had been replaced with a phosphor bronze one, as my employer didn't stock aluminium bronze at the time, as was the lower bevel bushing along with a reground bevel shaft, which was a little worn. Also a small weld repair was carried out to the oil return connection from the rockers on the crankcase.

The engine was then considered OK to fit to the frame.

An RS frame complete with front forks and swinging arm plus other sundry parts was acquired. I decided I would attempt to move the lower engine lugs on the frame to the new location to suit the crankcase rear mounting when using Venom front engine plates. This was after checking that there was adequate clearance at the upper engine steady connection and that the front of the crankcase cleared the front down tube.

Attempting to move the lower lugs was not a success. (I have to now agree with the late Keith Hamilton's



recommendation not to go down that route) I thought that with my welding/brazing experience, gained as an apprentice, it would be a simple job. It turned out not to be. I did manage to find the pins used to locate the lugs and drilled them out, however when the braze was melted and the lug given a light tap to see if it would move it split across the top edge. Mild panic set in at this point and the lug was hastily brazed back together.

I then decided that my solution would be to remove the top of the lugs and braze on rearward pointing extensions, drilled one side and tapped at the primary side. The brazing being done with the gearbox plates bolted in position as a template. The gearbox plates were the ones used in conjunction with the series 5 box modified at the front to match the KSS crankcase rear locations by adding weld and grinding to the required profile. Venom front engine plates were used which fitted without modification.

The upper engine steady was fabricated using 5/16" round bar with flat sections welded at each end to pick up the connection on the cylinder head and the frame.

With a little manoeuvring at the welding stage it just clears one of the rocker cover hold down bolts and is good and sturdy. I used bolts to secure the rocker covers in place of the studs to give more clearance as things are quite tight up there.

A problem was found at the dynamo strap connection on the front of the crankcase where I found the screw head would not be accessible as it would have been tight up against the frame. The solution I used was to make two small plates to pick up the two frame to engine mounting plate bolts and run a 3/8 bar between them suitably profiled to clear the frame down tube and then to hook a stainless steel Criterion dynamo strap underneath it, suitably bent round the bar. This solution hasn't given any problems to date.

Once the engine was mounted in the frame a standard KSS exhaust pipe was purchased unchromed together with the drilled brass cylinder head exhaust pipe retaining flange nut and the bike taken to a local pipe bender who added one bend downwards at the silencer end of the pipe to line up with a standard Velocette





Peter Bateman's 1936 Velocette 350cc KSS engine mounted in a post 1954 Velocette Sprung Frame.



Fishtale silencer. The pipe was then chromed. The drilled brass retaining nut certainly looks the part and I was lucky that the threads in the cylinder head were good to use.

A KSS standard valve lifter arrangement was used with the bottom of a Venom/Viper fuel tank suitably reprofiled to clear the cylinder head and the lifter lever.

The tank was finished in black with gold lining after leak testing and finishing internally, as it was quite rusty, with a POR15 tank repair kit with excellent results which have showed no deterioration due to ethanol in the fuel after some 15 years use.

Wheels used were a full width hub at the front, for a superior front brake, with a cotton reel at the rear to save a little weight, on chrome rims and stainless spokes with ThruXton type mudguards and stays. I used a Lucas chrome plated headlight shell painted black with the later flick switch, for simplicity, and I took the opportunity to update to 12 volt electrics as I was starting from scratch with an old stock Lucas 6 volt dynamo rebuilt to 12 volt in conjunction with an electronic regulator. What an improvement at night. I can now nearly see where I am going.

A standard MAC bench type seat was which has recently been replaced with a stepped seat which gives much more comfort to my ageing rear end.

Once fired up I found that I couldn't get oil to circulate through the big end unless I had 14psi at the test point. This was a mystery at the time but things have settled down and I now run with 10psi. I originally ran with a tap in the oil feed line as wet sumping was a big problem but made the same error as many others have done and forgot to turn it on resulting in a minor engine seizure.

Since then I have run with the standard ball valve assembly fitted without seeing any oil circulation problems until after changing the oil last winter when it was quite cold in the garage, I found that the oil was not being drawn into the pump from the tank continuously but was being sucked in short bursts with air in between the bursts of oil.

This was quite alarming at the time and quite obviously wasn't an acceptable situation. My solution was to fit a tap with an electrical output to cut out the ignition to prevent starting up with the oil tap turned off. The tap having a bore of 3/8" did not give any restriction to the oil flow. An immediate improvement was found with

the oil circulation on start up proving to be much quicker and greater in volume too. A win win situation.

A sprocket change was made as the gearing was too high. I used a Venom rear brake drum/sprocket so that a wider range of final drive sprockets would be available. Initially I had an 18 tooth final drive sprocket which was changed to 17 tooth with a significant improvement in performance.

Initial running showed that, without any of the originally fitted leather valve stem seals being available, produced a very smoky exhaust. This didn't appear as though it was going to settle down over quite a few miles so Nitrile "O" rings were fitted as stem seals which solved the problem. The stem seals used are 1/8" section 70 Shore Nitrile O Rings which have proved very successful for me and other colleagues who have also used them.

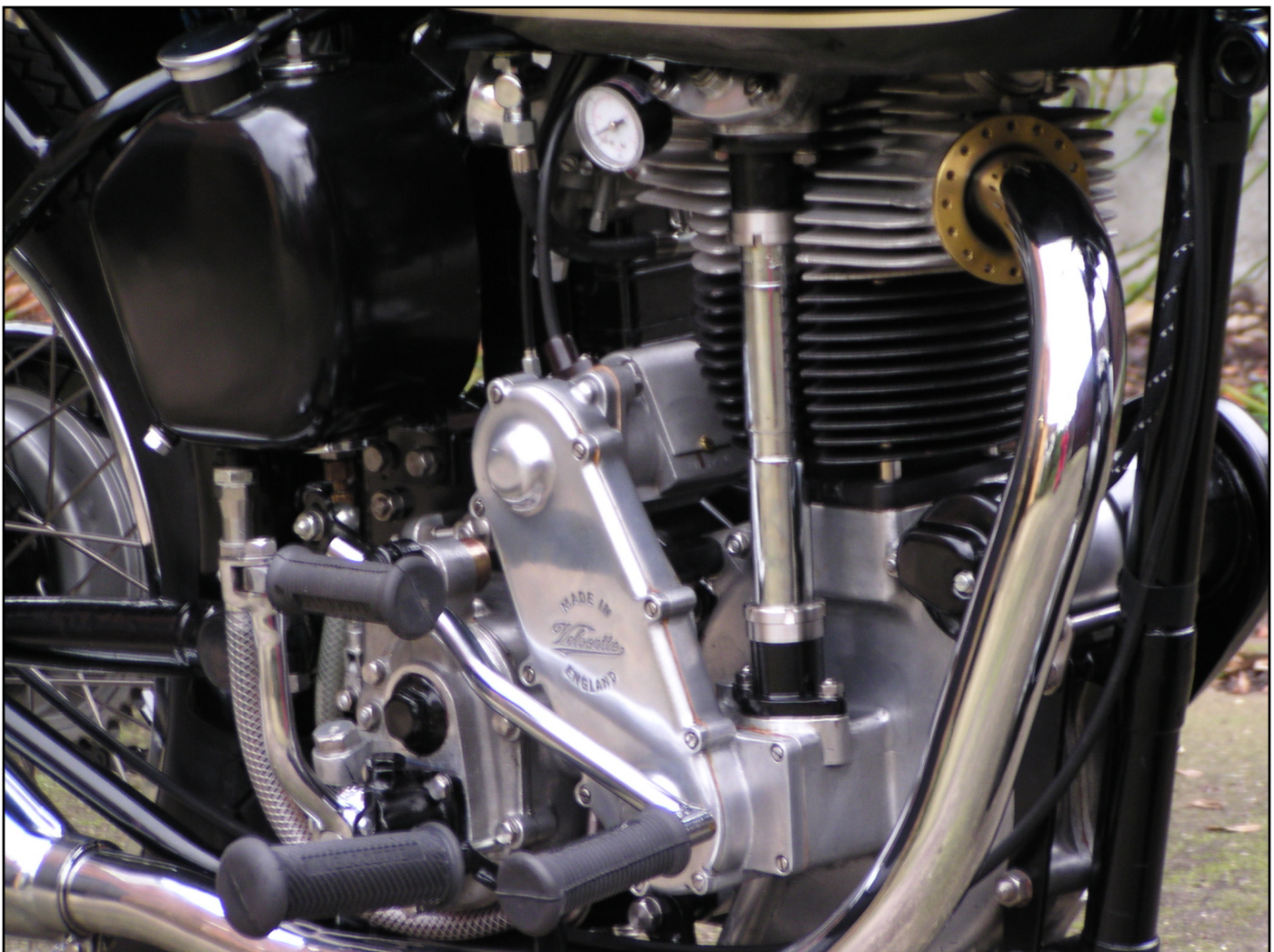
I used a Series 5 Gearbox as it fits in well and gives full range primary chain adjustment. Thinking that the gearbox was a bit noisy I replaced the main output

bearing and the sleeve gear bushing, which I maybe should have done at the rebuild stage, but thought they were OK. Some improvement was found but I think the main noise is from the gears which although they look in very good condition are after all 86 years old. I also took the opportunity to fit a 1 up 3 down cam plate to match my MAC and Venom. The clutch used was a 9 plate, as fitted to my MAC and Venom, for commonality.

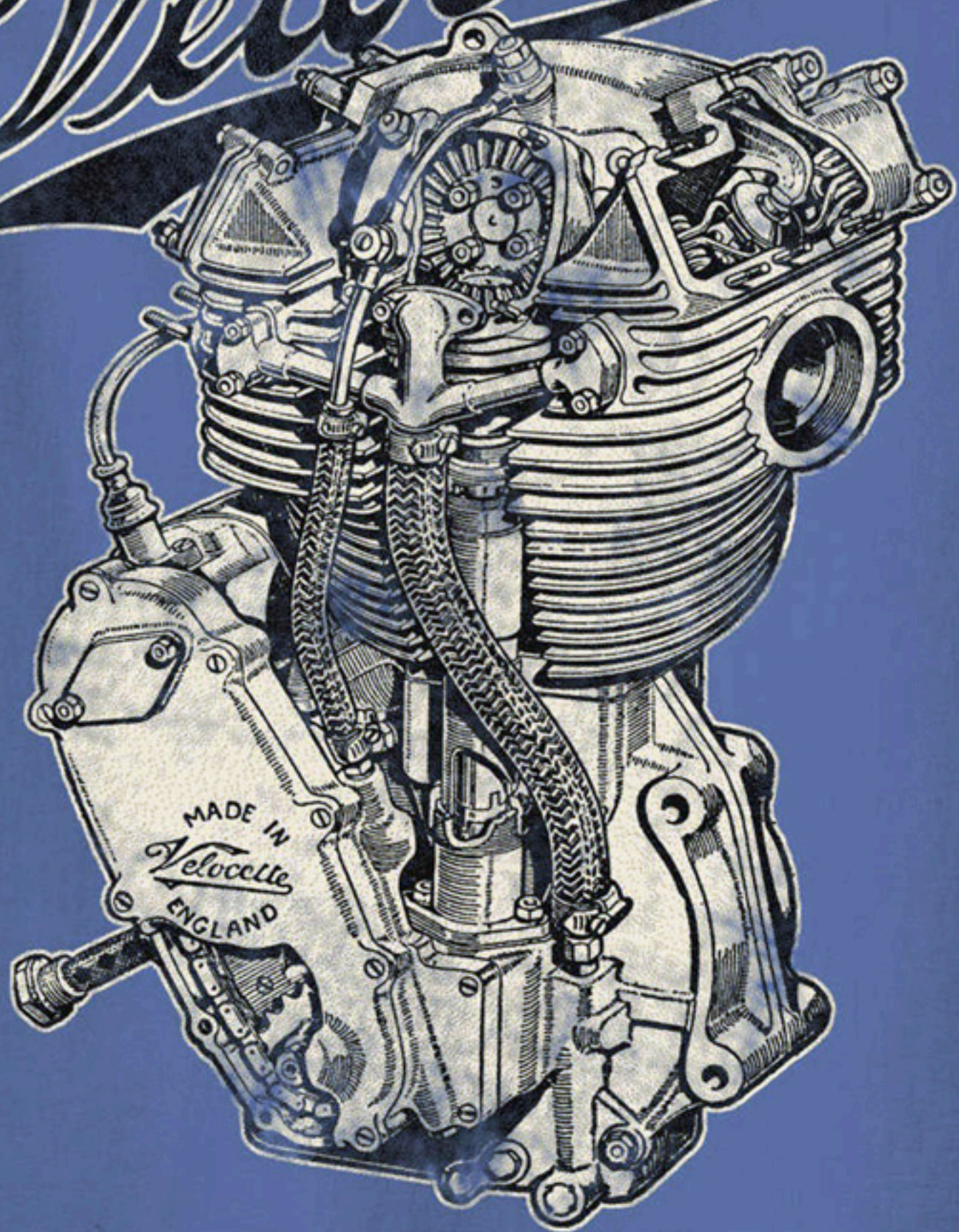
Overall impression is that it is most certainly a very smooth engine, almost turbine like, and feels completely different to the push rod engines in the MAC and Venom.

The combination of the OHC engine in the later sprung frame fits really well together and the bike is a total joy to ride.

Would a KSS/RS Springer have sold more bikes for Velocette at the time? We will never know the answer to that one but I am very pleased with mine.



Velocette



1948 Velocette LE

Article and Photos by Frank Melling





Our Memorable Motorcycles expert, Frank Melling also is the organizer of the British vintage motorcycle extravaganza known as Thundersprint. Melling began riding five decades ago and remains as much in love with motorcycles as when he drove his first bike into a cow shed wall aged ten. In the last 50 years, Melling has competed in every form of motorcycle sport and now declares himself to be too old to grow up and be sensible.

One of the great pleasures of writing the Memorable Motorcycle vignettes, and there are many, is seeing how a particular bike is woven into the social fabric of its time. The Velocette LE is a perfect example of how a thoughtful management conceived a really practical, well-considered idea based on a sensible analysis of the market – but then got things completely wrong.

First, the historical context of the LE. In 1948, just three years after the end of the Second World War in Europe, Britain was in a state of immense flux. All the social rules which had bound society together in 1939, before the start of the war, had been obliterated along with hundreds of thousands of working class houses, which had been destroyed in Britain's industrial heartlands.

Before the war, the idea of mass ownership of motorized transport would have been inconceivable – not least because the ability to ride a motorcycle or drive a car was rare amongst huge swathes of the middle and working classes.

During the six years of conflict, men and woman learned to drive by the tens of thousands, to support the war effort, and these potential customers flooded back into the British market after the war had ended.

Attitudes had changed too. No longer were cars and bikes aspirational dreams, but rather the first nascent hint of entitlement was beginning to appear. Those coming back from the war felt that waiting in line for a train or bus was not the only option. Perhaps, people thought, personal transport was possible.

The mass destruction of working class slum dwellings by German bombing provided the catalyst for the construction of new, modern houses on vast, out-of-town estates. No longer were workers located within sight of their factories. Now, they lived outside the urban areas in houses with bathrooms and flushing toilets – dwellings fit for heroes to live in.

So this is the social context of the Velocette LE. Now to the actual bike. Veloce, who confusingly called its bikes Velocettes, was a privately-owned company controlled by the Goodman family. Before the war, they were serious players in the British motorcycle industry and world leaders in design. For example, Veloce designed the first practical foot change gearbox in 1929 – before that gears had to be changed by hand – and their KSS and KTT racers were world beaters.

As the war came to an end, Veloce's Chief Designer, Eugene Goodman, assisted by his Senior Development Engineer, Charles Udall, began work on the ground-breaking motorcycle which was to become the LE – an acronym for "Light Engine" – Velocette.

Every part of the motorcycle was aimed at Goodman's concept of a two-wheeled vehicle for the masses. The bike had to be light, clean and easy to ride, simple to maneuver when static and able to carry luggage. It would be a machine which everyone would want to own – from the office worker to the housewife going shopping – and it was going to produce a financial bonanza for Veloce.

The Velocette LE rear mudguard is copious and effective.



Just how certain the company was of the LE's future success was shown when they re-organized the Hall Green factory, reducing production of the lucrative sporting single-cylinder machines and, instead, putting in place extra capacity for the huge LE sales which were certain to follow. Their optimism was misplaced.

The LE is very much a wholly integrated concept and for this reason it was an expensive motorcycle for Veloce to produce. Where there was commonality of parts amongst the Singles, everything for the LE was dedicated just to this one motorcycle.

It would have been fascinating to sit in on the discussions between Goodman and Udall but my feeling is that the mistakes they made began with the very location of the Velocette factory right in the center of Birmingham. Their second mistake is that they were not their customers and lacked a personal empathy with them.

A lap of the four major motorcycle manufacturers in Birmingham – Veloce, Ariel, BSA and Norton – was under 16 miles and the suburban areas where their workers lived were only a few miles distant. I am certain that these two core facts influenced the designers. After all, if you need a practical form of transport to get around the intensely urbanized area which was so familiar to Goodman and Udall, why would you want, or need, high performance?

So at the heart of the LE was a water-cooled, 150cc, side-valve, horizontally-opposed Twin producing just six horsepower. This is how Udall explained the reasoning behind the unusual engine design.

“Since one of the chief aims was the elimination of vibration, a Flat Twin was decided upon. Since the unit had to be as simple as possible, and large mileages with a minimum of attention were an important proviso, side-by-side valves were preferred. An objection to overhead-valves was that even in a small-capacity engine, the width would be considerably increased, making the engine much more vulnerable. The cylinder heads, in fact, would probably have projected beyond the leg shields.”

So, the thinking behind the LE was sound and thorough – in theory at least.

Being water-cooled, the tiny Twin was almost silent and it was also spotlessly clean – at a time when most bikes leaked oil most of the time!

The engine was rubber mounted, and heavily silenced, while the pressed-steel frame was felt lined, so that

some riders claimed they could only tell their LE was running by looking at the ignition light. This was a slight exaggeration – but not much of one.

If the noise levels and sophistication of the LE were world leading, Goodman and Udall truly lost sight of reality when it came to the practical use of their new peoples' motorcycle.

The first mistake, and one which showed Goodman's lack of empathy with the people who would actually be buying the LE, was that, bizarrely, he insisted on a hand start for the little Twin. He felt that his new breed of customers, who were not motorcyclists, would object to kick starting an engine.

Again, it is easy to see how Goodman was influenced by the standard practices of his time. Velocettes in particular took a lot of skill to start with their manually controlled ignition and carburetors. They were also psychopathically vicious if one got any of the variable parameters even slightly wrong – at which point they kicked back like a mule! Goodman was trying to solve a very real problem in selling the LE widely but 1940s technology had not caught up with his ambitions.

The obvious route would have been an electric starter but these were large, heavy and unreliable items in 1948 and would also have added hugely to the costs of a little bike whose price was fast spiraling out of control. The insuperable problem was that customers neither knew, understood nor liked a hand start and so Veloce immediately placed a major barrier between themselves and the prospective purchaser.

The next difficulty was the hand gear change. As I noted, Velocette invented the modern positive stop gearbox, so the decision to have a hand change might seem incomprehensible. However, it wasn't. Goodman looked at the tens of thousands of post war, emancipated woman and saw a huge potential market. He reasoned, perfectly soundly, that female customers would not want to be ruining their office dress shoes with a stiff foot change.

Again, Goodman shows both his good intentions and his emotional and intellectual distance from his customers. The problem was that the vast majority of women were not emancipated and they were not going to be customers for the LE for the simple reason that ladies did not ride motorcycles.

Let me give you a flavor of life for young girls as seen from my eyes when I started High School in 1962. One Saturday morning, I met two girls in the industrial

town where I lived. We swapped stories of our new "Big Schools" because English kids at the time were separated by gender and ability at 11 years old.

They explained that the week before they had both received two strokes of the strap – a thick, heavy, leather belt – on their bottoms. Their crimes? First, they had been seen by a teacher waiting for a bus to go home. This was some two miles from their school but was still considered to be within the aegis of the establishment. She had observed that one was not wearing her school tie and the other had put her school hat on the back of her head in an unladylike manner. These crimes were both considered to be manifestations of unacceptably brash, vulgar attitudes and were duly punished – and that was that.

Ladies were simply never seen in control of a motorcycle and if they did ride it was with their men recreationally – not wearing skirts and high-heeled shoes commuting to the office.

Yes, it was true that a tiny number of women did ride bikes but they were an incredible rarity and fell into the same category as those females who skippered sail boats or skied. They simply weren't there in bulk to buy the

A look at the LE's tiny Flat Twin, which metered out an anemic six horsepower.



LE, and when you did come across a woman who was a motorcyclist the last thing she wanted was a quiet, slow and inoffensive six-horsepower machine.

The three-speed gearbox reinforced Goodman and Udall's narrow view of the LE. You need one gear to get you going; a second to bring 30 mph on to the speedometer and a third to enable comfortable, near silent, cruising at between 30 mph and 40 mph. In short, the LE was vastly quicker and more convenient than a bus or urban train.

Where the bike did excel was in the designer's determination to make it user friendly. The little 150cc engine was very lightly stressed and the transmission is fine for the purpose. Best of all, the LE has a shaft drive so the bike is spotlessly clean and the absence of a rear chain means that there is nothing to adjust.

Although an LE would go a little faster than 40mph, no one ever did because the brakes were marginal at best!

Fuel consumption was wonderful. Even with a small, 1.5-gallon tank a rider could expect a comfortable 100 miles before refueling and this was a lot of trips to work and from your freshly built social housing into town for provisions.

The Velocette LE front forks are excellent for 1948 but the brakes are very marginal.



The LE's chassis cost a fortune in tooling, and it was money which Veloce could ill afford. It was made from steel pressings and was eminently practical, providing excellent weather protection. As noted earlier, it was able to be lined with felt and so reduced the noise on the already whisper quiet motor.

Aluminum leg shields and floor boards bolted on to the main chassis gave excellent weather protection and allowed the rider freedom to move around in comfort and cleanliness. After all, you wouldn't want to scuff your highly polished shoes on footrests! Large mudguards kept the rider dry and clean in even the worst of weather.

As a top-of-the-range bike, the LE had excellent telescopic suspension front and rear and even the angle of the rear shocks could be adjusted. So not only could you hiss along in near silence you could do so in comfort too.

Finally, Veloce did a wonderful job in terms of controlling the weight with the LE turning the scales at a creditable 260 pounds. The fuel was located low down, right along the center line of the bike, to enhance mass centralization just like a current MotoGP bike! This was not a bike thrown together without thought.

With a very low center of gravity, and a seat height of only 28 inches, the LE was one of the least intimidating motorcycles ever made.

Good as it was in terms of design, all the technology had a hugely negative impact on the price of LE. The true people's bike was BSA's Bantam – a rip-off of the very fine pre-war German DKW. In almost every way the LE was a better bike. It braked better, handled more surely and was infinitely more sophisticated than the Bantam but, and here was the killer punch, the LE was well over 50% more expensive than the BSA.

This difference is worth looking at in some detail. An LE sold for £126 seven shillings and four pence – around \$190. The little BSA weighed in at only £76 and four shillings – \$115. This was when a newly qualified tradesman – the real target audience for both bikes – was earning around £3 per week – about \$4.50. In the real world, it would take the same tradesman an additional four months wages to buy the LE when the Bantam had almost identical performance and was much cheaper to maintain.

Even when the inherent faults with the LE were corrected, and the engine capacity was increased to

192cc, giving a whole extra 2hp, and a kick-start and foot shift became standard the bike was still a commercial disaster. Well, almost.

Growing up, we would-be motorcyclists used to ride our bicycles home from school and sneer at LEs which we could out accelerate at stop lights almost every time. No-one with any interest in real motorcycles would have anything to do with an LE. They were simply a bad joke in our eyes.

Females, if they ever knew of the existence of the LE, treated the little bike like the plague and the lower middle class teachers, bank clerks and Civil Servants who might have been able to buy an LE would have nothing to do with anything which looked like a motorcycle. If their eyes did rise to motorized transport it was the dull as ditch-water Austin A30 or a Ford Anglia – both of which would carry your wife and three kids and at a cost of only £390.

So who would want the LE? A clue comes in the bike's nom du guerre – the "Noddy Bike". In the immediate post war years, junior ranks in the British Police had to salute officers over the rank of Inspector. However, even in those wonderful pre-Health and Safety days, it was considered to be dangerous to make a Constable remove his right hand from the throttle to salute a senior so, when he was riding an LE, he was allowed to nod acknowledgement.

For the first time, the LE gave mobility in excess of bicycles to many British Police Officers. Now they could reach emergencies promptly and they could also cover large distances, compared to walking or cycling, and access the new housing estates. Better still, as time progressed they could also be in radio contact with their home bases.

The Police loved the LEs. They were the stealth bombers of their day. Instead of arriving in a cacophony of clanging bells – sirens were still in the future – and flashing-lights LE-equipped Bobbies slipped in silently and swiftly to the scene of crime – and with great effect. In fact, the LE was so popular that 50 British Police forces used the bike all the way up to when Veloce closed the factory doors in 1970.

So what is an LE like to ride? The answer is predictable. It is everything that it says on the box in terms of silence and smoothness and the 200cc version even has a hint of acceleration. The LE handles okay, as well it might with a pressed steel spine monocoque chassis and

only 7hp, but the experience is deadly, mind-numbingly dull.

Every time I have ridden one of these clever little bikes I have spent my time thinking about the many better classic motorcycles I could be riding instead of whispering along at 35mph on the LE and that, in my eyes, is a good reason for leaving Veloce's brilliant, but misconceived, idea to the stalwarts of the LE Velo Club.



The LE Velo club

info@le-velo-club.com

<https://le-velo-club.com>

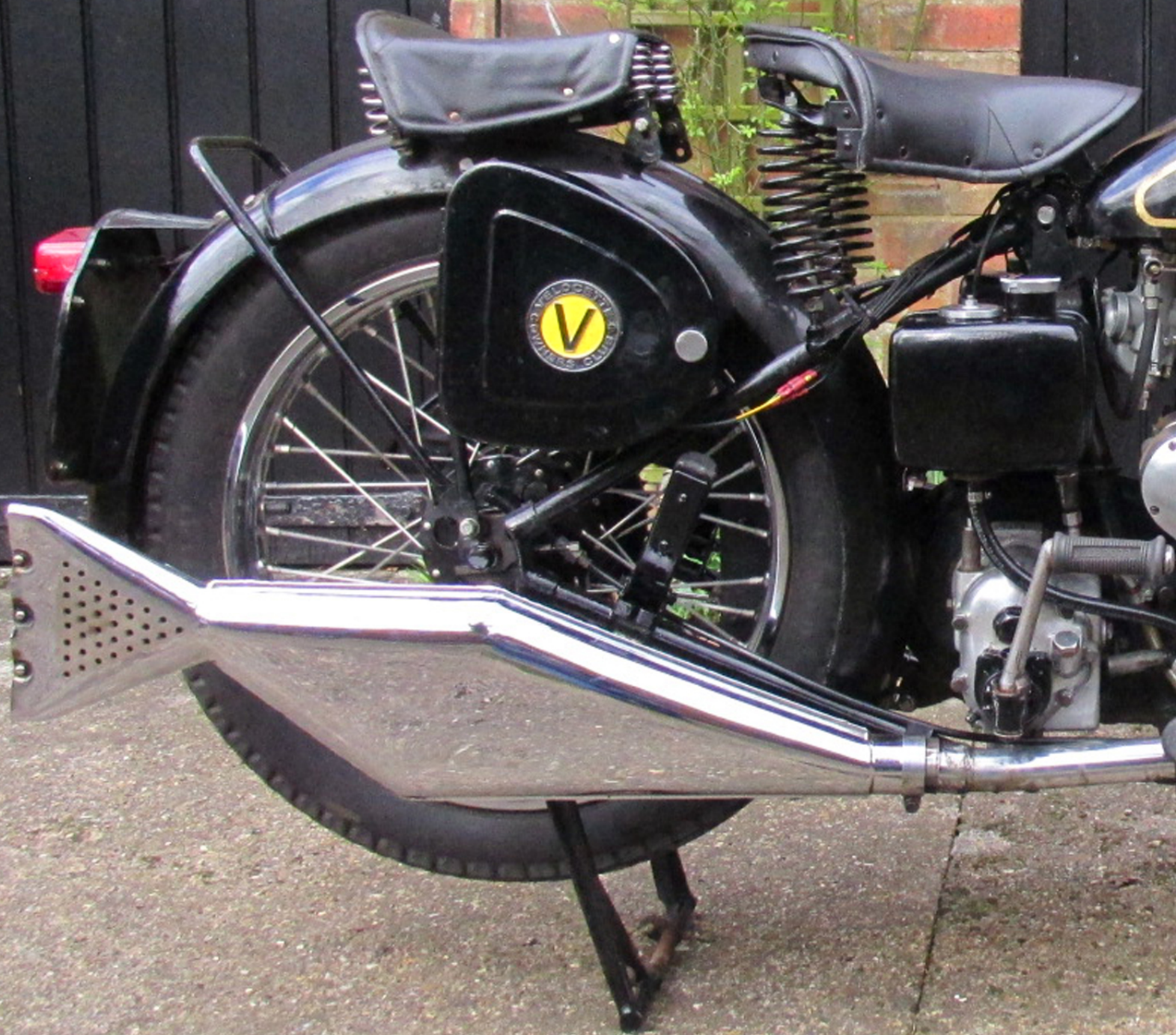
Bullers End, 43 Bradford Lane,
Walsall WS1 3LU,
United Kingdom

The large handle is for starting the LE.



The shaft drive is neat and tidy.





**Peter Bateman's
1953 Velocette
350cc MAC**





VELOCETTE VENOM CLUBMAN OUTSIDE AN ANTIQUE SHOP IN



N BUFORD, COTSWOLDS, ENGLAND BY ARTIST TIM GAINEY

1961 Velocette Super Venom Artwork by **NIGEL LOMAS**

Artwork, Prints, T Shirts, Mugs, Caps and more
can be found at:

<https://www.redbubble.com/people/Niglom?asc=u>





1961 Velocette Venom 500 Clubman

By Robert Smith | Photo by Jeff Barger | Source: MotorcycleClassics.com



1961 Velocette Venom Clubman "Veeline"

1961 VELOCETTE VENOM CLUBMAN "VEELINE"

- Engine: 499cc air-cooled OHV single, 86mm x 86mm bore and stroke, 8.75:1 compression ratio, 39hp @ 6,200rpm
- Top speed: 102mph (period test)
- Carburetion: Single Amal 10TT9
- Transmission: 4-speed, chain final drive
- Electrics: 6v, Miller DC generator, BT-H racing magneto ignition
- Frame/wheelbase: Single downtube lugged and brazed mild steel tube frame/53.75in (1,365mm)
- Suspension: Velocette telescopic forks front, dual Woodhead-Monroe, Armstrong or Girling shocks w/adjustable preload rear
- Brakes: 7.5in (190.5mm) SLS drum front, 7in (178mm) SLS drum rear
- Tires: 3.25 x 19in front, 3.5 x 19in rear
- Weight (dry): 375lb (170kg)
- Seat height: 30.5in (775mm)
- Fuel capacity: 3.5gal (13.2ltr)
- Price then/now: \$1,095 (1963)/\$8,000-\$20,000



Acquired through a chance phone call to an old work buddy, new owner Don Smith has revived this Velocette Venom Clubman to its former glory.

On the weekend of March 18, 1961, a team of six French riders plus Bruce Main-Smith of Motor Cycling magazine and Veloce Ltd. Sales Director Bertie Goodman assembled at the famed Montlhéry banked track near Paris, France, with a specially prepared Velocette Venom Clubman 500 single.

Their goal was to ride the Venom to a new motorcycle speed and endurance record. By Sunday morning, the team had covered 2,400.92 miles on the Venom from the time it roared off the start line the previous day, in the process setting two new records, the first for running an average speed of 100.05mph over 24 hours — in spite of a 34-minute stop to replace the gear selector mechanism and rear chain — and a new 12-hour record for an average speed of almost 105mph.

Although missing most of its electrical ancillaries and fitted with a “dolphin” fairing, the Venom was close to stock Clubman specification with 8.75:1 compression, though an Amal GP carburetor and taller gearing had been used. The record bike produced an estimated 40 horsepower and ran most of the 24 hours between 5,800 and 6,000rpm — yet still returned 45mpg!





THE VENOM

The Venom had its origins in Velocette's 1933 250cc MOV, which was intended as a sporting lightweight to fill the gap between the utilitarian 250cc GTP 2-stroke and the 350cc overhead cam KSS street bikes. It was to be easier and cheaper to produce, but still reflected Velocette's engineering sophistication. So while the specification called for pushrod-operated overhead valves, designer Charles Udall placed the camshaft as high as possible in the engine to reduce moving mass in the valve train — leading to the famous "Map of Africa" timing cover. Udall also tried to minimize the width of the crankcase and therefore reduce flexing. To achieve this, he specified a taper-fit crankpin to avoid using lock nuts, and taper roller main bearings. Udall also kept the primary driveline chain as close as possible to the crankcase, minimizing side loads on the crankshaft and gearbox mainshaft. This allowed the clutch to be inboard of the countershaft sprocket,

meaning the final drive gear ratio could be changed in minutes.

The MOV's design became the template for all Velocette overhead valve singles, and its fundamental sturdiness was demonstrated in that the same basic bottom end was retained throughout the engine's evolution. But the most popular engine size for a sporting motorcycle in 1930s Britain was 350cc, so the 68mm x 68mm MOV acquired a crankshaft with a 96mm stroke to create the sporty 350cc MAC of late 1933. The sidecar-tug market was also important in the 1930s, so Velocette responded with an 81mm bore for more torque, creating the 500cc MSS.

Phil Irving of Vincent fame joined Velocette in 1937, and was principally responsible for modifying the MAC for wartime use as the Velocette MAF.

The MAC and MSS were reintroduced in 1946 following the end of World War II and fitted with Dowty Oleomatic semi-hydraulic forks in 1947. The



MSS disappeared from the Velocette range in 1948 while Velocette concentrated on their revolutionary LE model. The MAC continued with major changes: For 1951, a new Velocette-made hydraulic front fork replaced the Dowty; an iron-lined “Alfin” cylinder and light alloy head were fitted; and in 1953 a swingarm frame arrived. The new frame featured a slotted track for the upper rear shock mounts, so that the shock angle could be adjusted (thus varying the preload) by sliding the top mounts back and forth through a short arc.

The MSS rejoined the lineup in 1954, but with cylinder dimensions revised to give a “square” 86mm x 86mm bore and stroke. The reason, designer Charles Udall famously stated in an interview, was not because shorter strokes were necessarily better, but because that was the longest stroke that would allow the MSS engine to fit in the new MAC frame! At the same time the MSS also got an Alfin cylinder and alloy head.

While the MSS and MAC continued the Venom and Viper performance versions arrived for 1956. Power output for the 500 went from 27 horsepower at 5,500rpm to 36 horsepower at 5,700rpm, with top speed claimed at 102mph thanks to a revised camshaft, larger Amal Monobloc carburetor and compression increased from 6.8:1 to 8:1. (The Viper’s 350cc engine used the same stroke as the 500, but with a smaller bore of 72mm.)

Included in the Venom’s specification were hairpin valve springs. (Udall claimed the resonant frequency of coil springs could cause valves to float.) The camshaft operated quadrant-shaped followers working the rockers via short pushrods. The crankshaft was located in the cases by taper roller bearings that were shimmed to a slight preload during assembly to control side play. Drive to the 4-speed gearbox (featuring the sequential foot-change that Harold Willis invented for Velocette in the 1930s) was by chain as for the MOV. The Venom also retained magneto ignition and Velo’s characteristic

belt-driven dynamo. Important new features were full-width brake hubs carrying 7-1/2-inch single-leading-shoe front and 7-inch single-leading-shoe rear brakes.

CLUBMAN: BY NAME AND NATURE

Velocette's next development of their big singles was likely spurred by the popularity of Clubman racing in the U.K. A number of disused World War II airfields like Thruxton in Hampshire, Castle Combe in Wiltshire and Snetterton in Norfolk were repurposed as race tracks. British champions like John Surtees and Mike Hailwood got their starts racing at such circuits in Clubman amateur races, and the first choice bike for many Clubman racers was BSA's mighty DBD34 Gold Star.

Hinting at greater sporting potential, the Venom and Viper had both received lighter flywheels and larger carburetors in 1956. In 1957, a prototype sports version of the Venom with higher compression was entered in the 24-hour Bol d'Or race, placing third overall and first in class. But it took until 1959 for the new bike to emerge from the factory as the production Clubman.



All the parts to build your own Venom — or Viper — Clubman had been available as components from the factory.

So the Venom Clubman was fitted with a BT-H racing magneto, an Amal 10TT9 racing carburetor, rearsset footpegs and a reversed shift lever (with the internal selector reversed to maintain the existing shift pattern), a new header and muffler (for improved ground clearance), close-ratio gears, a Nimonic alloy exhaust valve, aluminum alloy wheel rims and modified fork internals for two-way damping. Also included was a tachometer and racing seat. An increase in engine compression to 8.75:1 was achieved by removing a compression plate spacer and fitting a solid skirt piston. As such, the Clubman came close to the BSA Gold Star's power and weight (39 horsepower and 375 pounds dry versus the Gold Star's 40 horsepower and 380 pounds dry), and thanks to different power characteristics, it was reportedly faster in a straight line.

As intended, the Clubman was particularly effective in endurance racing, and while it never won the Southampton & District Motor Cycle Club's prestigious 500-mile race at the Thruxton circuit outright, it was second in the 500cc class four times, and first in class in 1964.

In 1960 Velocette joined the then current fashion for body enclosure, with molded plastic bodywork covering the lower engine and transmission on both sides of the Venom and Viper. It's also supposed this was a cost-saving measure, reducing plating and polishing expense. Fortunately, the Clubman avoided this indignity and continued with its polished engine cases exposed.

However, the Clubman and the other big singles were available from 1960 with a Veeline dolphin fairing from Mitchenall Brothers based on the fairing used on the 24-hour bike.

THE ULTIMATE CLUBMAN

Velocette celebrated its 1964 victory at Thruxton by announcing a new model — based on the Clubman and named for its successful race venue — for 1965. Among many modifications, the Thruxton included larger valves with reduced valve angle, longer intake tract, a 35mm Amal 5GP2 carburetor, 9:1 compression piston and revised valve train.

The front fork was derived from the MSS-S Scrambler, and the 7-1/2 inch twin-leading-shoe front brake was from John Tickle. The longer intake and GP carb led to

the Thruxton's trademark cutout in the gas tank. With 41 horsepower at 6,200rpm, the Thruxton was good for 120mph with race exhaust, and it put this power to good use, taking first and second places in the inaugural 500cc Isle of Man Production TT in 1967.

The last Clubman left the Velocette factory in 1970, and the last Velocette of all — a Thruxton — in 1971. Veloce Ltd. went into voluntary liquidation that same year. In all, some 5,750 Venoms were built between 1956 and the end of production.

Velocette's big singles in general — and the Clubman in particular — were never sold in the kind of numbers that BSAs, Triumphs and Nortons were, and for very good reasons. Designed for ruggedness, longevity and reliability, and to a higher quality finish, engineering was rarely if ever compromised for cost reasons (although later Venoms did use a cast-iron cylinder in place of the more expensive "Alfin"). That meant they were typically more expensive than other British bikes, but required less maintenance. Overall, they were capable of covering great distances at high speed with little fuss.

Wrote Motor Cycling magazine in a period test: "The Velocette Venom Clubman Veeline is a mount with which to enjoy hard riding. Capable of handsomely breaking 'the ton,' it can keep going at high speeds as long as fuel or rider permits ... Here in fact is a true thoroughbred."

DON SMITH'S CLUBMAN

Don Smith of Appleton, Wisconsin, acquired his 1961 Venom Clubman through a chance phone call to an old work buddy, Jim Wadkins.

"I asked him if he had any motorcycles, because 40 years ago he rode," Don says. Jim admitted he had stopped riding because of failing eyesight, so Don asked him if he had any bikes at all. "He says, 'Yeah, I've got a Velocette in the garage that I haven't ridden in 30 years.' So we talked a little, but I didn't know anything about Velocettes." Don asked if he was interested in selling. Jim said no. "Well, what are you going to do with it?" Don remembers asking.

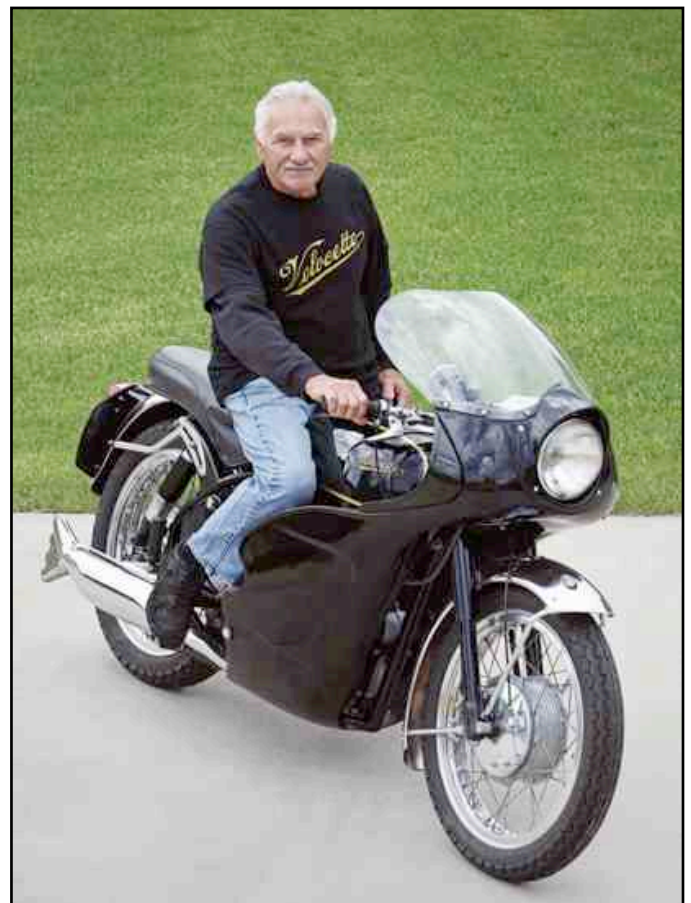
Don researched the Velocette marque, and was also able to put together some provenance on Jim's Velo by contacting vintage restorer and Velocette specialist Richard Renstrom of Classics Unlimited, who had sourced the bike from the U.K. and sold it to Jim. Don also collected period tests and reviews, as well as finding a copy of *Always in the Picture* by R.W. Burgess and

J.R. Clew, the definitive history of Velocette. All this helped Don decide that he really wanted his old buddy's bike. "I told him I was looking for a bike to restore," Don says. But the response he got was that the bike didn't need restoration.


More phone calls over many months eventually persuaded Jim to sell the Clubman to Don. And when Don finally got the Velo, he discovered that Jim was right — the Clubman didn't need restoration; just cleaning, polishing, fresh fluids and some TLC. Don credits help from a Finnish friend, Pekka Helen, for getting the Velo going.

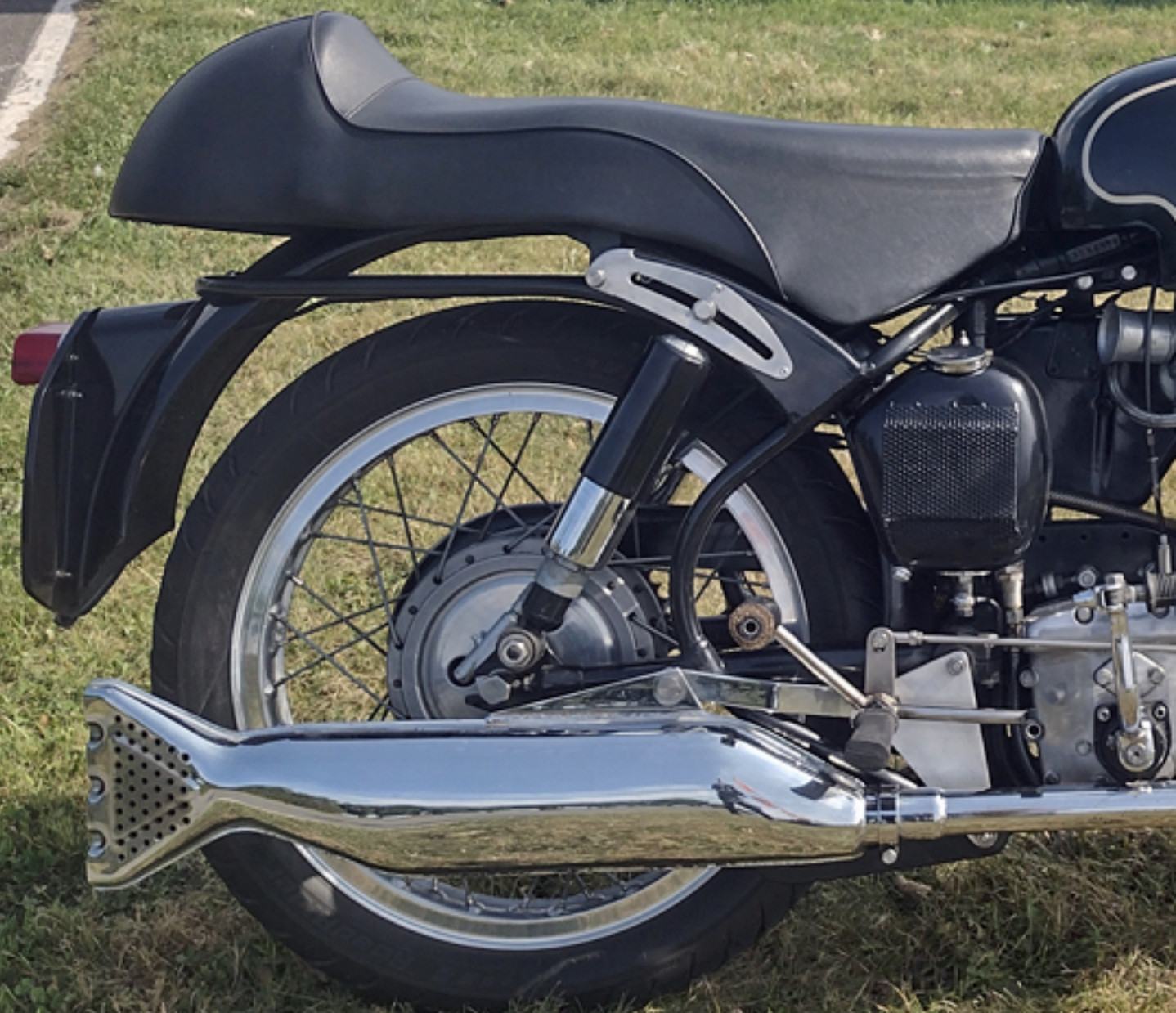
First they cleaned the magneto to ensure a good spark. "I knew nothing about Velocettes," Don says. "We cleaned the carb, changed the oil and filter, kicked it over many times and finally blew out years of mouse habitat!"

Don is delighted with his acquisition, and though Velocettes have a reputation for being hard to start, Jim says it comes down to doing it right: "I follow the procedure and it starts first kick," he says. MC



Welcome to Cadw

CadwellPark 



**Peter Bateman's
1962 Velocette
499cc Venom**

ell Park





THE ONLY LYSTER VELOCETTE IN THE WORLD RACED BY HOLLY VAREY

Photos by Douglas MacRae | Article by Doug Branch

Source: silodrome.com



The photography in this article was provided by Douglas MacRae.

The bike you see is the only one of its kind in the world, it's a Lyster Velocette that was built from mostly British parts, making it kind of a two wheeled British motorcycle greatest hits collection.

Known in the vintage racing community as the "Alan Taylor Special" this bike was built decades ago using a tubular steel frame built by Colin Lyster and a heavily modified 1964 Velocette Venom 500 engine.

Alan was a long time racer in the "Continental Circus" race scene of Europe and a former employee of the original McLaren race team. He was living in Canada at the time and bought one of the six Colin Lyster frames that had been imported by Canadian Norton Manx expert Tom Pope.

These Lyster frames are highly sought after as they provide excellent rigidity without a weight penalty. The frame, a tubular steel duplex cradles with some additional reinforcements, is ideally suited to big singles like the Norton Manx engine or the 500cc thumper from the Venom.

Frame-builder Colin Lyster was a motorcycle racer who came to fame as a motorcycle innovator in the 1960's, particularly in the design of early disc brake systems and race frames for various marques, eventually setting up shop in New Zealand.

Back in the mid-20th century it was big singles like these that were proving dominant on race tracks in Europe and around the world. They combined good reliable power output with low weight, and engineers of the period had become experts in extracting every last fraction of a horsepower out of them.

There's a large modern day vintage racing scene that keeps these bikes and their riders busy, with many traveling across the country or around the world to compete.

The Lyster Velocette shown here was built from the get-go to be a race bike, it's not street legal and it was never intended to be. The engine was built up from scratch with titanium valves, BSA Goldstar springs replacing the original Velocette hairpin, the main bearings were converted to double rollers and a custom racing cam was ground.



The Lyster Velocette tips the scales at just 122 kgs

The drive-side flywheel, complete with main shaft, were machined from billet. The carburetor is a period-correct 38mm Amal feeding into the the twin plug head. In a six week building binge, the bike was completed.

Later, after several drive side crankcase failures, a custom, stronger case was cast for the bike which eliminated the problem.

Power was sent back through a belt drive and a Norton clutch into a Matchless gearbox casing fitted with a Quaife 5-speed gear cluster. The front end was sourced from a Norton but the original brake was replaced with a Suzuki four-leading shoe drum from a GT750, and a Triumph drum was used in the rear.

The final weight of the completed bike is 270 lbs (122 kgs), this combined with the significantly increased engine output meant it was a fast bike – but after building it Alan Taylor felt he might be a little too old to ride it, so he entrusted it to talented racer Gary McCaw who competed successfully on the bike through the 1980s and 1990s.

Now getting long in the tooth himself and looking for someone to race the bike, Gary decided to let a long time family friend's daughter, Holly Varey, try the bike

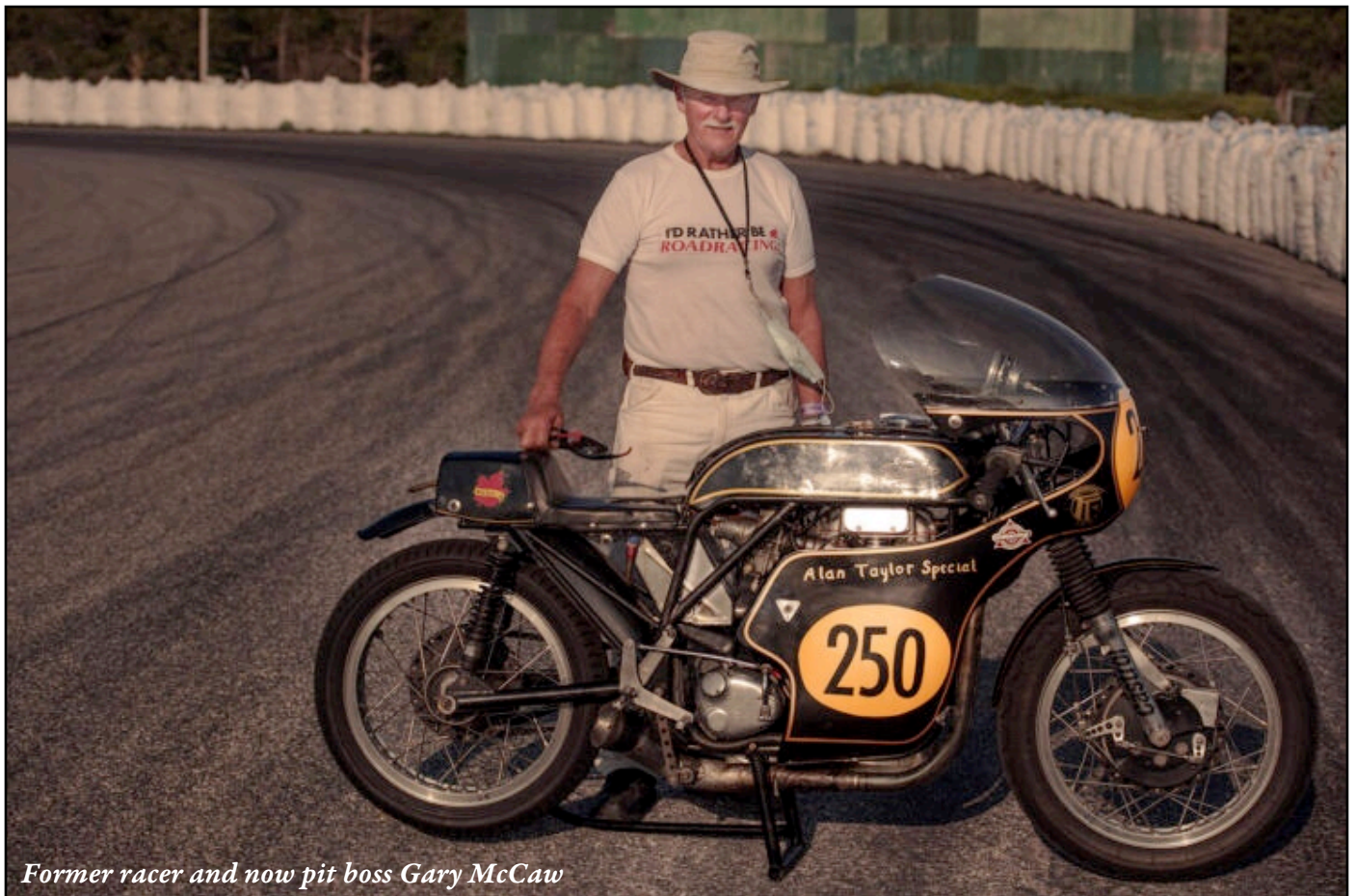
out. She had already raced Gary's Ducati 250 with good results and it was time to try the bigger 500.

She continues to race the bike in the VRRRA series to this day – these photos of Holly and the bike were taken at Shannonville Raceway after the season ending 2020 race weekend was done by Douglas MacRae. Scroll down to read Holly talking about her experiences on the bike in her own words.

We chatted with Holly by email while working on this piece and we've included her writing about her experiences on the Lyster Velocette below in her own words.

I've ridden the Velo for a couple seasons now and enjoy it more with every lap. That's not just because I'm vibing (literally) more with the bike as experience is gained, but also because with an old, totally custom-built bike like this, there is always maintenance and improvements to be made.

Gary brought the bike out of retirement (out of five or six part bins) late winter, 2019. He's a man who always has at least one major project on the go and putting the Alan Taylor Special back together definitely ranked in the major category.



Former racer and now pit boss Gary McCaw

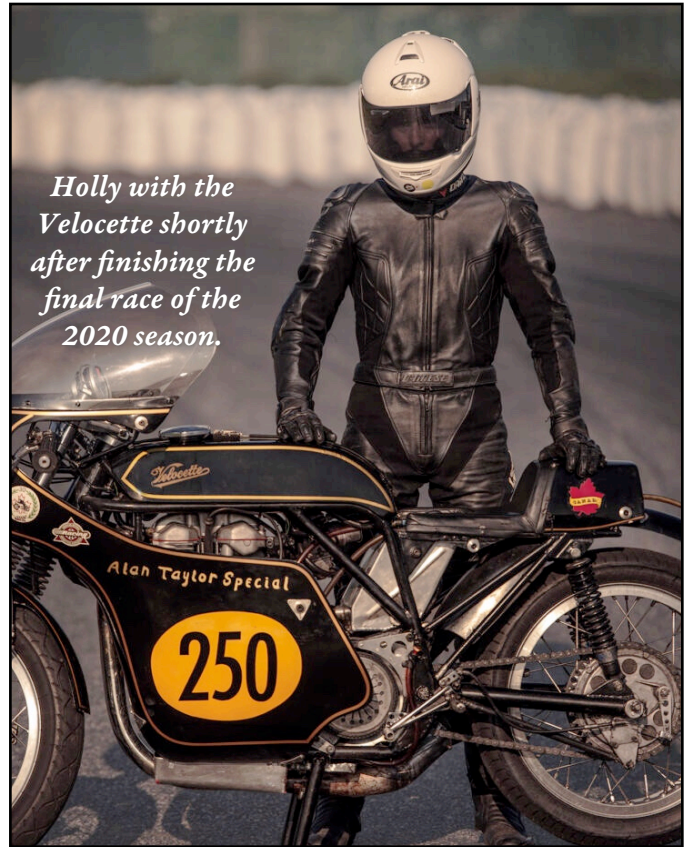
There was structural work to be done to the frame before any re-assembly could take place, but once ready to build, Gary had it running in no time. We raced it throughout 2019 and I spent most of the track time getting comfortable on a much larger bike than I was used to.

The 1966 Mach 1 250cc Ducati single I started racing with Gary the season before was lighter and very nimble; a good fit for my 105 pounds. There was a lot to learn on this throaty 500 single, plus some weightlifting to do between races!

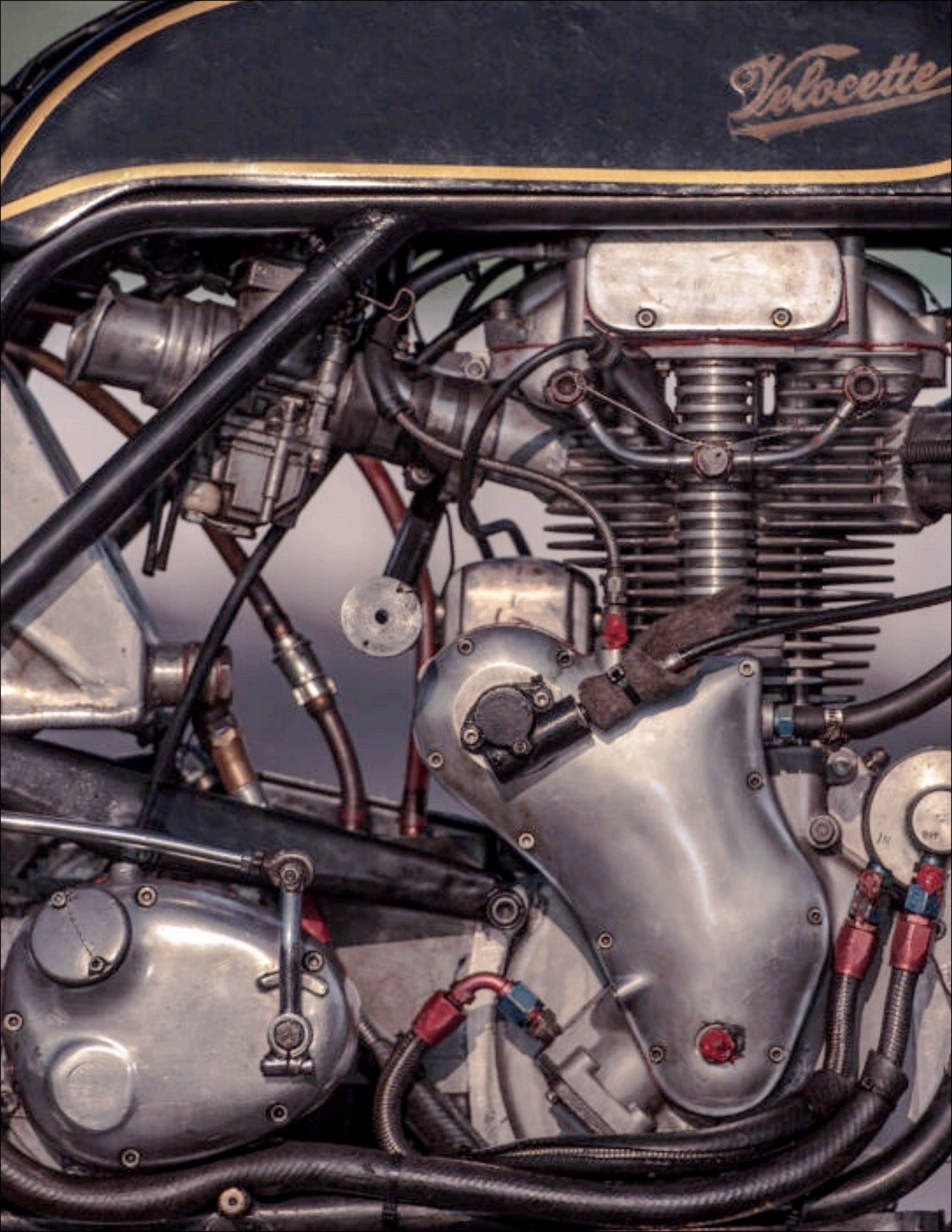
As the 2019 race season began to wrap up, I was getting comfortable – and competitive – on the Velo. Gary and I had worked out a number of bugs and gotten the bike to a place where it was performing consistently and fast. The slight tinge of intimidation I used to feel jumping on the bike had transformed into confident familiarity.

The experience of riding the Alan Taylor Special is probably a bit like paring down a tractor and streamlining it into a beautiful form for the track, if one can imagine doing that. It has loads of low-end torque; grunt to match the rider's grit; all with an elegance and grace that balances it between aggression and art. The bike has presence, and that is no less apparent when

Sometimes I still can't believe I get to race such a machine.



Velocette



Living the dream not 1 but 2 brand new Velos

By Keith Canning



Recently while in New Zealand my wife & I stayed with a well known Velo enthusiast Peter Johnson. Those who know him well always call him “Pommie Pete”. Peter lives in Napier & we arrived 2 days before Cyclone Gabrielle decided to destroy the east coast of the New Zealand North Island. Our plan was to escape the big wet as the weather people reckoned it would cross the top of the Island and move out to sea. Cyclone Gabrielle had other plans. It savaged Napier, Gisborne & other spots. The wind & heavy rain caused flooding which took out all electricity supply for about a week & much longer for others. With no power, there were no phones only limited text, no internet, drinking water running low & supermarkets running out of food. There was no fuel to be had & no roads out.

With little to do but sit around, Peter decided to show us some old photos & I encouraged him to tell us about them. Of course, the stories are about Velo’s & Peter’s long association with them.

Peter was an enthusiastic young fellow who lived in England. His dad rode motorcycles & at 15 Peter taught himself to ride on his dad’s bike. Unknown to his father, Peter would take the bike out for a ride many time while his father was at work. Peter got caught & ended up in court. His dad went with him &

Peter was fined £3. His school was not impressed as they didn’t like their students being in trouble with the law.

When Peter left school, he got an apprenticeship as a printer. This was at a place in Prescott which is 10 miles out of Liverpool. When he was 19 years old, he decided to buy a Velo. He purchased a brand-new small chrome tank Venom. It was on Friday 23rd February 1962. He bought it from the local dealer, Victor Horseman, for the Hire Purchase price of £328. The cash price would have been £287. Peter traded a 1952 G3 350 Matchless to make the deal. I asked Peter about the dealer service to which he said there was none. They never showed him how to start it & he just fumbled his way through it. He managed to ride it home.

The next day, it would not start which was really a clutch slipping problem, but he didn’t really know that. He took the Velo back Saturday morning to be fixed. It turned out that the gearbox had been overfilled which in turn flooded the chain case. After that it went well & Peter got the knack of starting & riding the Velo.

He rode the bike every chance he got, getting out into the country every weekend. The Velo was very fuel efficient returning 72 mpg consistently whether being solo or two up. It of course came equipped with the Amal Mono Block.

A big trip was planned on his 2-week annual holiday which was the norm at the time. On Friday 20th July 1962 with already 4700 miles on the clock he headed off after work. Another apprentice from his work called Dave Howard



Peter Johnson (aka Pommie Pete) and his 1962 Venom



*Viva España - Edo beside the loaded
1963 Venom First trip for the new Velo*

was pillion on the back. They did a 290-mile ride into the evening to Dover to catch a ferry. They arrived in France next morning at 6am ready to start the day.

They were heading for Spain & spent 2 days riding south in France. Once in Spain they toured around. One day they went to a bull fight. When they decided to head back to their camp, they had trouble starting the Velo. The starting trouble continued, so they headed for home with a badly running Venom. No one was able to help them with this British machine. The cause Peter found out later was the magneto.

They got as far as Poitiers in France where the Venom refused to go any further. This was outside a American Air Base. The commander took pity on them & let them camp there. He then took them and the bike to the train station where they loaded the bike for Paris.

Peter & Dave travelled with the bike on the train & on arrival they slept in the railway station on the platform. It was here where they would change trains to take them to the French coast. When they woke in the morning, they walked

outside the station at 6am to get some food. Pete remembers seeing the headlines across the street "Marilyn est morte" which translated is "Marilyn is dead". This was 6th August 1962.

The next train took them to Dieppe on the French coast where they boarded a ferry which took them across the channel to New Haven. Then they put the bike on another train to Birmingham. The Velo factory had a small station outside their premises at Hall Green. In the UK they didn't travel on the same train as the bike as they could not afford it, so they hitched rides. Dave headed back to Liverpool while Peter went to Hall Green in Birmingham.

Peter arrived on Sunday at Hall Green to find the main gate open. He walked in & straight into the engineering workshop. There was a group of men, about 15 all around a machine which he thinks was probably a milling machine. Peter was pretty upset about his broken-down Velocette, so he walked up & demanded they fix his bike.

It turned out that the man giving a lecture or instructions about the machine was Bertie Goodman. All

the other men disappeared & Bertie calmed Peter down. He said they would fix it. Bertie then took Peter by car up to the road to Liverpool so he could hitch a ride.

Velocette had the Venom for a month. Peter wrote letters asking what was happening to his bike. Finally, it was sent by train & arrived back in Liverpool on 26th September. Luckily for Peter, he had taken AA insurance for the trip. They paid all the costs of transporting the Venom on the trains, so all was not bad.

Then while riding at midnight he was blinded by the headlights of a bus on full beam. He hit the kerb & went over the handle bars. The bike sustained damage to the forks & a footrest, so it was sent back to Velocette & insurance took care of the cost once again.

In early 1963, the Venom was stolen. That was the end of that bike for Peter. The insurance company paid Peter out. His father as it turns out was good friends with the insurance agent & Peter got the full value of the bike.

The insurance company located the Venom somewhat later & they sold it to a new owner. The thief was

also apprehended & Peter had to give evidence in court a couple of times but never heard what the result was.

It was years later that Peter saw the Velo parked & he left a note telling the owner to contact him. He visited Peter & was impressed with Peter's diaries with all the bikes history. Incidentally Peter still has the diaries.

The next Velo. Peter ordered another new Venom. It was a big tank 1963 model. It arrived in March 1963. Peter never ordered that tank but that was how it came. He didn't really like it with the chrome strips, but he did realise that the bigger tank came in handy. This one cost him £346 on Hire Purchase but the cash price was £302. Peter still has the receipt.

In July/August of that year. Peter & his mate "Edo" took a ride to Spain. He picked Spain because it was cheap. They went through France by a different route & into the Pyrenees. This is a mountain chain that separates France & Spain. Their destination was Costa Brava.

As usual they camped all the way & carried everything. Peter remembers they had a cheap tent with no

floor. In heavy rain the water flowed straight through.

They returned to the UK & onto Liverpool by a slightly different route. It was all done in 2 weeks, once again their total annual holiday.

In 1964, they headed for Spain again. This time they went down the west coast of France. They stopped at San Sebastian & then to Madrid. While there they walked in "Real Madrid" Soccer Club. They went into the stadium & no one stopped them. They did the same at the big Bull Ring. No one seemed to care.

From there they went across to the Mediterranean via Zaragoza & stayed at L'Estartit on the coast. The trip was then back to the UK & as usual by a different route.

The next year, 1965 Peter took 3 weeks holiday. Of course, one week had no holiday pay. The big tank Venom was loaded up & Peter's brother Maurice was on the back as well. Their cousin Tony with his wife Christine on the pillion went with them. Tony rode a 500cc Twin Norton Dominator. The destination this time was Yugoslavia.

The route this time would be via France into Germany, Switzerland, Austria & across the top of Italy. Just inside Yugoslavia, Tony & Christine came off the Norton. Tony hurt his knee. They needed some medical care, so Tony asked Peter to ride his Norton to check it out for damage & to fetch an ambulance. Ambulances were Citrons & were stationed every 50 miles or so.

What Peter didn't know was when they righted the Norton, Maurice had put his coat on the back of it. Peter headed off & lost the coat. It contained all Maurice's money for the trip, their passports and importantly their "Green Card" which is an insurance card which needs to be carried by foreign travellers.

Tony's knee was patched up by the ambulance & they continued on. When they camped, Tony was in a bit of pain, so his wife Christine went on the back of the Velo with Peter to a Police Station to find out what to do about their passports. It so happened that Christine wore only a bikini & helmet for the trip. Not quite the most perfect motorcycling attire. When they went into the Police Station, police appeared from everywhere. It's not every day that a lovely young woman wearing only a bikini visits a station.

The police advice was that they should go to Zagreb to the British Consultant to get some papers. This was a long way inland from where they were. Peter & Maurice rode into the night arriving around midnight. They camped & next morning found they had camped in a rubbish dump. People were staring & talking about them, but they could not understand what

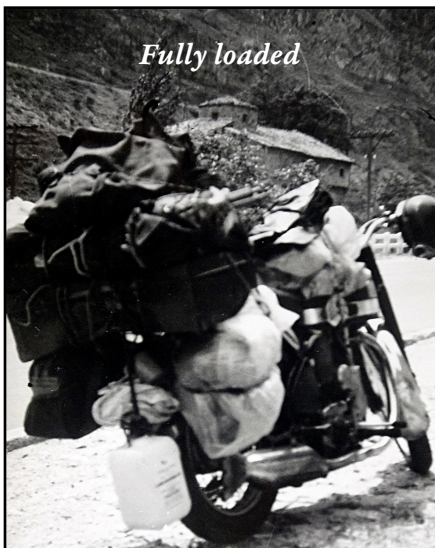


they were saying but could only imagine.

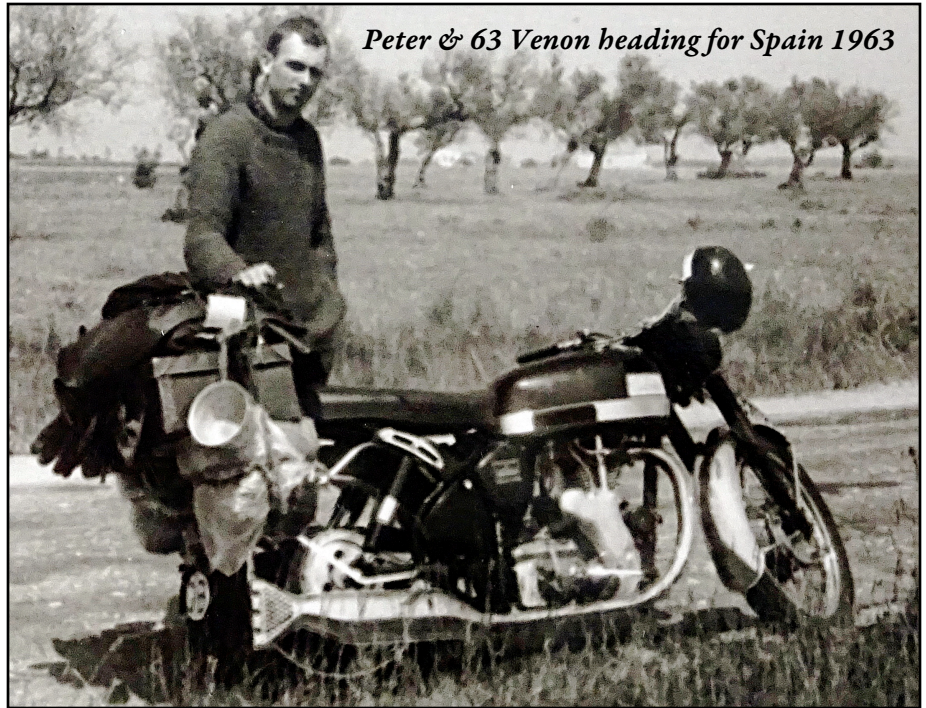
After getting the papers they went to Rijeka in Yugoslavia. They stopped to take some photos of some naval ship from a headland. The police soon arrived & ordered them on. It must have been some top-secret stuff going on.

Peter & Maurice got back to the campsite where Tony & Christine were waiting. They spent a few days more in Yugoslavia before heading back across Grossglockner Alpine Road into Austria. This is a very steep & winding road up through the mountains. To use the road, you had to pay a toll. Maurice was off the bike handing the money over with Peter still in gear when the clutch started to drag. The Venom was moving with Peter unable to get it out of gear. He yelled & Maurice jumped on & they were off. They had a very fast ride up the mountain, passing cars & anything in their way. Peter knew if they stopped, they would never get going again as it was so steep & they were well loaded.

Their trip back continued through Germany with many miles on the Autobahn. This was where the mudguard supports broke off the



Vintage Motorcycle News



Venom from all the weight. So, Maurice had to carry a big load strapped to his back. It is interesting to note that they never used saddlebags or panniers. They just kept tying bags & objects on where they could. More than once when Peter was following Tony on the Norton a frypan or bag would come flying off. Peter had to swerve & miss it & also retrieve it.

They made it back to Calais on the French coast & onto a ferry. By this time, they were stoney broke. The Venom ran out of petrol just outside Sheffield. They were outside a garage & Peter swapped a bottle of Yugoslavia wine for 2 gallons of petrol. The garage owner thought he was getting the better deal. They then went to their sister's place in Sheffield & borrowed some money to get them back to Liverpool.

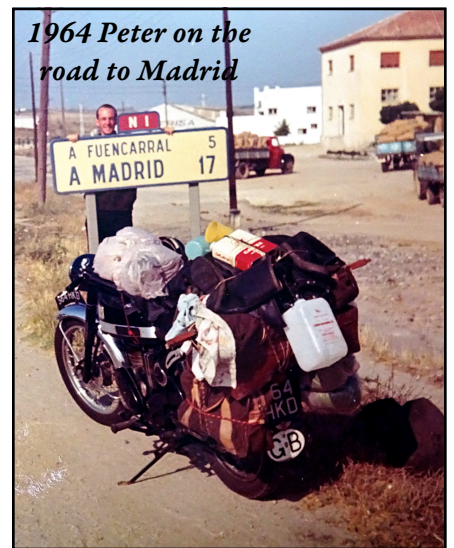
That was the end of the big trips on the Venom. In 1966 it was part exchanged for a car. Peter needed a car so he could take girls on dates. Peter had put over 60 thousand miles on the Venom by that time. He had very little trouble with it.

He only replaced a battery. The clutch was never adjusted, it had the same rear chain & the chain case never leaked.

In 1978, Peter purchased a Venom again & has had Velos ever since. When Peter, wife Joan & his daughter moved out to New Zealand in 1984 he brought 2 Venoms with him.

Peter is a member of the Australian Club & an active member of the New Zealand Velocette Register. He has 4 Velos & rides regularly.

He is a true Velo Fellow.



1966 Velocette Thruxton 500cc

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YEAR

VELOCETTE MODEL #2 (OPTIONAL)

YEAR

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YEAR

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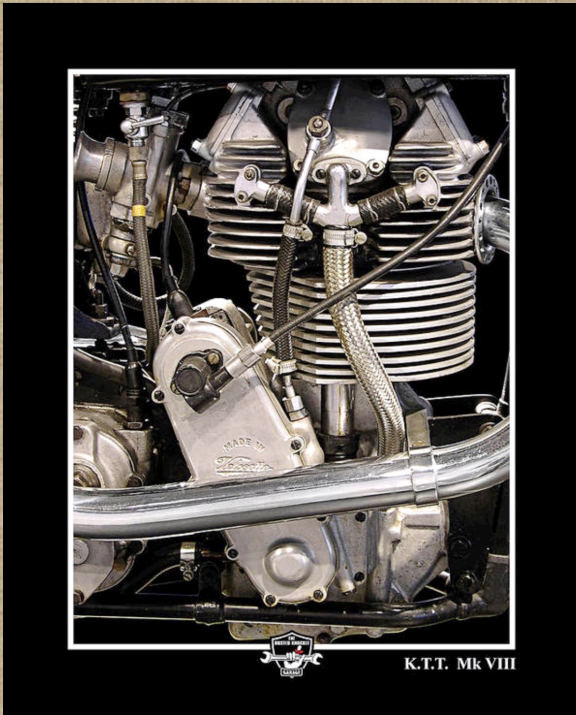
YEAR

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ARTWORK

Velocette KTT engine print



This is a 20" x 30" wall poster of the Velocette KTT mk VIII engine by artist Daniel Pierce.

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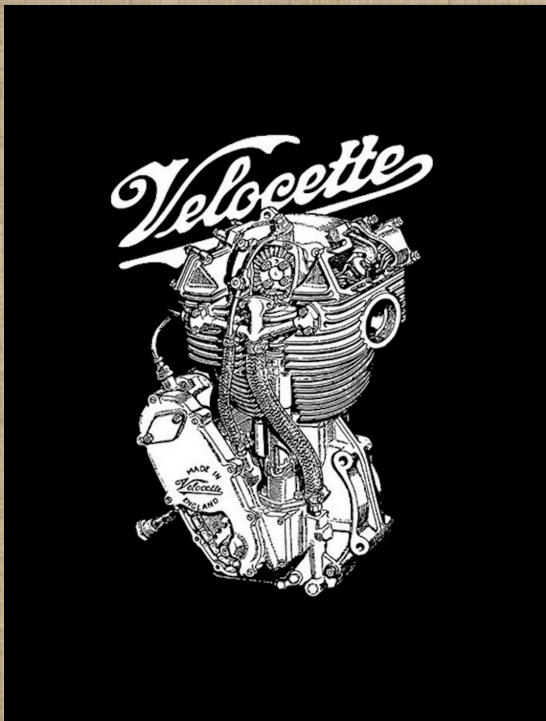
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Velocette engine metal print



This is a 6" x 8" metal print of the Velocette engine by artist Kiarra Gunarsih.

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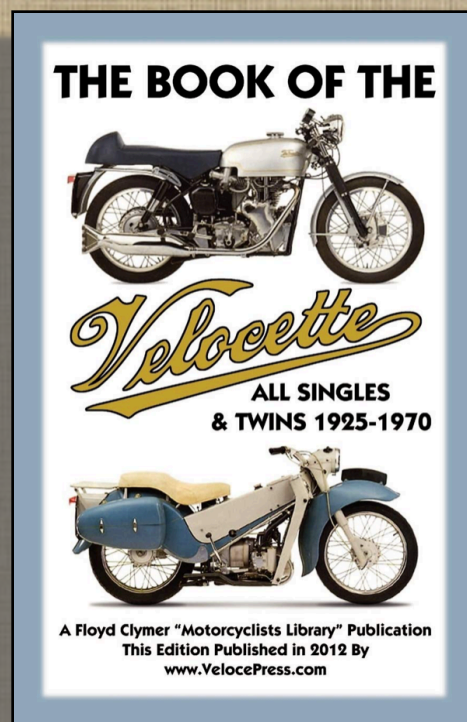
BOOK OF THE VELOCETTE ALL SINGLES & TWINS

126 pages, 54 black & white illustrations, size 5.5 x 8.5 inches. Originally published under the title The Book of the Velocette by F. Leigh, this book is one of The Motorcyclist's Library series published in the USA by Floyd Clymer by arrangement with the original publishers Pitman Ltd. of London, England. It includes complete technical data, service and maintenance information and detailed instructions for the repair and overhaul of the major mechanical and electrical components for all single and twin cylinder models from 1925 through 1970. There is adequate detailed text and diagrams to assist in major refurbishing such as an engine rebuild or even a complete renovation. Applicable to all Velocette singles including the MOV, MAC, KSS, KTS, Viper, Venom, Thruxton and the Clubman, Scrambler & Enduro variants of those models. Also includes the twin cylinder LE Mk. I, Mk. II, & Mk. III and the Valiant & Vogue. This publication has been out-of-print and unavailable for many years and is becoming increasingly more difficult to find on the secondary market and we are pleased to be able to offer this reproduction as a service to all Velocette enthusiasts worldwide.

From amazon.co.uk

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Velocette Essential Buyer's Guide Series

This Essential Buyer's Guide includes everything the potential Velocette buyer needs to know: how to assess the engine, transmission, frame, paintwork and chrome, tinwork, wheels and tyres, brakes, electrics, and provides an explanation of engine and frame numbers. With a detailed run down of the various models, and an assessment of which offers the best investment potential, there's also plenty of advice on buying at auctions, essential paperwork, problems caused by lack of use, and a list of useful contacts.

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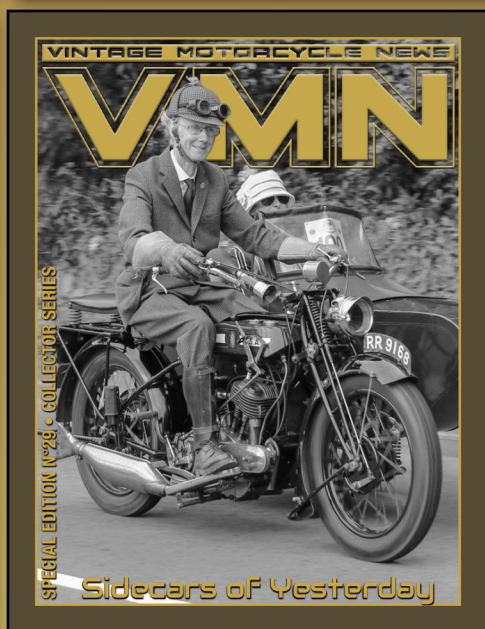
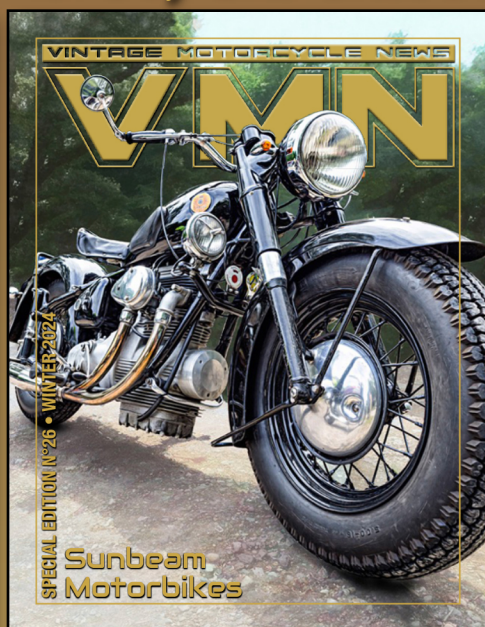
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MULTINATIONAL HYBRID

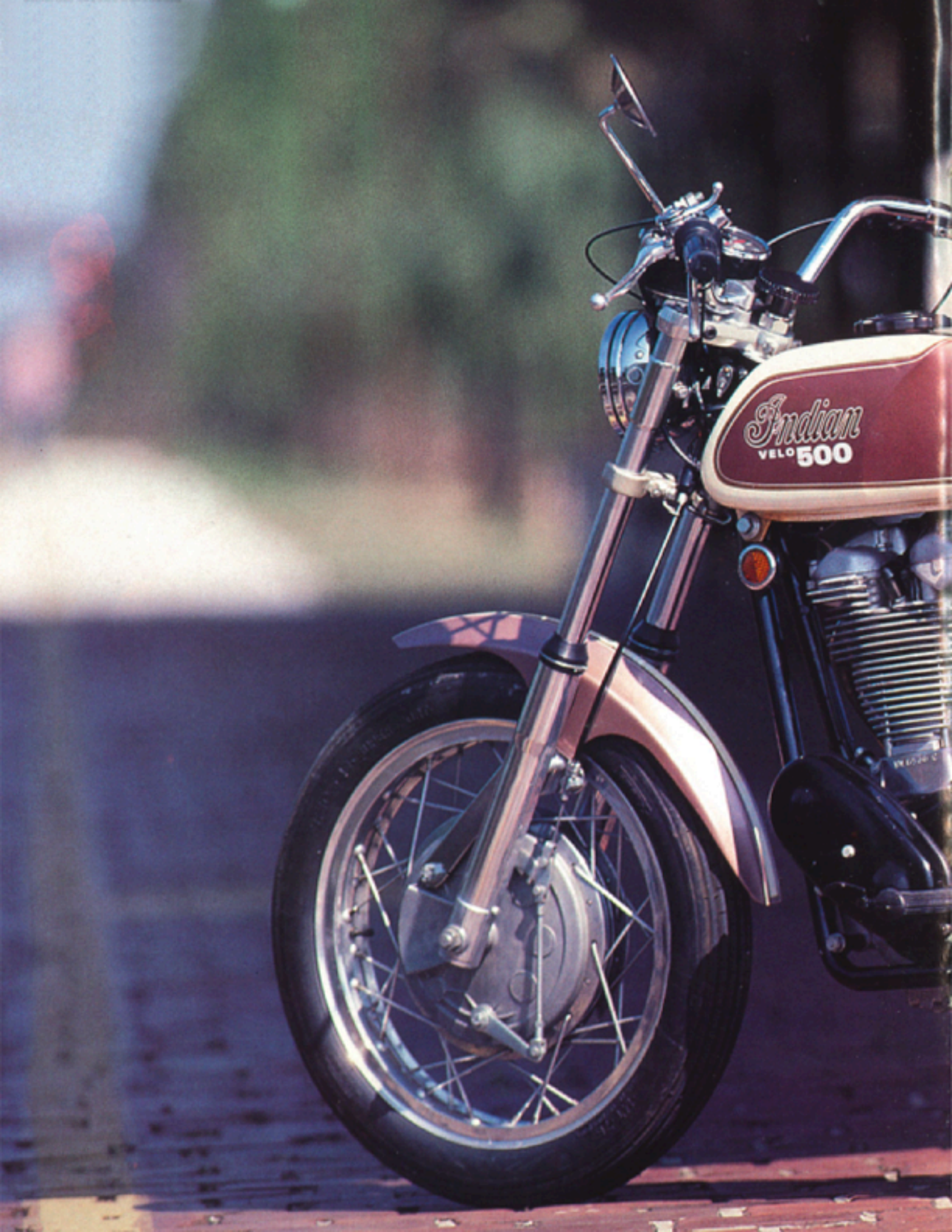
The Indian Velocette was conceived in America, built in Italy and had a British engine/John Pearson

FLOYD CLYMER had a dream. In the late sixties, like many others before and since, the American entrepreneur wanted to revive the Indian marque.

It never happened. The former west coast Indian distributor and publishing magnate died in 1970 without fulfilling his ambition of resuming full-scale manufacture of the famous V-twins.

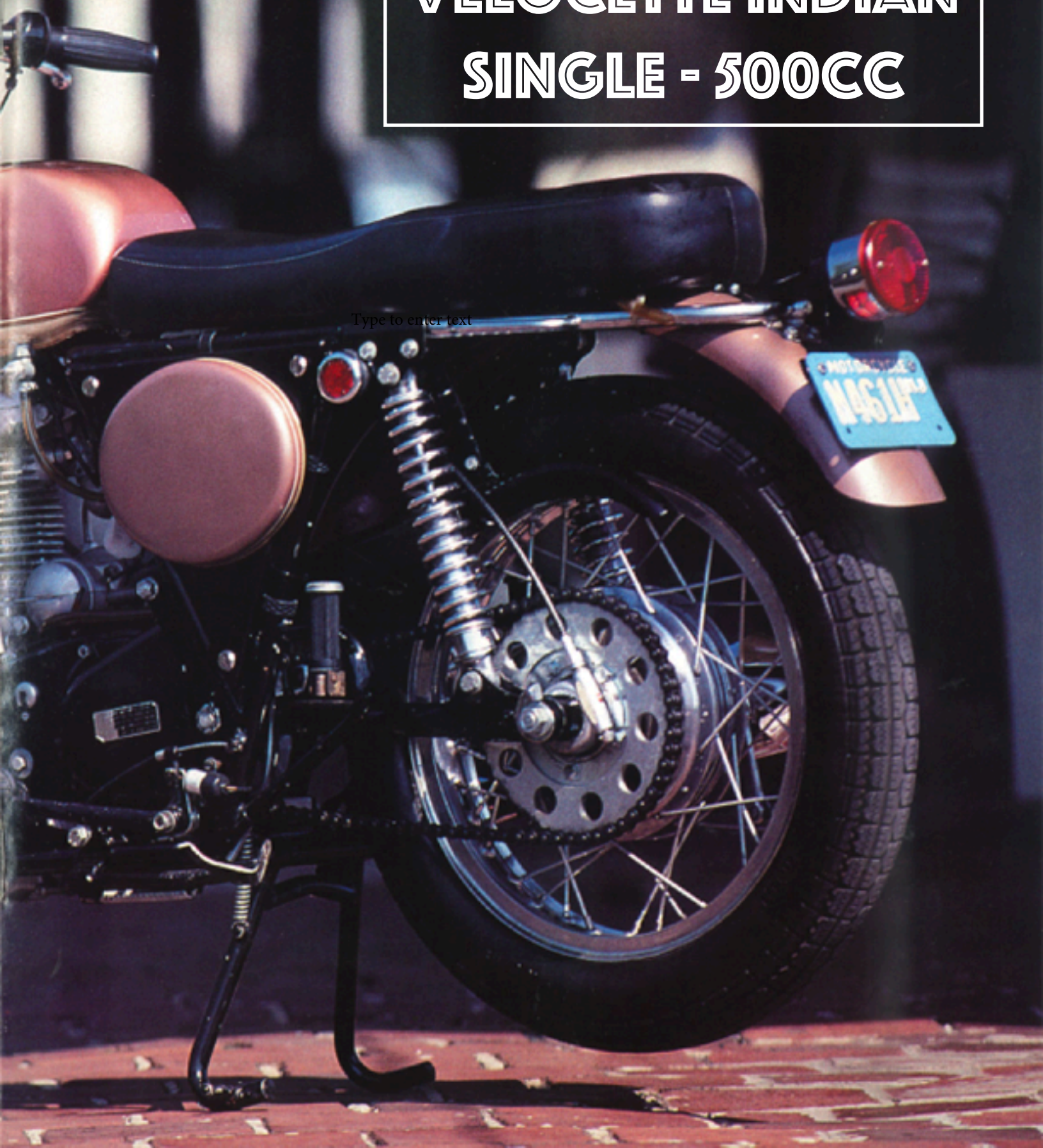
Clymer did, however, manage to get some Indian-badged machines into the showrooms. After obtaining the rights to use the Indian name, he experimented unsuccessfully with a couple of prototypes — a 750cc (45cu in) Scout built in association with the German Münch organisation, and an Indian-Horex. There were also a number of European-engined Indian minibikes. However, the only real motorcycle to be produced for sale was an Anglo-Italian hybrid — the Indian Velo.

We said in February's feature on Robin Markey's 1957 Indian Apache that the Indian name survived after the Springfield, ▶



Indian
VELO 500

1970
VELOCETTE INDIAN
SINGLE - 500CC



Type to enter text

MULTINATIONAL
HYBRID

continued



Velocette engine fits neatly into Tartarini frame, although fuel tank base had to be recessed to clear rocker box

Authentic and original

Arvid Myhre's Indian Velo has travelled just 2000 miles in 23 years. The Frenchtown, New Jersey, building construction company owner added the Anglo-Italian hybrid to his 50-machine collection about five years ago, but only recently put it on the road.

'I bought it from the original owner, who used it occasionally for two or three years and then parked it,' he said. 'When I got the bike it was just as it is now, except it was kinda dusty and scruffy.'

All it needed was a thorough clean and

polish, a carburettor strip and some fresh oil.

The front tyre was in poor condition, but Arvid obtained a new-old-stock Pirelli Super Sport — the original fitment.

He planned to ride the Indian in Daytona's 'Pace Ride', the parade of machines that traditionally kicks off AHRMA's race day at the annual Florida festival. Unfortunately, when Arvid tried to start the bike the nipple broke off the carburettor end of the choke cable, dropping down inside the air cleaner along with some choke components. There was no time to strip the air cleaner, and he couldn't risk starting the engine without removing the

offending items, so he missed his ride around the historic banked circuit.

The story doesn't end there, because in his disappointment Arvid forgot to switch off the ignition. So when *Classic Bike* turned up to ride the Indian not only did the cable nipple and choke components have to be retrieved, but the battery needed a fast charge before the bike would start. Our thanks go to the extremely helpful Stuart Rogers. The Daytona-winning Norton ace from Wisbech, Cambs, is a friend of Arvid's, and he took on the fiddly task of removing and refitting the air cleaner.

Massachusetts, factory ceased production, albeit as a badge-engineering exercise on a variety of British machines.

Clymer also went shopping in Britain for his engine — at Velocette's Hall Green, Birmingham, factory. The 500cc ohv Venom motor was bolted into a lightweight Italian frame at Leopoldo Tartarini's Italjet factory in Bologna.

Tartarini was involved in various projects with British links in the 1960s. Italjet made a 160cc Ariel prototype as a potential BSA Bantam replacement, and the Grifon, a handsome but little-known Italjet model, built around Triumph's 650cc Bonneville unit.

Italjet slotted the Velocette engine and gearbox into a full duplex frame very similar to the Grifon's.

The package of Italian proprietary components included Marzocchi telescopic front forks, 18in Borrani wheel rims and full-width Grimeca brakes: a twin-leading-shoe drum at the front with a single leading shoe at the rear.

Around 100 Indian Velos were built, half of which reached the United States. Following Clymer's death, the remaining 50 were sold in Britain through Geoff Dodkin's South London Velocette dealership.

According to Rod Burriss' book *Velocette*, 51 Indian Velo machines had the rorty 41bhp Venom Thruxton motor. This engine's go-faster package included a 1 1/2in-bore Amal GP carburettor, a modified cylinder head with massive 2in inlet valve and a 9:1 compression piston.

Arvid Myhre's machine featured here is one of the remainder, featuring the more tractable and user-friendly standard Venom motor. It has a 30mm Amal Concentric carburettor, which Velocette fitted to some models after its introduction in 1967. Compression ratio is 8.3:1 and maximum power output 34bhp.

All Indian Velos had Lucas coil ignition, which Velocette used from 1969 until their own demise in February 1971. Lighting equipment and switches were all sourced in Italy from CEV, while the speedo and tacho are both British Smiths.

My thoughts about the Indian Velo's looks are mixed. Initially I thought it looked pretty, in a lean and rakish sort of way. But after a longer study, I became aware that the machine represented a clash of design cultures.

I mean, there's the typically seventies styling and a sort of candy-apple metallic bronze and white paint scheme. But then

there's the high-camshaft single cylinder Velocette motor. This is probably one of the most aesthetically appealing of all time, but there's an indisputable pre-war stamp on it. To me, this looks uncomfortable amidst the seventies' brashness. However, our design editor Peter Allen likes it, so what do I know?

Starting the Indian Velo proved straightforward if a precise procedure was adhered to. Flood the carburettor, pull on the handlebar valve-lifter and ease the piston past compression, then swing on the short kick-start lever. It always thumped readily into life, hot or cold, emitting a raucous note through the reverse-cone megga-style exhaust silencer.

The Indian weighs 40lbs less than a typical Velocette single, a fact that is apparent

just taking it off the stand. On the move, while there is the Venom's delightful flexibility allied with strong, effortless power, you know you are definitely not riding a Velocette.

This is a lean, light and very taut motorcycle. Forget the Venom's relative comfort and long-legged ability, the Indian is a street racer with firm suspension and uncomfortable seat.

But it is a fine handling machine: quick steering, stable and manoeuvrable. It inspires confidence to pitch hard into turns, using all the available ground clearance. Eventually, cornering excesses are restricted by the side stand on left-handers and the exhaust to the right.

Braking is commendable, too. The twin-leading-shoe Grimeca proved reassuringly powerful. It was rather lacking in feel, however, and maybe this was a symptom of the machine's lengthy hibernation, which will improve when Arvid Myhre has clocked up a few more miles.

With the benefit of hindsight, it is easy to understand why the Indian Velo was not a great success. It was hampered by a \$1400 (£939 at current exchange rates) price tag in the US — another \$95 would have bought a 750cc Honda Four.

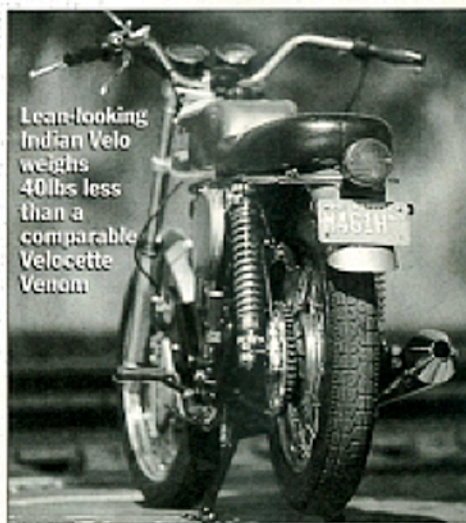
And in Britain, Geoff Dodkin sold the Venom-engined models for £525, with the Thruxton version costing a mere £25 more. That's comparable to what you would have paid for a 750cc Norton Commando or 650cc Triumph Bonneville. 

CLASSIC
BIKE
JULY 1993
ARCHIVES

Specifications

1970 Indian Velocette

ENGINE	
Type	single cyl, 4-stroke, overhead-valve
Bore x stroke	86 x 86mm
Capacity	499cc
Compression ratio	8.3:1
Carburation	30mm Amal Concentric
Output	34bhp @ 6200rpm
Electrical	Lucas dynamo, 6v battery, coil ignition
TRANSMISSION	
Clutch	multi-plate, wet
Gearbox	4-speed
Primary drive	chain
CYCLE PARTS	
Frame	tubular duplex
Suspension	(front): telescopic fork (rear): swinging arm
Tyres	(front): 3.25 x 18in (rear): 4.00 x 18in
Brakes	(front): tfs drum (rear): sls drum
Wheelbase	56in (1422mm)
Seat height	32in (812mm)
Ground clearance	7in (177mm)
Kerb weight	360lb (163kg)
Fuel capacity	3gal (13.7 litres)
Oil capacity	0.5gal (2.3 litres)
PERFORMANCE	
Top speed	95mph (est)
Fuel consumption	43mpg (est)



Lean-looking Indian Velo weighs 40lbs less than a comparable Velocette Venom



Tacho and speedo are British Smiths, lighting and switches Italian CEV



PHOTOGRAPHY: DAVID GOLDMAN

Velocettes to Vashon

By Alan Comfort from Vancouver BC



It all started at the B M O C M a y 2008 monthly meeting. I was e x c h a n g i n g pleasantries with Tom Mellor,

BMOC member and Bonneville Salt Flats record holder when he asked if I knew anyone who might be interested in a rigid frame Velocette. Tom continued to explain that the bike had spent some time in his shop and that he had managed to get it running for a short spin down the lane a few years ago. The bike belonged to one of his Rolls Royce customers and was now collecting dust in a garage in West Vancouver. Of course I new someone who was a prime candidate for that kind of folly.

The following Saturday, a partially assembled 1938 MSS, along with the attendant boxes that purportedly contained the rest of the pieces, was being stuffed into my already crowded work space. I was unable to seal the deal with my one dollar/cc rule of acquisition, but it did make it for just under the one paycheque rule that I employ for those occasions where I am forced to use the “once in a lifetime opportunity” explanation to SWMBO.

I must confess that there are a number of other worthy projects underway in my workshop, but this one was about to jump the queue. I set the goal to have this bike roadworthy for the Vashon TT in September. I sealed the pact by arranging with BMOC President Gerry Philbrick that we would ride

our Velocettes to the 2008 Vashon TT.

To the uninitiated, the Vashon TT is one of the most popular old bike events in the Pacific Northwest and has taken place in late summer for the past 20 years. It is organized by the Vintage Motorcycle Enthusiasts; a club dedicated to the preservation and enjoyment of old motorcycles. It attracts hundreds of participants from the states of Washington, Oregon and California as well as the Province of British Columbia. The setting is Vashon Island, a pastoral and forested island in Puget Sound, just west of Seattle, Washington. The island is about 37 square miles and is accessible by ferry only; there are no bridges. But there is a network of roads that seem to have been purpose made for motorcycles. Smooth pavement covering narrow two lane roads appear to have naturally evolved from the early cart tracks. These quiet roads follow the natural lay of the land and prevail over the highly engineered roads more commonly found on the mainland.

Vashon Island is only about 150 miles south of my home in Vancouver, British Columbia; the perfect distance for a shakedown run of a 70-year-old motorcycle that hasn't seen the light of day for several decades. A week of vacation and three months of evenings and weekends seemed like plenty of time to put a bike together. Without a deadline, projects of this nature can extend for decades.

Somewhere along the way between the time my Velocette rolled off the

factory floor at Hall Green and the time it came into my possession, it had shed a number of key components including all lighting and wiring, the correct mudguards, exhaust system, battery box and support, and a whole host of brackets, fittings and fasteners. The upside was that the parts that were present were free from the rust and corrosion usually associated with abandoned projects. The engine, transmission, driveline and wheels were assembled on the chassis, there was spark and compression was good. Did I mention that the price was right and that I have been passively seeking a Velocette for several decades?

Of course there was no paperwork or proof of ownership, so that had to be sorted out before I put any time or money into this endeavor. The worse case scenario might be that I would be obligated to turn it over to its registered owner, or worse yet, break it up for parts. A search by the registry of motor vehicles for past ownership, some statutory declarations and the payment of fees made me the legal owner of this bike within three weeks. In the meantime I joined the Velocette Owners Club and the Velocette Owners Club of North America and began my search for sources of information and missing parts. My plan was to make the repairs required for a “return to service” rather than a concourse restoration. My degree of skill and my level of patience enable me to bring my bikes to a “20/20” form: looking good from 20 feet or going by at 20 mph. Plating, polishing,

1938 VELOCETTE MSS



\$1200 paint jobs, and the like are best left to those who have more substantial means and who can afford to take their bikes around in trailers. I prefer to ride my bikes and let them take what the road and weather have to offer, so I see little advantage to a finish that exceeds the level that the factory provided back in the day.

The first order of business was to get the bike running. The state of engine and gearbox internals was unknown, so the decision to do a full strip down was delayed until I could hear it run. Some fettling with the carb, a cleanup of the magneto, fresh oil in engine, gearbox and primary case, new oil and gas lines, and all was ready for a test run. A couple of kicks on the starter indicated that all was not well in that department, so a short push down the lane was needed to get it started. It started straightaway, oil was flowing, there were no ominous noises or clouds of blue smoke, the clutch take up was smooth and it shifted gears

cleanly. I decided to leave the internals alone and assume the best. Besides, there were more obvious things to attend to. To make a long story short, parts were acquired, fabricating, grinding, welding, sanding and painting tasks completed, new tires fitted, wheel bearings and headstock bearings cleaned, adjusted and greased, brakes adjusted, new cables installed, repairs to the kick-start mechanism made, and a conversion to 12 volt electrics completed. I even turned my hand to coach lining and applying twenty-year-old varnish transfers with some success.

Not all of these activities were undertaken in the solitude of my workshop. I solicited the metal working skills of Gerry Philbrick to clean up the rough edges of the reproduction mudguards acquired from the UK. Jim Bush provided sage advice, parts and guidance in getting the pre-monobloc carburetor into a leak free state. As the date approached, the bike was

becoming quite presentable and rideable.

A few test runs around the neighborhood the week before the rally indicated that all was well and the MSS was ready for the rally. A slightly longer run at highway speed was the next order of business. That test went well with effortless cruising, straight-line tracking and predictable handling at 65 mph for about 5 miles. Then disaster occurred. The ride home through stop and go traffic ended about 2 miles from home with a stuck valve and dislodged push rod. Some pushing and sweating got me home in less time than it would have taken to dispatch a BCAA recovery truck, and by the next evening it was back together with a few thousandths reamed out of the exhaust valve guide and a dressed valve stem. This was a warning that I chose to ignore.

Saturday morning arrived a few days later and Gerry pitched up on his 1960 MAC at the appointed departure time for the Vashon TT.



All was not well with the MAC as the ammeter was indicating a discharge. A quick inspection revealed a shredded dynamo drive belt, so we planned a minor detour to the local Lordco for a replacement. My now trusty MSS, loaded with camping gear started on the first kick and we were off. After about two blocks I noticed an unusual shaking of my new reproduction 8" Miller headlamp. A peer over the handlebars revealed a cracked headlight bracket. Two blocks later it became completely severed and began gouging the finish on my freshly painted pedestrian slicer. No worries, I would make a repair when we

stopped for Gerry's belt a few miles down the road. While Gerry attended to his belt, I managed to find a bit of metal and some black electrical tape. It was a right proper bodge, and the black tape enabled this roadside repair to meet all the criteria for the "20/20" rule.

The twenty-mile ride to the ferry went smoothly and we were in line with five minutes to spare for the 10:00 sailing to Victoria. Conrad Johannsen was the other BMOC rider for this event. He chose to ride is Honda ST whatever in favour of his Norton Commando and was admonished for that transgression in an appropriate manner. As we received

instructions to board, Gerry's MAC exhibited a reluctance to start. A short push assisted by the BC Ferries attendant solved that problem. Bikes parked safely on the car deck, we could now relax on the scenic crossing from Vancouver to Vancouver Island. We disembarked from the Vancouver Island ferry without any further drama and made our way to Victoria where we met up with Vancouver Island BMOC members at their Saturday lunch meeting. Alas, none were planning to attend Vashon but were glad to see that British Columbia was being well represented by proper British motorcycles. We then carried on to

the international ferry terminal where the float bowl on the MSS decided to part company with the carburetor body. (I wondered where the smell of petrol was coming from as we approached the terminal). Some quick action with the petcock averted the further loss of fuel and an embarrassing conflagration. A quarter turn with a spanner was the remedy. BMOC member Gary Anstill was in the ferry lineup with two bikes in the back of his truck. This, of course resulted in another round of admonishment, but all was forgiven when it was pointed out that this was the most economical tactic for two bikes and four passengers. This ferry ride took us to Port Angeles at the northwestern tip of the Olympia Peninsula in Washington State. All that was left was a three-hour ride to Southworth and another ferry to Vashon where we had reserved accommodations in a teepee at the local campground.

This part of the ride proved to be a challenge for the MSS. There were a number of long uphill grades, the air was warm and dry and the piston clearances, as it turns out, were a bit on the tight side. The previous engine builder apparently had little regard for the clearances that cast iron engines need to operate reliably. The first seizure was uneventful: a slight loss of power, a roll off the throttle, a sudden stopping of the engine, a few metres of rolling with clutch disengaged, a release of the clutch as the bike slowed to about 10 mph, power returned to normal and all was well again. Maybe time to drop the speed to 55 mph.

The next seizure, about 20 miles later was pretty much the same, but this time a stop was in order. Plug check did not indicate a lean

condition. Oil level was good and did not seem excessively hot. I managed to get it started with a short push. I am now thinking that 50 mph may be is a better cruising speed.

Thirty miles later it is a full seizure with everything locked up solid. A full cool down and a consideration of all the options was the next tactic. Rent a truck and make a tactical retreat, or carry on? It is decided to carry on. The clutch took a hit with the last seizure and was no longer up to the task of spinning the motor with the kick-starter. A long push down a slight grade got her back to life. The bike was noticeably down in power, so it will have to be a 40 mph run for the last hour to the ferry. The objective was to get to Vashon and sort it all out in the morning. We made the ferry with minutes to spare. By some miracle the bike started easily with the kick start when we had to leave the ferry, and we made the last ten miles to the campground without incident.

A nice dinner of Baja style fish tacos and some cold lager at a nearby restaurant, and the trials of the day were a dim memory. I rose early Sunday morning to attend to the clutch so that the kick-start could be used. Some improvement to the clutch was realized, but start it would not. A distinct lack of spark was the culprit this morning. A series of long pushes down some steep hills failed to even make any kind of fire so I enlisted the help of a fellow camper who had trucked his Ducati from Oregon. He was more than happy to cart the bike and me to the village so that we could partake in some of the festivities.

The rest of the day was happily spent watching the thousands of

bikes come and go through the village, close inspection of a wide array of old bikes, talking to fellow enthusiasts, meeting with old friends and striking up new acquaintances. The old

MSS drew a fair bit of attention and was one of only a few pre-war motorcycles on display. A fellow Veloist from Seattle, upon seeing the British Columbia license plate, asked if I knew about the MSS that had recently been sold in West Vancouver. He said that he had planned to look at it on a Sunday in May, but the owner called and said that it had been sold that Saturday. When I said that he was looking at the very same bike, there was a moment of discernible surprise and dismay.

Numerous attempts to get the bike started as the day progressed met with failure. I was not even rewarded with slightest indication of life. And as we all know, the number of kicks it takes to get a bike started equals the square of the number of onlookers. (for the mathematically challenged, that translates to: 1 person = 1 kick, two persons = 4 kicks, 3 persons = 9 kicks, 4 persons = 16 kicks and so on). At any given time, there were hundreds of people who turned their heads at the sound of a bike being started...so it was hopeless.

During the course of the day, I met my friend Rob Weins from Vancouver Island who was traveling home via Vancouver in an empty van. Rob is well known to the BMOC as he always participates in the Saltspring TT and Tsawwassen swap meet. He is an unrepentant bargain hunter and it was my good fortune that he was coming away from this event empty-handed. He agreed to ferry my bike to the Sportsman Club

where the afternoon festivities would take place, and then take me home to Vancouver the following day. We unloaded the bike in the adjacent cemetery and a short push down the hill got it running. I managed to ride it into the concourse under its own power. The Velocette took the prize for the oldest bike on display. There were lots of bikes on the grounds that were much older, but none were entered in the concourse. Given my experience with the Velocette's reluctance to start earlier in the day, I was not holding much hope that I would be able to ride out. I was not looking forward to pushing the Velo uphill for a quarter mile to where the van was parked. So I tickled the carb, set the choke, found top dead centre on compression, depressed the start lever once on decompression, gave it a healthy kick and it started on the first try. I guess no one was watching. The bike ran, but was emitting some strange sounds. There was no question about riding the bike home, so the bike was loaded into the van to avoid any further mechanical or fiscal damage.

Gerry's little MAC, on the other hand, behaved flawlessly except for that minor reluctance to start for the first ferry boarding. He even

put it through its paces in the Vashon field events, but someone forgot to tell Gerry that the winner of the slow race is the one who comes in last.

Gerry's Velo has developed a reputation for catastrophic failures at rallies and club rides: a holed piston in Montana and a bottom end failure in California. It has now been 1000 trouble free miles (shredded dynamo belt notwithstanding). We followed Gerry home in the van and the little 350 thumped along nicely at 60 mph, with only a slight hint of smoke when getting back on the gas after an over-run. I think it is now properly sorted and good for the long term.

The MSS is now back in the shop. It will undergo a complete top-end service with new piston, rings, valve seats, guides, valves and springs. The little crack between the intake valve seat and the spark plug hole will get welded and the head will get lapped to the barrel. The magneto will be overhauled and I will probably spring for a new pre-monobloc carburetor. I already have a good start on the new headlight brackets. And that funny noise? That was the new 12-volt alternator shredding the pickup ring, rotor and bearing!

Maybe the 6-volt Miller dynamo will be resurrected.

My new deadline for the next "return to service" is the North American Velocette Rally in Kamloops, British Columbia in the summer of 2009. I am pretty sure that goal is achievable and probably a bit more realistic. I just need to save a little money and set aside a little time. Make that a lot of money and double the time.

It looks like I am now a terminal case Velocette Enthusiast. Some of my friends think that I am daft for riding around on an old banger that has such a high wrench/ride ratio. For the same money I could be covering vast trouble-free distances on a modern bike. It's hard to explain, but it could be that magic combination of looks, sound and feel that is unique to the Velocette single and particular to a rigid frame girder fork example. Maybe it is the simple and purposeful design or the signature fishtail exhaust. Or it could be the wide availability of parts at reasonable prices and the vast amount of technical knowledge and experience that is freely given. I don't know; it just feels right. I think that I am becoming my own grandpa.



How my Velo came to me

A short story by Todd Coplan (Burnaby, BC)

www.classicbikeswapmeet.com

When looking for a motorcycle to buy most of the time we see ads online and in the pre computer world we lived and died with publications like the Buy & Sell, Auto Trader or even more desirable Hemmings.

My Velocette came via some "Unique" men in the motorcycling world. My wife's adage is that all the people we have met via bikes are "Unique", well at least she is politically correct.

Back in the mid 1980's the local CVMG section held a swap meet for its members to enjoy and allow the exchange of many rare and exotic parts hidden in garages and basements through out Greater Vancouver. I was part of the 3 man committee which organized the first one in early 1986. The impetus was the fact that the local 1%'s held a swap meet but many of the CVMG members were not comfortable attending. The only other meet was 6 hours away in Portland and again it was attended by a large number of 1%'s and it seemed every second guy was carrying a hand gun. Not an issue until a hand gun fell to the floor and discharged, leaving a gapping hole in the cinder block wall. Luckily no one was hurt.

By 1988 the 3 man committee was down to me and with a fair bit of arm twisting, the afore mentioned wife. To get our show exposure I attended the 1%'s swap meet and took a table to pass out flyers.

Nearing the end of the day 3 unique guys stop and take a flyer, noting I was one of a handful of tables not selling used Harley parts. They had travelled 8 hours looking for British parts so I got them to return in 2 months for our swap meet. Our vendors were predominately British parts sellers. They mentioned they had 3 bikes to sell, one of which was a Velocette that their friend was selling. The price was thought to be \$300-350. Boy, was I interested. Phone numbers exchanged and they leave. I patiently wait a week as agreed before following up but they don't answer the phone. This happens twice before they sheepishly call me back and explain that their Velo is for sale but at \$600. They are coming to sell at my swap meet so we arrange a free table for their trouble if they delivered the bike to my home.

When the weekend of the swap meet arrives, lo and behold so does the Velo. It had registration but it ran poorly. They assured me they had seen it run before they had left their friend's house. A sniff in the gas tank revealed a strongly mixed 2 stroke blend and when I pulled the spark plug it was from a snow mobile we figured as it was a short reach spark plug with only half the length of the correct plug, supplied by my 500 Triumph sitting close by. Wow, it looked rough but it actually ran. Payment was made and I even thru in extra for gas expenses.

The next day they did not show up to sell parts but rather made an appearance around noon stating they had spent the gas money and part of the Velo money at the bar last night.

One of the two became a regular vendor at our swap meet for many years.

I still have that bike after all these years and multiple offers to sell it.



The Birmingham Blower

1939 Velocette Roarer Replica

Article and Photos by Robert Smith | Source: MOTORCYCLE CLASSICS

1939 VELOCETTE ROARER REPLICA

- Engine: 498cc air-cooled supercharged SOHC parallel twin w/two counter-rotating crankshafts, 68mm x 68.25mm bore and stroke, 7.5:1 compression ratio, 54hp @ 4psi boost (est.)
- Top speed: 140mph (est.)
- Carburetion: Single Amal 10TT9 w/Shorrock-type supercharger
- Transmission: 4-speed, shaft final drive
- Electrics: Lucas AC2 magneto
- Frame/wheelbase: Steel tube frame/55in (1,397mm)
- Suspension: Girder fork front, dual shocks rear
- Brakes: 8in SLS drums front and rear
- Tires: 3 x 19in front, 90/90 x 18 in rear
- Weight: 350lb (159kg) (est.)

Building a replica of the Velocette Roarer racer from scratch was no easy feat.

It's been famously said that as far as internal combustion engines are concerned, there's no replacement for displacement. But actually, there is.

As well as displacement, the power output of an internal combustion engine depends on its volumetric efficiency; that is, the volume of air/fuel mixture that can be fed into the combustion chamber on the induction stroke. In a naturally aspirated engine, volumetric efficiency is sometimes limited by restrictive intake tracts and/or valve timing.



Dan Smith's 1939 Velocette Roarer replica.

Just as important is the density of air the engine is breathing, which depends on temperature and atmospheric pressure. Cold air is more dense than warm air. And atmospheric pressure is affected by altitude — the higher you go, the less dense the air. So how can you improve volumetric efficiency, and therefore increase power, assuming timing and intake tracts are already optimized?

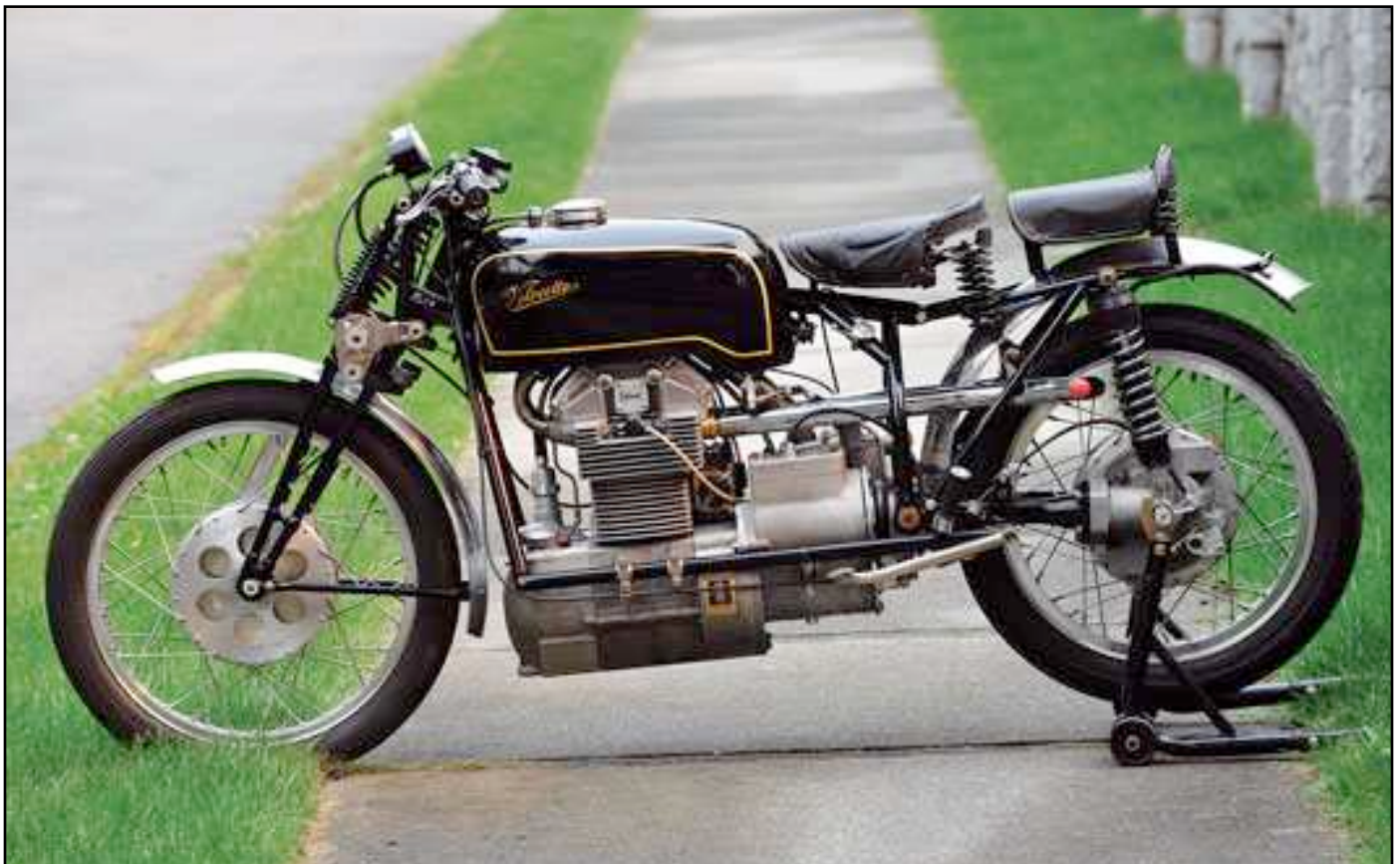
This was the challenge piston engine designers wrestled with during the 1920s and 1930s — especially in the aircraft industry. As aircraft flew higher, the density of the air their engines breathed was reduced. That meant their volumetric efficiency fell, leading to a loss of power at altitude. At 10,000 feet, for example, air is less than two-thirds as dense as at sea level. The answer was to push more air/fuel mixture into the intake so its density could be maintained as the aircraft flew higher. Airplane

engines soon featured some sort of compressor: either a supercharger (driven mechanically from the crankshaft), or a turbocharger (driven by exhaust gases).

Designers soon realized that a compressor could push volumetric efficiency even higher by squeezing the intake mixture above atmospheric pressure — called "boost." As an example, over the six years of World War II in Europe, the output of the Rolls-Royce Merlin engine was doubled from around 1,000 horsepower to over 2,000 horsepower almost exclusively by improvements and upgrades to the supercharger. The Merlin's displacement of 27 liters never changed, but using a 2-stage, 2-speed intercooled supercharger added more than 30mph to the Spitfire's top speed and 7,000 feet to its service ceiling — keeping its performance on par with Germany's fastest fighter, the Focke-Wulf 190.

On the ground, motorcycle and automobile engineers saw the performance potential of supercharging in racing. By the late 1920s, Mercedes-Benz and Bentley were racing supercharged cars, with development culminating in the 600-plus horsepower Mercedes and Auto Union "Silver Arrows" of the late 1930s. BMW developed the WR750 supercharged race bike, setting several land speed records between 1930-1935. The later BMW RS255 (Motorcycle Classics, September/October 2012) won the Isle of Man TT in 1939, and Gilera's supercharged Rondine (Motorcycle Classics, January/February 2018) won the last GP race before World War II, the Ulster.

That's not to say Britain's bike makers ignored this trend. Velocette experimented with a supercharged KTT overhead cam single in 1931, producing the motorcycle known as "Whiffing



Clara." Perhaps the most ambitious attempt to harness the technology was the *AJS V4* of 1935. The prototype single overhead cam V4 was never fully developed, but was intended to be supercharged and liquid cooled. Meanwhile, over at the *Velocette* works in Hall Green, Birmingham, chief designer Charles Udall had laid out a unique design for a 500cc parallel twin that was designed specifically to use supercharging.

THE ROARER

Through the 1930s, *Velocette* and Norton dominated the 350cc and 500cc classes in the Isle of Man TT and other Grand Prix races with their overhead cam singles. But by 1937, it became clear these machines would soon be outclassed by the supercharged BMW twins and DKW 2-strokes. Udall was clearly impressed by the BMW, but was also aware of a major flaw in its design — at least as far as a race bike was concerned. With the engine crankshaft mounted longitudinally, the BMW engine produced significant torque reaction, which either wanted to sit

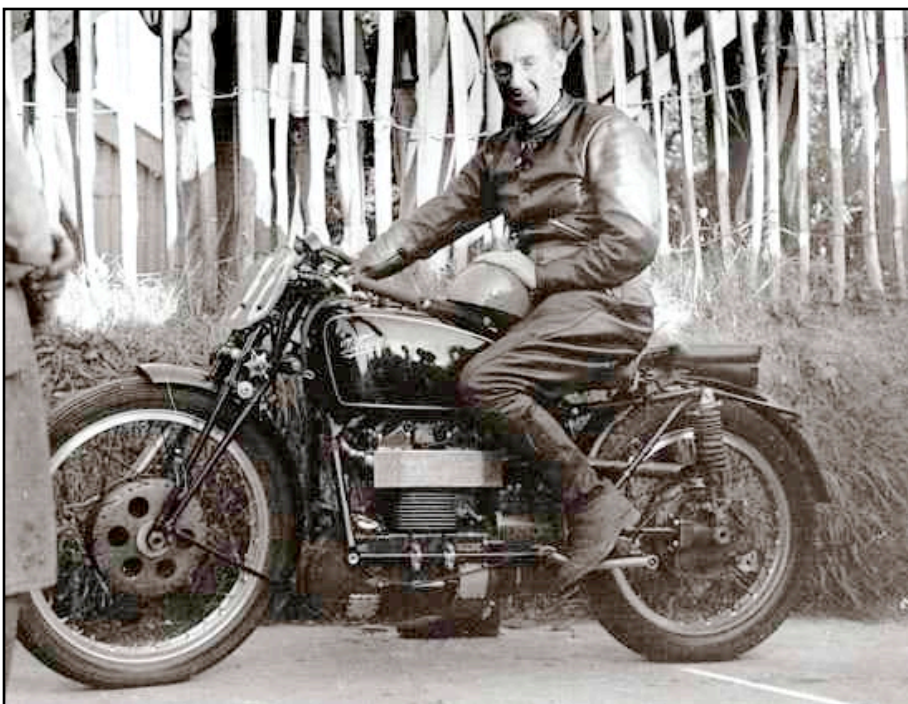
the bike up or increase its lean angle when power was applied in a turn. There was also a considerable gyroscopic effect from the crankshaft, which made the bike resistant to turning.

Udall planned a longitudinal engine, like the BMW, but his clever design eliminated both of the BMW's handling issues. Instead of two pistons running on a common crankshaft, Udall's engine had two crankshafts, each aligned along the axis of the motorcycle, not across it. The two crankshafts were geared together such that the two pistons rose and fell together but with the cranks rotating in opposite directions. (Michael Czysz employed a conceptually similar design in the *MotoCzysz C1 V4* engine, which also used two longitudinal crankshafts geared together.)

This clever arrangement incorporated the advantages of BMW's RS255 (its even firing order, for example) but the dual counter-rotating cranks eliminated torque reaction and negated the gyroscopic effect. The design also

meant a more compact powertrain and eliminated any problems of ground clearance, a potential issue with the BMW's horizontal layout. And while BMW's flat twin reduced primary vibration, the Roarer's parallel twin would not. Though vibration may be an issue for a street bike, it was of less concern in a racer.

Udall's design made good use of this unusual layout. One crankshaft drove a supercharger behind the crankcase, while the other crank drove the clutch, gearbox and shaft drive to the rear wheel. The Roarer's two pistons ran in a common light alloy cylinder block with iron liners, capped with separate "hemi" cylinder heads. A train of gears drove a vertical bevel gear shaft to the two single overhead camshafts operating two valves per cylinder. The cylinder heads were designed with rearward-facing exhaust ports, implying that liquid cooling would eventually be used, as the exhaust headers were at least partially screened from cooling air.



But there was another likely reason for the unusual layout. In a supercharged engine, it's important to provide a "plenum chamber" between the blower and the intake ports to smooth out pressure pulses from the blower, and to allow the mixture to cool after being heated in the compression process. Routing the intake manifold over the top of the engine to the front allowed a larger volume for the plenum, and meant the manifold and intake tracts got more cooling air, increasing the density of the mixture.

The Roarer also used the latest in rear suspension (swingarm with coil spring/damper units) but with conventional girder front fork. The bolt-up steel tube frame ran on spoked wheels with single leading shoe drum brakes.

Unfortunately, the Roarer had only one serious outing, in 1939. The great Stanley Woods, recently moved to Velocette from Moto Guzzi, took the Roarer out in practice for the Isle of Man TT. But the engine experienced overheating problems and was pulled from the race. Of the prototype, it was said that it "steered like a dream and was turbine smooth."

With the onset of hostilities, Velocette's focus shifted to military production, and when the FIM (the worldwide motorcycle sanctioning body) banned supercharging in 1947, the Roarer project was abandoned.

Just one prototype was built. It languished at the Hall Green works until it was dismantled, the engine internals removed to reduce weight, and the shell displayed at U.K. motorcycle shows during 1956. Between then and when it was



acquired by Velocette guru Ivan Rhodes, the internals had either been lost or rusted away. Rhodes restored the Roarer to working condition, and it has since been run occasionally on racetrack parade laps. It was the only Roarer in existence until...

DAN SMITH'S ROARER REPLICA

Dan Smith, Vancouver, British Columbia, considers the 1930s to be pretty much the high point of British motorcycle design. And he has a good case. After World War II, the mass-produced bikes were almost exclusively parallel twins. Smith has built — from scratch — three of the most interesting motorcycles from the pre-war era: a Vincent series A twin, the 1935 AJS V4, and most recently, the 1939 Velocette Roarer. "The three most sophisticated, state-of-the-art engines that came out of the U.K. before the war were the Roarer, the AJS V4 and the Vincent A-twin," Smith says.

So why take on such a difficult and complex build? "You're looking for the challenge," Smith says. Smith started the process, as he did with the AJS, by extrapolating the dimensions from a cutaway drawing in isometric projection, typical of the kind used in magazine illustrations at the time. This painstaking operation meant re-drawing each component in turn, taking dimensions from the cutaway. "Working off this, you start putting something on paper and then you move on to another section, and then you realize that that doesn't fit, so you have to go back and rub out the first one and then you move up the ladder as you go along," he says.

Smith did get some help. Upon hearing that Smith was working on a replica, Roarer prototype owner Ivan Rhodes volunteered to assist. Smith sent Rhodes copies of the engineering drawings he had produced, and Rhodes was able to confirm or correct the dimensions. The Roarer has a complex set of engine castings, including five that make up the crankcases. Rhodes was also able to confirm the deck height for the Roarer's cylinder block. From the stroke length, that

gave Smith the required rod length for the Suzuki pistons he planned to use.

"One thing that I was surprised that I got from Ivan was that it was a 100-percent balance on the motor on each crank, and I would never have done that," Smith says. "And being a vertical twin that's geared together, the 100-percent balance is just fine. It's a very smooth motor."

To get the engine cases made, Smith produced patterns from



wood, then had them cast in alloy by Vancouver's Hastings Foundry, finishing the machining in his own shop. With the cases complete, he moved on to the cylinders and heads. "You move one step at a time and complete the first step before you go to the second step," he says

Especially complex was the bevel gear drive to the two (one for each cylinder) overhead camshafts. A train of gears from the crankshaft drives a vertical bevel shaft through

the cylinder heads to another set of bevel gears driving the two camshafts. The valves use hairpin springs from a NSU Max. "You have to make all this to pull together and get no backlash in the bevel gears," Smith says. "And then you can only assemble it one way. And you've got to do your valve timing. It's a bear to assemble. But when I'm building it, it all makes sense."

Getting all the internal oilways right was one of many challenges. "You have to figure out how everything is lubricated. Putting the oil pump [from a BSA] in and then making the gear drive to it, is all fairly straightforward," Smith says.

As well as the pressure feed to the engine bearings, the Roarer's gearbox and final drive are also lubricated from the oil pump. "You have to get the details and go through with it from one end to the other," Smith says. "It's all internal oilways drilled through. The main gears are lubricated with a nozzle, and then the oil goes into the final drive. It's all pressure lubricated. So that takes a lot of head scratching. It's not complicated, it's just hours, and hours, and hours..."

Another unconventional aspect of the Roarer was the gearbox. Instead of a conventional countershaft gearbox with a layshaft and concentric input/output, the box has only two shafts — input and output — with direct drive in top gear. The bevel gear final drive presented further challenges. After deciding the case was too complex to machine, Smith decided on casting it. That meant making more patterns and cores for the casting process. "I robbed some bearings and seals off a Suzuki," Smith admits.

Sourcing a suitable supercharger proved to be impossible. The Roarer used a Shorrock-type sliding vane supercharger, but Smith determined that Shorrock never made a model small enough to fit the Roarer, so he had to make one. "People said, 'What are you going to do about a blower?' and I said, 'I'm going to make one.' Well, I mean, that's what it's all about. If it was easy, everybody would be doing





this. So I drew it up and made it. It was a nice exercise."

In a Shorrock blower, a central offset rotor carries a series of vanes that slide in and out as the rotor turns, drawing air/fuel mixture into an oval-section chamber. The chamber tapers away toward the blower's exhaust port, compressing the mixture as the rotor turns. The compressed mixture is then fed to the engine's intake. Smith was able to improve on the original design, which required oil mixed in with the fuel to lubricate the blower's bearings. Using modern sealed

bearings, the lubricant was unnecessary.

Cam timing also needs to be different from a naturally aspirated race engine to maintain boost pressure. "I've read that they used the cam out of a KSS, and that they had trouble getting their intake pressures up. Well, the overlap on a KSS is quite radical and with a supercharger, you should have zero overlap," Smith says. "I've got reasonable supercharge pressure that is in proportion to the rpm. I was getting 6 pounds at six grand." Smith expects to get 7-8 pounds of boost at 7,000rpm for a theoretical

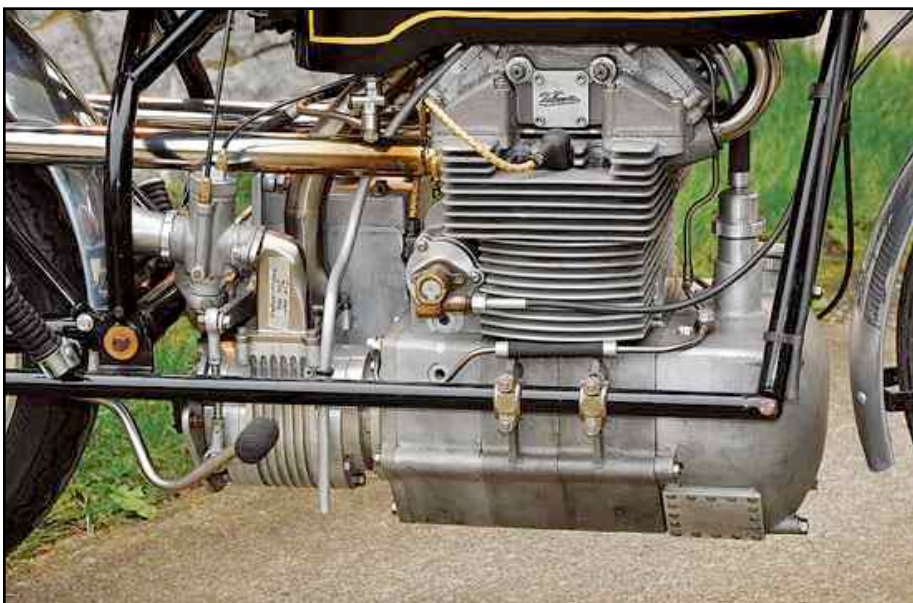
12:1 compression. No blow-off valve is fitted, unlike the original Roarer. "Quite surprising, the blow-off valve was right down where the carburetor is. So if it blew, it would be spewing gasoline on hot exhaust pipes. Not a good thing if those pipes are turning red!"

Drive to the magneto, a rare Lucas AC2, required cutting special helical gears, as the mag drive is at right angles to the crank, and running at half crankshaft speed. The engine was assembled using O-ring seals wherever possible, and the finished powertrain is oil-tight. Smith made the hubs and brake drums, fitting Suzuki shoes.

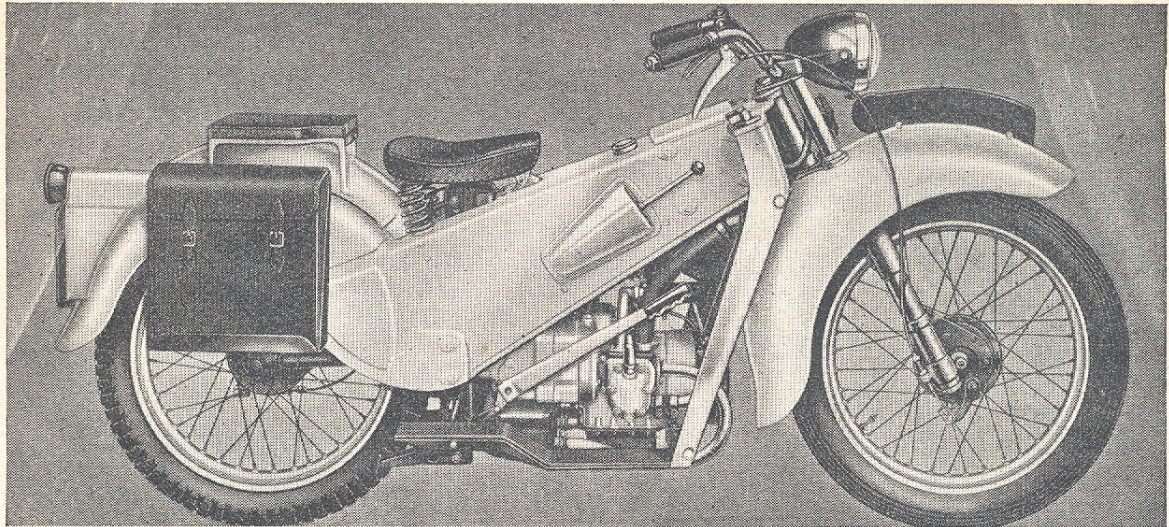
The chassis presented few problems. "The frame is made like a Tinkertoy set. A lot of straight tubes clamped together, so it was fairly straightforward," Smith says.

It took Smith a full three years to make the Roarer. The only issue showed up the first time Smith took it to Seattle International Raceway. On shifting up through the gears, Smith realized he had third and fourth gears reversed. Making a new selector camplate fixed that. Aside from a minor clutch pushrod wear issue and getting the carburetion right, the Roarer ran well.

So what was that first ride like? "It was good. I mean, it was a nail-biter because you made the whole thing. You don't know if you're going to hit a speed wobble," he says. Fortunately, he didn't. Now the challenge Smith has is finding a local track suitable to explore the Roarer's potential. But not its top speed. Presently, he has it geared for 120mph at 7,000rpm. "For me to do 140 miles an hour on that thing, I'd be crazy!"



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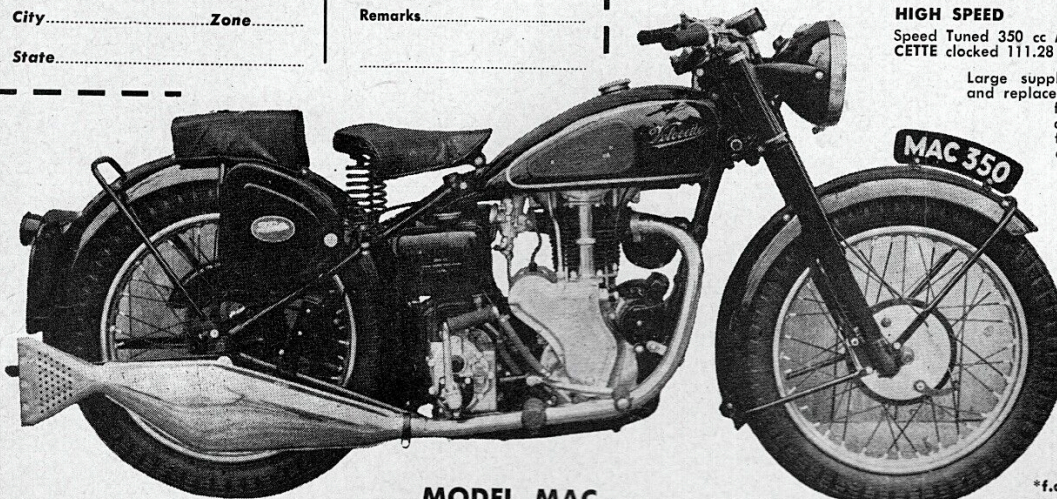


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The Tale of Two MSSes

By Neville Miller



I first started vintage motorcycle racing in England in 1978 with the VMCC. I raced a 1938 Velocette MSS which is a 500cc pushrod single cylinder machine.

I raced it with mediocre success at several circuits up and down England; Brands Hatch, Snetterton, Cadwell Park, Donnington, Mallory Park and Oulton Park.

I had bought the bike the previous year from a gentleman who was the projectionist at one of the cinemas in Southend-on-Sea. He lived in an apartment and had nowhere to store the bike so it was stored behind the screen at the cinema!

It was a non-runner but was substantially complete. Over the winter I transformed it into a vintage racer.

After I emigrated to Canada in 1982 I missed the fun I had had and so in 2016 I purchased the remnants of another Velocette MSS on eBay.

It was a 1947 version of the same machine I had raced in the UK. I was the second owner. The original owner



*Circuit Carole,
Paris, July 1982
Nev Miller on his
1938 Velocette MSS*

had bought the bike in California to compete in desert racing.

The MSS was never intended to be a racing machine. It was designed as a 'cooking' model, a reliable machine with adequate performance, the sort of machine for pulling a sidecar, to be used as family transport for those who could not afford a car. The engine is a single



1947 Velocette MSS as purchased, November 2016 (Photo by Ray Ashcraft)



*Desert Racer transformed into Vintage Racer
(Photo by Nev Miller)*

cylinder overhead valve design that was introduced in 1933 as a 250cc machine known as the MOV.

In the mid-fifties it was revamped as the Venom, which was the same basic layout but featured 'square' bore and stroke (86mm x 86mm) and an improved lubrication system. Many of the upgrades can be applied to the old motor.

Over the course of the next couple of years I rebuilt the machine as a vintage racer. I incorporated many of the improvements to the design that were featured in the Venom such as larger capacity scavenge oil pump, longer radius cam followers and oil drains to the rocker box.

I fitted an Amal TT carburettor and it took me a while to get it set up to run properly. I also had a mishap with the gearbox which resulted in having to rebuild it.

The next problem was fouling plugs. Last year I finally got it sorted and enjoyed a couple of events in the VRRR calendar at Calabogie and Shannonville. At each circuit it turned out to be a race-long dice with friend Eric Pritchard on his 500cc Triumph. The fun was back again.

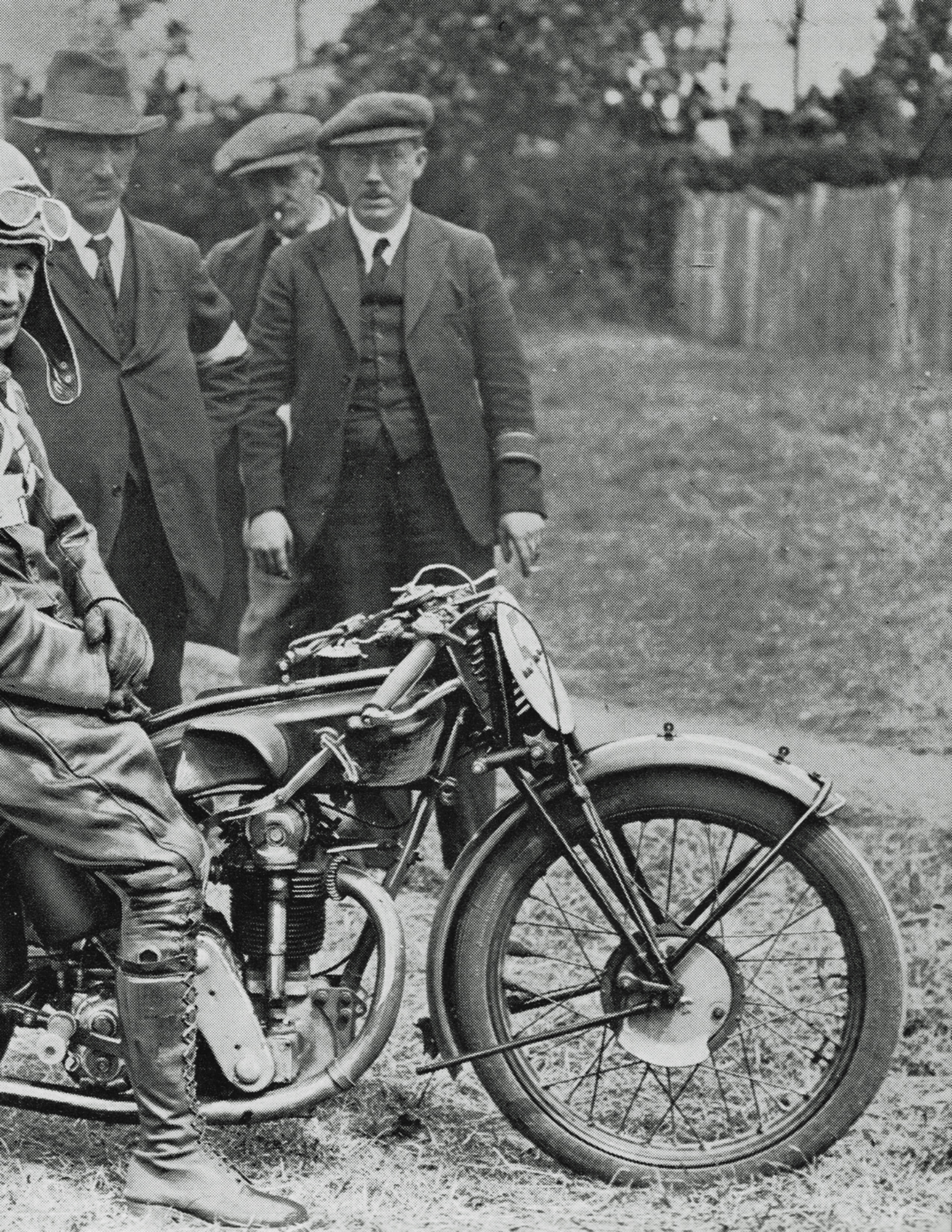


*Trying to hold off Eric Pritchard
(Triumph), Shannonville
Motorsports Park, September 2022
(Photo by Bill Murphy)*

I. ALEC BENNETT. Known among his fellow-competitors as "the human calculating machine", Alec Bennett always had in mind the average speed required to win a race and more often than not was the man who averaged that speed. Winner of five T.T. Races and many Continental Grands Prix, his riding style was so effortless that he never appeared to be in a hurry, as, indeed, he seldom was, for he rode to his predetermined schedule, refusing to be drawn into engine-smashing scraps. He is shown here after his record-breaking ride on a Velocette in the 1926 Junior T.T., the first occasion on which an o.h.c. machine scored a victory in the classic Isle of Man series.

[Facing p. 1]





The Birth of a Legend

By Neville Miller

VANCOUVER RIDERS MADE CLEAN SWEEP

**Bennett Springs Surprise by
Beating Cogburn in Feature
—Godfrey Has Spill.**

Alex. Bennett, of Vancouver, proved to be the sensation of the motorcycle races at Hastings park on Saturday afternoon, winning the three feature races of the meeting and defeating Harry Cogburn, the champion rider of the Pacific coast, who has heretofore made a clean sweep of every motorcycle race meet held this season on the Coast. Bennett not only defeated Cogburn on every occasion the pair clashed, but the local rider put up a mark for the six-mile professional race of 6 minutes and 38 seconds that establishes a new record for the course that will take some time to lower.

Three "spills" during the afternoon tended toward making the programme a spectacular one from the spectators' standpoint, and while only a small crowd attended, the races in general were all that could be desired, the finishes as a rule close and exciting and the times in every instance fast.

Following is the summary of the events:

Five miles, Vancouver riders—Tom McEwan (Indian); George McEwan (Indian); Bud Parker (Indian); Lloyd Purdy (Excelsior). Time, 6:42.

Three miles, professional—Bennett, the only man to finish; Emory hurt. Time, 3:45.

Five-mile, professional and four-mile match race—No results declared.

Six miles, free-for-all—Bennett (Indian); Harry Meagher (Harley Davidson); Harry Cogburn (Indian). Time, 6:38.

Eight miles, Vancouver riders—Bud Parker (Indian); George McEwan (Indian). Time, 10:41.

Hotel Lotus event, ten miles, between Harry Cogburn and Bennett, won by Bennett in 13:8 2-5. Trophy presented by Mr. Williams, Hotel Lotus.



The fortunes of Veloce Ltd. were improved considerably by the exploits of one man, Alec Bennett. Born in the North of Ireland at the end of the nineteenth century, Alec moved to Canada in 1907 when the family emigrated aboard the 'Lake Erie', arriving at Saint John, New Brunswick, the day before his tenth birthday.

The family took the train out west to Calgary where his mother's sister was already living. His father tried to make a living off the land, but gave up after a couple of years and moved the family to Vancouver where he got a job as a labourer with the local council.

Alec showed a keen interest in the motorcycles which had begun to appear on the city streets. He gained casual employment at East End Cyclery, the local Indian agency and also the Excelsior Motorcycle Co. From time to time promoters of motorsports would put on race meetings at Hastings Park, the local horse racing track. Alec excelled at these events.

When the First World War came along, Alec and his brother, Arthur, signed up to join the war effort. They joined the 121st Battalion of the Canadian Expeditionary Force and sailed to England on the 'Empress of Britain' for training in the south. Towards the end of his training Alec transferred to

the RFC and learned to fly. He joined No.62 squadron and served in France on the Western Front. After the war Alec stayed in England where he thought his prospects were brighter. Eventually, he got a job as a motorcycle tester at the Sunbeam Motorcycle factory in Wolverhampton.

He was their number 2 rider. His first big race was the 1921 Senior TT in the Isle of Man. He crashed heavily during the last practice session and the injuries he sustained almost excluded him from the race. But, eager to demonstrate his capabilities, he pleaded with the organisers to let him race. With his head bandaged, he participated and managed to gain 4th place, a very creditable performance.

In 1922 he returned to the island and this time won the Senior TT in spectacular fashion. It was the last time that a TT race was won by a side-valve machine. His race average was faster than the previous lap record. He also won the French GP but, despite these wins, he was dropped from the team at the end of the year.

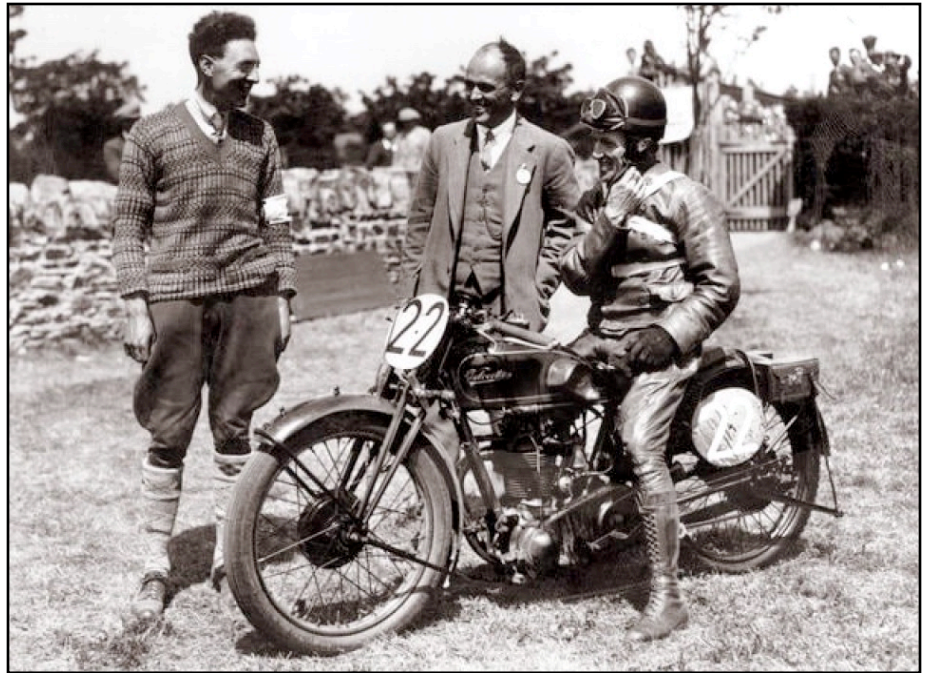
He managed to secure a job at Douglas for the 1923 season. It was a banner year for Douglas, but, sadly, Alec wasn't part of it. He was plagued with reliability issues.

Also in 1923 he opened his own motorcycle business in Southampton. For 1924 he moved to Norton and rode their Model 18 single cylinder OHV machine in the Senior (500cc) class. He gave Norton their first TT victory since the inaugural race of 1907, but this

time the machine was totally of their manufacture.

As he grew his motorcycle business he took on the agency of various marques. One of these was Velocette. In 1925 Percy Goodman had designed a new OHC engine of 350cc capacity. Alec was quite impressed by the machine when he took delivery of his first one.

Although he was committed to Norton in the Senior class they did not put any restrictions on him in the other classes. Alec therefore visited Veloce Ltd. in Birmingham and made them a proposition. If Veloce would prepare a machine for him to ride, he would race it and not expect any remuneration unless he won. Veloce saw this as a 'cannot lose' situation. If Alec didn't win the endeavour wouldn't have cost them anything, if he did win they wouldn't mind paying for the success. So, Alec entered the new Velocette in the Junior TT race in 1926 and he had as his mechanic



Winner of the 1928 Junior TT race, Alec Bennett, 350cc Velocette. Percy Goodman, the engine designer, is in the centre

none other than Percy Goodman, the engine's designer. Alec had a reputation for not pushing his machinery from the start but coaxing it until it reached full operating temperature. He won the race by over ten minutes. It was Velocette's first TT victory and the first ever TT victory by a

motorcycle with an overhead camshaft engine.

The response to the victory was overwhelming. Sales for the new machine came pouring in. The factory could not meet the demand. The company had to move to larger premises. By chance, Humphrey and Dawes, who





The completed Alec Bennett replica.

made OK motorcycles had gone into receivership. So, Velocette took over their premises on York Road, Hall Green and firmly established themselves as a manufacturer of quality motorcycles.

Alec almost repeated the feat the following year. He was leading after four laps and looked all set to win, but a faulty tappet adjuster caused his motor to lose power and he had to retire.

However he returned again in 1928 and managed to pull off another convincing victory. This time he was helped by an interesting innovation developed by Velocette engineer Harold Willis, the positive stop gear change. The original bike still exists and now resides in a museum in the Isle of Man.

In 2005 I bought an early 'cammy' Velo on ebay from a gentleman in Colorado. His wife had inherited the bike from her father in New

Zealand. It was a non-runner but substantially complete, though it had no lighting equipment.

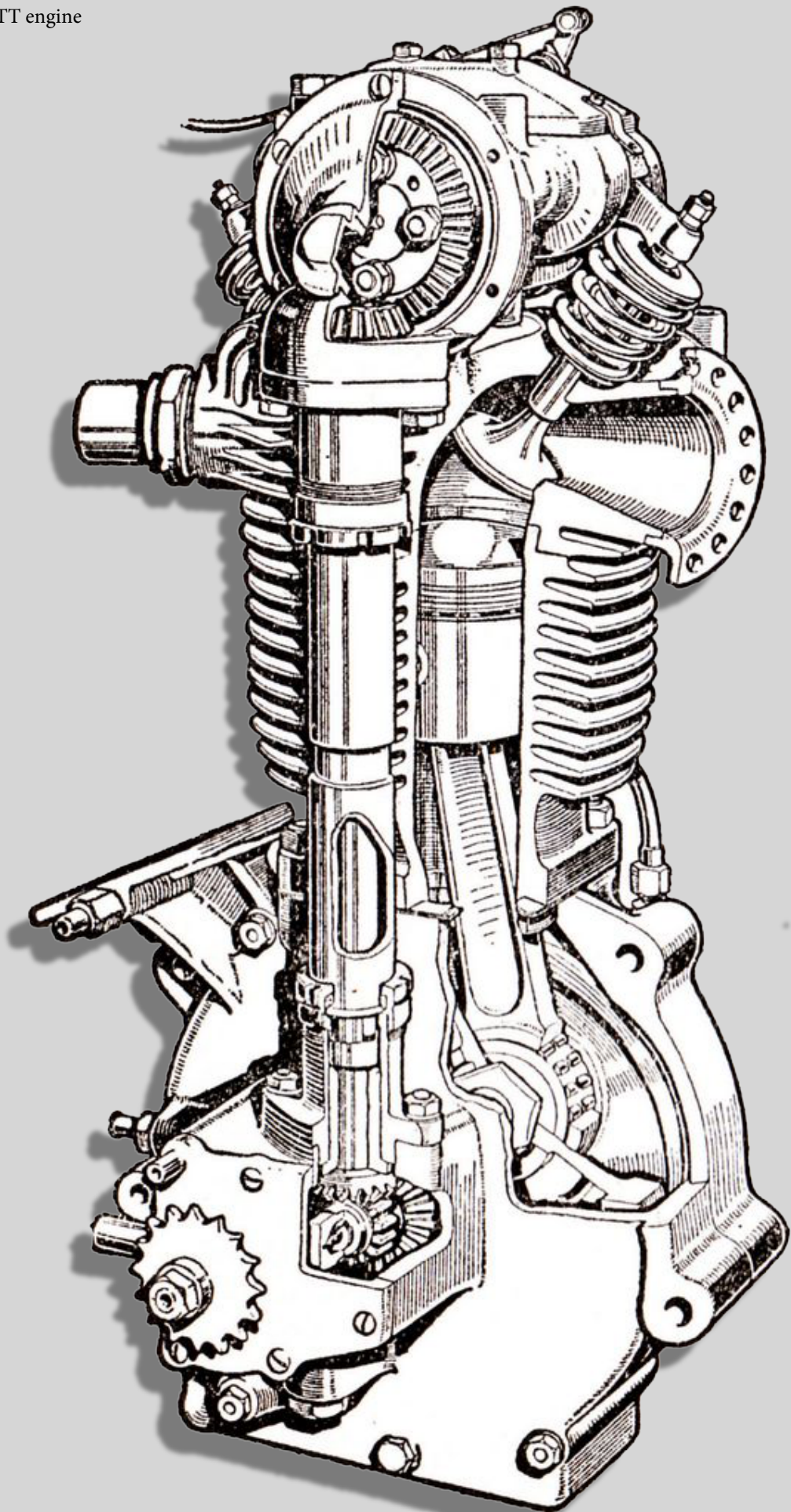
I decided to restore it as a replica of Alec Bennet's 1928 Junior TT winning machine. I dismantled the bike completely and stripped the frame and many of the cycle parts down to bare metal ready for powder coating. Then I systematically went over the whole machine to make sure that all the parts were serviceable. Over the

course of a couple of years I rebuilt the bike as a replica of the bike on which Alec won the 1928 Junior TT race.

Following Alec's victory in 1928, Velocette produced an over-the-counter version of the race-winning bike, designated the KTT. So began a more than 20 year dynasty during which Velocette dominated the 350cc racing class, culminating, of course, in the infamous Mk VIII KTT.



1926 Velocette TT engine





Velocette Vulcan. 1000cc. A one-off built by the owner, Bob Higgs; mating two Velocette 500cc barrels in "V" configuration.

It's My Bike: Vulcanology supreme – Bob Higgs' V-twin Velocette

Article by Sam Hewitt Source: oldbikemart.co.uk

Velocette Owners' Club honorary president Ivan Rhodes, who has enjoyed several 100-mile-plus outings on Bob Higgs' home-built Velocette Vulcan V-twin outfit, tells of the man and his immaculate creation, which many think must have been a factory prototype.

The Velocette Vulcan V-twin mentioned in recent issues is the brainchild of Bob Higgs, a friend of all in the Velocette Owners' Club, who was introduced to motorcycling by riding on the back of his father's BSA Bantam (later changed for an LE Velocette) at a time when I was doing my National Service in the 1950s.

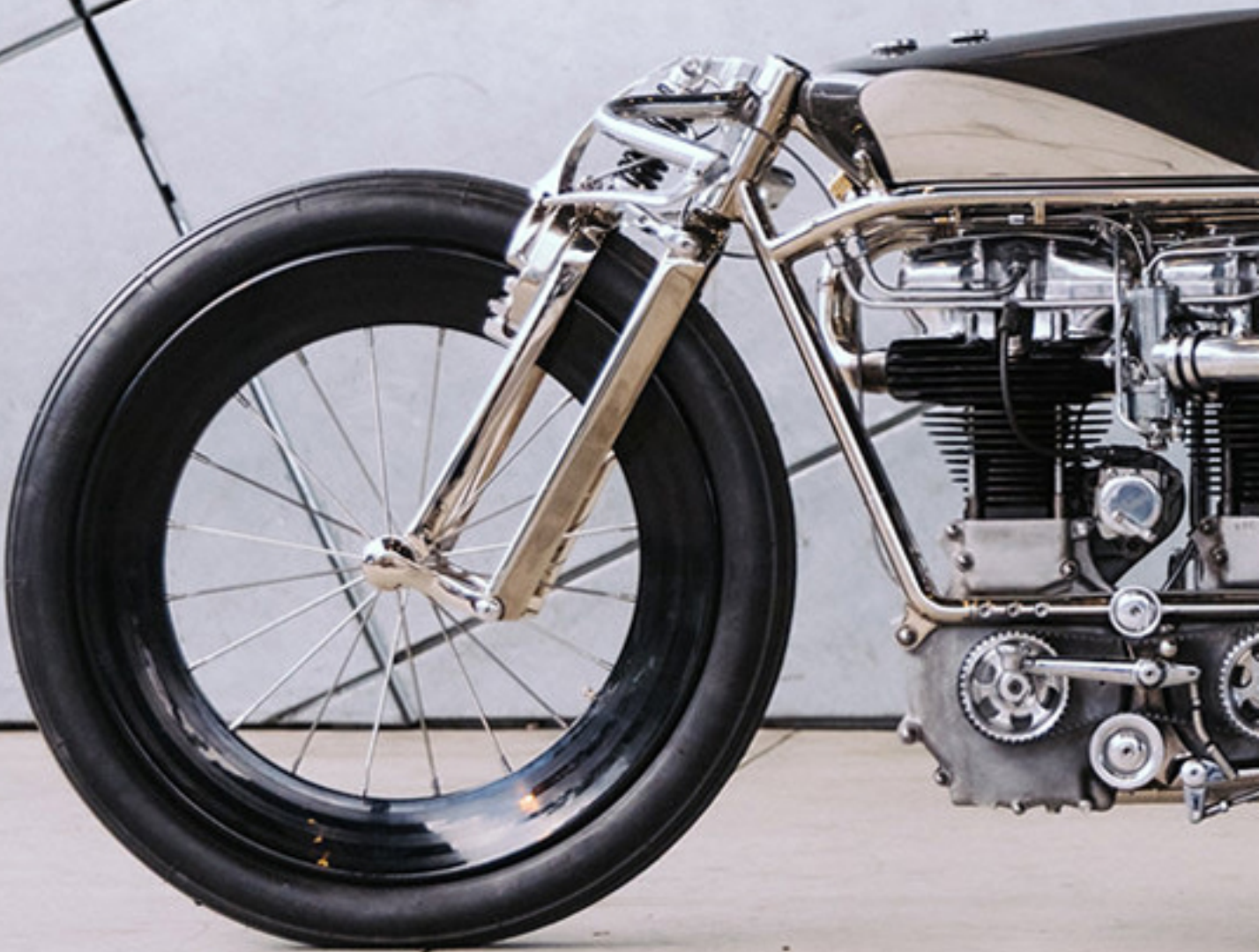
His father was a foundryman at Burton-upon-Trent, and Bob, who took up an engineering apprenticeship with the National Coal Board, acquired an older MSS and became inspired by all around him to sit down and design a V-twin Velocette.



During the Velocette Owners' Club's 2012 Peak Run, Ivan Rhodes and the late Mrs Joyce White are on the Vulcan outfit, and the machine's talented designer Bob Higgs is seen with a coffee cup in his hand.

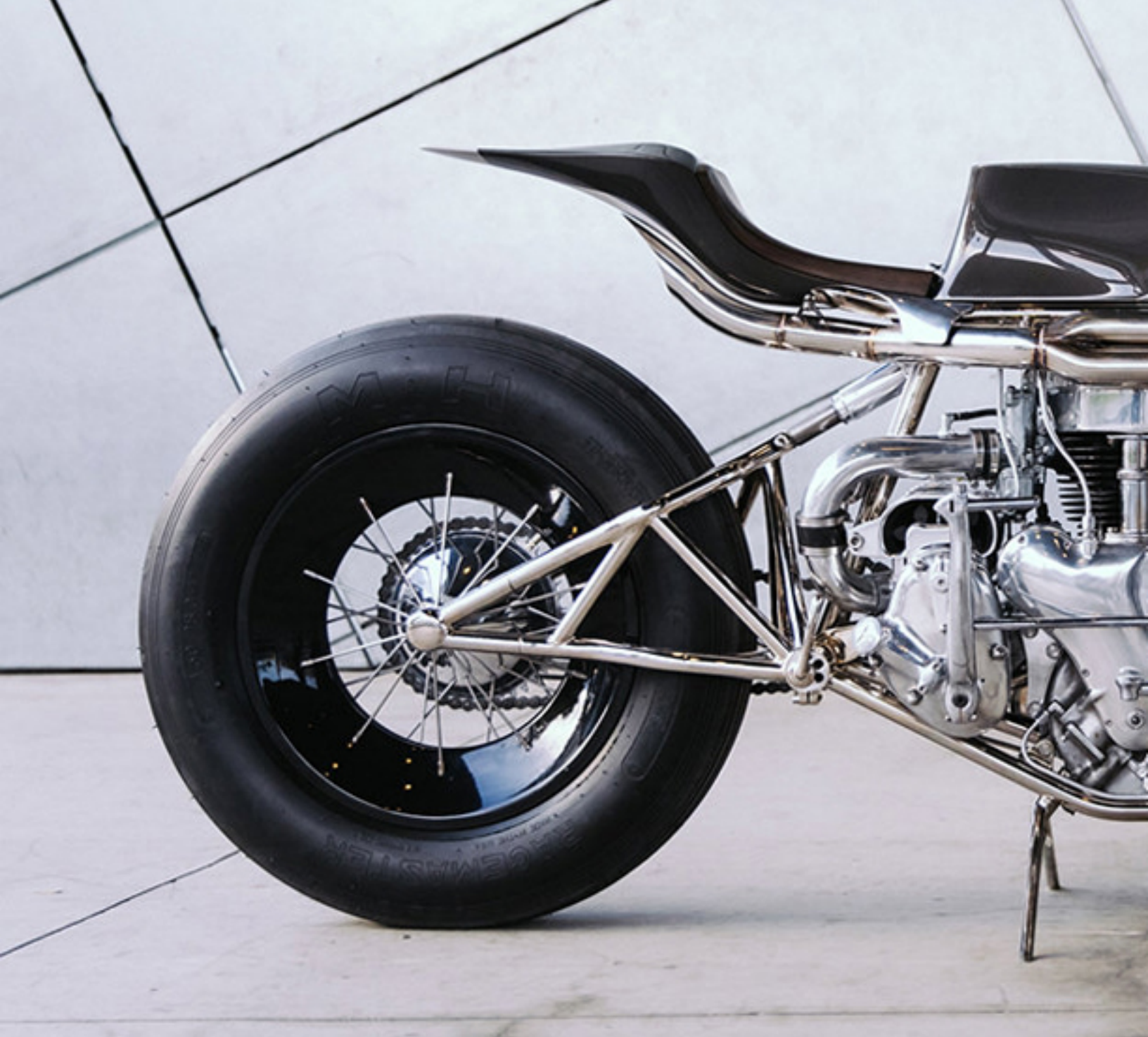
Peter McManus's book *Derbyshire Motorcycle Maestros* tells how, by staying behind at work for two hours each day for months, Bob prepared all the working drawings for design, which consisted of two 500cc Velocette heads and barrels set at a 60-degree angle on a common crankcase – and the many problems that had to be solved.

**DOUBLE SHOT: TWO
VELOCETTE MOTORS
POWER HAZAN'S
LATEST**



BY Wesley Reuneke | Source: BikeExif
Images by Shaik Ridzwan
Article adapted from issue 43 of Iron & Air magazine





MAX HAZAN IS known for building impossibly elegant, hand-crafted machines. His customs ride the line between motorcycles and art so well, that they confound the usual arguments about function versus form.

Hazan can play both sides of that particular coin, though. He once built a KTM 950 supermotard for personal use, aiming for a pseudo-factory look and ridability. Then a potential customer asked him to build another one just like it... and things snowballed.

“He actually wanted to buy the 950,” says the Los Angeles-based custom builder, *“and was disappointed*

that I’d sold it to someone else. I was going to build him a similar KTM, but then he saw my Knucklehead sportbike. He decided he wanted something ‘crazy’ now, and something to ride later on.”

The brief eventually evolved into ‘go wild, make whatever you want.’ But it took Max a while to come up with the concept of the twin-engined, bicycle-inspired machine you’re looking at here. *“I always like to think of something unique,”* he explains. *“If I’m going to spend six months working on something, I want it to be worth the effort in the end. This idea came when I found one of these Velocette MAC engines on eBay and it turned out the seller was down the street. I knew*



right away when I saw the shape of the engine cases that two of them would fit together perfectly, and I could make a twin engine bike that didn't look like the usual twin engine drag bike."

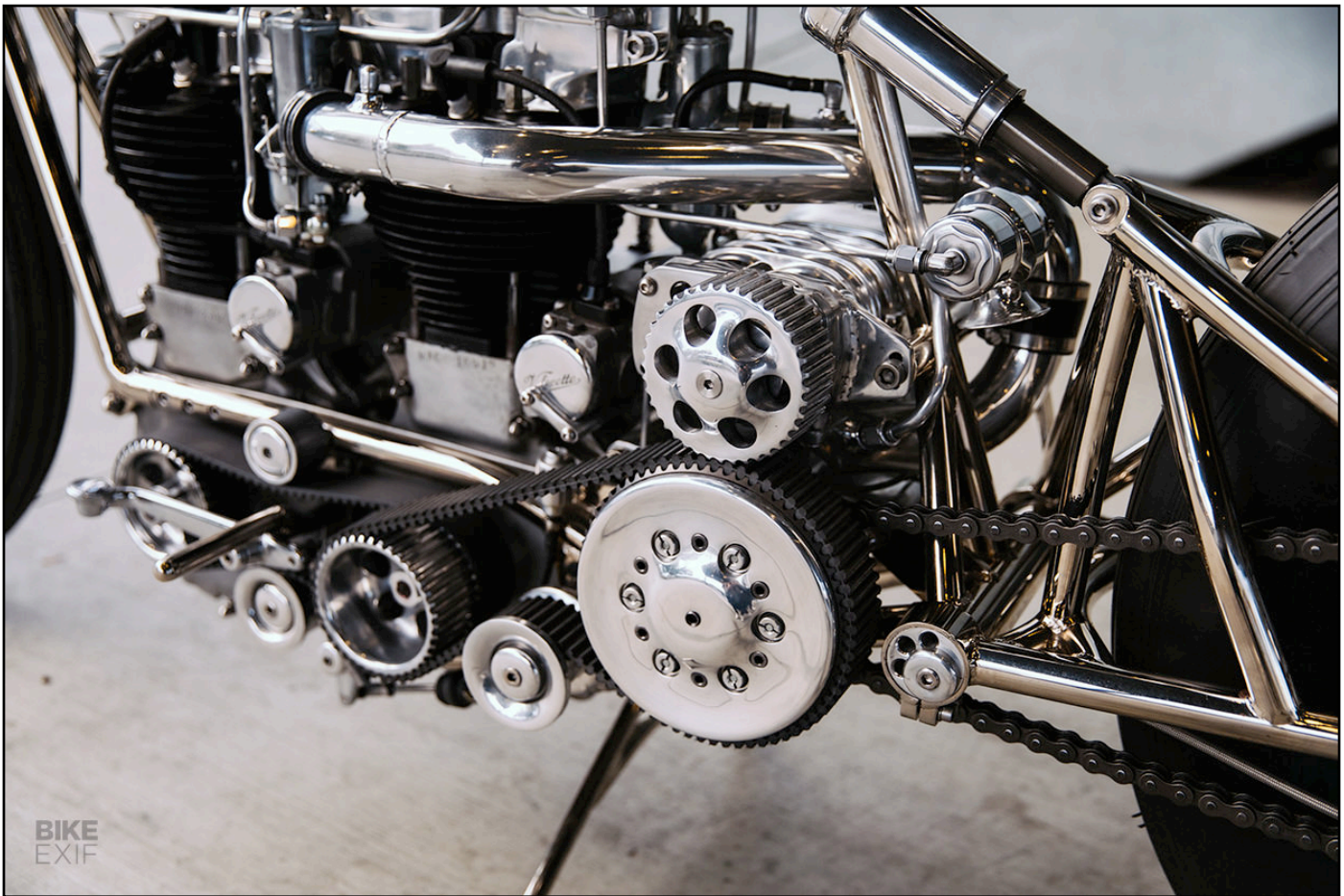
The post-war MAC motor is a 349 cc air-cooled single, which clocked a remarkable top speed of 75 mph in its day. Max sourced the second unit in England, then added a four-speed Matchless transmission, mounted on its side.

The two powerplants basically run independently, but are linked by a set of belts, running on custom-machined aluminum pulleys that are attached

to each main shaft. The final belt is double-sided, so it can simultaneously spin an Eaton TVS R410 supercharger, effectively killing two birds with one stone.

The motors are also stressed members of the custom frame, which is a handcrafted chromoly steel arrangement. Each engine's crank breather is plumbed into the frame itself, at points where the tubes are angled downwards. The bulk of the oil mist runs back into the engines.

Max built the front suspension from chromoly steel too, with a unique take on a leading link system that



uses a single, custom-built shock. It's impressive enough on its own, but it's almost overshadowed by the engineering that's gone into the bicycle-style front wheel.

"I like to come up with new ideas on each project," says Max. "They usually have something unique... but this bike was wild from front to back."

"The front wheel was something that I had wanted to make for years—I love bicycle design and a deep 'V' has been on my mind for some time. But it was a clincher wheel, which meant that we couldn't do it in one piece on the CNC mill. No CNC shop wanted to mess with the idea... other than my friend Mark Atkinson, who ended up making the rear too."

Mark machined the wheel as two interlocking aluminum halves, held together with stainless steel dowels that are secured by the spokes' tension. The brake is a traditional bicycle V-brake design, built from scratch, and equipped with three cork pads on each side. Max puts their efficacy at "about a six out of ten—about the same as a vintage drum brake."

The rear wheel is also a custom aluminum part, but follows a more traditional design. At a glance it looks brakeless, but there's actually a one-off four-inch

stainless steel rotor and a floating caliper, mounted inboard of the rear sprocket.

There's also no axle or wheel nut to speak of. Instead, the custom chromoly swingarm has a two-piece design, which threads through the wheel. Chain tension is adjustable via an eccentric cam at the swingarm's pivot point. The side-mounted shock is an air-sprung Fox mountain bike shock that's been stripped and polished.

As you'd expect, all of the Velocette's lithe, flowing bodywork is custom. It's been hand-shaped from aluminum, with minimal paint and twelve layers of bonded leather for a seat. The lines are traced by the exhaust, which snakes up and under the tail section. Keen eyes will also spot two filler caps on the fuel tank, because there's an oil reservoir hidden inside it too.

The fuel tank is pressurized by boost from the supercharger, so that the blow-through carb system can be fed without needing a fuel pump. *"It makes about 6 psi with the current 1:1 drive ratio,"* Max explains, *"and as crazy as the setup sounds, it runs like a naturally aspirated bike."*

Max's Velocette is as narrow as it is beautiful, and also utterly unique. *"Although it's about eight feet long, it feels like a bicycle with two engines,"* he says.

“The power is not mind-blowing, but if I had to guess I’d say it makes around 50 hp between the two 70-year-old 350s. And after about thirty minutes of riding you need to give your ass a break—but practicality wasn’t a part of this project.”

“This project was also one of the hardest to complete. It spanned a pandemic, the shutdown in LA, the arrival of our son Jack, and the sale and purchase of our home. And I did almost everything you see twice, including the paint, to get it where I was happy.”

“It was worth it!”

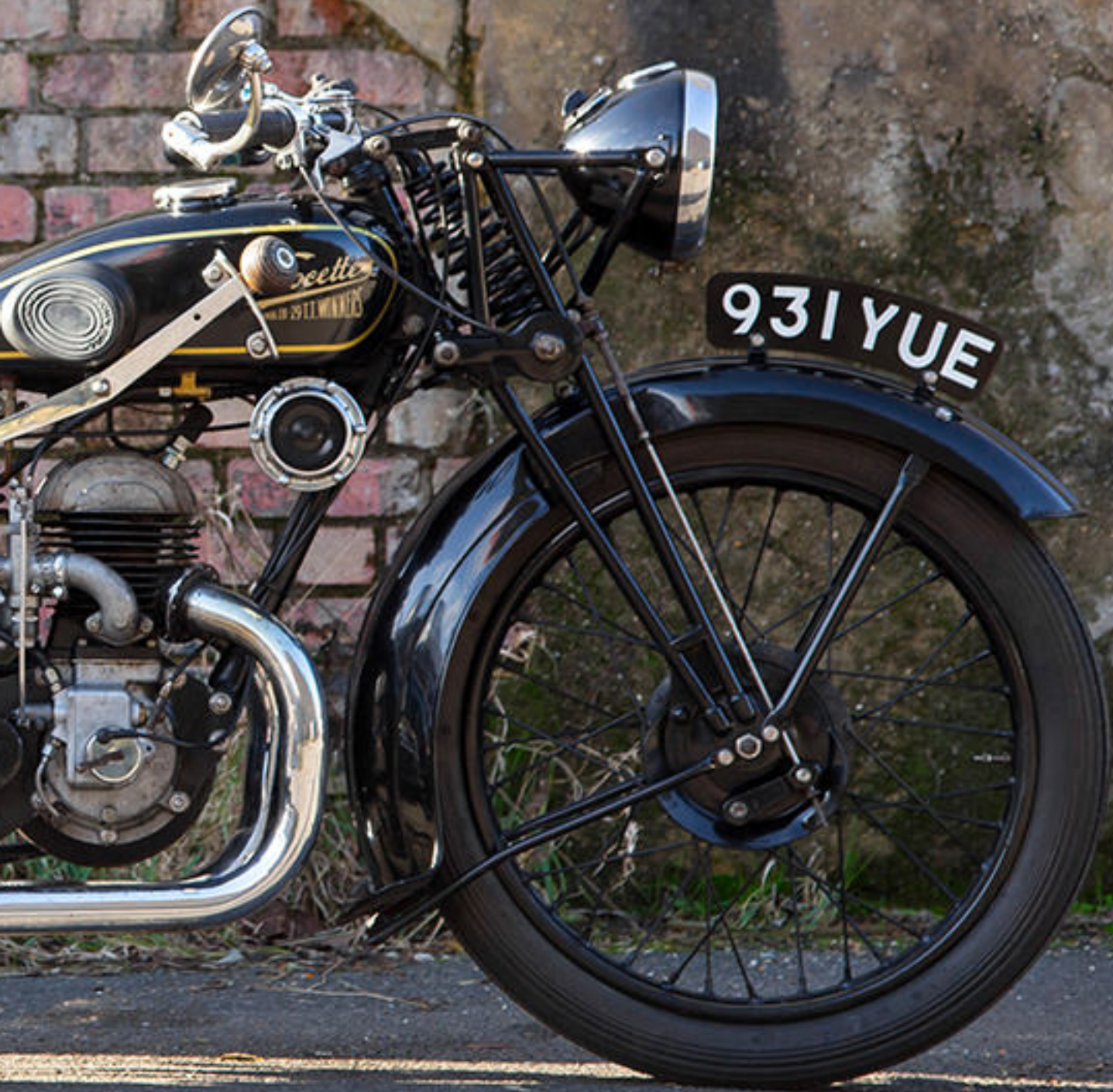




Vintage Volts

Turning a Velocette into a hybrid

By Chris Hunter | Source: BikeExif.com



We all know about hybrid cars, with petrol engines and electric motors sharing powertrain duties. And Kawasaki is promising hybrid motorcycles in its showrooms by 2025.

But the Japanese giant has been beaten to the punch by a couple of blokes in London, and an ancient Velocette that's almost a century old. Because Rex Martin and Adam Kay of Untitled Motorcycles have created one of the most intriguing customs we've ever seen—with a modern 400W hub motor working alongside an elderly two-stroke single.

Rex bought the 1931 Velocette 250 GTP last year. The bike belonged to one of his customers, and Rex knew it well. So when the customer relocated to the USA, Rex parked the Velocette alongside the two-stroke Scott already in his garage.

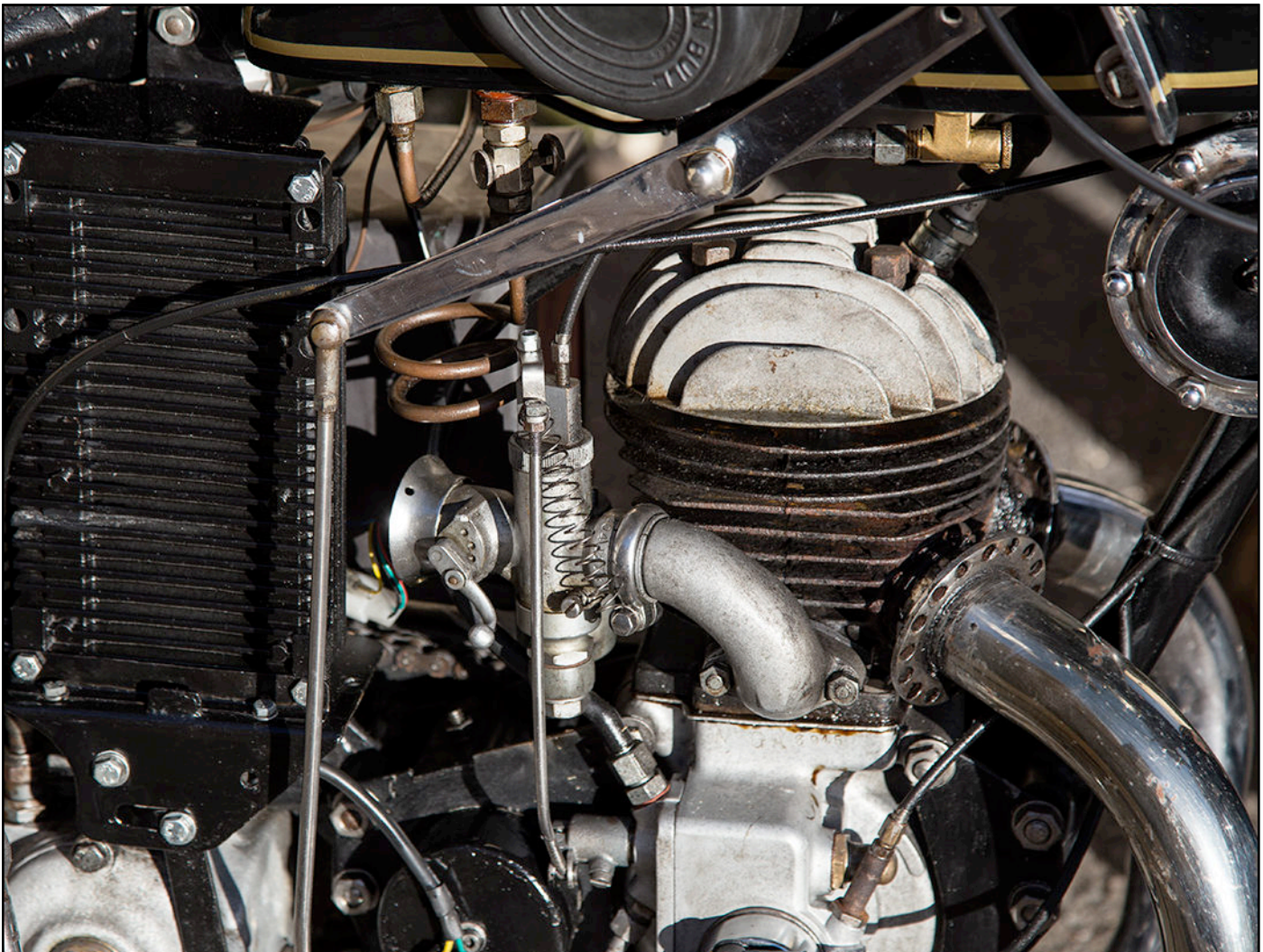
After riding the bike throughout summer, trouble struck: the big end gave up. Suspecting oil starvation, Rex sent the broken motor to Alpha Bearings, who stripped it and found that it had a non-standard big end.

While contemplating the repair of the Velocette, Rex came up with an unorthodox but very practical idea. And it wouldn't involve any cutting, grinding, or terminal damage to the GTP.

At Untitled, Adam Kay was electrifying a Honda Cub, fitting an electric motor into the rear hub. Rex realized that they could also add an electric motor to the Velocette—as an independent power source.

Adam gathered together the components they needed: a hub motor and associated wheel, a 72V 30Ah battery, a voltage controller and a new twist grip. (The throttle for the electric motor is on the left side of the 'bars and therefore needs to be rolled forward to accelerate, which must be a little disorientating.)

Four days later the new system was fitted, including the fiddly part of integrating the rear brake drum and sprocket with the new hub. At 18 inches in diameter the new wheel was a size down on the original, but the lowered gearing worked fine on urban streets.



The battery is where the leather toolbox formerly lived, and is visible on the left side of the bike. Underneath the saddle are the voltage controller and transformer.

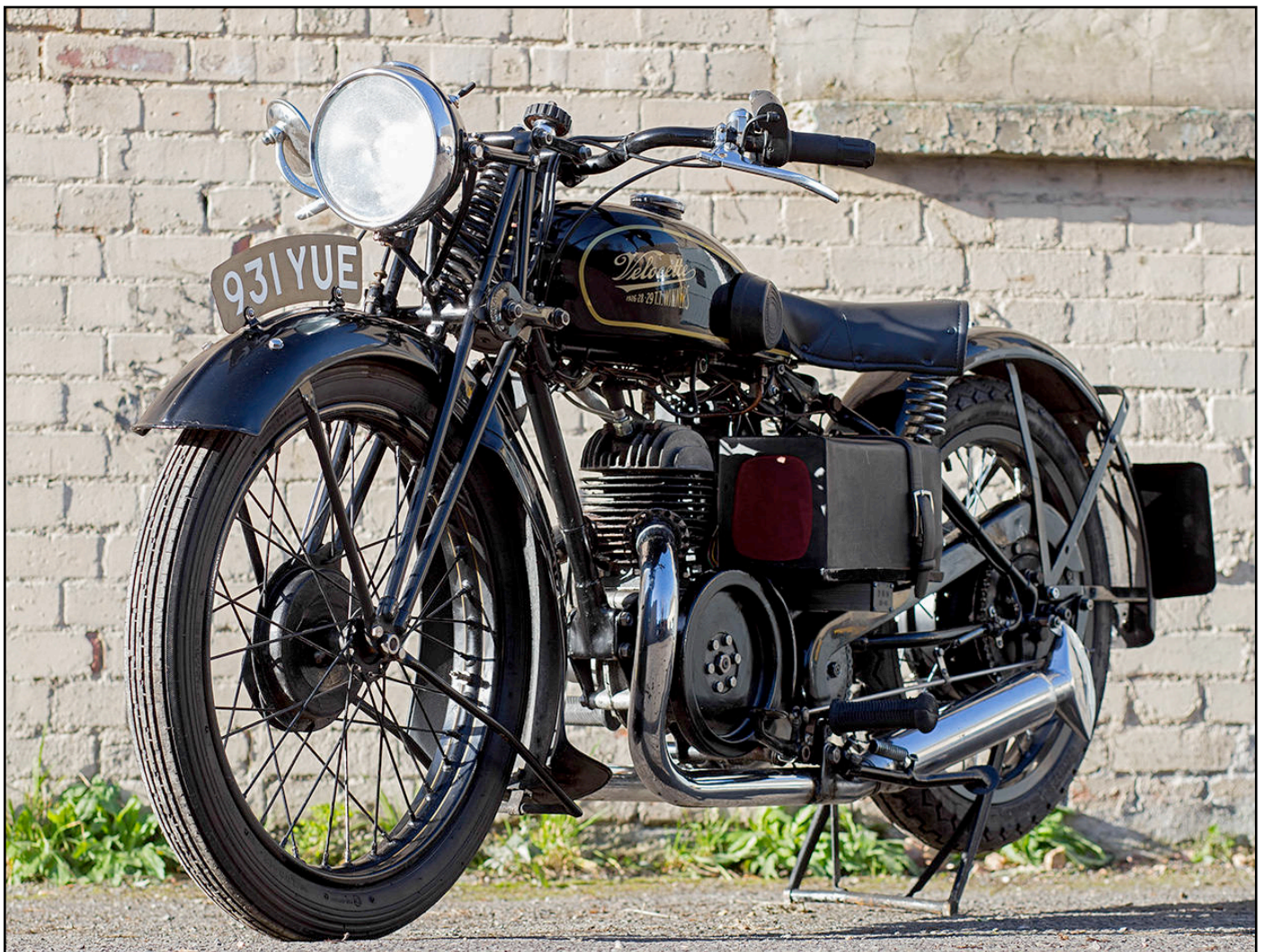
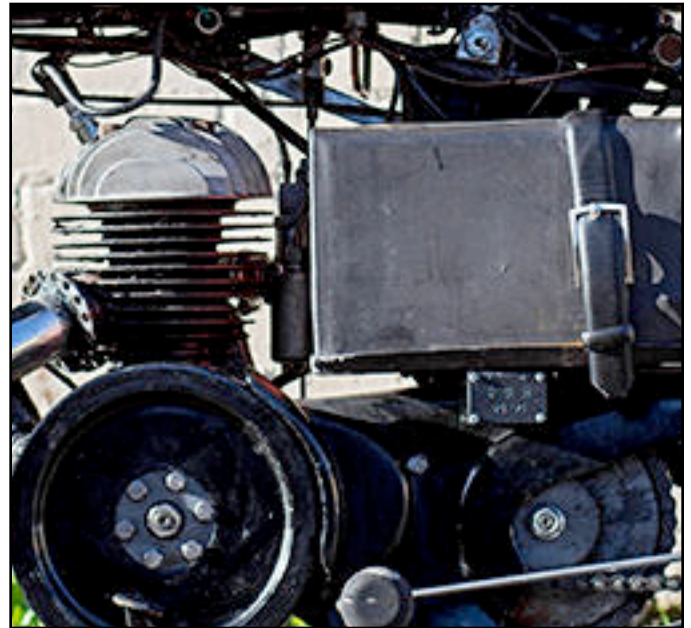
There was a hiccup in early testing, but Rex is familiar with the system now. The Velocette does not have a magneto, and relies on a 6V battery to start the engine.

One day, Rex started his trip under electric power, and switched to the petrol engine when the big battery ran out—only to find that the 6V battery was flat. It won't happen again, we presume.

Rex now uses his hybrid motorcycle for commuting, and it's surprisingly well suited to the task. The handling is nimble, the sprung seat is low and comfortable, and the range on electric power is a serviceable 30 miles or so.

There's no speedo but Rex suspects that his hybrid tops out at around 50 mph (80 kph). Acceleration in electric mode is very brisk, he reports: it's also quiet, and almost drowned out by rattling from the suspension and spring seat.

The whole project is completely off the wall, but conversely, amazingly practical. That's not a combination we often see—but it's one we'd love to see more often.



VELOCETTES AT MONTLHÉRY: 24 HOURS AT 100MPH

SOURCE: MOTORCYCLES | BY PAUL D'ORLÉANS

Nearly 60 years have passed since an international cadre of Velocette enthusiasts braved certain discomfort and actual physical peril, to ride a humble Velocette Venom with no lights around the Montlhéry race track for 24 hours, lapping consistently at 107mph, to average 100.5mph. Many had attempted the 'ton for a day', and some succeeded afterwards, but Velocette was the first to do it, and the record still stands for a 500cc

machine, set half a century ago, on March 18th/19th, 1961.

The attempt was set in motion by Velocette managing director Bertie Goodman. Veloce Ltd were a small, family-owned company with a peerless reputation for quality machines, and an excellent racing pedigree. Unlike the Board of nearly every other motorcycle manufacturer, the helmsmen (and women) of Veloce were daily riders of their own machinery, and

enthusiastic supporters of racing, to the extent of participating in record runs and even the occasional international-level road race. For example, during his stint as Sales Director, Bertie placed 3rd in the 1947 Ulster GP, and his son Peter had significant success in racing as well.

As Managing Director from the 1950s onwards, after the death of his father Percy Goodman, 'Mister Bertram' (as factory employees

Bertie Goodman pushing off for one of his stints on the track



called him) took special pleasure in speed-testing the company products at the MIRA test-track, which he insisted helped keep his weight down! Such testing proved excellent for revealing faults, and Velocette production models were renowned for their mechanical reliability and excellent handling.

In 1960, Bertie was approached by Georges Monneret, legendary 6-time French racing champion, who suggested a 'go' at the 24-hour record at the venerable (but bumpy) Autodrome de Linas-Montlhéry, 40 minutes south of Paris. The French speed bowl is an engineered track, built with a concrete and steel grid structure supporting its high banked curves. Its concrete paving is stable but unforgiving, with expansion joints (every 25 metres) as wide as a fist in some places, making for a rocking-horse ride at high speeds. Monneret and his son Pierre, also a racing champion, organized a French team of riders, to be accompanied by Bertie Goodman and British journalist Bruce Main-Smith, who called Montlhéry a "concrete-banked slice of medieval punishment".

Their nearly standard 'Venom' 500cc model had been very carefully assembled, but was not highly tuned. Goodman insisted using time-proven production parts meant less likelihood of component failure, so the record-breaker Venom differed from standard only in the addition of a GP racing carburetor, megaphone exhaust, and production prototype fairing, made by Doug Mitchenall, a friend of the Goodman family, and manufacturer of Avon Fairings (and the beautiful bodywork on Rickman motocrossers). Much was removed from the Venom though!



Bertie Goodman, the managing director of Veloce Ltd, here with the factory's Vogue model, an LE with fiberglass bodywork and twin headlamps. 'Mr Bertram' tested and regularly rode the family's products.

The view from the top of the Autodrom de Linas-Montlhéry (as it's officially known). The banking is nearly vertical at the top, and only vehicles doing near 100mph can hold the high line





Publisher Bruce Main-Smith on the grandstand straightaway at Montlhéry, passing in front of the pits during daylight hours

The front mudguard, battery, lights, speedometer, number plate, headlamp cowl, primary chain cases, etc, were all removed, probably 50lbs of extraneous metal.

Building the record-breaker Venom took 5 months, as the Veloce race

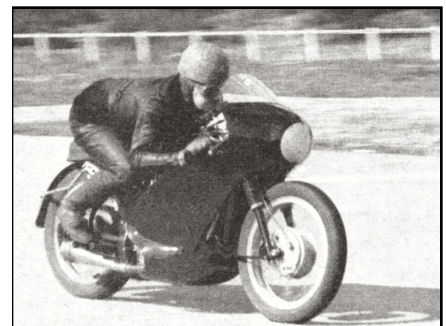
shop had closed 8 years prior, after taking 2 World Championships and countless Isle of Man and GP victories, in a bid for the tiny, family-run company to focus on their production roadsters. When the bike was completed, Bertie

French rider Alain Dagan put in the fastest laps of the whole team.



Goodman tested it at MIRA for 14 hours at absolutely full throttle, averaging nearly 110mph. The engine was never internally inspected or disassembled during or after testing; that means it ran 1400 miles at full bore, before the record attempt had even begun.

Management of the record attempt, including sponsorship deals and track arrangements, was the job of Georges Monneret. As the Montlhéry circuit had no lights, the 12 hours of night riding were illuminated by 55 Marchal car headlamps connected to batteries! Rider testing – to determine team members – was carried out the night before the record attempt; if you didn't have the 'bottle' to keep the throttle right at the stop, you were out! The team thus consisted of Bertie Goodman, Bruce Main-Smith, Georges and Pierre Monneret, Pierre Cherrier, Alain Dagan, André Jacquier-Bret, and Robert Leconte. While Bertie Goodman was a relative 'oldster' at 42, Georges Monneret was 55 at the time... and of course, these two old dogs were among the most consistent and fastest of the attempt.

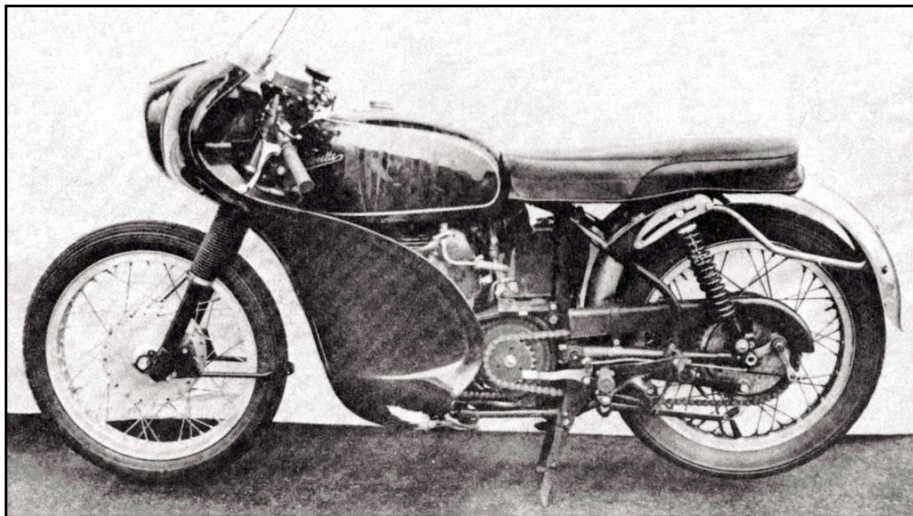


'Mister Bertram' down to it! Lapping at 107mph for hours on end in a bid for eternal glory.

Night riding at 107mph through stroboscopic bands of light and dark proved psychologically demanding in ways the riders could

not have anticipated; hallucinations, hypnosis, and phantom 'fog' beset every rider, and those with steely temperaments (Goodman, Dagan, and the Monnerets) shouldered the heaviest riding burdens. The bumps were awful, but the Velo steered as they all do, "taut, waggle-free, 100% safe" said BruceMain-Smith, in his epic writeup of the event. He wrote "I am genuinely frightened...punishment from the bumps is awful...my nose and mouth run, onto the chin pad to which I press my head to keep it behind the screen...it seems an eternity...the noise from the megaphone chases me round the track like a wild beast...after 60 laps I know it would sabotage the attempt if I continued. I come in..." He finds motivation to continue, thinking first of his Country, then his readers, and finally – that he was being paid!

The rough hours of the day passed into evening, and with them the 12-hour record at 104.6mph. Worth celebrating, but the grim reality of constant pounding and a further 12 hours' riding meant no champagne. The nightmare hours



The Venom with Avonaire fairing was a nearly standard Clubman model, with a few mods at the factory, like the removal of the dynamo, battery, and lights. Strangely, the steering damper was retained, although it was never needed or used (although they're useful when hauling a sidecar).

hammered onward, punctuated only by fuel stops and rider changes, at times after only 15 minutes, as younger riders complained of blurred vision and fatigue. The older riders (Goodman, Monneret) dutifully fulfilled every one-hour stint, while young Dagan, the fastest of them all, was first to leap onto the saddle and revive the average speed when others flagged or surrendered. By morning's first light, he made the

final push, bringing the Velo over the timing line for the last time. All were exhausted, cold, and ready for sleep! Yet, for 2400 miles and a road average of 107mph, the Velo never skipped a beat, and gave a remarkable 37mpg, ridden flat out. When the engine was finally opened for FIM inspection, after 3800 miles of 100+mph riding, it was found to be in perfect condition.

Bertie Goodman congratulating Pierre Monneret, the organizer of the attempt, after their incredible success.



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EVER!*

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MONTLHERY, FRANCE

12 HOURS AT AN AVERAGE
SPEED OF 104.66 M.P.H.

24 HOURS AT AN AVERAGE
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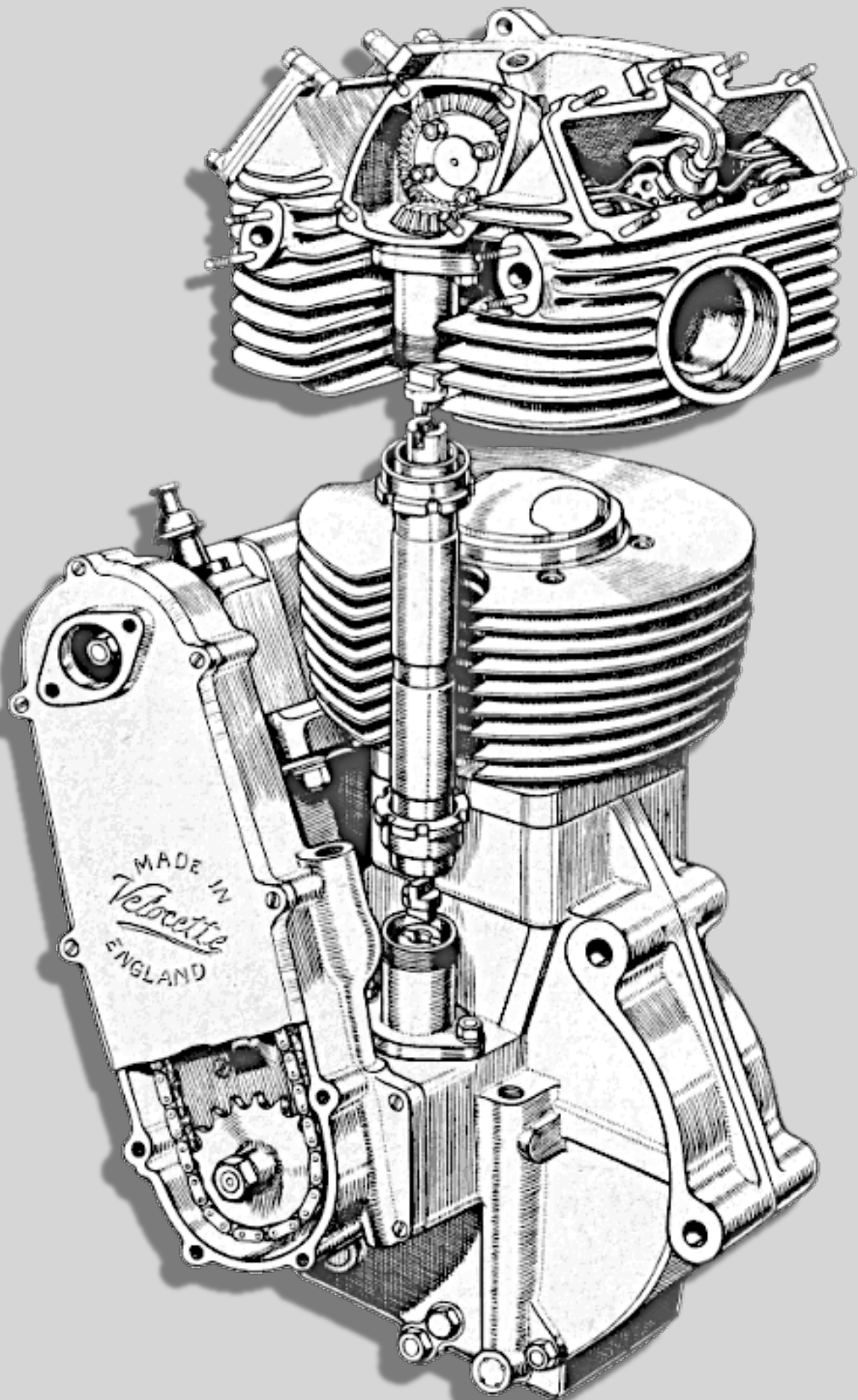
VELOCETTE VENOM CLUBMAN VEELINE
STREAMLINED PRODUCTION ROADSTER

IN NEAR-STANDARD TRIM RIDDEN BY THIS
ANGLO-FRENCH TEAM

GEORGES MONNERET
PIERRE MONNERET
ALAIN DAGAN
PIERRE CHERRIER

B.J. GOODMAN
BRUCE MAIN-SMITH
ROBERT LECONTE
ANDRE JACQUIER-BRET

VELOCETTE



Velocette

A short history and test ride

Source: webbikeworld.com | Article by Ian Parks



Former Ulysses Club magazine editor and long-time bike tester Ian Parks takes a 1965 Velocette Venom for a spin.

MOTORBIKEWRITER



Neil chauffers Ian (closed rod, so no helmets)



Velocette hit the streets of Australia in 1965 when Robert Menzies was Prime Minister, James Bond's Thunderball was at the "flicks" and the average wage was £15, 8 shillings.

The brand acquitted itself well in racing from the 1920s through until its demise in 1971.

In 1933, the single-cylinder 250ccMOV was created using

overhead-valve operation. It was capable of 60mph (96km/h).

Probably the most recognisable Velocettes to many of us are the Venom and Thruxton models (1955 to 1970).

These 500cc singles were capable of about 100mph (160km/h) producing up to 44bhp (32kW). The pinnacle of the Thruxton's racing success is the win at the 1967 Isle of Mann Production TT.

This test bike is a 1965 499cc Venom which would have cost £500 (\$1000) when new.

It started life as a solo and was married to its sidecar some 18 months after purchase. The owner of this British thoroughbred is Gloucester Branch Ulysses member Neil McMeekin #64828. He has been custodian of his 'Velo' for about nine years.



MEETING THE VELOCETTE VENOM

I'm approaching this test ride as if it was 1965 when Neil bought the bike.

When I meet him, Neil is casually dressed wearing a t-shirt with the words, *"With British Bikes, you'll never walk alone!"*

Why a Velocette? I asked. *"My very colourful Uncle Jack owns and races one. He's the type of Uncle you fear allowing your children being influenced by. I love him, he's great."*

We step forward to take in the view of the drop dead gorgeous motorcycle, a pinnacle of British engineering.

The ironing board seat has a height from ground of 31 inches (780mm) and will suit riders of slight build. The standard handlebars cause the rider to be bent forward, so, this requires the head to be tilted up. I suggest that riders of taller than average stature, may find this somewhat uncomfortable.

TIME TO RIDE

We proceed to the Velo and I receive the relevant instruction for starting the massive 500cc beast. Turn on the fuel, 'tickle' the Amal carburettor, adjust the advance/retard, choke, decompression valve, switch on the ignition and then operate the kick starter. The beast fires, twist the throttle and allow it to warm up.

Pull in the light clutch, lift the right hand gear shift to first and away we go. Kick down the shifter and we're into second, down again, all the way to fourth, the sweet spot of about 45mph (70km/h) being reached, I settle into the experience of this modern 'dream machine'. Top speed for a solo Venom is up to 100mph (160km/h).



I do a few circuits of town and get the feel of the machine. The handling is superb for an outfit, the adjustable steering damper control works a treat and the brakes are excellent.

I return the Velocette to the overly anxious owner and thank him for the experience.

It is difficult to imagine any future motorcycle being able to surpass this masterpiece of mechanical excellence.

VINTAGE VELOCETTE

Back to 2019. In this era, the Velocette is a classic Vintage

motorbike. It's a 54-year-old unrestored superbly maintained machine that Neil uses on a regular basis. Owning one is fraught with all sorts of dramas and should be very carefully considered before embarking on any proposed purchase.

He has 'customised' it with a few things to ensure his ageing frame can keep enjoying it for many years to come.

Engine starting is not user friendly as the kickstart throw is shorter than on a similar aged Triumph or BSA. About five years ago an after market electric starter was installed.



The electric start also required the original 6V system to be converted to 12V. The engine management controls aren't simple and virtually require a TAFE course.

Spark is generated via magneto (yep, magnets). No batteries required! Just like the old Victa mowers we used back last century. Simple technology that's still used today e.g. mowers, chainsaws etc.

The rear brake is a mechanical standard drum, which works acceptably. Neil paid for a twin leading shoe front which makes it more adequate. There is no sidecar brake. This all said, braking operation in all conditions requires planning. It's a 1965 bike with brakes designed in 1935.

RIDING AN OUTFIT

If you've never ridden an outfit you'd be mad to buy one without having an experienced person teach you. It's a completely different

riding skill. Just negotiating a carpark is an experience, you have to be constantly aware of your extremities, and there is no reverse gear so choose where to park carefully.

Engine maintenance is pretty good, especially on a solo 'Velo', but remember, if the left side of the bike has a sidecar, it may require removal in some cases.

Parts of the rear frame look pretty spindly. However, all the front-end and geometry must be pretty well matched as there is no need for leading links etc.

The gear ratios are a good match for the engine. Neil states, "Warming up the bike is essential as gear shifts are a 'cow' when cold; lots of false neutrals too".

Touring? You can take the kitchen sink! The sidecar storage can swallow a passenger plus a big esky. Neil advises that the trick is to

place the heavier mass at the back rather than the front.

The original tool kit has an array of Imperial British Standard spanners. It included a tyre pump not unlike the old push bike ones, just a bit larger in capacity. I asked Neil what he considered was an essential part of the 'Velos' toolkit for breakdowns? "A trailer"! was his answer.

Fuel tank capacity is 4 gallons (18 litres) which gives a range of about 160 miles (250km). Neil estimates the fun factor at 110%.

RESALE VALUE

Resale value today? Well, depending on what you're after, you could be looking at around the \$35,000 to \$40,000 mark.

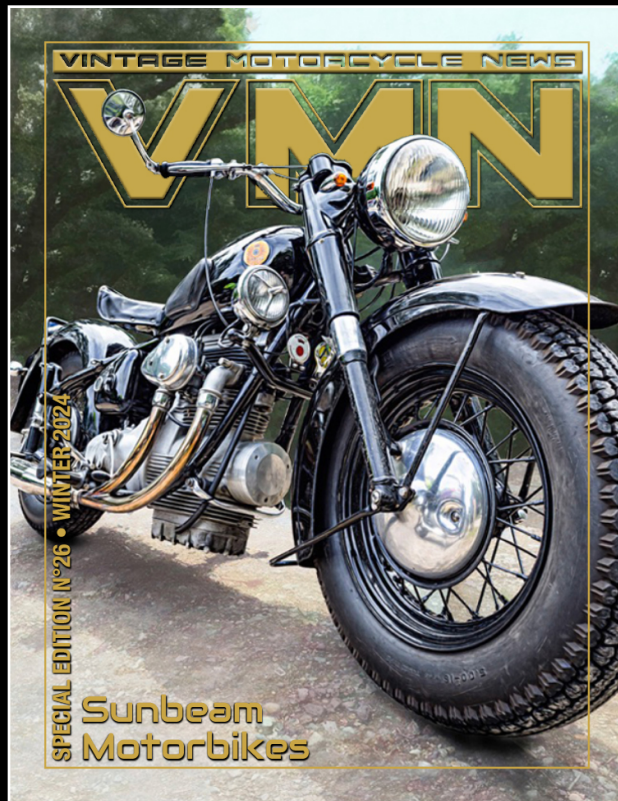
Neil is unassuming, knowledgeable and has a wry sense of humour. The bike is no shortage of challenges either, many is the time Neil has had to scour the various clubs or the internet for information on what appears to be a perplexing halt to forward motion. During these times Neil will tell us to "ask me about the 'Velo'". Dutifully we ask and then receive the hand on forehead reply "I don't want to talk about it!"

So what happened to the Velocette? The same thing that killed off much of England's motorcycling industry ... the emerging dominance of Japanese motorcycle manufacture.

The 1968 Honda CB750 was innovative, cheap, reliable, fast and had electric start. Add a dash of English complacency, and it was pretty much the final nail in the coffin for all those great British Bike legends.

May Your Lid Never Skid, Ian Parks #11735

WANTED

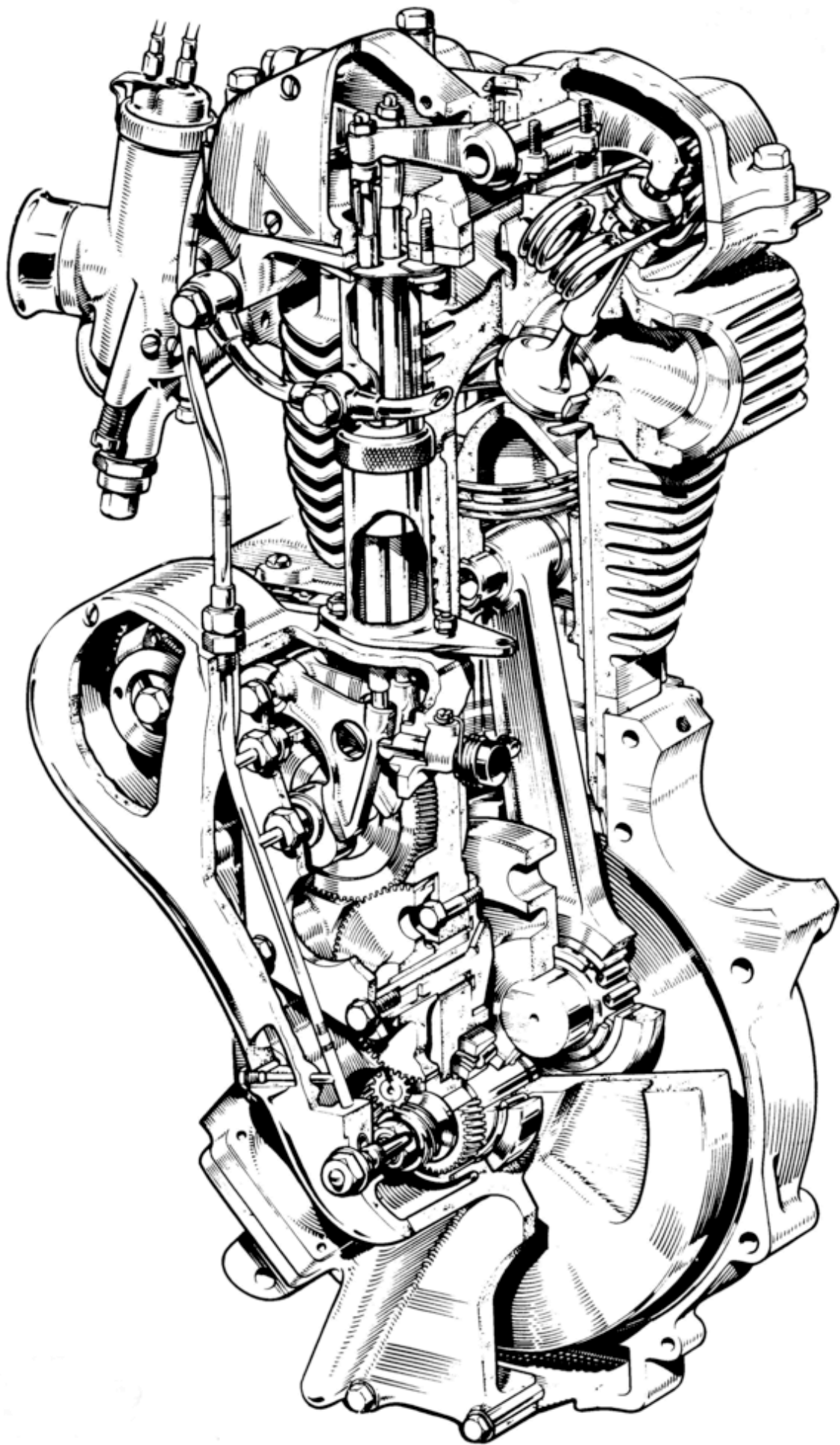


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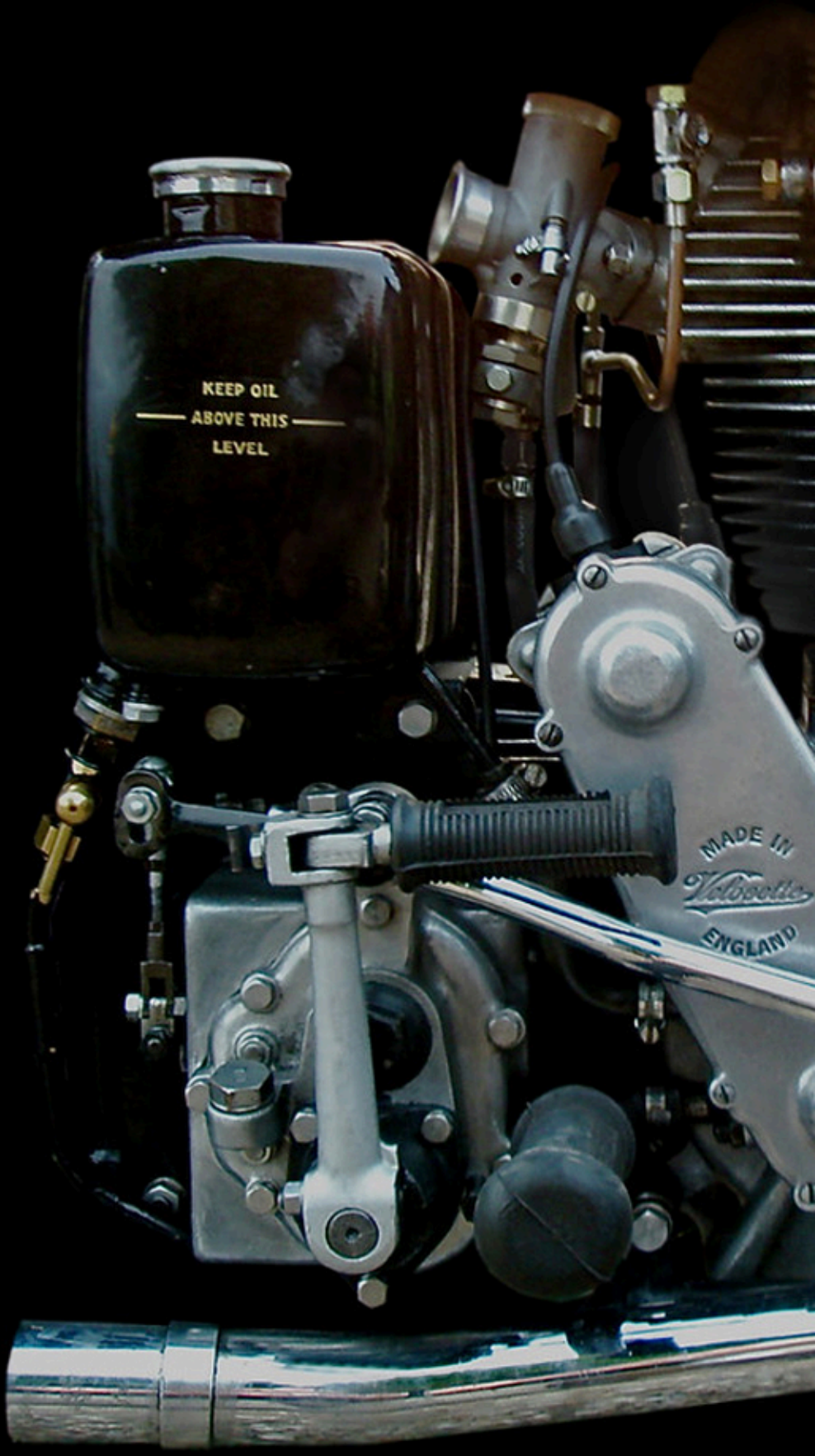




EYV 697

Veloette

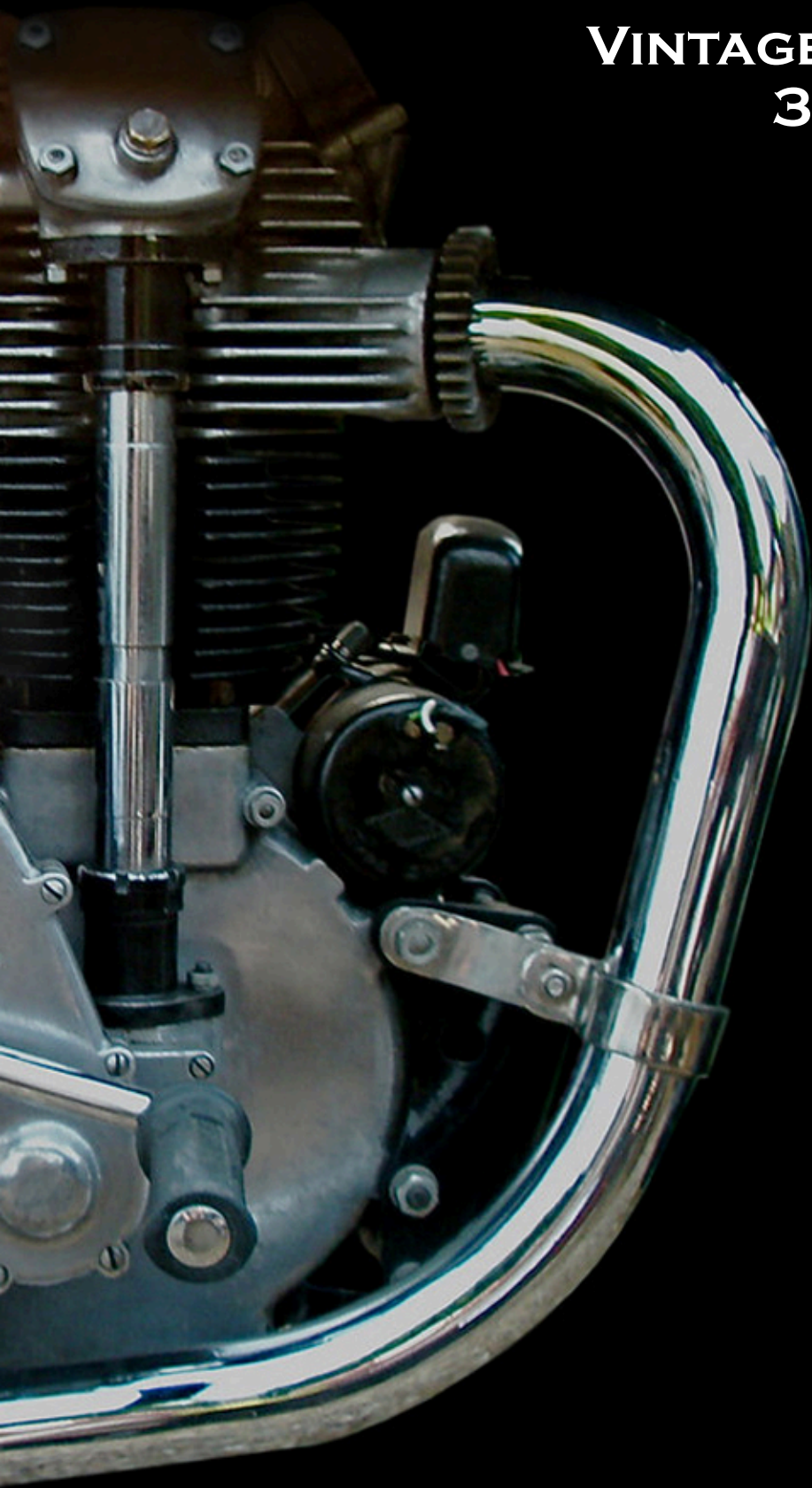




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Gordon Calder



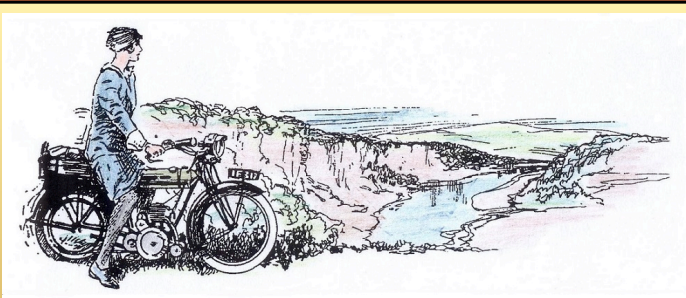
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